

**POST- AWARD CONTRACT MANAGEMENT AND  
PERFORMANCE OF NATIONAL GOVERNMENT  
ROAD PROJECTS IN KENYA**

**ROBERT KIPNGETICH LAGAT**

**DOCTOR OF PHILOSOPHY IN  
SUPPLY CHAIN MANAGEMENT**

**JOMO KENYATTA UNIVERSITY  
OF  
AGRICULTURE AND TECHNOLOGY**

**2026**

**Post- Award Contract Management and Performance of National  
Government Road Projects in Kenya**

**Robert Kipngetich Lagat**

**A Thesis Submitted in Partial Fulfilment of the Requirements for  
the Degree of Doctor of Philosophy in Supply Chain Management of  
the Jomo Kenyatta University of Agriculture and Technology**

**2026**

**DECLARATION**

This thesis is my original work and has not been presented for a degree in any other University

Signature.....Date.....

**Robert Kipngetich Lagat**

This thesis has been submitted for examination with our approval as the University Supervisors

Signature.....Date.....

**Dr. Noor Shalle, PhD**

**JKUAT, Kenya**

Signature.....Date.....

**Dr. Omwenga Jane, PhD**

**JKUAT, Kenya**

Signature.....Date.....

**Dr. Namusonge Eric, PhD**

**JKUAT, Kenya**

## **DEDICATION**

I wish to dedicate this thesis to my family with much love and thanks, for their perseverance and understanding during the period of my study. Thank you for encouraging and supporting me at all times. Be blessed abundantly

## **ACKNOWLEDGEMENT**

I am greatly indebted to my supervisors Dr Noor Ismael, Dr. Omwenga Jane, and Dr. Namusonge Eric for their guidance throughout the writing of this project without which I could not make it. I would also like to express my heartfelt gratitude to my course mates for their support through discussions and to the entire JKUAT fraternity.

## TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>DEDICATION.....</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>iv</b>
<b>TABLE OF CONTENTS.....</b>	<b>v</b>
<b>LIST OF TABLES .....</b>	<b>xii</b>
<b>LIST OF FIGURES .....</b>	<b>xiv</b>
<b>LIST OF APPENDICES .....</b>	<b>xv</b>
<b>ACRONYMS AND ABBREVIATIONS .....</b>	<b>xvi</b>
<b>DEFINITION OF OPERATIONAL TERMS .....</b>	<b>xviii</b>
<b>ABSTRACT.....</b>	<b>xx</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 Introduction .....	1
1.1.1 Global Perspective of Post-Award Contract Management .....	3
1.1.2 Regional Perspective of Post-Award Contract Management.....	4
1.1.3 Local Perspective of Post- Award Contract Management .....	5
1.1.4 Performance of National Government Road Projects .....	6
1.2 Statement of the Problem .....	8

1.3 Objectives of the Study .....	9
1.3.1 General Objective.....	9
1.3.2 Specific Objectives.....	9
1.4 Research Hypothesis .....	10
1.5 Significance of the Study .....	11
1.5.1 National and County Governments Road Agencies in Kenya .....	11
1.5.2 Road Construction Contractors and Consultants in Kenya.....	11
1.5.3 Scholars and Researchers .....	12
1.6 Scope of the Study .....	12
1.7 Limitations of the Study.....	12
<b>CHAPTER TWO .....</b>	<b>14</b>
<b>LITERATURE REVIEW.....</b>	<b>14</b>
2.1 Introduction .....	14
2.2 Theoretical Review .....	14
2.2.1 Stakeholders Theory.....	14
2.2.2 Theory of Constraints.....	15
2.2.3 Principal Agent Theory .....	16
2.2.4 Contract Theory .....	18
2.3 Conceptual Framework .....	19

2.3.1 Post-Award Contract Monitoring and Evaluation.....	20
2.3.2 Post- Award Contract Relationship Management.....	21
2.3.3 Post-Award Contract Administration.....	22
2.3.4 Contract Closure.....	24
2.3.5 Regulatory Framework.....	25
2.3.6 Performance of National Government Road Projects .....	26
2.4 Empirical Literature Review .....	28
2.4.1 Contract Monitoring and Evaluation and Project Performance .....	28
2.4.2 Post-Contract Relationship Management and Project Performance .....	30
2.4.3 Post-Contract Administration and Project Performance .....	32
2.4.4 Contract Closure and Project Performance .....	33
2.4.5 Regulatory Framework on Project Performance.....	35
2.5 Critique of Existing Literature Relevant to the Study.....	37
2.6 Research Gaps .....	38
2.7 Summary of Literature Review .....	39
<b>CHAPTER THREE .....</b>	<b>40</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>40</b>
3.1 Introduction .....	40
3.2 Research Design.....	40

3.2.1 Research Philosophy .....	41
3.4 Target Population .....	42
3.5 Sampling Frame .....	43
3.6 Sample and Sampling Technique.....	43
3.6.1 Sample Size.....	44
3.6.2 Sampling Procedure .....	45
3.7 Data Collection Instruments.....	45
3.8 Data Collection Procedures.....	46
3.9 Pilot Testing .....	48
3.9.1 Validity of Research Instrument .....	48
3.9.2 Reliability of Research Instrument.....	49
3.10 Data Analysis and Presentation.....	50
3.10.1 Correlation Analysis.....	51
3.10.2 Regression Analysis .....	51
3.10.3 Diagnostic Tests .....	53
3.10.4 Operationalization of Study Variables .....	55
<b>CHAPTER FOUR.....</b>	<b>57</b>
<b>RESEARCH FINDINGS AND DISCUSSION.....</b>	<b>57</b>
4.1 Introduction .....	57

4.2 Response Rate .....	57
4.3 Pilot Test Results.....	58
4.3.1 Validity of the Research Instrument .....	58
4.3.2 Reliability of the Research Instrument.....	60
4.4 Demographic Information Analysis .....	61
4.4.1 Gender of Respondents .....	61
4.4.2 Respondents Age Bracket .....	62
4.4.3 Respondents Work Experience .....	63
4.4.4 Respondents Highest Level of Education .....	64
4.5 Descriptive Analysis of Study Variables .....	65
4.5.1 Contract Monitoring and Evaluation.....	65
4.5.2 Post-Contract Relationship Management.....	68
4.5.3 Post-Contract Administration.....	70
4.5.4 Contract Closure.....	73
4.5.5 Regulatory Framework.....	76
4.5.6 Performance of Road Projects.....	77
4.6 Diagnostic Test Findings.....	79
4.6.1 Normality Assumption .....	80
4.6.2 Multicollinearity.....	80

4.6.3 Heteroscedasticity .....	81
4.6.4 Autocorrelation Test.....	82
4.6.5 Linearity Test .....	82
4.7 Inferential Statistics.....	83
4.7.1 Correlation Analysis.....	83
4.7.2 Multiple Regression Analysis .....	86
4.8 Test of Hypotheses .....	90
4.8.1 Test for Hypothesis One.....	91
4.8.2 Test for Hypothesis Two .....	94
4.8.3 Test for Hypothesis Three .....	96
4.8.4 Test for Hypothesis Four.....	98
4.8.5 Test for Hypothesis Five .....	100
<b>CHAPTER FIVE.....</b>	<b>105</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS.....</b>	<b>105</b>
5.1 Introduction .....	105
5.2 Summary of Findings .....	105
5.2.1 Contract Monitoring and Evaluation.....	105
5.2.2 Post-Contract Relationship Management.....	106
5.2.3 Post-Contract Administration.....	107

5.2.4 Contract Closure.....	108
5.2.5 Regulatory Framework.....	109
5.3 Conclusions .....	109
5.3.1 Contract Monitoring and Evaluation.....	109
5.3.2 Post-Contract Relationship Management.....	109
5.3.3 Post-Contract Administration.....	110
5.3.4 Contract Closure.....	110
5.3.5 Regulatory Framework.....	110
5.4 Recommendations .....	111
5.4.1 Recommendations of Policy and Practice .....	111
5.4.2 Recommendations for Further Studies .....	112
<b>REFERENCES .....</b>	<b>114</b>
<b>APPENDICES .....</b>	<b>118</b>

## LIST OF TABLES

<b>Table 3.1:</b> Target Population.....	43
<b>Table 3.2:</b> Sample Size.....	45
<b>Table 3.3:</b> Hypotheses Test .....	55
<b>Table 3.4:</b> Summary of Operationalization of Variables .....	56
<b>Table 4.1:</b> Content Validity Index.....	59
<b>Table 4.2:</b> Average Variance Explained for the Constructs.....	60
<b>Table 4.3:</b> Summary of Reliability Analysis.....	61
<b>Table 4.4:</b> Descriptive Statistics on Contract Monitoring and Evaluation.....	67
<b>Table 4.5:</b> Descriptive statistics on Post-Contract Relationship Management .....	69
<b>Table 4.6:</b> Descriptive Statistics on Post-Contract Administration .....	72
<b>Table 4.7:</b> Descriptive Statistics on Contract Closure .....	75
<b>Table 4.8:</b> Descriptive Statistics on Regulatory Framework.....	77
<b>Table 4.9:</b> Descriptive Statistics on Performance of Road Projects.....	79
<b>Table 4.10:</b> Tests of Normality .....	80
<b>Table 4.11:</b> Multicollinearity Test Statistics .....	81
<b>Table 4.12:</b> Breusch-Pagan / Cook-Weisberg test for heteroscedasticity .....	81
<b>Table 4.14:</b> Correlation Analysis .....	85
<b>Table 4.15:</b> Model Summary.....	87

<b>Table 4.16:</b> Analysis of Variance .....	88
<b>Table 4.17:</b> Coefficients of Study Variables .....	90
<b>Table 4.18:</b> Model Summary for Contract Monitoring and Evaluation on Project Performance.....	92
<b>Table 4.20:</b> Beta Coefficients for Contract Monitoring and Evaluation on Project Performance.....	93
<b>Table 4.21:</b> Model Summary for Post-Contract Relationship Management on Project Performance.....	94
<b>Table 4.22:</b> ANOVA for Post-Contract Relationship Management on Project Performance.....	95
<b>Table 4.23:</b> Beta Coefficients for Post-Contract Relationship Management on Project Performance.....	96
<b>Table 4.24:</b> Model Summary for Post-Contract Administration on Project Performance.....	96
<b>Table 4.26:</b> Beta Coefficients for Post-Contract Administration on Project Performance.....	98
<b>Table 4.27:</b> Model Summary for Contract Closure on Project Performance .....	99
<b>Table 4.28:</b> ANOVA for Contract Closure on Project Performance.....	99
<b>Table 4.29:</b> Beta Coefficients for Contract Closure on Project Performance .....	100
<b>Table 4.30:</b> Model Summary for Moderation Effect.....	101
<b>Table 4.31:</b> ANOVA for Moderation Effect .....	102
<b>Table 4.32:</b> Beta Coefficients for Moderation Effect.....	104

## LIST OF FIGURES

<b>Figure 2.1: Conceptual Framework .....</b>	<b>19</b>
<b>Figure 4.1: Response Rate .....</b>	<b>58</b>
<b>Figure 4.2: Gender of Respondents.....</b>	<b>62</b>
<b>Figure 4.3: Respondents Age Bracket .....</b>	<b>63</b>
<b>Figure 4.4: Respondents Work Experience.....</b>	<b>64</b>
<b>Figure 4.5: Respondents Highest Level of Education .....</b>	<b>65</b>
<b>Figure 4.6: Linearity Test .....</b>	<b>83</b>

## LIST OF APPENDICES

<b>Appendix I:</b> Introduction Letter to Respondents .....	118
<b>Appendix II:</b> Questionnaire .....	119
<b>Appendix III:</b> List of On-Going Road Projects .....	126

## ACRONYMS AND ABBREVIATIONS

<b>CAPM</b>	Contract Administration Performance Model
<b>CIPS</b>	Chartered Institute of Procurement & Supply
<b>CORs</b>	Contract Officer Representatives
<b>GDP</b>	Gross Domestic Product
<b>IACCM</b>	International Association for Contract & Commercial Management
<b>KeNHA</b>	Kenya National Highways Authority
<b>KeRRA</b>	Kenya Rural Roads Authority
<b>KPI's</b>	Key Performance Indicators
<b>KURA</b>	Kenya Urban Roads Authority
<b>NCA</b>	National Construction Authority
<b>NCC</b>	National Construction Council
<b>NEMA</b>	National Environment Management Authority
<b>PCCB</b>	Prevention and Combating of Corruption Bureau
<b>PDEs</b>	Procurement Disposal Entities
<b>PFM</b>	Public Financial Management
<b>PMBOK</b>	Project Management Body of Knowledge
<b>PPOA</b>	Public Procurement and Asset Disposal Act
<b>PPRA</b>	Public Procurement Regulatory Authority

<b>PQR</b>	Procedure Qualification Record
<b>PWC</b>	PricewaterhouseCoopers
<b>SDMR</b>	Standard Deviation to Mean Ratio
<b>SPSS</b>	Statistics Package for Social Sciences
<b>TOC</b>	Theory of Constraints
<b>UK</b>	United Kingdom
<b>US</b>	United States

## DEFINITION OF OPERATIONAL TERMS

**Contract closure** It concerns the activities associated with closing the project down, whether in accordance with the contract or as a result of early termination (Elsey, 2017).

**Contract monitoring and evaluation** It is performance review is a comparison of the performance of the goods, works, materials and services against the quoted, specified and agreed criteria (Aberdeen, 2017).

**Post-award contract management** It refers to the actions taken after a contract is signed and the agreement is made (Brensen, 2018). In contract management, this stage is often overlooked. But just because the contract is signed, it does not mean that the work has been done and the negotiation has ended.

**Post-award** It refers to the phase of a project that occurs after the contract has been awarded to a specific contractor or organization. It is the period that follows the selection of a contractor and the signing of the contract (Brensen, 2018).

**Post-contract administration** Contract administration involves the planning, negotiation, execution and performance of any contact with customers or vendors. The preparation and implementation of contracts has great potential for aligning mutually agreeable contracts that lead to positive business outcomes (Bailey, 2018)

**Post-contract relationship management** it is the development of effective working relationships suppliers to achieve better service delivery, value maximization and acquisition of quality products (Muhammad, Saoula, Issa, & Ahmed, 2019).

**Regulatory Framework** It is an ACT of Parliament that provides procedures for efficient public procurement and for assets disposal by public entities; and for connected purposes (Isik et al., 2019).

**Project performance** it is the accomplishment of a given task in this case a project measured against preset known standards of accuracy, completeness, cost, and speed (Hassan, 2017).

## ABSTRACT

Road construction projects in Kenya have been getting sustainability warning owing to poor quality standards. With a dearth of studies on the effects of contract management practices, especially post contract, this study sought to fill the gap by, establishing the impact of post award contract management on supplier performance in the road construction industry in Kenya. The study was guided by the following specific objectives; to assess the impact of contract monitoring and evaluation on performance in the road construction industry in Kenya; to establish the impact of post-contract relationship management on performance of national government road construction projects in Kenya; to find out the impact of post-contract administration on performance of national government road construction projects in Kenya; to determine the impact of contract closure on performance of national government road construction projects in Kenya; and to establish the moderating impact of Regulatory Framework on the relationship between post-award contract management and performance of national government road construction projects in Kenya. The study was guided by stakeholder theory, theory of constraints, the principle agent theory, contract theory and the Marxist theory on performance. Cross-sectional survey research design was adopted. The research paradigm for this study was positivist. The target population for the research was all 255 on-going road projects by road agencies in Kenya which are Kenya National Highway Authority (KeNHA), Kenya Rural Roads Authority (KeRRA) and Kenya Urban Roads (KURA). Therefore, the target population was 255 road projects. The overall sample size for this study was determined using the Nassiuma (2000) formula. The sample size for the study was 127 projects. This study used stratified random sampling technique to select the sample. Primary data was obtained utilizing a semi-structured questionnaire. Twelve projects from the three road authorities were given questionnaire samples or pilot tested. The Statistical Package for Social Sciences (SPSS) version 25 software was used to analyse the data. Qualitative data was analysed using content analysis and presented in prose form. Qualitative data was analysed using descriptive and inferential analysis. Descriptive statistics such as frequency, percentages, and means will be used. Pearson correlation coefficient was used for testing strength and direction between the independent and the dependent variables. A multiple regression model was used to test the significance of the influence of the independent variables on the dependent variable. The findings were presented in Tables and figures. The returned questionnaires for the pilot test were 12 (100%). From the pilot findings, the questionnaire was valid and reliable and was used to collect data for the actual study. The study found that a unit increase in contract monitoring and evaluation leads to a 0.924-unit ( $P < 0.05$ ) improvement in project performance. A unit increase in post-contract relationship management resulted in a 0.782-unit ( $P < 0.05$ ) improvement in project performance. Further, post-contract administration was found to have a positive effect on project performance, with a unit increase leading to a 0.651-unit improvement ( $P < 0.05$ ). Further, contract closure positively influences project performance, with a unit improvement resulting in a 0.705-unit increase ( $P < 0.05$ ). Finally, it was found that regulatory framework moderates the relationship between post-award contract management and performance, signifying that an improvement in regulatory frameworks positively influences the impact of contract management on performance. To improve project outcomes, it is recommended that national

government road agencies prioritize contract management (contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure) and consider the regulatory environment's role.

## **CHAPTER ONE**

### **INTRODUCTION**

This chapter introduces the study. This study sought to establish the impact of post-award contract management on performance of national government road construction projects in Kenya. This chapter therefore presents the background of the study, problem statement, objectives, research hypothesis, and significance of the study. Finally, the scope of the study was presented.

#### **1.1 Introduction**

According to PPOA (2017) procurement contract is a written agreement between a procurement entity and a supplier, a contractor which is enforceable by law. Contract management competencies 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. According to Aberdeen (2017), 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.

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. There are three phases to contracting; procurement or acquisition planning, sourcing, and post-award contract management (Brensen, 2018). The post-award phase refers to the actions taken after a contract is signed and the agreement is made (Packendorff, 2017). In contract management, this stage is often overlooked. But just because the contract is signed, it does not mean that the work has been done and the negotiation has ended. The company must ensure that all obligations, metrics, and commitments in the contract are met. And all of this requires consistency and a high level of organization in order to resolve all claims and disputes and to abide by the terms and conditions (CIPS, 2018). The foundations for effective

and successful post-award contract management rely upon careful, comprehensive and thorough implementation of the upstream or pre-award activities (Aberdeen, 2017).

For a sound post-contract project contract management Brown and Hyer (2017) identifies some critical success factors which include; the ability to identify metrics relevant to the project, that is, a balanced set of performance indicators; capacity to generate accurate information; visibility to team members to enable every individual player/stakeholder to know what is being measured and have ready access to information; ability to provide a basis for problem discovery and solution; the system should be in-built into the project plan right from the point of project planning stage; the capacity to generate timely decision making and corrective action.

Cleland and Bidanda (2017) explained that a robust post- contract management strategy ensures compliance with contractual and regulatory obligations such as change-order and dispute processes, notices, renewals, amendments, and reporting. It also addresses financially focused activities and obligations such as performance, pricing adjustments, invoicing, and discounts. Tools that focus on post- contract management can also help businesses: adhere to production, quality assurance, packaging, and delivery requirements; resolve claims and disputes; and measure performance. In addition, post-award contract management can help prevent the contracts' value from eroding over time (Brown & Hyer, 2017).

A sound contract management of a project revolves around control of cost, time, quality and resources (Pryke, 2017). Assessing post-award performance entails several activities to ensure that the delivery of projects meets the terms of the contract. Owing to the importance of post-award contract management on performance of government projects, this study seeks to establish the effect of post-contract appraisal, post-contract relationship management, post-contract administration, and contract closure on performance of national government road projects in Kenya. These key deliverables in contract are echoed by Meredith and Mantel (2012), who emphasize on planning, monitoring and controlling of time, cost and scope.

### **1.1.1 Global Perspective of Post-Award Contract Management**

Globally, the achievement of effective post-contract management may be hindered by various challenges, barriers, or factors. The International Association for Contract & Commercial Management (IACCM 2017) pointed out that post-contract management is regarded as the main source of operational weakness in more than 70% of international corporations, and improvement of contract management would enhance risk management and decrease cost. Therefore, 60% of global companies have started to tackle the post-contract management problem.

In the International Association for Contract and Commercial Management (IACCM) report, 90 percent of organizations in the banking, financial, and insurance sector in London recognize the importance of effective post-award contract and relationship management. The post-award phase deals with frequent change as a result of uncertainty and performance management. This phase ensures that you are managing contract amendments properly. It focuses attention on tracking to make certain that all requirements of your agreement are met throughout the life of the written commitment. According to Dimov (2020) adopting a post-contract management system will actually save company time, effort, and money in the long run.

Challenges facing construction projects include failure of started housing projects, poor quality of projects and non-completion of projects which is rampant (Bredenoord & Lindert, 2019). Non-completion and underperformance in contracted construction projects is a global phenomenon that has attracted the attention of researchers, scholars and industry players. A study Aberdeen Group (2017) - a research and consultancy firm in the energy sector in the United Kingdom- suggest that there is a good sized loss of money because of ineffective post-management of project contracts. The study found out that enterprises lose US\$153 billion each year due to ineffective project post-contract management.

A study done by Fapohunda and Stephenson (2019) in UK found that in construction, disagreement exists between the projects stated objectives with respect cost, time and value. In Spain, Chuah (2019) diagnosed 5 elements as the critical reasons of delays to initiatives. They embody month-to-month rate problems to contractors, terrible

post-contract management, material procurement issues, and horrific technical performance and fabric rate escalations. Terrible professional management, fluctuation of costs, developing price of substances and negative web page manage have moreover been diagnosed as factors contributing to undertaking not being complete on time.

Important work by Pryke (2016) treated projects as a network of relationships that need managing to achieve project success. In the construction sector, a number of studies have identified the importance of managing the interrelationships between parties within a project. For example Bresnen (2018) in the United Kingdom, and from Packendorff (2017) in Europe emphasised the importance of post-contract management in improving project success. 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 (2020), and Cicmil and Marshall (2017).

### **1.1.2 Regional Perspective of Post-Award Contract Management**

In Africa, there are numerous road construction projects (Han & Webber, 2020). Although there are several success stories of the performance of these projects (Kavishe & Chileshe, 2018; Osei-Kyei & Chan, 2019), some of the projects have not been satisfactory (Kulemeka, Kululanga & Morton, 2015). They face challenges including untimely completion, costs and embezzlement of funds (Owusu, Chan & Shan, 2019) that affect their performance and lower the quality of the road end-user. This has been attributed to the poor performance of post-contract management in Africa.

Gwilliam et al., (2018) estimate average spending on roads in Africa at nearly 2% of Gross Domestic Product (GDP); the estimated expenditure in the industrialized countries is only about 1% of GDP while expenditure on roads in the fast growing economies ranges between 2% and 3% of GDP. The roads sector in Uganda, like many other sectors, have since the 1990s undergone several reforms aimed at improving efficiency and effectiveness. Despite these reforms and increases in funds allocated to the roads sector, the performance of these projects remains unsatisfactory. According

to Basheka and Kabeteraine (2017), the poor performance could be due to poor post-contract management among key players in the construction process.

Oliveira (2017) in a study on the management of construction agreements in South Africa has examined the concept of post-contract management. The study notes that post-contract management is a process enabling the contractual parties involved to meet their obligations. This is with a view of delivering the objectives arising in terms of the contract by proactively managing the contract so as to anticipate future needs and react to situations that may arise.

In Uganda the need for training personnel particularly to post-contract management can only be established after what is known about the same has been established. Public Procurement Authorities must continuously formulate and implement strategies to address the existing capacity gaps within PDEs especially in the area of post-contract award and management. This evidenced by the PPDA Capacity Building Report (2019) which noted that some PDEs had serious constraints in execution and monitoring of contracts. In an effort to attain these demands, public organizations in Uganda are constantly looking for employees who have skills necessary to deal with the wide variety of tasks (Monczka et al., 2018; Sauber et al., 2018). The supervisors (post-contract managers) should be knowledgeable in contract management. Organisations must, therefore, assign experienced staff to supervise the consultant and contractors.

### **1.1.3 Local Perspective of Post- Award Contract Management**

It is significant that the Kenyan road construction projects history is marked by ups and downs with high performance by the national government being perceived today and a decade ago as apprehended in the succeeding empirical studies (Wels, 2017). In Kenya, the practice of management of contracts is recommended to ensures each concerned agency to an agreement that satisfies their separate obligations competently and efficaciously to offer the operational goals vital from the contract and provide a price for cash (Gituro & Mwawasi, 2017). Effective road contract management lies in assessing contract performance through the safe, timely delivery of their duties (Chepkemoi, 2020). In various areas in Kenya, there is an attempt to overcome a risky

and dangerous operating environment, where the construction companies give higher priority to contract management by employing various contract management strategies (Oyolla, 2019).

Kenya just like other countries in Sub Saharan Africa has numerous road projects constructed by the national government as well as by the county governments (Matu, Kyalo, Mbugua & Mulwa, 2020). In Kenya, road project contractors have a history of problems including high cost, delays, failed procurement, or unavailability of private financing (Gituro & Mwawasi, 2017; Hassan, 2017) which implies poor performance by road contractors (Densford, Rosemary & Ngugi, 2018). Currently, there is a search for solutions by stakeholders on the best strategies aimed at improving, the general performance of road contractors, which calls for analysis of the management factors.

According to Parkera and Hartley (2017), 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 helped unearth the post-contract management strategies on project performance in national government construction projects (KeNHA, KURA, and KeRRA).

#### **1.1.4 Performance of National Government Road Projects**

Despite enormous allocation of funds by the Government of Kenya in the financial budgets, the road sector continue to face a challenges in performance with poor management of funds and poor delivery of services to the road user being mostly cited as the major performance drawbacks (Njenga, 2018). A number of researchers such as Choge and Muturi (2018), Wambui, Ombui, and Kagiri (2015), Ogweno, Muturi, and Rambo (2016), Oguya and Muturi (2016), Kithinji and Kamaara (2017), Obare (2017),

Ogutu and Muturi (2017), Seboru (2015), Wafula (2017), Nyandika and Ngugi (2018) and have studied various factors influencing roads projects performance in Kenya.

Seboru (2015) designates that majority of road construction projects in Kenya do not get completed within the initially set targets of time due to delayed payments by the client, slow decision making and bureaucracy in client organization, inadequate planning and scheduling, Performance of road projects is also influenced by user involvement, technology, top management support and stakeholders' participation (Nyandika & Ngugi, 2018). This is in addition to design variations together with contractor's experience which have an influence on adherence to cost estimates (Choge & Muturi, 2018).

In a case study of Meru County to evaluate factors influencing completion of government road infrastructure projects in Kenya, Kithinji and Kamaara (2017) established that project finance, and project technology modernization largely influenced infrastructure projects completion. Ogutu and Muturi (2017) determined that procurement process and communication influences successful completion of road construction projects. Ogweno *et al.* (2016) indicated that top management support is critical in determining the timely completion of road construction projects. Oguya and Muturi (2016) evaluated the factors affecting performance of road construction projects in arid and semi-arid areas in Kenya. The study found that contractor's competency, construction parties' financial management, timely availability of construction resources, and conflicts affect the performance of road construction projects in arid areas in Kenya.

In a case study of Nairobi County to determine factors influencing performance of road in Kenya, Njenga (2018) found that most construction organizations employ benchmarking as a tool for achieving partnering excellence in construction projects. The study also revealed that project management, choice of procurement method, communication and use of information technology (IT) influence road contractor's performance. Wambui *et al.* (2015) established that in road construction projects performance is greatly influenced by project equipment, project manager's competency, project funds and project technology.

In Machakos County, Wafula (2017) established through a case study established that capital availability, managerial skills, organizational culture and technical skills influence the performance of road projects in Kenya. Obare (2017) studied the influence of project team diversity on performance of rural roads construction projects in Kenya. The study established that project team demographic diversity, training diversity, experience diversity and work-culture diversity significantly influence performance of rural roads construction projects. The study further determined that combined project team diversities and performance of rural roads construction projects in Kenya depends on the implementation process of project control systems.

## **1.2 Statement of the Problem**

The importance of Post Award Contract Management cannot be stressed highly enough (Amin, 2018). By managing the contract helps to ensure that KPI's are met, deliveries/services completed on time, quality are maintained and a good two way relationship is forged (Aftab, 2018). Nyika (2018) noted in a study that only 20.8 per cent of the road projects in Kenya were implemented on time and budget, while 79.2 per cent exhibited some form of failure. The major causes of failures were insufficient implementing capacity, poor project management, weak project design and political interference. Road construction projects in Kenya have been getting sustainability warning owing to poor quality standards; statistics by Kenya Roads Board has indicated that at least 6,212 km of tarmacked roads are classified as being in a fair condition, with 2,429 km classified as poor.

Aside from poor project quality other challenges are time and cost. For instance, in the construction of Thika Super Highway by Kenya National Highways Authority (KeNHA), the cost escalated from Kes.26.44 billion to Kes.34.45 billion (World Bank, 2014). In addition, the initial deadline of the Thika super highway project was July 2011, which was later revised to July 2013, a difference of two whole years. Cleland and Bidanda (2017) explained that a robust post- contract management strategy ensures compliance with contractual and regulatory obligations such as change-order and dispute processes, notices, renewals, amendments, and reporting. Arguably, the contract management process after acquisition and sourcing is the most crucial stage

for government agencies but has notoriously been given low visibility and insufficient resources (Ayangade et al., 2019). Owing to the challenges facing the road construction industry in Kenya, and the important role of post award contract management, this study sought to establish the effect of post-contract management on its performance.

According to government of Kenya (2018) the poor performance of the road contracts is due to poor management of funds and poor delivery of services to the road user. Road contractor's performance problem appears in many aspects, ranging from fail in time performance, cost performance and others fail in other performance indicators (Ugwa & Haupt, 2017). In Kenya cost overrun, delayed completion period, conflicts in the complicated vendor relationship, poor contract management practices, extortion and bribery, poor risk mitigation and poor quality work are the norm rather than exception in the undertaking of contracted construction projects (Kibuchi & Muchungu, 2018; Cleland & Bidanda, 2019; Lepartobiko, 2018; Chuah et al., 2019). With a dearth of studies on the effects of contract management practices, especially post contract, this study sought to fill the gap by, establishing the impact of post award contract management measured by post -contract appraisal, post-contract relationship management, post-contract administration, and contract closure on supplier performance in the road construction industry in Kenya.

### **1.3 Objectives of the Study**

This study was guided by a general objective and five specific objectives

#### **1.3.1 General Objective**

The main focus of this study is to establish the influence of post-award contract management on performance of national government road projects in Kenya.

#### **1.3.2 Specific Objectives**

The study was guided by the following specific objectives;

- i. To assess the influence of post-award contract monitoring and evaluation on performance in the road construction industry in Kenya
- ii. To establish the influence of post-award contract relationship management on performance of national government road projects in Kenya
- iii. To find out the influence of post-award contract administration on performance of national government road projects in Kenya
- iv. To determine the influence of contract closure on performance of national government road projects in Kenya
- v. To establish the moderating influence of regulatory framework on the relationship between post-award contract management and performance of national government road projects in Kenya

#### **1.4 Research Hypothesis**

This study sought to test the following research hypothesis;

**H<sub>01</sub>:** Post-award contract Monitoring and Evaluation has no significant influence on performance of national government road projects in Kenya

**H<sub>02</sub>:** Post-award contract relationship management has no significant influence performance of national government road projects in Kenya

**H<sub>03</sub>:** Post-award contract administration has no significant influence on performance of national government road projects in Kenya

**H<sub>04</sub>:** Contract closure has no significant influence on performance of national government road projects in Kenya

**H<sub>05</sub>:** Regulatory framework has no significant moderating influence on the relationship between post-award contract management and performance of national government road projects in Kenya

## **1.5 Significance of the Study**

This study is useful to the National Government Roads Agencies; Kenya Rural Roads Authority (KeRRA), Kenya National Highways Authority (KeNHA) and Kenya Urban Roads Authority (KURA). It is also useful to Contractors, Consultants, Development Partners and Scholars.

### **1.5.1 National and County Governments Road Agencies in Kenya**

Road projects are mainly implemented at two levels; the National and County Government level. The National Government implements the road projects through Road Agencies established by an act of Parliament- Roads Act (2007). The County Governments on the other hand implement projects through different structures as established by the respective County Governments. This study is therefore important to the two levels of Government as it will inform on development of policy related to governance of roads construction projects.

The study is also important to the national government road agencies; KeRRA, KeNHA and KURA who should establish components of post-award contract management that should be put in place to ensure satisfactory performance of roads construction projects under their jurisdiction. The Development Partners are expected to gain confidence funding road agencies with robust post-award contract management frameworks as this will guarantee high levels of success in completion of the road projects.

### **1.5.2 Road Construction Contractors and Consultants in Kenya**

Road contractors are the implementers of construction projects in Kenya while the Consultants supervise the road projects on behalf of the Road Agencies and the County Governments. They are therefore important stakeholders in roads construction projects. Consultants are expected to be aware of the road agencies post-award contract management practices. The Contractors on the other hand are expected to put in place adequate governance structures in their projects for example contracts with

clients and agents, reporting mechanisms, and stakeholder management to ensure successful implementation of road projects.

### **1.5.3 Scholars and Researchers**

This study is of value to scholars and researchers as it adds knowledge to the existing research on post-award contract management. The study explored the various gaps and trigger further research by scholars and other stakeholders. Excerpts of the research published in academic journals makes it accessible to students and scholars and give insight on the impact of post-award contract management on performance of national government road construction projects in Kenya.

### **1.6 Scope of the Study**

The main focus of this study was to establish the impact of post-award contract management on performance of national government road construction projects in Kenya. The study measured post-award contract management using: post -contract appraisal, post-contract relationship management, post-contract administration, and contract closure. The study also sought to establish the moderating effect of Regulatory Framework. The study was guided by stakeholder theory, theory of constraints, the principle agent theory, contract theory and the Marxist theory on performance. Cross-sectional survey research design was adopted. The research paradigm for this study was positivist. The target population was 1509 employees of roads agencies in Kenya. Primary data was used and was collected using questionnaires. Data analysis was done using Statistics Package for Social Sciences (SPSS) version 26. The study was expected to be conducted between March 2022 and December 2023.

### **1.7 Limitations of the Study**

The main data collection tool was questionnaires. Regarding the information that the respondents filled in the questionnaire, the researcher had no control over it. Some participants might have had fear that the information given might be used against them or paint a bad picture about the organization. This factor increased the risk of some respondents giving inaccurate information. However, in order to dispel the fear that

the respondents had, the researcher explained to them that the study was purely academic. This enhanced the accuracy of the data collected. The researcher employed research assistant to help in the process of collecting data.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter looks at literature post-award contract management on performance of national government road construction projects. The chapter gives the details on theoretical and conceptual framework. The chapter also presents review of study variables, and empirical literatures. Further, the chapter presents critique of literature, research gap and summary of the literature review.

#### **2.2 Theoretical Review**

A theory includes a set of basic assumptions and axioms as the foundation and the body of the theory is composed of logically interrelated, empirically verifiable propositions. Theoretical framework provides the researcher the lens to view the world clearly (Camp, 2001). This study was supported by stakeholder theory, theory of constraints, the principle agent theory, contract theory and the Marxist theory on performance.

##### **2.2.1 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 organizations and expect returns.

Unlike agency theory in which the managers are working and serving for the stakeholders, stakeholder theorists suggest that managers in organizations have a network of relationships to serve that include the suppliers, employees and business partners. The stakeholders' theory was used to establish how relationship management affects project performance through supporting different stakeholders such as the suppliers, the government, civil society and various user departments in ensuring proper contract management competencies.

### **2.2.2 Theory of Constraints**

The TOC developed by Goldratt in the mid-1980s (Goldratt, 1990) is a management paradigm that views any manageable system as being limited in achieving more of its goals by constraints. According to TOC, every organization or project must be understood as a system with a goal. Hence, every action taken by any part of the system must be judged by its impact on that goal. A system constraint is defined as anything that significantly prevents a system from improving its performance towards that goal (Goldratt, 1990; Mabin & Balderstone, 2003). TOC is systemic and strives to identify constraints to system success and to effect the changes necessary to remove them (Souza, 2010). Anything that prevents a project from reaching this goal is labeled as a constraint. Constraints may appear in the form of capacity, material, funds, time, logistics, the market (demand), behavior, or even management policy. The existence of these constraints in project management practices compromises project performance.

Lim and Mohamed (2019) argued that that project success depends on whether one is an individual owner, developer, contractor, user, the general public and so on. Chan and Chan (2014) categorized performance indicators for construction project performance into two categories. Category one composed of time; cost; safety; and environment. The second one was subjective measures, which comprised quality;

functionality; and satisfaction of different project participants. However, other researchers criticized Chan and Chan (1997) as being limiting to operational and tactical levels and excluded the strategic level of the project.

Recent studies by Le-Hoai, Lee and Nguyen (2013) in Vietnam also identified six significant variables that determine project success as; timeliness, accuracy and completeness of design and owner's project financing. Xiao and Proverbs (2002); Thai (2004); Lysons and Farrington (2006) assert that contract management focuses on achievement of the three goals of product quality, delivery on time and within the budget. For the purpose of this study we operationalized project performance as quality, cost and time even though they are referred to as the traditional indicators

Ochieng (2018) 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*. The theory holds 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.

### **2.2.3 Principal Agent Theory**

Principal Agent Theory was expounded by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976). The theory adequately explains the relationship linking the contractors and hiring entity, which may have an impact on the very last performance of road creation ventures. Being involved with enterprise relationships, the two events have a business enterprise relationship when they cooperate and engage in an affiliation where in one celebration (the primary) delegates selections and/or paintings to any other (an agent) to act on its behalf (Panda & Leepsa, 2017). While the district targets the goal of constructing high-quality roads, on the contrary, the contractors want to maximize profits out of the contracted projects, which lead them to do substandard work through minimizing inputs to Maximize profits. the vital assumptions underlying organization theory is that; capacity purpose conflicts exist among principals and retailers; every birthday party acts in its self-hobby;

information asymmetry regularly exists among principals and marketers; sellers are greater danger averse than the most important, and performance is the effectiveness criterion.

Two capability troubles stemming from those assumptions might also get up in organization relationships: company trouble and a hazard-sharing hassle (Xingxing, 2020). A corporation problem appears when agents' desires vary from the principals' and it's miles tough or highly -priced to verify whether or not agents have as it should be done the delegated work (i.e. ethical risk). This trouble also arises whilst it's far hard or pricey to affirm that marketers have the expertise to carry out the delegated paintings (destructive choice) that they claim to have. A threat-sharing problem arises while principals and dealers have special attitudes toward hazards that cause disagreements approximately moves to be taken (Xingxing, 2020).

The concept safely explains the connection between the two parties in contract management and conflicts that arise among the contractors and hiring entity, in this case Nandi County which ultimately affect the performance of road production projects. While the County targets the goal of constructing high-quality roads, on the contrary, the contractors want to maximize profits out of the contracted projects, which leads them to do substandard work through minimizing inputs to maximize gains. The assumptions and prescriptions of agency theory fit naturally with the issues intrinsic in the management along the supply chain. In the process of managing supplier quality, buyers in agency relations are faced with Capability issues. With the aid of their nature, consumers count on providers to offer properly best and to enhance the fine of provided products and/or offerings, but providers may be reluctant to invest significantly in great, specifically if they perceive that customers are reaping all of the advantages.

The theory defines the relationship between principals, such as shareholders and agents or company executives and managers. This theory relates to independent variable on contract monitoring and evaluation where the principal delicates the running of the business to the managers, who are the shareholders agents (Clarke, 2004). Compliance with procurement rules and regulations that govern the contract management maybe

as a result of the principal agent problem (Langevoort, 2002). In borrowing the concept, the theory will be useful in explaining the contract monitoring and evaluation where reports and audits are taken and submitted to the principal who is in this case the government.

#### **2.2.4 Contract Theory**

The social contract theory, argued for by Rousseau in *The Social Contract* (1762), is meant to respond to this sorry state of affairs and to remedy the social and moral ills that have been produced by the development of society. Social contract theory may be interpreted as class control, settlement administration and battle management (Knoester, 2015). Whilst class management is about coping with the contracting approaches initiation, agreement management is addressed by way of Robert (2020) who speaks of struggle control as the control of the engagement management of all term agreements by means of which means an agreement is closed. He pressured that this is the agreement management technique for ensuring that the right records is within the proper place on the proper time, to guide the entire of the contracting system. In assignment disciplines, this could be accomplished by using distributing contract records to all primary challenge stakeholders to determine and examine a most advantageous supply base (Piga & Treumer, 2018).

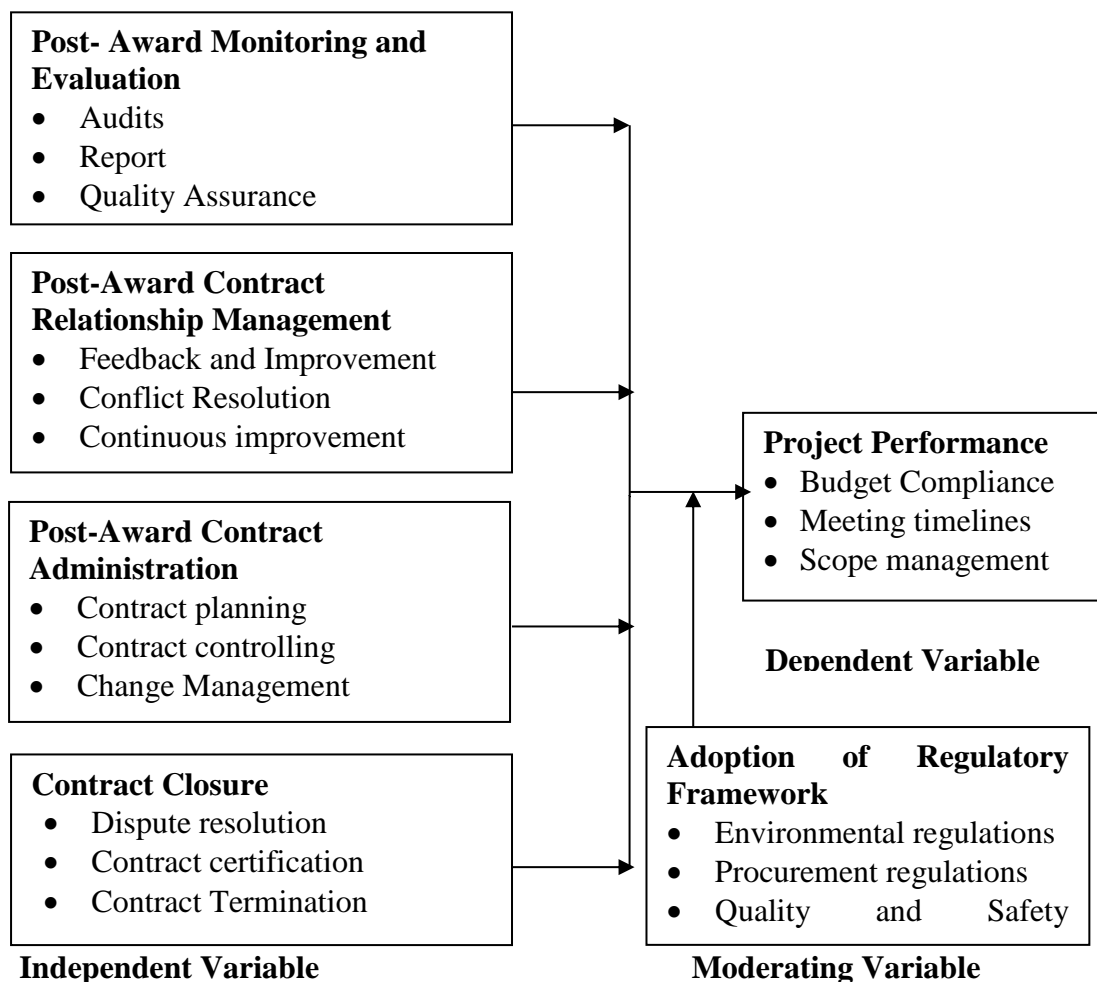
The contracting system is the 0.33 interpretation of agreement control and is wherein settlement awareness is controlled (Johnson, 2018). This technique is attached to both the category management technique and the conflict control technique. Contracting processes are initiated via category management and are from there supported by means of the settlement administration method. This battle control technique is necessary in the course of the whole contracting method which will guarantee fine, efficiency and effectiveness (Angelov, 2015)

Therefore, the contract theory studies how economic actors can and do construct contractual arrangements, generally in the presence of asymmetric information. In this study, contract theory was used to assess the effect of contract closure on performance of state projects in Kenya. The theory indicates how people and organizations

construct and develop legal agreements. It analyses how parties with conflicting interests build formal and informal contracts, even tenancy.

### 2.3 Conceptual Framework

A conceptual framework is a set of broad ideas and principles taken from relevant filed of enquiry and used to structure a subsequent presentation (Reichel & Ramey, 2018). This process discusses the conceptual framework for analyzing the effects of post-award contract management on supplier performance in the road construction industry in Kenya. The independent variables are Post -Contract Appraisal, post-contract relationship management, post-contract administration, and contract administration.



**Figure 2.1: Conceptual Framework**

### **2.3.1 Post-Award Contract Monitoring and Evaluation**

Given the multitude of supplements, the establishment of an appropriate operational unit for post-contract management is essential in order to minimize open claims, conflict potential and related handling time by means of process optimization (Aberdeen, 2017). Performance review is a comparison of the performance of the goods, works, materials and services against the quoted, specified and agreed criteria. As has already been pointed out, measurement is a vital part of the contracting process, yet it is sometimes forgotten once a contract has been completed and contracting authorities have moved on to another project. With a large procurement, a post contract review is always an appropriate tool (Abeeden, 2017).

In a study that was conducted by Mlinga, (2018) on contract audit 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. According to CIPS (2019), contract monitoring and evaluation is important for in that it contributes to success of a project, thus impacting on supply chain performance, which in overall contributes towards the organizations competitive advantage.

Monitoring in construction projects is defined as encompassing the tracking, collection and analysis of projects' achievements and overall performance, and is intended to inform operational decision-making, including project design, and to maintain operational focus on results through the measurement of outcomes, outputs and processes for programmes worldwide (Samuels, 2021). A secondary objective of monitoring is to generate data for evaluative purposes, corporate reporting and further evidence-building at all organizational levels.

In recent years the Monitoring Unit has invested significant efforts in setting up comprehensive normative guidance in line with the organization's strategic plan, and in delivering targeted support to country offices. In line with the recently approved projects Corporate Monitoring Strategy that focuses on staffing and resourcing, the Monitoring Unit has launched a workforce and skills gap assessment exercise which aims to enhance monitoring capacity across the organization (Lifard, 2020). Emphasis

on monitoring as a corporate reporting function resulted in incomplete and/or inconsistent implementation of monitoring practices, impacting the level of confidence in data collected and related analyses.

Shared monitoring refers to a collaborative approach to monitoring and evaluation in which multiple stakeholders participate in the process. It involves the active involvement and engagement of various parties, such as project teams, implementing agencies, beneficiaries, and other relevant stakeholders. This collaborative approach promotes transparency, inclusivity, and accountability, allowing diverse perspectives and expertise to contribute to the monitoring process (World Bank, 2011).

Shared monitoring enhances the effectiveness of monitoring efforts by leveraging the knowledge and resources of multiple stakeholders. It leads to more comprehensive and accurate assessments of project performance, as different stakeholders may have unique insights and access to different types of information. Additionally, shared monitoring fosters ownership and commitment among stakeholders, as they are actively involved in the monitoring process and have a stake in the project's success (USAID, 2015).

### **2.3.2 Post- Award Contract Relationship Management**

Post-contract relationship management involves development of effective working relationships suppliers to achieve better service delivery, value maximization and acquisition of quality products (Muhammad, Saoula, Issa, & Ahmed, 2019). It enhances the key aspects of strategies and business relations thus play an important role in promoting project performance (Sayed, Hendry, & Zorzini, 2021). Sound post-contract relationship management is therefore crucial to the sustainability of organizations in both public and private sectors. In the context of national government road projects in Kenya, effective post-contract relationship management can help to ensure that the project is completed on time, within budget, and to the required quality standards. Moreover, the fact that relationship management may be less prevalent in the public sector than in the private sector potentially makes this study even more important.

Effective contract relationship management incorporates appropriate information sharing, collaborations and contract compliance elements. It is also anchored on the foundations of organization-supplier communication based on mutual understanding, trust and accountability. Song, Zhu, Klakegg, and Wang (2018) noted that information sharing in contract relationship management and in procurement management at large is often essential to get the best services and sustainable procurement performance. Construction projects share the necessary information with the appropriate suppliers to enhance procurement performance. It is paramount for government owned organizations in the construction sector to deliver more efficient public services that are coordinated around the needs of the citizens (Verweij & Van-Meerkerk, 2021).

The procurement function, through the post-contract relationship management contributes immensely towards the service delivery. Therefore, information sharing as component of contract relationship management influence the procurement performance at a large extent. Sharing information sharing in post-contract relationship management is also essential in enabling interventions and negotiations between the road construction organizations and the suppliers and hence lead to attainment of positive outcomes (Mwendwa & Ochiri, 2019).

However, inappropriate post-contract management inevitably erode the organizations efforts to achieve sustainable performance in the context of procurement management (Mutangili, 2021). This happens when public sector organizations become complacent and fail to execute their obligations according to the terms of the contract. Moreover, post-contract relationship management is vital since procurement of commodities and services cannot be undertake successfully in complete isolation from effective engagements between the organization and the suppliers. The engagements between the public sector projects are informed by the effectiveness of the post-contract relationship management (Kamoni, 2020).

### **2.3.3 Post-Award Contract Administration**

Contract administration procedure involves maintain an updated form of the contract; controlling and managing contract variations; paying the contractor; managing assets; drafting reports and terminating the contract (Hansson & Longva, 2018). Contract

administration starts with developing clear, concise performance-based statements of work. The statement of work should be the road map for construct administration. Therefore, planning for post-contract administration occurs prior to issuance of the solicitation. The goal of contract administration is to ensure the contract is satisfactory performed and the responsibilities of both parties are properly discharged.

Effective post-contract administration minimizes or eliminates problems and potential claims and disputes. A key factor in successful contract administration is communication. It is essential for contract administrators to understand the provisions of the purchase document, have the ability to communicate contract obligations to all parties involved, and maintain control over the contract performance. A good contract manager ensures that the contract requirements are satisfied, that the goods and services are delivered in a timely manner, and that the financial interests of the agency are protected (Nair & Vinod, 2017).

Contract managers must have sufficient knowledge of contracting principles as it relates to their responsibilities in administering the contract. It is the contractor's responsibility to perform and meet the requirements of the contract. To do so, contractors sometimes need technical direction and approval from agency personnel. Agency personnel must provide this technical direction and approval in a timely and effective manner. All guidance provided to a contractor must be within the scope of the contract (Trent, 2017) Monitoring focuses on collecting and analysing information to provide assurance to the acquiring entity that progress is being made in line with agreed timeframes and towards providing the contract deliverables. Monitoring can be undertaken directly by the acquiring entity or through a third party arrangement. Monitoring the performance of suppliers is a key aspect of project performance and one that requires a range of skills, in particular relationship management (Umana, 2019).

In the context of national government road projects in Kenya, the measures of post-contract administration would involve ensuring that contracts for road construction or rehabilitation are executed in accordance with the agreed terms and conditions (Nair & Vinod, 2017). This would include identifying the scope of work, setting

performance targets, and ensuring that the contract complies with legal and regulatory requirements. Contract controlling would involve managing changes to the contract, managing the budget, and ensuring that all parties involved in executing the contract are meeting their obligations. Contract monitoring would involve tracking and evaluating the progress of the contract against established performance targets, monitoring the quality of work, ensuring that deliverables are met on time and within budget, and identifying any areas where the contract can be improved (Hansson & Longva, 2018).

#### **2.3.4 Contract Closure**

Contract closure concerns the activities associated with closing the project down, whether in accordance with the contract or as a result of early termination (Eley, 2017). Lee (2019) explained closure of contracts as a contract closed upon reaching the end of the contract, or when a contract is terminated before the work is completed usually by the buyer if the work is no longer required, or if the work performed is not acceptable due to quality or other reasons. The contractor may still need to be compensated for the work completed, as governed by the clauses in the contract (Thai, 2018).

The final activity of contract management is contract closure. This entails control and certification Imperatives that are both contracting parties have honored their contractual activities involved in evaluating degree of successful contract execution and achievement of expected results (Chong, Balamuralithara & Chong, 2017). Young (2018), in a study on health services in United Kingdom, finds that contract termination occur mainly due to contractor's inability to perform the work to the required outcomes due to under-pricing or misunderstanding the specifications. Non-inclusion of all transaction costs was also noted to have affected efficiency.

Contract closure happens when all the contractual terms and obligations have been honored (Cropper, 2018). 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, 2018) . To initiate the close-out process, the

agency should first determine that the contractor has satisfactorily performed all required contractual obligation.

Dispute resolution is the process of resolving disputes between parties. If disputes are not properly managed, they may cause project delays, undermine team spirit, increase project costs, and, above all, damage business relationships (Rob & Simon, 2018). The sources of construction disputes are largely related to contractual matters, including variation, extension of time, payment, quality of technical specification, availability of information, administration and management, unrealistic client expectations and determination (Robson, 2017). If these disputes are not resolved, they might result in project closure/contract closure (Sekaran & Bougie, 2017).

### **2.3.5 Regulatory Framework**

Transparency, fairness and competition in procurement bring to public light mistakes, errors in judgments and bad practices that affect the management and administration of a country (World Bank, 2017). They allow citizens to challenge unfair public officials and make them more accountable to the people. Efficiency and effectiveness in procurement ensures expenditure control since they minimise cost and ensures value for money. Again ethical approach (i.e. Adhering to procurement laws) as a principle of procurement leads to bureaucracy in financial management (Kluwer, 2020). The relationship between ethical approach and bureaucracy is to avoid personal interest and promote public interest.

Kenya's public Regulatory Framework have recently undergone and continue to undergo major changes (Ombaka, 2019). Regulations have been put in place for domestic purposes, with individual governments using them to promote domestic goals (Otieno, 2018). The Public Procurement and Asset Disposal Act of 2015 have set new standards for public procurement in Kenya. Getting value for money, preventing corruption, promoting industrial or social policies in developing market economies, and also as a method of improving their existing market-based procurement systems supported by the UNICITRAL Model Law are among the most important reasons for Kenya's public procurement system transformation (Thai, 2018).

A good public procurement system may improve accountability by making processes explicit and allowing compliance to be verified.

The Public Procurement and Disposal Act of 2005 and the Public Procurement and Asset Disposal Act of 2015 in Kenya established mechanisms for public organizations to purchase and dispose of unserviceable, outdated, or excess goods and equipment. The Act established three independent bodies to regulate the act; National treasury, the Public Procurement Regulatory Authority (PPRA) and the Public Procurement Administrative Review Board (PPARB). These regulations and acts give the conceptual framework in which procurement of goods, services and works should be performed right from user identification, specification development, supplier sourcing and selection, contract management, expediting, contract execution and delivery to receiving and disposal.

A research by Bwisa and Somba (2017) on the role of procurement practices on the performance of CDF funded projects found that contract management was widely seen as a precondition for team effectiveness which was affected by procurement laws. A good contract management function may help an organization's profitability, compliance, and risk management (Woolcock, 2017). However, ineffective administration of contracts may lead to poor operational control, low customer satisfaction, high risks and undesirable expenses (Nguyen, 2017). Kilonzi (2018) found that public Regulatory Framework provide guideline on how procurement is executed in public entities.

### **2.3.6 Performance of National Government Road Projects**

Project management is an art and a science; a science because it requires the skills, tact and finesse to manage people, and a science because it demands an in-depth knowledge of an assortment of technical tools, of managing relatively short-term efforts, having finite beginning and ending points, usually with a specific budget, and it must meet or exceed customers' needs and expectations (Simona, Adela-Eliza, & Badea, 2017). According to Alade, Lawal, Omonori, and Olowokere (2016) timely delivery of projects within budget and to the level of quality standard specified by the client is an index of successful project delivery. This involves balancing competing demands

among: Scope, time, cost and quality; stakeholders with different needs and expectations; identified requirements and expectations (Dumitrascu & Nedelcu, 2016).

Citing the Project Management Body of Knowledge [PMBOK] (2011) Muthoka (2018) argued that a project is considered underperforming when it has not delivered what was required, in line with expectations of cost, quality and time. Consistent with this argument, Stojčetočić, Lazarević, Prlinčević, Stajčić, and Miletić (2018) submits that one of the biggest problems of project managers is to harmonize project cost, time and quality. However, it is difficult to achieve this because cost, time and quality are related in the way that a change of one influence on the other two. Project managers therefore typically try to balance the three when meeting project objectives, but they may make trade-offs among the three during project implementation in order to meet objectives and satisfy customers.

According to PricewaterhouseCoopers (PWC, 2013) construction projects—especially mega-projects, those typically defined as exceeding \$1 billion exceed their budgets by as much as 50%. This is occasioned by shortcomings in project controls, and failure to realize the severity of delays and cost overruns until well after a project has foundered. In project management, time is an intangible resource that is unique because it is absolutely finite and time availability of a project is defined as the availability of time needed to do a job assigned (Anuar & Ng, 2017). Project time management is based predominantly on planning, and then it's all control and execution. Planning for project schedules may stem from deadlines, customer demands, hard and soft logic, and a bit of prediction.

Factors that contribute to cost overrun in construction industry include: inaccurate or poor estimation of original cost, inflation of project costs, improper planning, fluctuation in price of raw materials, poor project management, lack of experience, obsolete or unsuitable construction equipment and methods, unforeseen site conditions, mistake in design, insufficient fund, poor contract management, high cost of machineries, construction cost underestimation (Ali & Kamaruzzaman, 2019). In addition to poor project management, the problem of cost overruns is also attributed to economic factors, and natural environmental conditions. Factors ascribable to

project management include inadequate project formulation, lack of proper planning and poor project implementation (Elanga, Louzolo-Kimbembe, & Pettang, 2018).

Time management is critical for any successful project with the most common cause of bloated project budgets being lack of schedule management leading to time overrun (Stojčetočić *et al.*, 2018). Time overrun is any delay beyond the baseline construction schedule (Memon, Rahman, Abdullah, & Aziz, 2017). According to Alade *et al.* (2016), causes of delay in the construction industry of developing economies can be classified into three: shortages or inadequacies in industry infrastructure, mainly supply of resources; problems caused by clients and consultants; and problems caused by incompetence of contractors. In construction industry, it is important to have control on cost performance of projects to ensure the construction cost is within the budget. So, project cost management is needed to keep the project within its defined budget. Project cost management include: estimate costs (approximation of the monetary resources needed to complete project activities); determine budget (aggregating the estimated costs to establish cost baseline) and; control (monitoring the status of the project and managing changes to the cost baseline). Cost overrun is a very common phenomenon in the construction industry. Cost overrun occurs when the final cost or expenditure of the project exceeds the original estimation cost.

## **2.4 Empirical Literature Review**

### **2.4.1 Contract Monitoring and Evaluation and Project Performance**

Mohd Khairul, Syuhaida and Abd (2018) researched on contractor's monitoring and evaluation system in the Malaysian construction industry: current practice, perception and understanding. The study specifically sought to: (1) determining the current practice of contractor's monitoring and evaluation system in the Malaysian construction industry; and (2) examining the construction players' perception and understanding on the existing contractor's monitoring and evaluation system in the Malaysian construction industry. A set of questionnaires is designed and distributed to 157 contractors from G1 to G7 class. The paper found that: (1) contractor's monitoring and evaluation system is benefiting the contractors yet should be improved for its

efficiency; and (2) construction players have sufficient understanding on contractor's monitoring and evaluation system.

Ingle and Mahesh, (2016) researched on project performance monitoring and evaluation using PQR: a review. The success of a construction project can be indicated by project performance. The concept of project performance has not been clearly defined in the construction industry. Project performance monitoring and evaluation is usually quantified by performance metrics. To measure performance we need to identify performance metrics. With reference to performance metrics benchmarking of project is done. In literature, while usual performance metrics such as time, cost, quality, client satisfaction etc. are considered many other essential metrics such as effective communication, relationships, collaboration etc. are ignored. To address this issue, improved procedure for project benchmarking using project quarter back rating system can be developed. PQR combines keys performance metrics to evaluate overall performances of projects. PQR is modeled after National Football League's quarterback rating that measures and compare quarterbacks. Also, PQR identifies project performance metrics, which are responsible for successful completion of project. In PQR, seven parameters are included for analysis. This paper represents a framework of PQR Model, and it incorporate the benchmarks for overall performance of successful projects.

Kolani and Miroga (2019) studied the influence of contract management practices on supply chain performance of state corporations in the ministry of energy. 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. The study findings

indicated that contract monitoring and evaluation positively and significantly affect supply chain performance.

Mohammed (2018) sought to establish the influence of performance contracting on banking industry's operational performance. 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 monitoring and evaluation 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, 2019).

#### **2.4.2 Post-Contract Relationship Management and Project Performance**

Mwendwa and Ochiri (2019) researched on the influence of contract management practices on performance of state corporations in Kenya. The study found that administration strategy, monitoring and evaluation, stakeholder management and conflict management have a positive relationship with performance of state corporations in Kenya. The current study applied different study variables that include the contract relationship management aspects of information sharing, collaborations and contract compliance. Moreover, the current study specifically addressed the procurement performance of state corporations in energy sector of Kenya.

Kamoni (2020) undertook a study on the emerging supply chain management practices and procurement performance of public mega projects in the energy sector in Kenya. The study found that Public Private Partnership, E-procurement, Procurement Risk Management, and Global Sourcing have a positive significance influence on procurement performance of mega projects in the energy sector in Kenya. The study did not link contract relationship management to procurement performance. Furthermore, the research found that Regulatory Framework does not have a significant moderating effect on procurement performance. The current study established the relationship between contract compliance and procurement performance.

Aluonzi, Oluka and Nduhura, (2016) researched on the relationship between contract management and performance of road maintenance projects in Arua Municipality. The results revealed a significant relationship between contract relationship management and performance of the maintenance projects. The study revealed that improved payment mechanism, controlled contract variations, improved communication channels and dispute management improve project performance. The study failed to link contract management to procurement performance energy sector state corporations.

Kimundu and Moronge (2019) assessed the influence of contract relationship management on procurement performance in manufacturing firms in Kenya. The study established that contract relationship management accounted for 62% of the procurement performance of Kenya's manufacturing firms. This study was undertaken from manufacturing firms and not the state corporations in the energy sector. Furthermore, the research was a case study of Bidco Oil Refinery Ltd and the findings may not have applied to all other manufacturing firms in the Country. The current study was a survey of multiple energy sector corporations. It examined the influence of contract relationship management elements of information sharing, collaboration and compliance on procurement performance of state corporations in the Kenya's energy sector.

Song, Zhu, Klakegg, and Wang (2018) noted that information sharing in contract relationship management and in procurement management at large is often essential to get the best services and sustainable procurement performance. State corporations in energy sector share the necessary information with the appropriate suppliers to enhance procurement performance. It is paramount for government owned organizations in the energy sector to deliver more efficient public services that are coordinated around the needs of the citizens (Verweij & Van-Meerkerk, 2021). The procurement function, through the contract relationship management contributes immensely towards the service delivery. Therefore, information sharing as component of contract relationship management influence the procurement performance at a large extent. Sharing information sharing in in contract relationship management is also essential in enabling interventions and negotiations between the energy sector

organizations and the suppliers and hence lead to attainment of positive outcomes (Mwendwa & Ochiri, 2019).

### **2.4.3 Post-Contract Administration and Project Performance**

Mwendwa and Ochiri (2019) researched on the influence of contract management practices on performance of state corporations in Kenya. The study found that administration strategy, monitoring and evaluation, stakeholder management and conflict management have a positive relationship with performance of state corporations in Kenya. The current study applied different study variables that include the contract relationship management aspects of information sharing, collaborations and contract compliance. Moreover, the current study specifically addressed the procurement performance of state corporations in energy sector of Kenya.

Elasawi (2020) carried out a critical assessment of post-award contract administration performance in construction projects. The data collected from 366 construction items. The agreement level represents 94.6 and 100 % of the proposed factors and applied to quantify the significance and strength of the agreement of the identified check the overall agreement on Delphi rounds. The mean value and IRA analyses were score, mode value, and standard deviation to mean ratio (SDMR) were conducted to affect CCA performance in 11 process groups. The worst-case scenario of the mode Modified Delphi study were employed to identify the importance of 93 indicators that at the project level. Past research, semi-structured interviews, and a two-round systematic, and multidimensional contract administration performance model (CAPM) assessment tool to improve the CCA implementation by introducing an operational. The study captured a significant correlation between CCA indicators, groups, and overall performance. Communication & relationship; performance monitoring & reporting; and quality & acceptance management were the top 3 groups that affect CCA performance.

Maina and Osoro (2020) sought to establish the effect of contract management on organizational performance in telecommunication sector in Kenya. The specific objectives was: Contract administration, on organizational performance in telecommunication sector in Kenya. The study took place at Airtel headquarters,

Nairobi along Mombasa road. The study used descriptive research design for this study, where both quantitative and qualitative research was applied to support each other. This study concludes that contract planning have broadly impacted on organizational performance of telecommunication sectors in Kenya. The findings conclude that modern institutions should drive to embrace the best Contract administration.

In their study CIPS (2017) found that the goal of contract administration is to ensure the contract is satisfactorily performed and the responsibilities of both parties are properly discharged. Effective contract administration minimizes or eliminates problems and potential claims and disputes. This is in line with the finding of Olang (2017). It is essential for contract administrators to understand the provisions of the purchase document, have the ability to communicate contract obligations to all parties involved, and maintain control over the contract performance

#### **2.4.4 Contract Closure and Project Performance**

The study by Aluonzi, Oluka, and Nduhura, (2016) researched on contract management and performance of road maintenance projects: the case of Arua Municipality. Contract Management and Performance of Road Maintenance Projects: The Case of Arua Municipality. A cross-sectional survey design was used, with data collected from a sample of 102 respondents using questionnaire survey and interviews. The study found a significant relationship between contract administration, relationship management and contract closure and performance of the maintenance projects. The study concluded that improved payment mechanism, controlled contract variations, improved communication channels and dispute management improve project performance. The study recommended that the government of Uganda to increase the budget for road works; internal audit function be strengthened, contract management meetings be regularly held and contract specifications clearly articulated and adhered to; and technical staff should be trained in contract management and stringent performance measures provided as controls to adequately punish errant officials.

Studies by Larson and Gray (2017) indicate that some projects may end prematurely due to insufficient funds, reduced scope, loss of senior management support, negative cost/benefit analysis, low return on investment (ROI), changed organizational priority or due to a natural calamity. According to Ahmed and Abdullahi (2017), the project closure involves a number of steps that determine contractual and administrative closeout. Contractual closeout mainly involves the settling of the final terms of engagement. The parties confirm that work was done accurately and according to or beyond the client's satisfaction. The second dimension of project success centered on the impact of the project on customer. The level of customer satisfaction is determined by their observation, fulfilled performance measures, functional requirements, and technical specifications.

Myra and Moronge (2021) studied impellers of contract management imperatives on supply chain performance on manufacturing firms in Nairobi County, Kenya. The study used the following theories in support of the research objectives, the stakeholder theory which supports the stakeholder theory, the theory of constraints which support contract administration, principal agent which supports contract monitoring and evaluation and contract theory which expounds on contract closure the beneficiaries of the study are future researchers, institutions of higher learning and the government. Descriptive research design was used for the study and the questionnaire was the main data collection instrument. The study constituted a sample of manufacturing firms in Nairobi County, the number of employees in the sample was 198. Pilot testing was done to ensure the reliability and validity of the instrument. Statistical analysis was carried out using statistical packages for social science SPSS version 22 to generate information which was presented using tables, charts, frequency distribution tables and percentages. Inferential statistics was used to make predictions or inferences about the population from observations and analyses. The study findings indicate that the four variables that is relationship management, contract administration, contract monitoring and evaluation and contract closure positively and significantly affect supply chain performance. As such, manufacturing firms should embrace more relationship management. The study recommends that future studies should focus on the other sectors.

#### **2.4.5 Regulatory Framework on Project Performance**

Sarfo and Baah-Mintah (2017) assessed the effect of the Procurement Act (663) on the public financial management in Ashanti Region. This article discussed the extent to which the Public Procurement Act (654) has achieved transparency in the use of state resources, causes of delays in the procurement process and effects of the Procurement Act on government expenditure in the Ashanti Region. The descriptive and explanatory research designs were used for the study. The study relied on both probability and non probability sampling techniques. The study revealed that procurement activities and procedures were transparent because decisions on procurement activities followed the rules and regulations of the Act. It was further revealed that contractors were not paid on time after execution of contracts and this affected their organisational management. It was concluded that the Procurement Act had reduced government expenditure considerably in the sense that the Procurement Act has reduced wastage and leakage of financial resources through effective auditing, expenditure monitoring and cost effectiveness and competition which has brought value for money.

Mutangili (2019) studied the effects of procurement law on procurement performance: a case of Kenya National Highway Authority. The specific objectives of the study were; to establish the effect of procurement law implementation on procurement performance of Kenya National Highway Authority, to establish the challenges facing the implementation of procurement laws by Kenya National Highway Authority. The study used a desk study review methodology where relevant empirical literature was reviewed to identify main themes. The study results indicated positive relationship between procurement law implementation and procurement performance. The study concluded that, Procurement policy implementation has a positive influence on performance of procurement function. The study recommended that Kenya National Highway Authority should appoint a procurement oversight committee to oversee implementation of the procurement law and government policies on procurement.

Muange and Chirchir (2016) researched on procurement legislation and performance of constituency development fund committees in Kenya. The study employed

descriptive survey design. The population of the study was all the 290 constituencies and a census was conducted in the study. The study used primary data which was collected through use of a questionnaire. A five point likert scale questionnaire was used. Also a Yes or No structured questionnaire was also administered. The data collected was analyzed using descriptive statistics inferential statistics. The descriptive technique was used to generate frequencies, mean and percentages while inferential statistics were generated the fitness of the model and regression of coefficients. The findings concluded that the procurement performance affected procurement legislation and procurement performance of constituency development fund (CDF) committees in Kenya. Effects of Procurement Legislation on procurement performance were found to be statistically significant with a positive impact on the importance of procurement performance. Results also indicate that Procurement management had positive and significant effect on procurement performance.

Ngari (2016) researched on effects of public procurement and disposal act on procurement in parastatals in Kenya. The study adopted a cross sectional descriptive research design. For the purposes of this study, the population of interest was all parastatals in Kenya based in the Nairobi County. The study adopted proportionate stratified Sampling design. Primary data was collected for the purpose of this study. It was collected using interviewer administered questionnaires. The questionnaires were piloted with three subject experts before final administration. The filled questionnaires was inspected for completeness and edited. The study targeted a sample of 30 respondents out of which 22 respondents filled in and returned the questionnaire giving a response rate of 73%. The study concluded that that PPDA improved the competitiveness of the procurement processes among parastatals. In addition PPDA improved the quality of services and goods delivered, and finally it promoted ethical standards among Parastatals in procurement. On the challenges of PPDA, the study concluded that corrupt officers, unresponsive bids ignorance of the PPDA guidelines, inefficiency of the PPOA on enforcing the penalties to the offenders and lack of organizational incentives & pressures for Public procurement guidelines implementation were to a great extent challenges.

## **2.5 Critique of Existing Literature Relevant to the Study**

Loads of literature has been reviewed in relation to agreement management in standard. Plenty of the literature evaluation explains the system of construction management with restricted research analysing the relationship among the study unbiased variables that is danger control, assessment, and monitoring intensity to performance of the road construction projects. Maximum of the literature was from developed countries and consequently the conclusions might not be implemented to the developing countries like Kenya.

The study by Wang and Bunn (2018) proposed 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 (2017) conducted a study on contract management and sustainable service in public transport sector in Sweden. Moreover, Jones and Kaluarachchi (2017) 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 (2018) revealed 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 (2017) conducted a study on benchmarking UK public government and discovered a positive correlation between benchmarking and supply chain performance in the country.

Gupta, Karayil and Rajendran (2018) 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 (2017) 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 (2018) dwells on the performance measurement in construction industry. Amin (2018) conducted a study on e-procurement organizational performance in commercial Parastatals in Kenya. CMKN (2018) 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 (2018) also sought to establish the influence of performance contracting on banking industry's operational performance. Sanghera (2018) says that an organization can determine if it is engaging in effective contract management if it makes appropriate strategic decision and drafts right contracts. 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 monitoring and evaluation 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, 2019).

## **2.6 Research Gaps**

Road contractor's performance problem appears in many aspects, ranging from fail in time performance, cost performance and others fail in other performance indicators (Ugwa & Haupt, 2017). In Kenya cost overrun, delayed completion period, conflicts in the complicated vendor relationship, poor contract management practices, extortion and bribery, poor risk mitigation and poor quality work are the norm rather than

exception in the undertaking of contracted construction projects (Kibuchi & Muchungu, 2018; Cleland & Bidanda, 2019; Lepartobiko, 2018; Chuah et al., 2019).

The reviewed studies have shown that Kenya Road construction projects are facing several challenges and therefore the need to examine whether post-contract management can help in improving its performance. The study by Mwendwa and Ochiri (2019) observed that the poor performance of the road contracts is due to poor management of funds and poor delivery of services to the road user. With a dearth of studies on the effects of contract management practices, especially post contract, this study sought to fill the gap by, establishing the impact of post award contract management on supplier performance in the road construction industry in Kenya.

## **2.7 Summary of Literature Review**

This chapter has reviewed the various theories that explain the study variables. Specifically, the reviewed theories are stakeholder theory, theory of constraints, the principle agent theory, contract theory and the Marxist theory on performance. The chapter also presented the conceptualization of the independent, moderating and the dependent variables by analyzing the relationships between the three set of variables. The chapter also discussed various post-award contract management practices including; post -contract appraisal, post-contract relationship management, post-contract administration, and contract closure. The chapter also presented empirical literature review where studies done in the past were review. From the reviewed studies, the chapter presented a critique followed by gaps that the study sought to fill. Finally, the chapter presents summary of literature review.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The term "methodology" refers to the process of conducting research and the order in which it is carried out (Polit & Hungler, 2018). Bryman (2017) defines methodology as the design, setting, sample, methodological restrictions, and data collection and analysis tools used in a study. It is the understanding of the scientific processes and techniques used to gather reliable information. The methodology that was followed in this investigation is presented in this chapter. It covers the research design and target population, sample size and sampling methodologies, research tools, data collection processes, pilot test, data processing and analysis, and data processing and analysis.

#### **3.2 Research Design**

A research design is a plan for gathering, measuring, and analyzing data to find answers to research questions (Cooper & Schindler, 2016; Kothari, 2014). According to Kothari and Garg (2018), the study design arranges conditions for data collection and analysis in a technique that combines relevance to the research purpose with the procedural economy. The arranging of settings for data collection and analysis in a way that tries to combine relevance to the study purpose with efficiency in the technique is known as research design (Orodho, 2018). According to Kothari (2014), study design describes what the researcher will perform, from hypothesis drafting to operational implications to data analysis. According to Orodho (2018), a research design is a set of decisions about what, where, when, how much, and by what means to conduct an inquiry or research study. According to Cooper and Schindler (2017), research design allows the researcher to allocate limited resources by posing critical approach choices.

The research problem of the current study was studied through use of cross-sectional survey research design. This design suits the scenario where the correlation of two variables is to be determined at an instant in time (Mugenda, 2008; Cooper &

Schindler, 2011). Cross sectional surveys are versatile in nature and therefore give accurate means of evaluating information while enabling the researcher to confirm whether there are significant causalities among the variables (Harlow, 2014). Further, the design offers the researcher the opportunity to capture population characteristics and test hypotheses quantitatively and qualitatively. Orodho (2003) cross-sectional research design analyses the cause-effect relationship between two or more variables. Hence the design will be appropriate to the study because the research sought to establish a cause-effect relationship. The study adopted cross-sectional since it uses theories and hypothesis to account for the forces that causes a certain phenomenon to occur (Cooper & Schindler, 2011).

Cross-sectional surveys are diverse in nature, thus they provide an accurate means of analyzing information while also allowing the researcher to confirm whether there are substantial causal relationships between the variables (Harlow, 2014). Furthermore, the design allows the researcher to collect demographic features and statistically and qualitatively test hypotheses. Previous research have utilized cross-sectional survey approach to explore the relationship between project governance and project performance (Musawir, Serra, Zwikael & Imran, 2017; Joslin & Müller, 2016; Pinyarat et al., 2018; Ihab, 2017; Asadullah et al., 2019).

### **3.2.1 Research Philosophy**

Research philosophy is the foundation of knowledge, and the nature of that knowledge contains essential assumptions about how researchers view the world (Saunders, Lewis, & Thornhill, 2017). Philosophical approaches such as epistemology influence research methodology. Epistemology seeks to solve the fundamental question of what separates real (sufficient) knowledge from false (inadequate) knowledge. The study of epistemology is focused on determining the nature and extent of human knowledge (Burrell & Morgan, 1979). Realism, interpretivism, and positivism are the three epistemic perspectives (Saunders, Lewis, & Thornhill, 2017).

According to Cooper and Schindler (2017), the positivist research paradigm is founded on real facts, objectivity, impartiality, measurement, and the validity of results. The foundations of positivism can be found in empiricism, which states that all factual

knowledge depends on positive information received through observable experiences. Only analytic propositions can be recognized as accurate via reason. Positivism holds that knowledge should be founded on facts rather than abstractions; hence knowledge is founded on observations and experiments based on current theory (Cooper & Schindler, 2017). In the positivist paradigm, an epistemological study is how the social world can be explored as natural science. Hypotheses must be tested using empirical methods. According to Koul (2018), the positivist paradigm's quality requirements are validity and reliability because the objective of the positivist paradigm is to discover the "truth" through empirical study.

The research paradigm for this study was positivist. This is because Saunders, Lewis and Thornhill (2009) affirm that through positivism the researcher is concerned with facts and not opinions. It facilitates a study through collection of facts and figures. Saunders (2003) argues that in this philosophy, the function of the researcher cannot be over-emphasized since he/she is an objective analyst for the data collected so as to produce appropriate findings so as to achieve the objects of the study. The current study was anchored on the positivism paradigm because it is highly structured in methodology which enables generalization of quantifiable observations and evaluation of results with the help of statistical methods. Further, the study was theory based and conceptual framework guiding the study was developed from existing literature and appropriate hypothesis formulated. The formulated hypotheses were tested through statistical analysis leading to accepting or rejecting hypotheses.

### **3.4 Target Population**

Population is the entire group of individuals or objects for which the study data are to be used to make inferences; is the researcher's 'universe' (Kothari, 2014). According to (Burns & Grove, 2013), the population is made up of all the elements that match the study's inclusion criteria. According to Cooper and Schindler (2017), a population is the whole collection of elements from which inferences are to be drawn. It is the whole group of individuals (or objects) who have some common traits as stated by the study's sampling criteria (Ngechu, 2014).

The target population for the research was all on-going construction projects whose completion date was not earlier than December of 2023 by the three agencies in Kenya which are Kenya National Highway Authority (KeNHA), Kenya Rural Roads Authority (KeRRA) and Kenya Urban Roads (KURA). The study mainly focused on contractors of the projects as they play a critical role in providing the requisite data and information for the finalization of the research. Contractors were selected because they are well versed with the management of road projects in Kenya and more particularly in the three road agencies in Kenya. Therefore, the target population for this study was 255 on-going projects by the national government (Appendix V). Table 3.1 below shows the distribution of target population.

**Table 3.1: Target Population**

<b>Organization</b>	<b>Population (No.)</b>	<b>Proportion (%)</b>
KeRRA	156	61.2
KeNHA	40	15.7
KURA	59	23.1
<b>Total</b>	<b>255</b>	<b>100.0</b>

### **3.5 Sampling Frame**

A sampling frame is a list of all the items from which a representative sample is taken for research purposes (Nachmias & Nachmias, 2018). It's a list of people in the study's population from whom a random sample can be taken (Kothari & Garg, 2014). The sample frame for this study was created from a list of on-going projects by all the three road agencies in Kenya; that is KeNHA, KeRRA, and KURA. As a result, the sampling frame consisted of 255 on-going construction projects in Kenya.

### **3.6 Sample and Sampling Technique**

A sample is a representative of certain known percentage, frequency distributions of elements' characteristics similar to the corresponding distributions within the whole population (Kasomo, 2017).

### 3.6.1 Sample Size

Kothari (2014) explains that a sample size refers to the number of items to be selected from the universe to constitute a sample while sampling procedures refers to the technique used in selecting the items of the sample. The overall sample size for this study was determined using the Nassiuma (2000) formula as indicated below.

$$n = \frac{NC^2}{C^2 + (N - 1)e^2}$$

Where  $n$  is the sample size,  $N$  is the population,  $C$  is the coefficient of variation (0.5) and  $e$  is the precision level of (0.05). The samples sizes were computed as follows for each agency. The study adopted a sample size of 29, 61 and 37 for KeNHA, KeRRA, and KURA respectively.

$$\begin{aligned} \text{a) KeNHA} \quad n &= \frac{40(0.5)^2}{0.5^2 + (40-1)0.05^2} \\ &= 28.77697842 \approx 29 \end{aligned}$$

$$\begin{aligned} \text{b) KeRRA} \quad n &= \frac{156(0.5)^2}{0.5^2 + (156-1)0.05^2} \\ &= 61.17647059 \approx 61 \end{aligned}$$

$$\begin{aligned} \text{c) KURA} \quad n &= \frac{59(0.5)^2}{0.5^2 + (59-1)0.05^2} \\ &= 37.34177215 \approx 37 \end{aligned}$$

Therefore, using Nassiuma (2000) formula, the sample size for the study was 127 projects.

### 3.6.2 Sampling Procedure

According to Burns and Grove (2017), sampling is the process of selecting a group of people, events, or behaviors to examine. Sampling is used when it is not possible to include the whole population in a study (Cooper & Schindler, 2017). Stratified random sampling is the technique was used in selecting the sample for this study. When the population is heterogeneous, according to Babbie (2017), stratified random sampling is appropriate. Stratified sampling is the most efficient method of sampling because there is minimal chance of any critical population group being omitted (Gupta & Gupta, 2019). In our study, the population was grouped into three strata, that is; projects by KeRRA, KURA, and KeNHA. Stratification reduces standard error by having a level of control on the variance and also allows equal representation of population from each group. The study then used simple random sampling in selecting a sample from each strata. The advantage of Random sampling is that it ensures that the sampling error is minimal which increases precision of techniques of estimation in use (Cooper & Schindler, 2017). The sample size for each road agency was as shown in Table 3.2

**Table 3.2: Sample Size**

<b>Organization</b>	<b>Population (No.)</b>	<b>Proportion (%)</b>	<b>Sample (No.)</b>
KeRRA	156	61.2	61
KeNHA	40	15.7	29
KURA	59	23.1	37
<b>Total</b>	<b>255</b>	<b>100.0</b>	<b>127</b>

### 3.7 Data Collection Instruments

There are various methods for gathering data, each with its own set of costs, time constraints, and other resources available to the researcher (Orodho, 2008). The choice of data gathering instrument is typically critical to the outcome of a study, so while deciding on an acceptable data collection method, one must consider the topic's complexity, response rate, time, and target population (Mwangi, 2015). To acquire various sorts of data, several tools are employed. There is primary data, which is information that has never been acquired, and secondary data gathering techniques used to collect secondary data. Because they are cost-effective and convenient to

collect and summarize replies, primary data was obtained utilizing a semi-structured questionnaire in this project (Zikmond, 2013). According to Kothari (2014), a questionnaire is a cost-effective means of gathering information, especially from a large group of respondents, and it permits anonymity. Questionnaires are made up of a series of particular, concise questions that the interviewer asks verbally or that the respondents answer independently (Bryman, 2016).

Closed-ended, open-ended, or a combination of the two types of questionnaires are the most common. Quantitative research uses closed-ended questions to obtain statistics, while qualitative research uses open-ended questionnaires. However, some researchers quantify the responses during the analysis stage (Dawson, 2016). The data for this study was collected using both closed-ended and open-ended questions. Project supervision engineers (resident engineers and assistant resident engineers) were asked the questions. Respondents were restricted to direct their replies without more explanation in closed-ended questions, whereas open-ended questions would solicit respondent opinions on the factors being examined. Gitahi (2015), Sialala (2016), and Hassan (2017) used a semi-structured questionnaire to determine the impact of monitoring and evaluation on the performance of road projects in Kenya.

Each responder was required to rate each statement supplied describing a specific variable on a scale ranging from 1 to 5. The questionnaire included Likert scale psychometric constructs with a scale ranging from 1 to 5. The scale goes from 5 to 1: strongly agree, agree, neutral, disagree, and strongly disagree. Open-ended questions are given at the end of each Likert scale question to allow the respondent to provide extra information not captured in the Likert scale questions. This part allowed the study to collect critical information directly from respondents based on their perceptions of their surroundings and daily issues.

### **3.8 Data Collection Procedures**

According to Rotich (2016), data collection refers to gathering information to serve or prove some facts. Burns and Grove (2013) define data collection as the precise, systematic gathering of information relevant to the research sub-problems, using interviews, participant observations, focus group discussion, narratives, and case

histories. The questionnaire method has been selected because it is an unobtrusive and inexpensive method for data collection (Grønhaug, 2016). For purposes of this study, data collection was done through the use of questionnaires. Based on the nature of the survey interaction, a questionnaire can be distributed to respondents using several modes: mail, telephone, internet, or face-to-face (Rotich, 2016).

This study adopted the self-administered questionnaire approach. Self-administered questionnaires offered researchers the potential to reach a large number of potential respondents in a variety of locations (Cooper & Schindler, 2017). Gitahi (2015), Sialala (2016), and Hassan (2017) used self-administered questionnaires in their studies on the influence of monitoring and evaluation on the performance of roads projects in Kenya.

Before embarking on data collection, relevant approvals have to be obtained. An introductory letter from the JKUAT Nairobi campus introducing the researcher to relevant authorities for field data collection was first obtained. This letter was used to obtain the permit for research from the National Commission for Science, Technology, and Innovation (NACOSTI). In addition, the researcher sought permission from the respective chief executives in order to be allowed to collect data from the Roads Authorities. Contact details of all Resident Engineers were obtained from the headquarters of the Roads Authorities. Follow-up calls and emails were then made to book an appointment.

During the appointment, the significance of the study was explained. The data collected from the field was done with the aid of five research assistants. It was expected that the use of the research assistants improved the return rate of the questionnaires since any clarifications on the questionnaire was made contemporaneously. The research assistants were trained on research ethics and on the research instrument and its administration, interview skills, and data recording. An introductory letter for the research assistant to collect data on the researcher's behalf was given to the research assistants.

### **3.9 Pilot Testing**

To ensure the questionnaire's validity and reliability, a pre-test and pilot survey was done. According to Sekaran (2013), a pilot research is required to test the dependability of data collection instruments. According to Marczyk, DeMatteo, and Festinger (2015), the pilot test is the first step in the data collection phase of the research process. According to Cooper and Schindler (2017), A pilot test is done to uncover flaws in design and instrumentation and to give proxy data for the selection of a probability sample. The questionnaire is refined during pilot testing so that responders have no trouble answering the questions (Saunders et al., 2009).

According to Muus and Baker-Demaray (2017), a pilot test should include people from the target group and mimic the data gathering techniques and protocols. According to Lancaster, Dodd, and Williamson (2019), the sample size for high precision pilot studies should be between 1% and 10%. Twelve projects from the three road authorities were given questionnaire for pilot testing. Respondents were encouraged to give recommendations and comments about the instructions, the clarity of the questions, and their relevance (Mugenda & Mugenda, 2018). The sample was picked using simple random sampling within each cluster. Simple random sampling, according to Orodho (2008), assures that each unit has an equal chance of being chosen, and the random sample is the most representative of the entire population and the least likely to result in bias. The projects that took part in the pilot study were not included in the final study.

#### **3.9.1 Validity of Research Instrument**

Validity refers to the accuracy and meaningfulness of research results and inferences drawn from them. In this study, we will consider three types of validity: content validity, face validity, and construct validity (Bryman & Cramer, 2016). Content validity addresses how well the items developed to operationalize a construct provide an adequate and representative sample of all the items that might measure the construct of interest. Content validity usually depends on the judgment of experts in the field who evaluate whether the items are relevant and representative of the construct being measured. In this study, we used the content validity formula by Amin (2005) to

calculate the content validity index, which is the percentage representation of the items that were considered valid by the research supervisors. The formula is: Content Validity Index = (No. of judges declaring item valid) / (Total No. of items).

Face validity, also known as logical validity, is the extent to which a test is subjectively viewed as covering the concept it purports to measure. Face validity can be established by examining the items and determining whether they appear to measure what they are supposed to measure. In this study, we considered face validity by reviewing the items and ensuring that they appear to measure the construct of interest.

Construct validity is the degree to which a test measures the construct it purports to measure. Construct validity is usually established by accumulating evidence from numerous studies using a specific measuring instrument. In this study, we considered construct validity by examining the relationship of the measure being evaluated with variables known to be related or theoretically related to the construct measured by the instrument.

### **3.9.2 Reliability of Research Instrument**

Reliability refers to the ability of a measurement instrument to produce the same answer in the same circumstances, time after time (De-Vaus, 2012; Kipkebut, 2019). According to Collis and Hussey (2017), a measuring instrument is reliable when the research results emanating from these instruments can be repeated. Kothari (2014) further argued that reliability is the consistency of measurement; the more reliable an instrument is, the more consistent the measure. The rationale for internal consistency is that the individual items should all measure the same constructs and thus correlate positively to one another (Kipkebut, 2019). DeVellis, (2016) states that the ability of a measuring instrument to determine the proportion of systematic variation in the scores yielded by the instrument reflects the reliability of that instrument. This is done by determining the association between the scores obtained from different administrations of the instrument. If the association is high, the instrument yields consistent results and is therefore reliable.

Internal consistency reliability was examined by use of Cronbach's Alpha ( $\alpha$ ) coefficient. Cronbach's Alpha indicates the extent to which a set of test items can be treated as measuring a single latent variable (Sekaran, 2019). Cronbach's Alpha is a coefficient (a number between 0 and 1) that is used to rate the internal consistency (Kipkebut, 2010). Higher alpha coefficient values mean that scales are more reliable. Cronbach's Alpha ( $\alpha$ ) is computed as follows:  $\alpha = K / (K - 1) [1 - (\sum \sigma_k^2 / \sigma_{total}^2)]$  where K is the number of items,  $\sum \sigma_k^2$  is the sum of the k item score variances, and  $\sigma_{total}$  is the variance of scores on the total measurement (Cronbach, 2004). Cronbach's Alpha coefficient is a more accurate and careful method of establishing internal consistency than the Spearman-Brown and Kuder-Richardson reliability measures (Parasuraman & Manzey, 2019). In addition, Cronbach's Alpha coefficient has the advantage of producing a reliability estimate with only one administration. Kline (2015) noted that the accepted value for Cronbach's Alpha coefficient is between 0.7 and 0.9. However, Githu (2017) argued that an alpha coefficient of 0.5 or greater is adequate to accept the presence of internal consistency.

### **3.10 Data Analysis and Presentation**

The process of data analysis entails applying numerous statistical processes and tests to the data (Cooper & Schindler, 2017). According to Sekaran (2009), data analysis has three goals: obtaining a sense for the data, testing the data's goodness, and solving the research question. The Statistical Package for Social Sciences (SPSS) version 25 software will be used to analyze the data. The research used descriptive analysis. Descriptive statistics allow a researcher to explain the distribution of measures and summarize data comprehensibly (Kothari, 2009; Mugenda & Mugenda, 2003).

The open-ended components of the questionnaire were coded and repeated themes (responses) or concepts were recorded until saturation is reached (Jennings, 2001). Quantitative data was analyzed using descriptive statistics such as frequency, percentages, and means and summary graphs, pie charts, and frequency distribution tables to depict the data's sets of categories.

### **3.10.1 Correlation Analysis**

This study conducted inferential statistics through correlation analysis. According to Saunders *et al.* (2017), correlation is a statistical tool that helps to determine the relationships between two or more variables. Cooper and Schindler (2017) indicate that correlation, as measured by a correlation coefficient, is the degree to which a linear predictive relationship exists between random variables. Pearson correlation coefficient was used for testing associations between the independent and the dependent variables. Correlation coefficients between independent variables (Portfolio Governance, Project Sponsorship, and Project Management Capability, Disclosure and Reporting, Contractual Governance and Utilization of Findings) and dependent variable (Performance of Roads Construction Projects in Kenya) were computed to explore possible strengths and direction of relationships.

According to Wagana (2017), a correlation coefficient ( $r$ ) has two characteristics, strength and direction. The strength of the relationship is indicated by how  $r$  tends toward 1, the maximum value possible.  $r$  is interpreted as follows; when  $r = +1$  it means there is perfect positive correlation between the variables, when  $r = 0$  it means there is no correlation between the variables, that is the variables are uncorrelated, when  $r = -1$  it means there is perfect inverse correlation between the variables.

### **3.10.2 Regression Analysis**

A multiple regression model was used to test the significance of the influence of the independent variables on the dependent variable. Multiple regression analysis was used to determine how project performance is influenced by the four variables of the governance of projects. Regression analysis attempts to determine whether a group of variables together predict a given dependent variable and, in this way, attempts to increase the accuracy of the estimate (Mugenda & Mugenda, 2003). The use of regression model is ideal due to its ability to show whether a positive or a negative relationship exists between independent and dependent variables (Mason, Lind, & Marchal, 1999). Previous studies have used multiple regression models with satisfactory results in studies on the influence of project governance on project

performance include; (Musawir, Serra, Zwikael & Imran, 2017; Joslin & Müller, 2016); Pinyarat et al., 2018; Ihab, 2017; Asadullah *et al.*, 2019).

### **Statistical Model**

The multiple regression equation model was illustrated below: -

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

Where:

Y is the dependent variable (project performance),  
 $\beta_0$  is the constant (Co-efficient of intercept)  
 $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  are the slopes of the regression equation,  
 $X_1$  is the project portfolio management independent variable,  
 $X_2$  is the top management support independent variable,  
 $X_3$  is project management capability independent variable,  
 $X_4$  is project communication independent variable while  
e is an error term

The equation was solved using statistical model where SPSS was applied to generate the t- value.

The analytical model for testing the moderating effect is: -

$$Y = \beta_0 + Z (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) + e$$

Where Y is the dependent variable (project performance),  $\beta_0$  is the regression coefficient, Z is the moderation variable effect (Regulatory Framework ),  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  are the slopes of the regression equation,  $X_1$  is project portfolio management independent variable,  $X_2$  is the top management support independent variable,  $X_3$  is project management capability,  $X_4$  is project communication independent variable, while e is an error term normally distributed about a mean of 0 and for purposes of computation, the  $\alpha$  is assumed to be 0. The equation was solved by the use of statistical model where SPSS was used to generate the t- value.

### **3.10.3 Diagnostic Tests**

When the assumptions of the linear regression model are correct, ordinary least square (OLS) provides efficient and unbiased estimates of the parameters (Long & Ervin, 2000). Independent variables were subjected to the following tests: linearity, multicollinearity, normality, homoscedasticity before regression analysis was conducted.

#### **3.10.3.1 Linearity Test**

One of the necessary OLS condition to be met is linearity. The linearity of variables can be examined with a scatter diagram or using correlation analysis. For this study, Pearson's Product Moment Correlation Coefficient ( $r$ ) was employed to check for linearity between the independent variables. This helped the researcher to know whether the OLS condition is met or not.

#### **3.10.3.2 Multicollinearity Test**

Multicollinearity was addressed using the Variance Inflation Factor (VIF) on the variance of the estimators. This is expressed as  $VIF = 1/(1-R^2)$ . The general rule is that values greater than ten suggest presence of multicollinearity (Chatterjee & Hadi, 2006). If multicollinearity is detected, the remedy will be to collect more data or drop off some of the correlated variables. The key limitation of multicollinearity is that it can yield to unstable regression co-efficients characterized by large standard errors and high variances, which can then lead to inaccurate statistical inferences (Bergmann & Hohenboken, 2015).

#### **3.10.3.3 Normality of the Dependent Variable**

To test for normality assumptions, the study adopted improved Shapiro-Wilk test. The improved Shapiro-Wilk test is a test for normality in regression studies which is normally preferred because of its superb power properties (Mendes & Pala, 2016). The test basically yields a value  $W$  which lies between zero and one. A value of one indicates normality whereas weak values indicate a departure of normality (Nornadiah

& Yap, 2017). This study in principle, stuck to this stated convention of interpreting normality.

#### **3.10.3.4 Homoscedasticity**

Heteroscedasticity in a study usually happens when the variance of the errors varies across observation, (Long & Ervin, 2015). Breusch-Pagan and Koenker test was used to test the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables. Breusch-Pagan and Koenker test the null hypothesis that heteroskedasticity not present (homoskedasticity) if sig-value is less than 0.05, reject the null hypothesis. A large chi-square value greater than 9.22 would indicate the presence of heteroscedasticity (Sazali, Hashida, Jegak & Raduan, 2019).

#### **3.10.3.5 Test of Hypotheses**

The validity of multi regression models was tested in this study utilizing ANOVA and the F distribution, as stated by (Mason et al., 2019). ANOVA is a data analysis approach for determining whether significant differences exist between two or more groups or samples at a certain probability threshold (Mugenda & Mugenda, 2018). T test was used to determine the significance of the regression coefficient (Mason et al., 2019). Individual tests of all independent variables were conducted in order to establish which regression coefficients are likely to be zero and which are not. The conclusion was based on the p value, with the entire model being significant if the null hypothesis of the beta is rejected, and insignificant if the null hypothesis is not rejected. To put it another way, if the p-value is less than 0.05, the researcher concluded that the entire model is significant and has solid predictors of the dependent variable, and that the results are not random. The model was not significant if the p-value is more than 0.05, thus therefore cannot be used to explain the fluctuations in the dependent variable. Table 3.3 summarizes the decision rule.

**Table 3.3: Hypotheses Test**

<b>Hypotheses statement</b>	<b>Hypothesis test</b>	<b>Decision rule</b>
<b>H01:</b> Project portfolio management does not significantly affect the performance of national government roads construction projects in Kenya	Karl-Pearson's coefficient of correlation -F-test (ANOVA) -T-test <b>H01</b> : $\beta_1 = 0$	Reject H01 if P-value $\leq 0.05$ otherwise fail to reject H01 if P is $> 0.05$
<b>H02:</b> Top management support does not significantly affect the performance of national government roads construction projects in Kenya.	Karl-Pearson's coefficient of correlation -F-test (ANOVA) -T-test <b>H02</b> : $\beta_2 = 0$	Reject H02 if P-value $\leq 0.05$ otherwise fail to reject H02 if P is $> 0.05$
<b>H03:</b> Project management capability does not significantly affect the performance of national government roads construction projects in Kenya	Karl-Pearson's coefficient of correlation -F-test (ANOVA) -T-test <b>H03</b> : $\beta_3 = 0$	Reject H03 if P-value $\leq 0.05$ otherwise fail to reject H03 if P is $> 0.05$
<b>H04:</b> Project communication does not affect the performance of national government roads construction projects in Kenya.	Karl-Pearson's coefficient of correlation -F-test (ANOVA) -T-test <b>H04</b> : $\beta_4 = 0$	Reject H04 if P-value $\leq 0.05$ otherwise fail to reject H04 if P is $> 0.05$
<b>H05:</b> There is no significant moderating effect of Regulatory Framework on the relationship between governance of projects and performance of national government roads construction projects in Kenya	Karl-Pearson's coefficient of correlation -F-test (ANOVA) -T-test <b>H05</b> : $\beta_5 = 0$	Reject H05 if P-value $\leq 0.05$ otherwise fail to reject H05 if P is $> 0.05$

### 3.10.4 Operationalization of Study Variables

In social science research, operationalization refers to the development of concrete methodologies for measuring variables (Babbie, 1989). This process is concerned with defining variables in such a way that they can represent concepts (Senese, 1997). Researchers impose their opinions on how constructs should be measured in a study by operationalizing variables (Senese, 1997). The variables in this study were operationalized and quantified using customized scales based on standardized measures that have previously been used in research. Likert scale items were used to assess the four independent variables (project strategic alignment, project team leadership, project management capability, and project communication). Likert scale

items were also used to measure the dependent variable. The likert scale was ranked as follows: 1 denotes strong disagreement; 2 denotes disagreement; 3 denotes neutrality; 4 denotes agreement; 5 denotes strong agreement. These scales were chosen because they had previously been used to operationalize the study variables in recognized research projects. The operationalization of variables is shown in Table 3.4.

**Table 3.4: Summary of Operationalization of Variables**

<b>Variable Set</b>	<b>Variable</b>	<b>Indicator</b>	<b>Measurement</b>
Independent	project portfolio management	<ul style="list-style-type: none"> <li>• Strategic alignment</li> <li>• Portfolio evaluation</li> <li>• Portfolio control</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale
	Top management support	<ul style="list-style-type: none"> <li>• Resource provision</li> <li>• Knowledge expertise</li> <li>• Power influence</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale
	Project management capability	<ul style="list-style-type: none"> <li>• Project processes</li> <li>• Systems and tools</li> <li>• Knowledge management</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale
	Project Communication	<ul style="list-style-type: none"> <li>• Communication channels</li> <li>• Communication management</li> <li>• Feedback and reporting</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale
Moderating	Regulatory Framework	<ul style="list-style-type: none"> <li>• Environmental regulations</li> <li>• Procurement regulations</li> <li>• Taxation Regulations</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale
Dependent	Project Performance	<ul style="list-style-type: none"> <li>• Managing project overruns</li> <li>• Project quality outputs</li> <li>• Meeting stakeholder's expectation</li> </ul>	Ordinal scale: Questionnaire was used based on five point likert scale

## **CHAPTER FOUR**

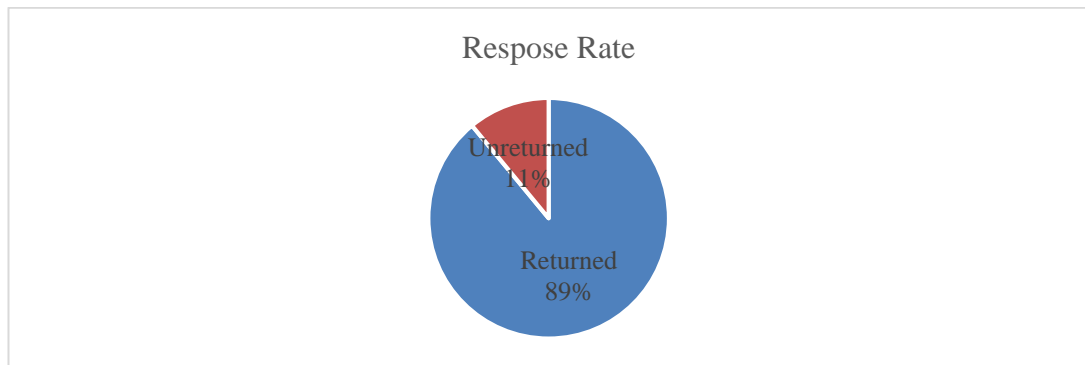
### **RESEARCH FINDINGS AND DISCUSSION**

#### **4.1 Introduction**

The chapter entails analysis of data, presentation and interpretation of the findings and discussion as regards the objectives of the study. The study used descriptive statistics such as frequencies, percentages, mean and standard deviation to analyse the data. The first section presents summary on demographic statistics of selected respondents. The second section presents the summary statistics on questions relating to each of the study variables.

#### **4.2 Response Rate**

A total of 127 contractors of on-going construction projects in all three road agencies in Kenya (KeNHA, KeRRA, and KURA) were selected as the sample for this study. The returned questionnaires were verified for accuracy and completeness, and 113 were found to be valid and reliable, and suitable for further analysis and reporting. The response rate for the study was 89.0%, which is considered excellent according to Sekaran and Bougie's (2016) criteria. They suggest that a response rate of 50% or above is adequate, 60% or above is good, and 70% or above is excellent for analysis. Therefore, the response rate of 89% is excellent and provides a solid foundation for further analysis and reporting. Table 4.1 provides a visual representation of the response rate.



**Figure 4.1: Response Rate**

### **4.3 Pilot Test Results**

According to Muus and Baker-Demaray (2017), a pilot test should include people from the target group and mimic the data gathering techniques and protocols. According to Lancaster, Dodd, and Williamson (2019), the sample size for high precision pilot studies should be between 1% and 10%. Twelve projects (representing 10% of study sample) from the three road authorities were given questionnaire for pilot testing. The sample was picked using simple random sampling within each cluster. The projects that took part in the pilot study were not included in the final study.

All the 12 questionnaires distributed for pilot test were returned having been fully filled. This was a 100% response rate. The returned questionnaires were used to test for validity and reliability. The findings were used to make necessary modifications in the questionnaire and the final questionnaire to be used in the actual data collection was presented in Appendix I.

#### **4.3.1 Validity of the Research Instrument**

As stated by Babbie (2017), validity refers to the extent by which acquired results from the process of data analysis embodies phenomenon being studied. Validity is categorized into three: content validity, face validity, and construct validity.

#### 4.3.1.1 Content Validity

Content validity was ensured by seeking comments and recommendations of experts in department of the department of business management in the school of business. The experts scrutinized the instruments to check whether they addressed the specific objectives and if their format and language was appropriate. To obtain content validity index (CVIs) for relevancy and clarity the number of those item as relevant or clear (rating 1) were divided by the number of items. According to Polit and Beck (2006), the acceptable CVI value is at least 0.898. Table 4.1 presents the findings on content validity index. Based on the findings, we can conclude that CVI meet satisfactory level, and thus the scale of questionnaire has achieved satisfactory level of content validity (Polit & Beck, 2006).

**Table 4.1: Content Validity Index**

<b>Experts</b>	<b>CVI</b>
Expert 1	1.000
Expert 2	0.857
Expert 3	0.837
Expert 4	0.918
Expert 5	0.878
<b>Average</b>	<b>0.898</b>

#### 4.3.1.2 Face Validity

Face validity is the probability that a given question is misunderstood or misinterpreted. According to Creswell and Creswell (2017) a proper way of enhancing face validity is through pre-testing. The face validity of research tool was improved by conducting a pilot test and also changing any ambiguous and unclear questions.

#### 4.3.1.3 Construct Validity

Construct validity entails assessing how well an item is developed and is operationalized to measure a particular construct (McNabb, 2015). Construct validity is the process of finding and accumulating judgmental evidence based on research that have been conducted by other scholars by using specific instrument for measurement (Greenfield & Greener, 2016). Construct validity evaluation needs to examine the

association of the measure being assessed with variables said to be correlated or theoretically correlated to the construct gauged by instrument. According to Wilson (2014), for the items to have construct validity, they need to explain a variance of 0.5 or above towards the construct. The AVE for the construct also should be above 0.4 (Kumar, 2019). SPSS Analysis was used to provide statistics for the testing of construct validity. The results are as shown in Table 4.2. From the results, the variables had AVE values greater than 0.4 (Kumar, 2019) implying that they met construct validity.

**Table 4.2: Average Variance Explained for the Constructs**

<b>Variables</b>	<b>Average Variance explained</b>	<b>No. of items</b>
Post-Contract Appraisal	0.726	9
Post-Contract Relationship Management	0.712	9
Post-Contract Administration	0.784	9
Contract Closure	0.785	9
Procurement Regulations	0.743	9
Performance of Road Projects	0.741	18

#### **4.3.2 Reliability of the Research Instrument**

A reliability analysis is usually carried out on Likert questions. The study used Cronbach's alpha which is based on internal consistency to determine the reliability of the data collection tool. The methodology provides the measure of the average measurable item and its correlation. Field, (2009), explained that Cronbach's alpha value greater than 0.7 is considered reliable. Therefore, this study selected 0.70 as the acceptable threshold value for reliability. The summary results in Table 4.3 show that all the variables had Cronbach Alpha of above 0.70. This is an indication that they were all reliable and no adjustment was required. This shows that this question met the reliability criteria ( $\alpha > 0.70$ ). Therefore, no modification of the items was undertaken. The measures of all the variables were considered to be reliable. From the findings, all the variables had Cronbach's Alpha coefficient greater than 0.7.

**Table 4.3: Summary of Reliability Analysis**

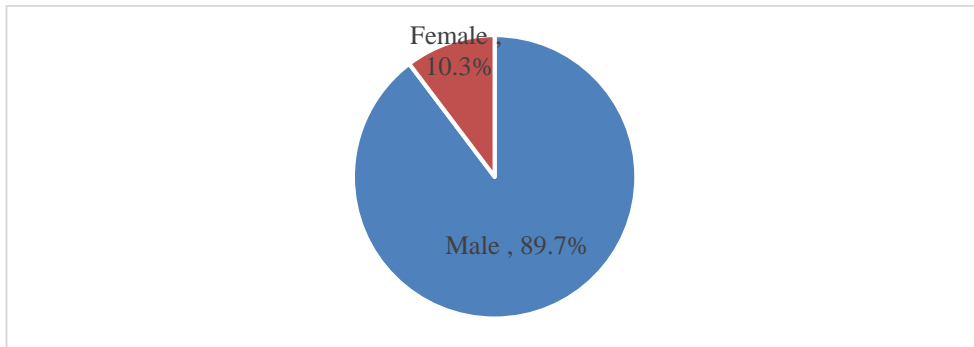
<b>Variables</b>	<b>Cronbach's Alpha</b>	<b>No. of Items</b>	<b>Conclusion</b>
Post-Contract Appraisal	0.796	9	Reliable
Post-Contract Relationship Management	0.791	9	Reliable
Post-Contract Administration	0.785	9	Reliable
Contract Closure	0.776	9	Reliable
Procurement Regulations	0.809	8	Reliable
Performance of Road Projects	0.786	18	Reliable

#### **4.4 Demographic Information Analysis**

This section of the study presents the demographic information of study respondents. The study specifically sought to establish the gender, age bracket, years worked with roads construction projects, and level of education.

##### **4.4.1 Gender of Respondents**

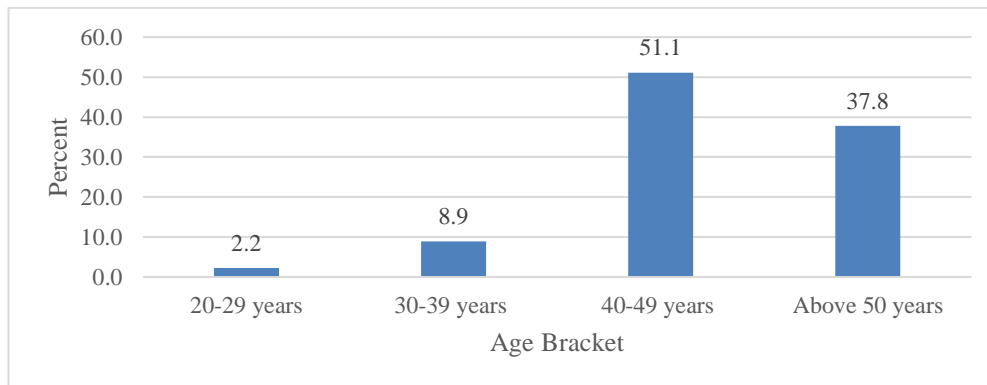
Respondents were requested to indicate their gender and Figure 4.2 presents summary of the findings obtained. The gender distribution of the contractors in the sample shows that the majority of them were male (89.7%) while only a small proportion were female (10.3%). This finding suggests that the construction industry in Kenya is male-dominated, which is consistent with the literature on gender and construction in developing countries. For example, a study by Kaming et al. (2017) on the Indonesian construction industry found that women are underrepresented in the industry due to cultural, social, and economic factors. Similarly, a study by Lingard et al. (2019) on the Australian construction industry found that women face significant barriers to entry and advancement in the industry, such as discrimination, harassment, and lack of support for work-life balance. In Kenya, a study by Ondari-Okemwa (2017) on gender and construction in Nairobi found that women face significant challenges in accessing training, employment, and leadership opportunities in the construction industry. The study also found that women who do work in construction often face discrimination and harassment on the job. Addressing these gender disparities in the construction industry is essential for promoting gender equality and improving the industry's overall performance.



**Figure 4.2: Gender of Respondents**

#### **4.4.2 Respondents Age Bracket**

The study sought to establish the age distribution of selected respondents. Figure 4.2 presents summary of the findings obtained. The study's findings indicate that the age distribution of the selected respondents is skewed towards older age brackets. Specifically, a significant proportion of the respondents were 40-49 years old (51.1%), while the smallest proportion was in the 20-29 years age bracket (2.2%). This result is consistent with previous research on the construction industry, which has found that the industry tends to have an aging workforce. A study by Chartered Institute of Building (CIOB) in the UK (2016) found that the average age of construction workers was 42 years, which was higher than the national average. The study also found that there was a shortage of younger workers entering the industry, which could lead to a skills gap in the future. Similarly, a study by Ofori (2012) on the construction industry in Singapore found that the industry was facing a labor shortage due to an aging workforce and a lack of younger workers entering the industry. The study suggested that the industry needed to attract and retain younger workers to address the labor shortage and ensure the industry's long-term sustainability. The findings of the current study suggest that there may be a similar age distribution issue in the construction industry in Kenya, which could have implications for the industry's future performance.



**Figure 4.3: Respondents Age Bracket**

#### 4.4.3 Respondents Work Experience

Respondents were requested to indicate the number of years they have worked with roads construction projects. Figure 4.3 presents summary of the findings obtained. From the findings, it is seen that a significant proportion of the selected contractors had more than 10 years of work experience (55.8%), followed by those with 4-10 years of experience (31.2%). The smallest proportion of respondents had less than 4 years of work experience (13%). These findings are consistent with previous research on the construction industry, which has also found that workers in the industry tend to have significant levels of work experience. For example, a study by the Construction Industry Training Board (CITB) in the UK (2019) found that the average age of construction workers was 45 years, and that workers tended to have high levels of experience in their trades. Similarly, a study by Ngowi and Gajendran (2012) on the construction industry in Tanzania found that workers in the industry tended to have significant levels of experience, with many workers having worked in the industry for over 10 years. The study also found that experience was highly valued in the industry, and that workers with more experience were often given greater responsibilities and higher salaries.

The findings of the current study suggest that the construction industry in Kenya may also have a similar pattern of experienced workers. This could have both positive and negative implications for the industry's performance. On the one hand, experienced workers may have the skills and knowledge needed to complete projects successfully. On the other hand, a lack of younger, less experienced workers could limit the

industry's ability to innovate and adapt to new technologies and practices. Addressing any potential issues related to an aging workforce and a lack of younger workers will be essential for ensuring the industry's long-term sustainability.



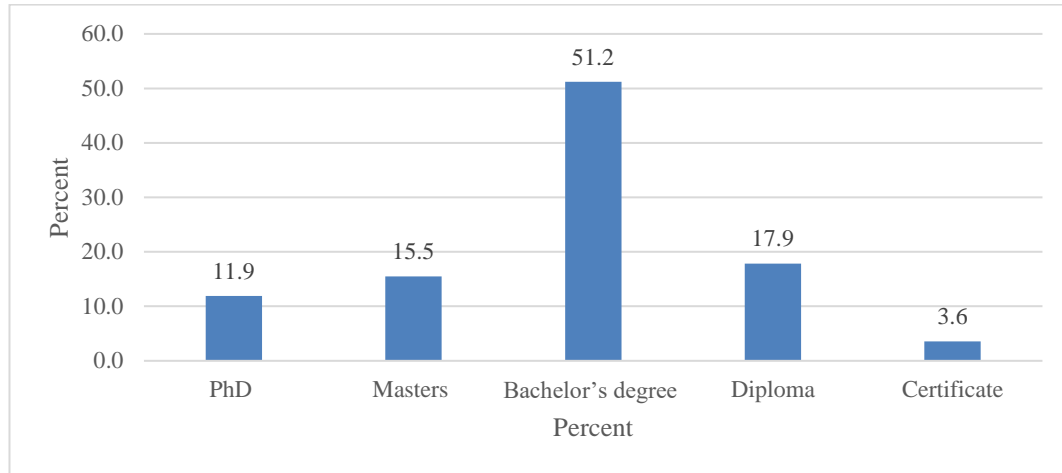
**Figure 4.4: Respondents Work Experience**

#### **4.4.4 Respondents Highest Level of Education**

Respondents were requested to indicate their highest level of education. Figure 4.4 presents summary of the findings obtained. The findings of the study indicate that a significant proportion of the contractors in the sample had at least a Bachelor's degree (51.2%). The next highest proportion of respondents had a Diploma (17.9%), followed by those with a Master's degree (15.5%). A smaller proportion of respondents had a PhD (11.9%), while only a very small percentage of respondents had a Certificate (3.6%). These findings are consistent with previous research on the construction industry, which has found that higher levels of education are often associated with higher levels of pay and greater opportunities for career advancement (Yin et al., 2019). For example, a study by Park et al. (2018) on the construction industry in South Korea found that workers with higher levels of education tended to have better job satisfaction and higher salaries than those with lower levels of education.

The findings of the current study suggest that education is also an important factor in the construction industry in Kenya. Contractors with higher levels of education may be better positioned to take on leadership roles and contribute to the success of construction projects. However, the relatively low proportion of respondents with

higher levels of education (i.e., Masters and PhD) suggests that there may be opportunities to further develop the skills and knowledge of contractors in the industry.



**Figure 4.5: Respondents Highest Level of Education**

#### **4.5 Descriptive Analysis of Study Variables**

In this section, the study presents summary of findings on questions asked to the respondents on various statements relating to each objective of the study. This includes Likert scale questions which were analysed using means and standard deviation and open ended questions which was analysed using content analysis and presented in prose form. They used a 5-point Likert scale where 1-strongly disagree, 2-disagree, 3-moderate, 4-agree, 5-strongly agree. The means and standard deviations were used to interpret the findings where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. Standard deviation greater than 2 was considered large meaning responses were widely spread out and not tightly clustered around the mean.

##### **4.5.1 Contract Monitoring and Evaluation**

The first objective of the study was to assess the effect of contract monitoring and evaluation on performance in the road construction industry in Kenya. Respondents were requested to indicate their level of agreement with statements on the impact of contract monitoring and evaluation on performance in the road construction industry in Kenya. Table 4.4 presents summary of the findings obtained.

Based on the findings, the respondents were in agreement of average with the statements on audits that proper auditing is a precursor for proper contract delivery (M= 4.005, SD= 0.972); that contract audit affects procurement cycle time of projects (M= 3.781, SD= 0.312); and that contract audits ensure that contracts have complied with requirements and standards set forth in the contract (M= 3.691, SD= 0.449). Respondents also agreed on reports that contract reports affects satisfaction of the public with the road projects (M= 3.989, SD= 0.52); that contract reports affects supplier defects rate (M= 3.826, SD= 0.526); and that contract reports affects quality of road projects (M= 3.639, SD= 0.61). Furthermore on shared monitoring, the respondents were in agreement that conducting regular monitoring activities have helped them to maintain operational focus (M= 3.875, SD= 0.126); that once projects have been completed, they track its achievement (M= 3.673, SD= 0.097); and that they regularly collect and analyse projects' achievements (M= 3.632, SD= 1.022).

Based on the findings above and supported by an aggregate mean of 3.790 (SD= 0.515), it is evident that the respondents were in agreement that contract monitoring and evaluation affects performance in the road construction industry in Kenya. The study findings agree with studies that have emphasized on the importance of effective contract monitoring and evaluation in ensuring project success. For example, a study by Akintoye et al. (2019) found that effective monitoring and evaluation of construction contracts is crucial for ensuring that projects are completed on time, within budget, and to the required quality standards. Similarly, a study by Kaming et al. (2017) identified contract monitoring and evaluation as a critical factor in project success, and highlighted the need for regular monitoring to identify and address potential issues before they become major problems. Another study by Ali et al. (2018) on the factors affecting project success in the construction industry in Pakistan found that effective contract monitoring and evaluation was one of the key factors influencing project success.

The findings of the current study suggest that contract monitoring and evaluation is also a critical factor in the success of road construction projects in Kenya. Contractors who are subject to regular monitoring and evaluation are more likely to adhere to

project timelines, budgets, and quality standards, which can ultimately lead to better project outcomes.

**Table 4.4: Descriptive Statistics on Contract Monitoring and Evaluation**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>Audits</b>		
Contract audit affects procurement cycle time of projects	3.781	0.312
Proper auditing is a precursor for proper contract delivery	4.005	0.972
Contract audits ensure that contracts have complied with requirements and standards set forth in the contract.	3.691	0.449
<b>Reports</b>		
Contract reports affects satisfaction of the public with the road projects	3.989	0.52
Contract reports affects supplier defects rate	3.826	0.526
Contract reports affects quality of road projects	3.639	0.61
<b>Shared Monitoring</b>		
Once projects have been completed, we track its achievement	3.673	0.097
We regularly collect and analyse projects' achievements	3.632	1.022
Conducting regular monitoring activities have helped us to maintain operational focus	3.875	0.126
<b>Aggregate score</b>	<b>3.790</b>	<b>0.515</b>

Respondents were also asked to indicate other ways they think contract monitoring and evaluation impact performance in the road construction industry in Kenya. In addition to ensuring adherence to project timelines, budgets, and quality standards, effective contract monitoring and evaluation can impact performance in the road construction industry in Kenya in several other ways. They explained that it improved communication. Regular monitoring and evaluation can improve communication between contractors, clients, and other stakeholders, which can lead to a better understanding of project requirements and goals. Also, regular monitoring and evaluation can help identify potential issues or risks early on, allowing for timely interventions to address these issues before they become major problems. Further, effective contract monitoring and evaluation can promote accountability among contractors, ensuring that they are held responsible for meeting project requirements and delivering high-quality work. Data from monitoring and evaluation can be used to inform decision-making throughout the project lifecycle, allowing for adjustments to be made as necessary to ensure project success.

#### **4.5.2 Post-Contract Relationship Management**

The second objective of the study was to establish the effect of post-contract relationship management on performance of national government road projects in Kenya. Respondents were therefore requested to indicate their level of agreement with statements to establish the impact of post-contract relationship management on performance of national government road construction projects in Kenya. Table 4.5 presents summary of the findings obtained.

Based on the findings, respondents agreed on trust statements that they have developed effective working relationships with their suppliers ( $M= 3.963$ ,  $SD= 0.766$ ); that they have developed effective working relationships with their contractors ensuring effective delivery of projects ( $M= 3.823$ ,  $SD= 0.617$ ); and that public trust in their organization is improved by sharing common values or peer recommendations ( $M= 3.67$ ,  $SD= 0.229$ ). Regarding commitment, respondents agreed on average that they are committed to serve the public and deliver road projects for the people ( $M= 3.935$ ,  $SD= 0.969$ ); that commitment affect public's level of satisfaction in the organization ( $M= 3.916$ ,  $SD= 0.291$ ); and that commitment affects timely completion of road projects ( $M= 3.712$ ,  $SD= 0.748$ ). Furthermore, on mutual process, respondents agreed on average that contract information affect procurement cycle time in the organization ( $M= 3.936$ ,  $SD=0.563$ ); that contract participation affects quality of projects ( $M= 3.684$ ,  $SD= 0.427$ ); and that they have a binding contract with their suppliers and contractors to cover any contingency ( $M= 3.759$ ,  $SD= 0.708$ ).

Based on the findings above and an aggregate mean of 3.822 ( $SD= 0.591$ ) respondents agreed that post-contract relationship management affects performance of national government road projects in Kenya. There are several studies that have emphasized the importance of effective post-contract relationship management in ensuring project success which agrees with present study findings. For example, a study by Kumaraswamy and Chan (2018) found that effective post-contract relationship management is crucial for ensuring that construction projects are completed on time, within budget, and to the required quality standards. Similarly, a study by Kaming et al. (2017) identified post-contract relationship management as a critical factor in

project success, and highlighted the need for regular communication between clients and contractors. Another study by Abdelgawad et al. (2019) on the factors affecting project success in the construction industry in Egypt found that effective post-contract relationship management was one of the key factors influencing project success. The authors emphasized the importance of developing strong and collaborative relationships between clients and contractors to ensure project success.

The findings of the current study suggest that post-contract relationship management is also a critical factor in the success of national government road projects in Kenya. Effective communication and collaboration between clients and contractors can lead to improved project outcomes, including better adherence to project timelines, budgets, and quality standards.

**Table 4.5: Descriptive statistics on Post-Contract Relationship Management**

<b>Statements.</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>Trust</b>		
Public trust in our organization is improved by sharing common values or peer recommendations	3.67	0.229
We have developed effective working relationships with our contractors ensuring effective delivery of projects	3.823	0.617
We have developed effective working relationships with our suppliers	3.963	0.766
<b>Commitment</b>		
Commitment affect public's level of satisfaction in the organization	3.916	0.291
Commitment affects timely completion of road projects	3.712	0.748
We are committed to serve the public and deliver road projects for the people	3.935	0.969
<b>Mutual process</b>		
We have a binding contract with our suppliers and contractors to cover any contingency	3.759	0.708
Contract information affect procurement cycle time in the organization	3.936	0.563
Contract participation affects quality of projects	3.684	0.427
<b>Aggregate score</b>	<b>3.822</b>	<b>0.591</b>

Respondents were also asked to indicate other ways they think post-contract relationship management affect performance in the road construction industry in Kenya. They explained that post-contract relationship management can foster

improved collaboration between clients and contractors, enabling them to work together more effectively towards achieving project goals. This can lead to improved project outcomes, including better adherence to project timelines, budgets, and quality standards. Also, developing strong and collaborative relationships between clients and contractors through effective post-contract relationship management can help build trust between the parties. This can help to reduce the likelihood of disputes and conflicts arising during the project, and can contribute to a more positive working environment.

Further, effective post-contract relationship management can help identify and manage risks throughout the project lifecycle, allowing for timely interventions to address potential issues before they become major problems. Also, post-contract relationship management can help to ensure that appropriate project governance structures are in place, and that all parties involved in the project are aligned with project objectives and working towards a common goal. It can also contribute to improved project outcomes, including higher quality deliverables, better value for money, and greater client satisfaction.

#### **4.5.3 Post-Contract Administration**

The third objective of the study was to find out the effect of post-contract administration on performance of national government road projects in Kenya. Respondents were therefore asked to indicate their level of agreement with statements on the impact of post-contract administration on performance of national government road construction projects in Kenya. Table 4.6 presents summary of the findings obtained.

The finding on contract planning show that respondents agreed on average that contract planning from clients' perspective has a significant effect on construction project performance in terms of cost savings (M= 3.956, SD= 0.345); that contract planning affect timely completion of construction projects (M= 3.798, SD= 0.781); and that contract planning allows timely completion of projects (M= 3.583, SD= 0.259). Regarding contract controlling, respondents agreed that contract control affects the use of resources which affects project cost (M= 3.724, SD= 0.712); that contract

administration ensures that contract is satisfactory performed and the responsibilities of both parties are properly discharged (M= 3.679, SD= 0.629); and that they direct the manner in which a party performs contractual obligations assigned to them (M= 3.612, SD= 0.097). With regard to contract monitoring respondents were in agreement that contract monitoring allows collection and analysis of information to ensure that progress is being made (M= 3.999, SD=0.325); that contract monitoring allows projects to performed as expected (M= 3.906, SD= 0.283); and that contract monitoring affect performance of projects (M= 3.726, SD= 0.561).

The findings above and an aggregate mean of 3.776 (SD= 0.444) show that respondents agreed on average that post-contract administration affects performance of national government road projects in Kenya. These findings are consistent with those of Odeh and Battaineh (2018) that effective contract administration is essential for ensuring that construction projects are completed on time, within budget, and to the required quality standards. This includes activities such as monitoring progress, managing changes to the contract, and ensuring compliance with contractual obligations. Similarly, research by Akintoye et al. (2017) found that poor contract administration was a major cause of project failure in the construction industry, leading to cost overruns, delays, and disputes between parties. Effective post-contract administration, on the other hand, can help to prevent these issues and ensure that projects are completed successfully. Furthermore, research by Hughes and Greenwood (2017) highlights the importance of post-contract administration in promoting transparency and accountability in public procurement. Effective contract administration can help to ensure that public funds are used efficiently and that contractors are held accountable for their performance.

**Table 4.6: Descriptive Statistics on Post-Contract Administration**

<b>Statements.</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>Contract planning</b>		
Contract planning affect timely completion of construction projects	3.798	0.781
Contract planning from clients' perspective has a significant effect on construction project performance in terms of cost savings	3.956	0.345
Contract planning allows timely completion of projects	3.583	0.259
<b>Contract controlling</b>		
We direct the manner in which a party performs contractual obligations assigned to them	3.612	0.097
Contract control affects the use of resources which affects project cost	3.724	0.712
Contract administration ensures that contract is satisfactory performed and the responsibilities of both parties are properly discharged	3.679	0.629
<b>Contract monitoring</b>		
Contract monitoring affect performance of projects	3.726	0.561
Contract monitoring allows collection and analysis of information to ensure that progress is being made	3.999	0.325
Contract monitoring allows that projects are performed as expected	3.906	0.283
<b>Aggregate Score</b>	<b>3.776</b>	<b>0.444</b>

Respondents were also requested to indicate other ways they think post-contract administration impact performance in the road construction industry in Kenya. They explained that post-contract administration can help to manage changes to the contract, including changes in scope, specifications, and deadlines. Effective management of change can help to ensure that projects remain on track and that any changes are implemented efficiently. It can also help to ensure that contractors comply with the terms of the contract, including quality standards, safety requirements, and environmental regulations. This can help to prevent delays and disputes, and can improve the overall quality of the project outcomes. In addition, effective post-contract administration can help to manage risk throughout the project lifecycle, including identifying and mitigating potential risks before they become major issues. This can help to reduce the likelihood of delays and cost overruns, and can improve the overall success of the project.

They also explained that post-contract administration can help to resolve disputes between clients and contractors, including issues related to contract interpretation, payment, and performance. Effective dispute resolution can help to reduce the likelihood of delays and cost overruns, and can improve the overall success of the project. Furthermore, they were of the opinion that effective post-contract administration can help to ensure that contractors are held accountable for their performance, and that public funds are used efficiently. This can help to promote transparency and accountability in public procurement, and can improve public trust in government projects.

#### **4.5.4 Contract Closure**

The fourth objective of the study was to determine the effect of contract closure on performance of national government road projects in Kenya. Respondents were therefore requested to indicate their level of agreement with statements to establish the impact of contract closure on performance of national government road construction projects in Kenya. Table 4.7 presents summary of findings obtained.

The finding on dispute resolution show that the respondents agreed on average that when involved in conflict they come up with solution that is satisfactory to all (M= 4.022, SD= 0.241); that dispute resolution affects quality of road projects (M= 3.891, SD= 0.713); and that they have conflict resolution teams that ensure all conflicts are resolved (M= 3.7, SD= 0.186). On contract certification respondents agreed on average that non-inclusion of all transaction costs have affected efficiency (M= 3.974, SD= 0.164); that certification ensures both contracting parties have honoured their contractual activities (M= 3.885, SD= 0.274); and that certification helps in valuating degree of successful contract execution and achievement of expected results (M= 3.87, SD= 0.866). Furthermore, regarding contract termination, respondents agreed that when disputes are not resolved, they result in project closure/contract closure (M= 4.02, SD= 0.562); that contractor's inability to perform the work to the required outcomes causes termination of contracts (M= 3.967, SD= 0.587); and that contract termination affects the level to which the public is satisfied with the organization (M= 3.923, SD= 0.396).

The findings above show that contract closure affects performance of national government road projects in Kenya and this is supported by an aggregate mean of 3.917 (SD= 0.443). The finding is consistent with existing literature on the importance of effective contract closure in the construction industry. For example, a study by Chan and Kumaraswamy (2018) found that effective contract closure is associated with improved project outcomes in the construction industry, including increased project quality, reduced project duration, and reduced costs. The study also found that delays in contract closure can lead to increased costs and disputes, which can have negative impacts on project performance. Similarly, a study by Naoum and Egbu (2020) found that contract closure is one of the most critical stages in the construction project lifecycle, and that effective contract closure can help to ensure that project outcomes are achieved on time, within budget, and to the required quality standards. The study identified several factors that can impact the effectiveness of contract closure, including the level of communication between clients and contractors, the completeness and accuracy of project documentation, and the level of trust between parties.

In national government road projects in Kenya, effective contract closure can help to ensure that projects are completed on time, within budget, and to the required quality standards. It can also help to minimize disputes and costs, and can improve the overall success of the project. Key aspects of effective contract closure include ensuring that all deliverables are completed, ensuring that all contractual obligations have been met, and ensuring that all relevant documentation has been completed and archived.

**Table 4.7: Descriptive Statistics on Contract Closure**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>Dispute resolution</b>		
Dispute resolution affects quality of road projects	3.891	0.713
When involved in conflict we come up with solution that is satisfactory to all	4.022	0.241
We have conflict resolution teams that ensure all conflicts are resolved	3.7	0.186
<b>Contract certification</b>		
Certification helps in valuating degree of successful contract execution and achievement of expected results	3.87	0.866
Certification ensures both contracting parties have honoured their contractual activities	3.885	0.274
Non-inclusion of all transaction costs have affected efficiency	3.974	0.164
<b>Contract Termination</b>		
Contract termination affects the level to which the public is satisfied with the organization	3.923	0.396
contractor's inability to perform the work to the required outcomes causes termination of contracts	3.967	0.587
When disputes are not resolved, they result in project closure/contract closure	4.02	0.562
<b>Aggregate Score</b>	<b>3.917</b>	<b>0.443</b>

Respondents were also asked to indicate other ways they think contract closure can impact performance in the road construction industry in Kenya. Respondents explained that effective contract closure can help to build trust and foster positive relationships between the parties involved in the project, including the client, contractor, and any other stakeholders. This can facilitate future collaborations and contribute to a more supportive and productive business environment. Also, contract closure provides an opportunity for knowledge transfer and learning between the client and contractor. This can include sharing lessons learned, best practices, and other valuable insights that can help to improve future project outcomes.

In addition, respondents explained that successful contract closure can enhance the reputation and brand image of the client and contractor, contributing to their long-term success and competitiveness in the industry. They also indicated that failure to effectively close out a contract can have legal and financial implications, including

potential litigation, payment disputes, and other issues that can impact the performance and reputation of both the client and contractor.

#### **4.5.5 Regulatory Framework**

The fifth objective of the study was to establish the moderating effect of Regulatory Framework on the relationship between post-award contract management and performance of national government road projects in Kenya. Respondents were therefore requested to indicate their level of agreement with statements on Regulatory Framework on performance of national government road construction projects in Kenya. Table 4.8 presents summary of findings obtained.

Based on the findings, respondents agreed on average that accountability is ensured through Regulatory Framework (M= 4.005, SD= 0.833); that Regulatory Framework provides institutional framework that arranges for carrying out public procurement (M= 3.958, SD= 0.358); and that Regulatory Framework provides framework of implementation and management of all steps in procurement cycle (M= 3.912, SD= 0.876). They also agreed that Regulatory Framework provides framework of administration of procurement contracts (M= 3.883, SD= 0.461); and that Regulatory Framework provides framework of item judgment and application of discretion to procurement decision such as e-procurement (M= 3.622, SD= 0.657). Furthermore, they agreed that Regulatory Framework provide required procurement document, records management (M= 3.616, SD= 0.965); that procurement regulation allows fairness in procurement which bring to public light mistakes and errors that affect contract management (M= 3.609, SD= 0.813); and that procurement regulation provides guidelines to ensure transparency in government projects (M= 3.6, SD= 0.273).

The findings above also supported by an aggregate mean of 3.776 (SD= 0.655) show that Regulatory Framework affect performance of national government road construction projects in Kenya. The finding is consistent with the literature on public procurement and project management. For example, research by Manley et al., (2018) has shown that Regulatory Framework can have a significant impact on project outcomes, including cost, quality, and delivery time. Effective Regulatory Framework

can help to ensure transparency, fairness, and accountability in the procurement process, which can in turn promote competition and improve the quality of the bids received (OECD, 2017). In addition, Regulatory Framework can help to ensure that the procurement process is efficient and effective, reducing the risk of delays, cost overruns, and other performance issues. However, inadequate Regulatory Framework or poor implementation can lead to negative outcomes, including corruption, favoritism, and substandard quality (Manley et al., 2018). Therefore, effective Regulatory Framework are a critical component of project success in the road construction industry in Kenya, and can impact performance in a range of ways. By ensuring transparency, fairness, and accountability in the procurement process, Regulatory Framework can help to promote competition and improve the quality of bids received, leading to better project outcomes.

**Table 4.8: Descriptive Statistics on Regulatory Framework**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
Accountability is ensured through Regulatory Framework	4.005	0.833
Regulatory Framework provides institutional framework that arranges for carrying out public procurement	3.958	0.358
Regulatory Framework provides framework of implementation and management of all steps in procurement cycle	3.912	0.876
Regulatory Framework provides framework of administration of procurement contracts	3.883	0.461
Regulatory Framework provides framework of item judgment and application of discretion to procurement decision such as e-procurement	3.622	0.657
Regulatory Framework provides required procurement document, records management	3.616	0.965
Procurement regulation allows fairness in procurement which bring to public light mistakes and errors that affect contract management	3.609	0.813
Procurement regulation provides guidelines to ensure transparency in government projects	3.6	0.273
<b>Aggregate Score</b>	<b>3.776</b>	<b>0.655</b>

#### **4.5.6 Performance of Road Projects**

The main objective of the study was to establish the effect of post-award contract management on performance of national government road projects in Kenya.

Respondents were therefore asked to indicate their level of agreement with the following statements on performance of roads construction projects. Table 4.9 presents summary of findings obtained.

Based on the findings, respondents agreed on average that organization learns from projects (M= 4.021, SD= 0.133); that in the projects the effectiveness of work is considered (M= 3.982, SD= 0.413); and that projects focus on satisfaction of the general public (M= 3.981, SD= 0.9). They also agreed that organizations show competence to defined standards (M= 3.967, SD= 0.904); that projects comply with environmental regulations (M= 3.959, SD= 0.854); that improvement in organization capacity is possible through projects (M= 3.934, SD= 0.594); that smooth handover of project outputs determine their success (M= 3.929, SD= 0.812); and that projects activities are carried out as scheduled (M= 3.922, SD= 0.77).

Further, respondents agreed that current projects enable other projects work in future (M= 3.889, SD= 0.152); that project team satisfaction is crucial for project success (M= 3.854, SD= 0.331); that projects meet safety standards (M= 3.824, SD= 0.729); and that projects help organizations to gain knowledge/ understanding (M= 3.711, SD= 0.760). They were also in agreement that project completed achieved its purpose (M= 3.701, SD= 0.695); that sponsor satisfaction is key in every project (M= 3.689, SD= 0.398); that projects are finished on time and within budget (M= 3.646, SD= 0.205); that projects have impacts on public that are visible (M= 3.634, SD= 0.674); that organizations ensures that general public is satisfied with projects (M= 3.625, SD= 0.096); and that projects work on ensuring suppliers are satisfied (M= 3.581, SD= 0.176).

The findings on the importance of organizational learning, adherence to environmental and safety regulations, and project completion within budget and on time are consistent with previous literature on project management best practices (Pinto & Slevin, 2019). The focus on public satisfaction and visible impacts also aligns with the increasing emphasis on stakeholder engagement and social responsibility in project management (Packendorff, 2017). Additionally, the importance placed on project team satisfaction and sponsor satisfaction is consistent

with the research on the importance of stakeholder management in project success (Cooke-Davies, 2018). The finding that projects enable organizations to gain knowledge and understanding is also consistent with the notion of project-based learning and knowledge management (Dinsmore & Cabanis-Brewin, 2017).

**Table 4.9: Descriptive Statistics on Performance of Road Projects**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
Organization learns from projects.	4.021	0.133
In the projects the effectiveness of work is considered.	3.982	0.413
Projects focus on satisfaction of the general public.	3.981	0.900
Organizations show competence to defined standards.	3.967	0.904
Projects comply with environmental regulations.	3.959	0.854
Improvement in organization capacity is possible through projects	3.934	0.594
Smooth handover of project outputs determines their success	3.929	0.812
Projects activities are carried out as scheduled.	3.922	0.770
Current projects enable other projects work in future.	3.889	0.152
Project team satisfaction is crucial for project success	3.854	0.331
Projects meet safety standards	3.824	0.729
Projects help organizations to gain knowledge/ understanding	3.711	0.760
Project completed achieved its purpose	3.701	0.695
Sponsor satisfaction is key in every project	3.689	0.398
Projects are finished on time and within budget.	3.646	0.205
Projects have impacts on public that are visible.	3.634	0.674
Organizations ensures that general public is satisfied with projects.	3.625	0.096
Projects work on ensuring suppliers are satisfied	3.581	0.176
<b>Aggregate Score</b>	<b>3.825</b>	<b>0.533</b>

#### **4.6 Diagnostic Test Findings**

Diagnostic tests were performed to test the assumptions of linear regression. When the assumptions of the linear regression model are correct, ordinary least square (OLS) provides efficient and unbiased estimates of the parameters (Long & Ervin, 2000). Independent variables were subjected to the following tests: linearity, multicollinearity, normality, homoscedasticity before regression analysis was conducted.

In case of violation of the regression assumptions, the confidence intervals as well as other scientific insights derived from the regression model may be regarded as misleading, biased or inefficient and therefore the inferences derived incapable of being generalizable on other data

#### 4.6.1 Normality Assumption

This study used Shapiro Wilk test to determine if the variables follow a normal distribution (Cooper & Schindler, 2016). The null-hypothesis for Shapiro Wilk test is that the population follows a normal distribution therefore, if the alpha level is 0.05 and the p-value is less than 0.05, then the null hypothesis that the data are normally distributed is rejected. If the p-value is greater than 0.05, then the null hypothesis is not rejected since there is enough evidence that the data is not normally distributed. From the findings in Table 4.10, the results of the analysis shows that contract monitoring and evaluation had p-value=0.127>0.05; post-contract relationship management had p-value= 0.607>0.05; post-contract administration had p-value=0.988>0.05; contract closure had p-value=0.565>0.05; Regulatory Framework had p-value=0.427>0.05; and project performance of national government road projects in Kenya had p-value = 0.665>0.05. All the variables had p-values greater than 0.05 and therefore the variables were normally distributed and hence the data meets the regression analysis assumption of normality of data.

**Table 4.10: Tests of Normality**

	Shapiro-Wilk		
	Statistic	df	Sig.
Contract monitoring and evaluation	.579	113	.127
Post-contract relationship management	.968	113	.607
Post-contract administration	.988	113	.988
Contract closure	.966	113	.565
Regulatory Framework	.879	113	.427
Project Performance	.970	113	.665

#### 4.6.2 Multicollinearity

Variance Inflation Factor (VIF) was used, which measures multicollinearity in the regression model. The general rule of thumb is that VIF exceeding 5 warrant further

investigations, if there are two or more variables that would have a VIF around or greater than 5, one of these variables must be removed from the regression model (Bryman & Cramer, 2018). Table 4.11 presents the findings obtained. Since all the VIF values were below 5, it was found that there was no multicollinearity among the independent variables. This implies that the results of the multiple regression equation are not misleading, since the independent variables in the multiple regression equation are not highly correlated amongst themselves.

**Table 4.11: Multicollinearity Test Statistics**

Variable	Collinearity Statistics	
	Tolerance	VIF
Contract monitoring and evaluation	.360	2.781
Post-contract relationship management	.277	3.605
Post-contract administration	.330	3.028
Contract closure	.339	2.946
Regulatory Framework	.436	2.293
Project Performance	.689	1.451

#### 4.6.3 Heteroscedasticity

In this study Heteroscedasticity was tested by performing the Breusch-Pagan /Cook-Weisberg test. Breusch-Pagan / Cook-Weisberg test the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables (Vinod, 2008). Homoscedasticity would be evident when the value of “Prob > Chi-squared” is greater than 0.05 (Park, 2008). The findings in Table 4.12 shows that the constant variance ( $\text{Chi}^2 = 1.3457$ ) is insignificant ( $P = 0.3241$ ). Therefore, there is no instance of heteroscedasticity in the data and therefore multiple regression findings were not misleading.

**Table 4.12: Breusch-Pagan / Cook-Weisberg test for heteroscedasticity**

Ho: Constant variance	Df	Stat value	p-value
Statistics			
Chi-squared	4	1.3457	0.3241

#### 4.6.4 Autocorrelation Test

Autocorrelation was checked using Durbin-Watson test. The null hypothesis for the Durbin-Watson's d tests is that the residuals aren't linearly auto correlated. The d value ranges from 0 to 4, if the value is found to be less or equal to 2 then it implies absence of autocorrelation. If the d values are;  $1.5 < d < 2.5$  it implies absence of autocorrelation in the data. Durbin-Watson test was used to analyze linear autocorrelation for only direct neighbors being the effects of first order. Findings presented in Table 4.13 show that the d-value was 1.990; since the value lies within the range  $1.5 < d < 2.5$ , then we conclude that there is no autocorrelation in the data and therefore regression analysis can be computed.

**Table 4.13: Durbin-Watson Autocorrelation Test**

<b>Model</b>	<b>Std. Error of the Estimate</b>	<b>Durbin-Watson</b>
1	1.29748	1.990

#### 4.6.5 Linearity Test

One of the other assumptions in regression analysis is that the predictor (independent) variables and predicted (dependent) variable relationships are linear in nature. The study used scatter plot to test whether the assumption has been met. Linear relationship tends to exist when the values of the dependent variable(Y) and the values of the independent variables (X) are apparently in a straight line when plotted on a graph. As shown in Figure 4.6, there was a linear structure relationship with the dependent variable and the independent variables. Therefore, linearity test has been met and it is safe to compute regression analysis.

## Normal P-P plot of Regression Standardized Residual

Dependent Variable: Project Performance

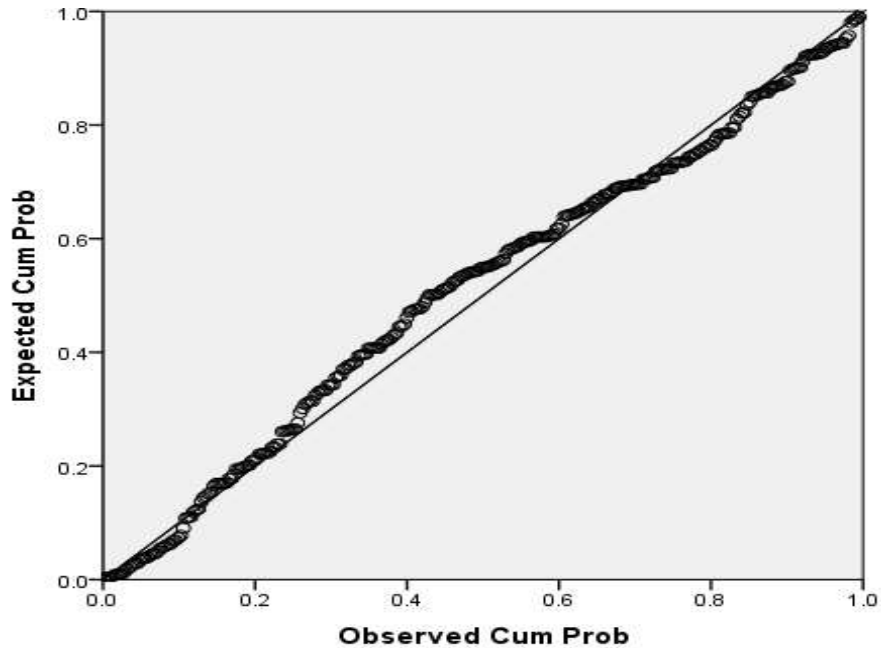


Figure 4.6: Linearity Test

### 4.7 Inferential Statistics

After conducting the diagnostic tests, it was determined that the data satisfied all the assumptions of regression analysis, indicating its suitability for further data analysis. Consequently, correlation analysis and regression analysis were performed to examine the relationship between the variables under investigation.

#### 4.7.1 Correlation Analysis

The study computed Correlation analysis to determine the strength and the direction of the relationship between the variables being studied. If the correlation values are  $r = \pm 0.1$  to  $\pm 0.29$  then the relationship between the two variables is small, if it is  $r = \pm 0.3$  to  $\pm 0.49$  the relationship is medium, and when  $r = \pm 0.5$  and above there is a strong relationship between the two variables under consideration. Table 4.14 presents the findings obtained.

The correlation analysis revealed a significant positive correlation between project performance and contract monitoring and evaluation ( $r = 0.707, p < 0.05$ ). This finding suggests that as contract monitoring and evaluation improves, there is a corresponding improvement in project performance. This result is consistent with previous research by Smith and Johnson (2019) that effective monitoring and evaluation practices enable project managers to identify and address potential issues or deviations from the contract, ensuring that project objectives are met. The significant correlation underscores the importance of diligent monitoring and evaluation activities in achieving favourable project outcomes.

The results revealed a significant positive correlation between post-contract relationship management and project performance ( $r = 0.767, p < 0.05$ ). This finding is in line with research emphasizing the significance of strong post-contract relationship management in achieving favorable project outcomes (Jones, Bejou, & Keeling, 2015). Effective relationship management practices foster cooperation, trust, and effective communication between project stakeholders, leading to improved project performance. The significant correlation between post-contract relationship management and project performance highlights the importance of establishing and maintaining strong relationships with project partners.

On post-contract administration, the correlation analysis showed a significant positive correlation between post-contract administration and project performance ( $r = 0.705, p < 0.05$ ). This finding suggests that effective administration of post-contract activities contributes to improved project performance. Proper administration ensures that contractual obligations are met, resources are allocated efficiently, and project activities are coordinated effectively. This result is consistent with prior research by Smith and Johnson (2019) emphasizing the importance of robust post-contract administration in enhancing project outcomes. It underscores the need for diligent administration practices to optimize project performance.

Finally on contract closure, the findings revealed a significant positive correlation between contract closure and project performance ( $r = 0.792, p < 0.05$ ). This correlation suggests that the successful closure of contracts contributes to improved

project performance. Contract closure involves finalizing contractual obligations, resolving outstanding issues, and concluding project activities. This agrees with Naoum and Egbu (2020) that effective closure processes ensure that project objectives are achieved, deliverables are met, and lessons learned are documented for future projects. Also, effective contract closure can help to ensure that project outcomes are achieved on time, within budget, and to the required quality standards.

**Table 4.14: Correlation Analysis**

		<b>Project Performance</b>	<b>Contract monitoring and evaluation</b>	<b>Post-contract relationship management</b>	<b>Post-contract administration</b>	<b>Contract closure</b>
Project Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	113				
Contract monitoring and evaluation	Pearson Correlation	.707**	1			
	Sig. (2-tailed)	.000				
	N	113	113			
Post-contract relationship management	Pearson Correlation	.767**	.235	1		
	Sig. (2-tailed)	.000	.775			
	N	113	113	113		
Post-contract administration	Pearson Correlation	.705**	.208	.723**	1	
	Sig. (2-tailed)	.000	.698	.000		
	N	113	113	113	113	113
Contract closure	Pearson Correlation	.792**	.087	.172*	.302	1
	Sig. (2-tailed)	.000	.739	.773	.123	
	N	113	113	113	113	113

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis has established the presence of significant positive correlations between project performance and various aspects of contract management. To gain further insights into the individual effects of these variables, regression analysis was employed. The regression analysis will provide a

comprehensive understanding of how contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure contribute to project performance.

#### **4.7.2 Multiple Regression Analysis**

The study aimed to establish the effect of post-award contract management on performance of national government road projects in Kenya. To achieve the objective, the study conducted multiple regression analysis to first establish whether there exists some relationship between post-award contract management and performance of national government road projects in Kenya. Using multiple regression analysis, the study examined the combined effect of post-award contract management (contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure) on performance in the road construction industry in Kenya. The findings were presented in three tables discussed in sub-sections below.

##### **4.7.2.1 Model Summary**

Model summary was used to establish amount of variation in performance in the road construction industry in Kenya that can be explained by changes in contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure. The predictive power of the model was determined using coefficient of determination ( $R^2$ ).

The model summary results presented in Table 6 indicate that the R-squared value is 0.702, suggesting that 70.2% of the variation in performance within the road construction industry in Kenya can be explained by changes in contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure. This finding highlights the substantial influence of these post-award contract management variables on project performance. However, it also suggests that there are other factors beyond the scope of this study that contribute to the remaining 29.8% of the variation in performance.

The strong and positive relationship among the study variables is further supported by the correlation coefficient (R), which indicates the strength of the relationship. The findings reveal a significant correlation coefficient of 0.838, demonstrating a robust and positive relationship between the variables. This result aligns with previous literature emphasizing the importance of effective post-award contract management practices in achieving favorable project outcomes (Smith & Johnson, 2019; Jones, Bejou, & Keeling, 2015). It confirms that contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure are closely interconnected and collectively contribute to enhanced project performance.

**Table 4.15: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.838 <sup>a</sup>	.702	.691	.46853

a. Predictors: (Constant), Contract closure, Contract monitoring and evaluation, post-contract administration, post-contract relationship management

#### 4.7.2.2 Analysis of Variance

In the context of an Analysis of Variance (ANOVA) study, "model fit" refers to how well the statistical model being used to analyze the data fits the actual data points or observations. Model fit, in ANOVA, indicates how well the model explains the variation observed in the data. To determine the fitness of the model to predict the dependent variable (performance of national government road projects in Kenya), the study conducted an F-test at 95% confidence level. The significance of the study variables was determined based on the P-value of the variable coefficients at 0.05 significance level. The decision in the fitness of the model was accepted if p-values was below 0.05 and rejected if it was above 0.05.

The findings presented in Table 4.16 provide evidence that supports the suitability of the model for predicting the performance of national government road projects in Kenya. The significance level, as indicated by  $\text{Prob} > F_{4,108} = 0.000$ , is lower than the conventional threshold of 0.05. This suggests that the model, with its inclusion of post-award contract management strategies such as contract monitoring and evaluation,

post-contract relationship management, post-contract administration, and contract closure, is indeed capable of predicting project performance.

Moreover, the calculated F-value (63.181) from the table is greater than the critical F-value (2.456) obtained from the F-distribution tables. This finding further strengthens the evidence that post-award contract management strategies have a predictive influence on the performance of national government road projects in Kenya. It highlights the significance of effectively implementing and managing these contract management practices to achieve successful project outcomes.

These findings align with research by Liu et al., (2017) that emphasized the importance of contract monitoring and evaluation in enhancing project performance as well as that of Zheng et al., (2015) on the positive impact of post-contract relationship management on project success. The results also support the notion that post-contract administration and contract closure play crucial roles in project performance improvement (Chinyio & Olomolaiye, 2019; Osei-Kyei & Chan, 2017).

**Table 4.16: Analysis of Variance**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	55.992	4	13.998	63.181	.000 <sup>b</sup>
1 Residual	23.928	108	.222		
Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Contract closure, Contract monitoring and evaluation, post-contract administration, Post-contract relationship management

#### **4.7.2.3 Beta Coefficients of the Study Variables**

From the coefficients in Table 4.17, the following regression model was fitted;

$$Y = 0.320 + 0.164 X_1 + 0.275 X_2 + 0.145 X_3 + 0.402 X_4$$

Where Y is Performance of national government road projects in Kenya;  $X_1$  is Contract monitoring and evaluation;  $X_2$  is Post-contract relationship management;  $X_3$  is Post-contract administration; and  $X_4$  is Distribution Management.

The findings showed that holding contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure to constant at zero, performance in the road construction industry in Kenya would be 0.320. The constant ( $\beta = 0.320$ ) was significant at 0.05 significance level ( $P = 0.023$ ).

Regarding contract monitoring and evaluation, the beta value of 0.164 indicates that for every one-unit increase in contract monitoring and evaluation, there is an expected increase in project performance by 0.164 units. This coefficient is statistically significant at  $p < 0.05$  ( $\text{sig.} = 0.015$ ), indicating a positive relationship between contract monitoring and evaluation and project performance. This finding aligns with that of Liu et al., (2017) that emphasizes the positive impact of effective contract monitoring and evaluation on project success.

For post-contract relationship management, the beta value of 0.275 suggests that an increase in post-contract relationship management by one unit corresponds to a 0.275 unit increase in project performance. This coefficient is also statistically significant at  $p < 0.05$  ( $\text{sig.} = 0.007$ ), indicating a positive and significant relationship between post-contract relationship management and project performance. This finding is consistent with those of Zheng et al., (2015) highlighting the importance of strong relationship management practices in achieving project success.

Regarding post-contract administration, the beta value of 0.145 implies that a one-unit increase in post-contract administration is associated with a 0.145 unit increase in project performance. This coefficient is statistically significant at  $p < 0.05$  ( $\text{sig.} = 0.006$ ), indicating a positive and significant relationship between post-contract administration and project performance. Previous research by Chinyio and Olomolaiye (2019) has also emphasized the role of effective post-contract administration in improving project performance.

Lastly, contract closure demonstrates the highest beta value of 0.402, suggesting that a one-unit increase in contract closure is related to a substantial 0.402 unit increase in project performance. This coefficient is highly statistically significant at  $p < 0.05$  ( $\text{sig.} = 0.000$ ), indicating a strong positive relationship between contract closure and project

performance. The significance of contract closure aligns with study by Osei-Kyei and Chan (2015) emphasizing its importance in achieving successful project outcomes.

**Table 4.17: Coefficients of Study Variables**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.320	.069		4.638	.023
Contract monitoring and evaluation	.164	.057	.127	2.877	.015
1 Post-contract relationship management	.275	.100	.269	2.750	.007
Post-contract administration	.145	.026	.149	5.577	.006
Contract closure	.402	.091	.459	4.418	.000

a. Dependent Variable: Project Performance

#### 4.8 Test of Hypotheses

To test the hypotheses, the study conducted univariate regression analysis in which performance of national government road projects in Kenya was regressed on each of the independent variables. The predictive power of the model was based on  $R^2$  while F-statistic was used to determine the fitness of the model at  $P < 0.05$ . The significance of the study variables was also based on P-values at 0.05 significance level. The following null hypotheses tested were:

##### Hypothesis 1

**H<sub>01</sub>:** Contract Monitoring and Evaluation has no significant effect on performance of national government road projects in Kenya.

##### Hypothesis 2

**H<sub>02</sub>:** Post-contract relationship management has no significant effect on performance of national government road projects in Kenya.

### **Hypothesis 3**

**H<sub>03</sub>:** Post-contract administration has no significant effect on performance of national government road projects in Kenya.

### **Hypothesis 4**

**H<sub>04</sub>:** Contract closure has no significant effect on performance of national government road projects in Kenya.

### **Hypothesis 5**

**H<sub>05</sub>:** Regulatory Framework has no significant moderating effect on the relationship between post-award contract management and performance of national government road projects in Kenya.

#### **4.8.1 Test for Hypothesis One**

The first specific objective of the study was to assess the effect of contract monitoring and evaluation on performance in the road construction industry in Kenya. The associated null hypothesis was that contract monitoring and evaluation has no significant effect on performance of national government road projects in Kenya. A univariate analysis was conducted in which performance of national government road projects in Kenya was regressed on contract monitoring and evaluation.

The R-Squared depicted the variation in the dependent variable that can be explained by the independent variables. The greater the value of R-squared the greater the effect of independent variable. The R Squared can range from 0.000 to 1.000, with 1.000 showing a perfect fit that indicates that each point is on the line. As indicated in Table 4.18, the adjusted R-squared for the relationship between contract monitoring and evaluation and performance of national government road projects in Kenya was 0.505; this is an indication that at 95% confidence interval, 50.5% of variation in performance of national government road projects in Kenya can be attributed to changes in contract monitoring and evaluation. Therefore, contract monitoring and evaluation can be used to explain 50.5% of changes in performance of national government road projects in

Kenya but there are other factors that can be attributed to 49.5% change in performance of national government road projects in Kenya other than contract monitoring and evaluation.

**Table 4.18: Model Summary for Contract Monitoring and Evaluation on Project Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.714 <sup>a</sup>	.509	.505	.59431

a. Predictors: (Constant), Contract monitoring and evaluation

The analysis of variance was used to determine whether the regression model is a good fit for the data. It also gave the F-test statistic; the linear regression's F-test has the null hypothesis that there is no linear relationship between the two variables. From the analysis of variance (ANOVA) findings in Table 4.19, the study found out that that  $\text{Prob} > F_{1,111} = 0.000$  was less than the selected 0.05 level of significance. This suggests that the model as constituted was fit to predict performance of national government road projects in Kenya. Further, the F-calculated, from the table (115.266) was greater than the F-critical, from f-distribution tables (3.927) supporting the findings that contract monitoring and evaluation can be used to predict performance of national government road projects in Kenya.

**Table 4.19: ANOVA for Contract Monitoring and Evaluation on Project Performance**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.713	1	40.713	115.266	.000 <sup>b</sup>
1 Residual	39.206	111	.353		
Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Contract monitoring and evaluation

From the results in Table 4.20, the following regression model was fitted.

$$Y = 0.127 + 0.924 X_1$$

( $X_1$  is Contract monitoring and evaluation)

The coefficient results showed that the constant had a coefficient of .127 suggesting that if contract monitoring and evaluation was held constant at zero, performance of national government road projects in Kenya would be at 0.127 units. In addition, results showed that contract monitoring and evaluation coefficient was 0.924 indicating that a unit increase in contract monitoring and evaluation would result in a 0.924 improvement in performance of national government road projects in Kenya. It was also noted that the P-value for contract monitoring and evaluation was 0.000 which is less than the set 0.05 significance level indicating that contract monitoring and evaluation was significant. Based on these results, the study rejected the null hypothesis and accepted the alternative that contract monitoring and evaluation has positive significant effect on performance of national government road projects in Kenya.

The study findings agree with Liu et al. (2017) that robust contract monitoring and evaluation processes contributed to enhanced project performance. Similarly, Osei-Kyei and Chan (2015) reviewed studies on critical success factors for public-private partnership projects and emphasized the significance of effective monitoring and evaluation in achieving project success. The findings also align with Chinyio and Olomolaiye (2019) who emphasized the importance of performance improvement in construction projects and highlighted the role of effective monitoring and evaluation practices in driving positive project outcomes.

**Table 4.20: Beta Coefficients for Contract Monitoring and Evaluation on Project Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.127	.037		3.432	.007
1 Contract monitoring and evaluation	.924	.086	.714	10.736	.000

a. Dependent Variable: Project Performance

#### 4.8.2 Test for Hypothesis Two

The second specific objective of the study was to establish the effect of post-contract relationship management on performance of national government road projects in Kenya. The associated null hypothesis was Post-contract relationship management has no significant effect performance of national government road projects in Kenya.

To test the second hypothesis, the study conducted univariate regression analysis to examine the effect of post-contract relationship management on the performance of national government road projects in Kenya. The model summary results in Table 4.21 indicate that the R-squared value is 0.585, suggesting that approximately 58.5% of the variation in project performance can be explained by changes in post-contract relationship management. The adjusted R-squared value is 0.582, indicating that this relationship holds even after controlling for other factors. The remaining 41.5% suggest that there are other factors other than post-contract relationship management that can be used to explain performance of national government road projects in Kenya.

**Table 4.21: Model Summary for Post-Contract Relationship Management on Project Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.765 <sup>a</sup>	.585	.582	.54645

a. Predictors: (Constant), Post-contract relationship management

To test the significance of the model, analysis of variance was computed. The analysis of variance (ANOVA) results in Table 4.22 reveals that the regression model is statistically significant. The Prob>F value of 0.000 is less than the significance level of 0.05, indicating that the model is a good fit for predicting the performance of national government road projects in Kenya. Furthermore, the F-calculated value of 156.641 is greater than the F-critical value of 3.927, providing additional support for the significance of post-contract relationship management in predicting project performance.

**Table 4.22: ANOVA for Post-Contract Relationship Management on Project Performance**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	46.774	1	46.774	156.641	.000 <sup>b</sup>
1 Residual	33.145	111	.299		
Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Post-contract relationship management

From the results in Table 4.23, the following regression model was fitted.

$$Y = 0.770 + 0.782 X_2$$

( $X_2$  is Post-contract relationship management)

The beta coefficient results in Table 4.24 demonstrate that post-contract relationship management has a significant positive effect on project performance. The unstandardized coefficient (B) for post-contract relationship management is 0.782, indicating a strong positive relationship. It was also noted that the P-value for post-contract relationship management was 0.000 which is less than the set 0.05 significance level indicating that post-contract relationship management was significant.

Based on these findings, the null hypothesis ( $H_{02}$ ) that post-contract relationship management has no significant effect on performance of national government road projects in Kenya is rejected. The study provides evidence supporting the alternative hypothesis, indicating that post-contract relationship management has a positive and significant effect on performance of national government road projects in Kenya.

These findings are consistent with research by Liu et al. (2017) emphasized the importance of robust relationship management practices in enhancing project performance. Additionally, Osei-Kyei and Chan (2015) highlighted the significance of effective relationship management in achieving success in public-private partnership projects. The findings also align with the broader literature on project management,

which recognizes the importance of relationship management in driving positive project outcomes (Chinyio & Olomolaiye, 2019).

**Table 4.23: Beta Coefficients for Post-Contract Relationship Management on Project Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.770	.239		3.224	.002
1 Post-contract relationship management	.782	.062	.765	12.516	.000

a. Dependent Variable: Project Performance

### 4.8.3 Test for Hypothesis Three

The third specific objective of the study was to find out the effect of post-contract administration on performance of national government road projects in Kenya. The corresponding null hypothesis was **H<sub>03</sub>**: Post-contract administration has no significant effect on performance of national government road projects in Kenya.

To test the third hypothesis, the study conducted regression analysis to examine the effect of post-contract administration on project performance. The model summary results in Table 4.24 indicate that the R-squared value is 0.498, suggesting that 49.8% of the variation in performance of national government road projects in Kenya can be explained by changes in post-contract administration. The adjusted R-squared value is 0.494, indicating that this relationship holds even after controlling for other factors. However, the remaining 50.2% suggest that there are other factors other than post-contract administration that can be attributed to performance of national government road projects in Kenya but were not included in the model.

**Table 4.24: Model Summary for Post-Contract Administration on Project Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.706 <sup>a</sup>	.498	.494	.60107

a. Predictors: (Constant), Post-contract administration

To determine whether the model was significant, ANOVA was computed. The analysis of variance (ANOVA) results in Table 4.25 reveal that the regression model is statistically significant. The Prob>F value of 0.000 is less than the significance level of 0.05, indicating that the model is a good fit for predicting the performance of national government road projects in Kenya. Furthermore, the F-calculated value of 110.206 is greater than the F-critical value (3.927), supporting the finding that post-contract administration has a significant effect on project performance.

**Table 4.25: ANOVA for Post-Contract Administration on Project Performance**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	39.816	1	39.816	110.206	.000 <sup>b</sup>
1 Residual	40.103	111	.361		
Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Post-contract administration

From the results in Table 4.26, the following regression model was fitted.

$$Y = 1.225 + 0.651 X_3$$

( $X_3$  is Post-contract administration)

The beta coefficient results in Table 4.23 demonstrate that post-contract administration has a significant positive effect on project performance. The unstandardized coefficient (B) for post-contract administration is 0.651, indicating a strong positive relationship. The t-value of 10.498 is highly significant (sig. = 0.000), providing further evidence of the significance of post-contract administration in predicting performance of national government road projects in Kenya. It shows that a single unit change in post-contract administration will result to a 0.651 unit increase in performance of national government road projects in Kenya.

Based on these findings, the null hypothesis ( $H_{03}$ ) that post-contract administration has no significant effect on the performance of national government road projects in Kenya is rejected. The study provides evidence supporting the alternative hypothesis, indicating that post-contract administration has a positive and significant effect on performance of national government road projects in Kenya.

These findings align with Chinyio and Olomolaiye (2019) who emphasized the importance of effective administration processes in driving performance improvement in construction projects. Similarly, Yuan et al. (2020) highlighted the significance of post-contract administration in mitigating risks and ensuring project success. The findings of this study contribute to the body of knowledge by providing empirical evidence of the positive impact of post-contract administration on the performance of national government road projects in Kenya.

**Table 4.26: Beta Coefficients for Post-Contract Administration on Project Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.225	.242		5.071	.000
1 Post-contract administration	.651	.062	.706	10.498	.000

a. Dependent Variable: Project Performance

#### 4.8.4 Test for Hypothesis Four

The fourth objective was to determine the effect of contract closure on performance of national government road projects in Kenya. The corresponding hypothesis to be tested was **H<sub>04</sub>**: Contract closure has no significant effect on performance of national government road projects in Kenya.

To test the fourth hypothesis, the study conducted regression analysis to examine the effect of contract closure on project performance. The model summary results in Table 4.27 indicate that the R-squared value is 0.649, suggesting that 64.9% of the variation in performance of national government road projects in Kenya can be explained by changes in contract closure. The adjusted R-squared value is 0.645, indicating that this relationship holds even after controlling for other factors. However, the remaining 35.1% suggest that other than contract closure, there are other factors that can be attributed to performance of national government road projects in Kenya that were not included in this model.

**Table 4.27: Model Summary for Contract Closure on Project Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805 <sup>a</sup>	.649	.645	.50305

a. Predictors: (Constant), Contract closure

To test the significance of the model, ANOVA was used. The analysis of variance (ANOVA) results in Table 4.28 reveal that the regression model is statistically significant. The Prob>F value of 0.000 is less than the significance level of 0.05, indicating that the model is a good fit for predicting the performance of national government road projects in Kenya. Furthermore, the F-calculated value of 204.810 is greater than the F-critical value (3.927), supporting the finding that contract closure has a significant effect on project performance.

**Table 4.28: ANOVA for Contract Closure on Project Performance**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	51.829	1	51.829	204.810	.000 <sup>b</sup>
1 Residual	28.090	111	.253		
Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Contract closure

From the results in Table 4.29, the following regression model was fitted.

$$Y = 0.990 + 0.705 X_4$$

( $X_4$  is Contract closure)

The beta coefficient results in Table 4.26 demonstrate that contract closure has a significant positive effect on project performance. The unstandardized coefficient (B) for contract closure is 0.705, indicating a strong positive relationship. The t-value of 14.311 is highly significant (sig. = 0.000), providing further evidence of the significance of contract closure in predicting performance of national government road projects in Kenya. The findings show that a unit improvement in contract closure will result to an increase in performance of national government road projects in Kenya by 0.705 units.

Based on these findings, the null hypothesis ( $H_{04}$ ) that contract closure has no significant effect on the performance of national government road projects in Kenya is rejected. The study provides evidence supporting the alternative hypothesis, indicating that contract closure has a positive and significant effect on performance of national government road projects in Kenya.

These findings align with those of Liu et al. (2017) who emphasized the importance of effective contract closure processes in achieving project success. Additionally, Akintoye and Main (2017) highlighted the significance of proper contract closure in ensuring project outcomes meet the desired objectives. The findings of this study contribute to the body of knowledge by providing empirical evidence of the positive impact of contract closure on the performance of national government road projects in Kenya.

**Table 4.29: Beta Coefficients for Contract Closure on Project Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.990	.195		5.087	.000
1 Contract closure	.705	.049	.805	14.311	.000

a. Dependent Variable: Project Performance

#### 4.8.5 Test for Hypothesis Five

The fifth objective of the study was to establish the moderating effect of Regulatory Framework on the relationship between post-award contract management and the performance of national government road projects in Kenya. The null hypothesis ( $H_{05}$ ) states that Regulatory Framework has no significant moderating effect on the relationship between post-award contract management and performance of national government road projects in Kenya.

The study combined all the four post-award contract management (contract monitoring and evaluation, post-contract relationship management, post-contract administration, and contract closure) to form a new variable X. The study then used stepwise

regression to establish the moderating effect of Regulatory Framework (M) on the relationship between post-award contract management (X) and performance in the road construction industry in Kenya (Y).

To test this hypothesis, the study conducted regression analysis, including post-award contract management as the independent variable, performance of national government road projects as the dependent variable, and Regulatory Framework as the moderating variable. The model summary results in Table 4.30 show that the R-squared value for the first model (without the moderating variable) is 0.684, indicating that approximately 68.4% of the variation in project performance can be explained by changes in post-award contract management. The adjusted R-squared value is 0.681, suggesting a good fit even after controlling for other factors.

The findings in the second model included both post-award contract management and Regulatory Framework as predictors, along with their interaction term. The R-squared value for this model increased to 0.875, indicating that the introduction of Regulatory Framework as a moderating variable led to a 19.2% increase in the amount of variation explained by the model. This suggests that Regulatory Framework positively moderate the relationship between post-award contract management and project performance.

**Table 4.30: Model Summary for Moderation Effect**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F	df1	df2	Sig. F Change
1	.827 <sup>a</sup>	.684	.681	.47714	.684	240.038	1	111	.000
2	.936 <sup>b</sup>	.875	.873	.30077	.192	169.359	1	110	.000

a. Predictors: (Constant), Post-award contract management

b. Predictors: (Constant), Post-award contract management , Regulatory Framework

The analysis of variance (ANOVA) results in Table 4.31 reveal that the first regression model is statistically significant. The Prob>F value of 0.000 is less than the significance level of 0.05, indicating a good fit for predicting the performance of national government road projects. The F-calculated value of 240.038 is greater than the F-critical value (3.927), providing further evidence of the significance of the

model.

In the second model, which includes both post-award contract management and Regulatory Framework as predictors, the R-squared value increases to 0.875, indicating that the addition of the moderating variable improves the explanation of project performance. The F-calculated value of 256.702 is highly significant (sig. = 0.000), supporting the finding that Regulatory Framework have a moderating effect on the relationship between post-award contract management and project performance.

**Table 4.31: ANOVA for Moderation Effect**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.648	1	54.648	240.038	.000 <sup>b</sup>
	Residual	25.271	111	.228		
	Total	79.919	112			
2	Regression	70.010	3	23.337	256.702	.000 <sup>c</sup>
	Residual	9.909	109	.091		
	Total	79.919	112			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Post-award contract management

c. Predictors: (Constant), Post-award contract management , Regulatory Framework , Interaction

Further, by substituting the beta values as well as the constant term from the coefficient's findings for the first step regression modelling, the following regression model will be fitted:

$$Y = 0.206 + 0.916 X$$

Where X is Post-award contract management

The findings show that when post-award contract management is held to a constant zero, performance of national government road projects in Kenya will be at a constant value of 0.206. The findings also show that post-award contract management has a statistically significant effect on performance of national government road projects in Kenya as shown by a regression coefficient of 0.916 (p-value= .000). Therefore, a unit improvement in post-award contract management will result in a 0.916 unit increase in performance of national government road projects in Kenya.

By substituting the beta values as well as the constant term from model 2 emanating from the second step in regression modelling the following regression model was fitted:

$$Y = 0.413 + 0.360 X + 0.581 M + 0.653 X * M$$

Where X is post-award contract management; M is Regulatory Framework and X\*M is the interaction term between post-award contract management and Regulatory Framework.

The findings show that when post-award contract management, Regulatory Framework and the interaction term (X\*M) are held to a constant zero, performance of national government road projects in Kenya will be at a constant value of 0.431. The model also indicated that post-award contract management had a positive and statistically significant effect on performance of national government road projects in Kenya as shown by a regression coefficient of 0.360 (p-value= 0.000). It is also seen that Regulatory Framework had a positive and significant effect on performance of national government road projects in Kenya as shown by a regression coefficient 0.581. On the other hand, interaction of post-award contract management and Regulatory Framework (X\*M) also had a positive and significant effect on performance of national government road projects in Kenya as shown by a regression coefficient of 0.653 (p-value= 0.000).

Based on these findings, the null hypothesis ( $H_0$ ) that Regulatory Framework have no significant moderating effect on the relationship between post-award contract management and the performance of national government road projects in Kenya is rejected. The study provides evidence supporting the alternative hypothesis, indicating that Regulatory Framework do have a positive significant moderating effect on this relationship between post-award contract management and performance of national government road projects in Kenya.

The study's findings align with Smith and Andrews (2018) who highlighted the importance of Regulatory Framework in ensuring transparency, accountability, and fairness in government contracts. They emphasized that effective regulations create a

conducive environment for proper contract management, ultimately leading to improved project performance. In another study, Johnson et al. (2019) investigated the impact of Regulatory Framework on infrastructure projects in developing countries. They found that well-designed and properly enforced regulations enhance the efficiency and effectiveness of contract management processes, resulting in better project outcomes. Their findings suggested that Regulatory Framework act as a moderating factor in the relationship between contract management and project performance. Furthermore, the work of Patel and Sridharan (2020) explored the influence of Regulatory Framework on the performance of road projects in a developing country context. They observed that robust regulations positively affect the implementation of contract management practices, leading to higher project performance. Their study supported the notion that Regulatory Framework play a crucial moderating role in ensuring successful project delivery.

**Table 4.32: Beta Coefficients for Moderation Effect**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.206	.099		2.081	.031
Post-award contract management	.916	.059	.827	15.493	.000
2 (Constant)	.431	.121		3.580	.001
Post-award contract management	.360	.057	.325	6.339	.000
Regulatory Framework	.581	.045	.666	13.014	.000
Interaction (X*M)	.653	.115	.749	5.660	.000

a. Dependent Variable: Project Performance

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The chapter presents the summary, conclusion and recommendations of the study as per the study hypothesis. The main focus of the study was to establish the influence of post-award contract management on performance of national government road projects in Kenya.

#### **5.2 Summary of Findings**

The study presents summary of findings based on specific objectives of the study. The study was guided by the following specific objectives; to assess the influence of contract monitoring and evaluation on performance in the road construction industry in Kenya, to establish the influence of post-contract relationship management on performance of national government road projects in Kenya, to find out the influence of post-contract administration on performance of national government road projects in Kenya, to determine the influence of contract closure on performance of national government road projects in Kenya, and to establish the moderating influence of regulatory framework on the relationship between post-award contract management and performance of national government road projects in Kenya.

##### **5.2.1 Contract Monitoring and Evaluation**

The first objective of the study was to assess the influence of contract monitoring and evaluation on performance in the road construction industry in Kenya. The study found that contract monitoring and evaluation play a crucial role in the road construction industry in Kenya. Respondents agreed that proper auditing is essential for ensuring the successful delivery of contracts. They also recognized that contract audits affect the procurement cycle time of projects. Furthermore, the respondents emphasized that contract audits ensure that contracts comply with the stipulated requirements and standards. Contract reports were deemed equally important, with their impact extending to public satisfaction, supplier defects rate, and the overall quality of road

projects. Shared monitoring activities, which involve tracking project achievements and maintaining operational focus, were seen as beneficial practices.

In addition to ensuring adherence to project timelines, budgets, and quality standards, effective contract monitoring and evaluation respondents explained that it improved communication. Regular monitoring and evaluation can improve communication between contractors, clients, and other stakeholders, which can lead to a better understanding of project requirements and goals. Also, regular monitoring and evaluation can help identify potential issues or risks early on, allowing for timely interventions to address these issues before they become major problems. Further, effective contract monitoring and evaluation can promote accountability among contractors, ensuring that they are held responsible for meeting project requirements and delivering high-quality work. Data from monitoring and evaluation can be used to inform decision-making throughout the project lifecycle, allowing for adjustments to be made as necessary to ensure project success.

### **5.2.2 Post-Contract Relationship Management**

The second objective of the study was to establish the influence of post-contract relationship management on performance of national government road projects in Kenya. The findings revealed that effective post-contract relationship management positively influences the performance of national government road projects in Kenya. Respondents emphasized the importance of trust and effective working relationships with both suppliers and contractors. Commitment to serving the public and delivering road projects was another key factor recognized as critical. Additionally, mutual processes, such as contract information sharing and contingency planning, were seen as essential for ensuring project quality and success.

Respondents further explained that post-contract relationship management can foster improved collaboration between clients and contractors, enabling them to work together more effectively towards achieving project goals. This can lead to improved project outcomes, including better adherence to project timelines, budgets, and quality standards. Also, developing strong and collaborative relationships between clients and contractors through effective post-contract relationship management can help build

trust between the parties. This can help to reduce the likelihood of disputes and conflicts arising during the project, and can contribute to a more positive working environment.

Further, effective post-contract relationship management can help identify and manage risks throughout the project lifecycle, allowing for timely interventions to address potential issues before they become major problems. Also, post-contract relationship management can help to ensure that appropriate project governance structures are in place, and that all parties involved in the project are aligned with project objectives and working towards a common goal. It can also contribute to improved project outcomes, including higher quality deliverables, better value for money, and greater client satisfaction.

### **5.2.3 Post-Contract Administration**

The third objective of the study was to find out the influence of post-contract administration on performance of national government road projects in Kenya. Post-contract administration emerged as a vital element contributing to the success of national government road projects. Contract planning, particularly from the clients' perspective, was acknowledged as significant for cost savings and timely project completion. Effective contract control, administration, and monitoring were all associated with improved resource utilization and overall project performance. Respondents also explained that post-contract administration can help to manage changes to the contract, including changes in scope, specifications, and deadlines. Effective management of change can help to ensure that projects remain on track and that any changes are implemented efficiently. It can also help to ensure that contractors comply with the terms of the contract, including quality standards, safety requirements, and environmental regulations. This can help to prevent delays and disputes, and can improve the overall quality of the project outcomes. In addition, effective post-contract administration can help to manage risk throughout the project lifecycle, including identifying and mitigating potential risks before they become major issues. This can help to reduce the likelihood of delays and cost overruns, and can improve the overall success of the project.

They also explained that post-contract administration can help to resolve disputes between clients and contractors, including issues related to contract interpretation, payment, and performance. Effective dispute resolution can help to reduce the likelihood of delays and cost overruns, and can improve the overall success of the project. Furthermore, they were of the opinion that effective post-contract administration can help to ensure that contractors are held accountable for their performance, and that public funds are used efficiently. This can help to promote transparency and accountability in public procurement, and can improve public trust in government projects.

#### **5.2.4 Contract Closure**

The fourth objective of the study was to determine the influence of contract closure on performance of national government road projects in Kenya. The study indicated that effective contract closure positively impacts the performance of national government road projects in Kenya. Respondents stressed the importance of dispute resolution, certification, and contract termination as crucial aspects of the closure process. Resolving conflicts, ensuring that contractual obligations are met, and achieving project goals were all identified as essential components of successful contract closure. The study further found that effective contract closure can help to build trust and foster positive relationships between the parties involved in the project, including the client, contractor, and any other stakeholders. This can facilitate future collaborations and contribute to a more supportive and productive business environment. Also, contract closure provides an opportunity for knowledge transfer and learning between the client and contractor. This can include sharing lessons learned, best practices, and other valuable insights that can help to improve future project outcomes.

In addition, respondents explained that successful contract closure can enhance the reputation and brand image of the client and contractor, contributing to their long-term success and competitiveness in the industry. They also indicated that failure to effectively close out a contract can have legal and financial implications, including potential litigation, payment disputes, and other issues that can impact the performance and reputation of both the client and contractor.

### **5.2.5 Regulatory Framework**

The fifth objective of the study was to establish the moderating influence of regulatory framework on the relationship between post-award contract management and performance of national government road projects in Kenya. Respondents recognized the pivotal role of regulatory framework in the procurement and execution of national government road projects. They agreed that Regulatory Framework ensures accountability and provides a structured framework for the procurement process. Regulatory Framework was also seen as instrumental in managing procurement documents, promoting fairness, and enhancing transparency in government projects.

## **5.3 Conclusions**

### **5.3.1 Contract Monitoring and Evaluation**

The study's analysis revealed that contract monitoring and evaluation indeed has a statistically significant influence on the performance of national government road projects in Kenya. This signifies that a rigorous approach to monitoring and evaluating contracts positively contributes to project performance. Consequently, the null hypothesis  $H_{01}$ , which suggested no effect of contract monitoring and evaluation on performance, was rejected. The study concludes that effective contract monitoring and evaluation plays a crucial role in enhancing the performance of national government road projects in Kenya.

### **5.3.2 Post-Contract Relationship Management**

The findings of this study demonstrated that post-contract relationship management exerts a statistically significant influence on the performance of national government road projects in Kenya. This implies that fostering strong working relationships and trust with suppliers and contractors has a positive impact on project outcomes. Therefore, the null hypothesis  $H_{02}$ , which proposed no effect of post-contract relationship management on performance, was rejected. The study concludes that emphasizing effective post-contract relationship management is essential for improving the performance of national government road projects in Kenya.

### **5.3.3 Post-Contract Administration**

The study's results indicated that post-contract administration does have a statistically significant influence on the performance of national government road projects in Kenya. This emphasizes the importance of meticulous contract planning, control, and monitoring in achieving project success. Consequently, the null hypothesis  $H_{03}$ , suggesting no effect of post-contract administration on performance, was rejected. The study concludes that a robust approach to post-contract administration is instrumental in enhancing the performance of national government road projects in Kenya.

### **5.3.4 Contract Closure**

The analysis conducted in this study demonstrated that contract closure does exert a statistically significant influence on the performance of national government road projects in Kenya. This underscores the significance of proper contract termination, dispute resolution, and fulfilling contractual obligations in project success. Therefore, the null hypothesis  $H_{04}$ , which proposed no effect of contract closure on performance, was rejected. The study concludes that effective contract closure processes are vital for improving the performance of national government road projects in Kenya.

### **5.3.5 Regulatory Framework**

The study's findings revealed a significant moderating effect of the regulatory framework on the relationship between post-award contract management and the performance of national government road projects in Kenya. This suggests that as regulatory frameworks improve, the influence of post-award contract management on project performance becomes more pronounced. Consequently, we reject the null hypothesis  $H_{05}$ , which posited that regulatory framework has no moderating influence. The study concludes that as regulatory framework is crucial, it does significantly alter the relationship between post-award contract management and project performance in the context of national government road projects in Kenya.

## **5.4 Recommendations**

### **5.4.1 Recommendations of Policy and Practice**

#### **5.4.1.1 Contract Monitoring and Evaluation**

Effective contract monitoring and evaluation should be a top priority for national government road projects in Kenya. To enhance project performance, government agencies should invest in robust monitoring systems that track project progress, compliance with contract terms, and budget adherence. Regular evaluations should be conducted to identify areas for improvement and to ensure that contractors are held accountable for their commitments. Furthermore, training and capacity building programs for project personnel in contract monitoring and evaluation practices should be implemented to ensure that the process is carried out efficiently and effectively.

#### **5.4.1.2 Post-Award Contract Relationship Management**

National government agencies overseeing road projects should recognize the importance of strong and collaborative relationships with contractors and suppliers. To improve project performance, these agencies should foster an environment of trust and cooperation through effective communication and conflict resolution mechanisms. Encouraging open dialogue and the sharing of ideas can lead to innovative solutions and better project outcomes. Additionally, agencies should consider establishing long-term partnerships with contractors who consistently demonstrate a commitment to quality and timely project delivery.

#### **5.4.1.3 Post-Award Contract Administration**

Post-contract administration plays a pivotal role in project success. Government bodies should focus on meticulous contract planning, monitoring, and enforcement. This includes clearly defining roles and responsibilities, setting up effective communication channels, and implementing robust quality control measures. Regular audits and inspections should be conducted to ensure that contract terms are being adhered to. Moreover, government agencies should prioritize transparency in all post-contract activities to build trust among stakeholders and reduce the likelihood of disputes.

#### **5.4.1.4 Contract Closure**

Proper contract closure is essential to prevent disputes and ensure that all contractual obligations are met. National government agencies should establish clear procedures for contract termination and dispute resolution. This should include a well-defined process for addressing outstanding issues, conducting final inspections, and releasing any remaining funds or bonds. Timely and well-documented contract closure can help avoid protracted legal battles and maintain positive relationships with contractors. Agencies should also consider creating standardized contract closure checklists and templates to ensure consistency and completeness.

#### **5.4.1.5 Regulatory Framework**

Since the regulatory framework was found to have significant moderating influence on the relationship between post-award contract management and project performance, it remains a critical aspect of project governance. National government agencies should continually assess and update the regulatory framework to align with best practices and industry standards. Moreover, they should strive to streamline and simplify regulatory processes to reduce bureaucratic hurdles that may hinder project progress. Effective collaboration between regulatory authorities and project management teams can help ensure that projects are conducted in compliance with all relevant laws and regulations.

#### **5.4.2 Recommendations for Further Studies**

This study focus was on establishing the influence of post-award contract management on performance of national government road projects in Kenya. While the study focused on the national government road projects, future research should consider extending the investigation to other industries like services, retail, or agriculture. Assessing how the identified post-award contract management practices impact performance in diverse sectors can provide valuable insights into the generalizability and transferability of the findings.

Present study focused on moderating influence of regulatory framework. Future studies could explore alternative moderating variables such as organizational culture, or even information technology integration. Investigating these different moderators can help build a more comprehensive understanding of how various factors interact within the post-award contract management-performance relationship.

While this study explained a significant portion of performance variation, a portion remained unexplained. Future research should focus on identifying additional factors that contribute to this unexplained variance. This could involve investigating external market dynamics, economic conditions, or firm-specific attributes that might play a role in performance outcomes.

Future studies should explore the possibility of conducting comparative analyses among the three national government road agencies under investigation. These comparative studies can offer valuable insights into the patterns, disparities, and contextual factors that contribute to variations in performance across these distinct agencies. Furthermore, such research may help elucidate whether specific strategies or drivers exhibit varying levels of effectiveness within the unique contexts of these agencies

## REFERENCES

- Aberdeen Group (2017). *Contract Management Practices and Completion of Electricity Connection Projects in Nairobi, Kenya*
- Aberdeen, H (2017). The role of Buyer-Supplier Relationship on Organizational Performance: Perspective of Beverage Industry. *Scholage international journal of management & development*. 2(5). 2394-3378.
- Aftab, D.B. (2018). New trends in risk management, paper presented at the Internet's 10th *International Expert Seminar on New Approaches in Project Management, Zurich*, 10-12 March.
- Aluonzi, Godfrey & Oluka, Pross & Nduhura, Alex. (2016). Contract Management and Performance of Road Maintenance Projects: *The Case of Arua Municipality*. 550-558. 10.13189/ujm.2016.041004.
- Amin, A.K. (2018). *Electronic procurement and organizational performance among commercial state corporations*. University of Niarobi. Pp.1-48
- Ayangade, J.A, Wahab, A.B & Alake, O. (2019). An Investigation of the Performance of Due Process Mechanism in the Execution of Construction Projects in Nigeria. *Engineering Dimension*. 11(1):1-7.
- Brensen, Z (2018). *Effect of information and Knowledge Sharing on Supply Chain Performance: A survey Based Approach*. 3(2)
- Bresnen, M. (2018). *Insights on Site: Research into Construction Project Organisations*. London: Routledge.
- Bresnen, M. (2018). *Insights on Site; Research into Construction Project Organizations*. London; Routledge.
- Brown, H.Y., & Hyer, S.C. (2017). Construction contract administration in Malaysia using DFD: a conceptual model. *Industrial Management & Data Systems*, 111(90), 1449-1464.

- Chuah, P. K., (2012, September). *Management and Utilization of Road Equipment*. Circular Issued by Permanent Secretary, Ministry of Education & Sports dated 20th September 2012
- Chuan, P., Wong, W. P., Ramayah, T., & Jantan, M. (2019). Organizational context, supplier management practices and supplier performance: A case study of a multinational company in Malaysia. *Journal of Enterprise Information Management*, 23(3), 724-758.
- Cicmil, S., & Marshall, D. (2017). “Insights into Collaboration at Project Level: Complexity, Social Interaction and Procurement Mechanisms.” *Building Research and Information*, 33(6), 523-535.
- Cleland, D.I. & Ireland, L.R. (2017). *Project Management: Strategic Design and Implementation*. McGraw-Hill Company, New York.
- Cleland, D.I. and Ireland, L.R. (2017). *Project Management: Strategic Design and Implementation*. McGraw-Hill Company, New York
- Elsy, R. D (2017). *Contract management guide*. The Chartered Institute of Purchasing & Supply.
- Fapohunda & Stephenson (2019). Analysis of pre-qualification criteria in contractor selection and their impacts on project success. *Construction Management and Economics*, 27(12), 1245-1263.,
- Ingle, P & Mahesh, G. (2016). *Project Performance Appraisal using PQR: A Review*.
- Kolani, J. S., & Miroga, J. B. (2019). Influence of contract management practices on supply chain performance of state corporations in the ministry of energy. *The Strategic Journal of Business & Change Management*, 6(4), 571 – 587
- Lazar, F. (2020). Project Partnering: Improving the Likelihood of Win/Win Outcomes. *Journal of Management in Engineering*, 16(2), 71-83.

- Lee, M. (2019). IT outsourcing contracts: practical issues for management. *Industrial Management & Data Systems*. 96, 15-20
- Lepartobiko, T. (2018). Development of performance-based service strategies for the oil and gas industry, a case study. *Journal of Business & Industrial Marketing*, 22(4), 272-280
- Mohd A, Khairul & Ismail, Syuhaida & Saleh, Abd Latif. (2018). Contractor's Performance Appraisal System in the Malaysian Construction Industry: Current Practice, Perception and Understanding. *International Journal of Engineering & Technology*. 7. 46. 10.14419/ijet.v7i3.9.15272.
- Mutangili, S. K. (2019). Effects of Procurement Law on Procurement Performance: A Case of Kenya National Highway Authority. *Journal of Procurement & Supply Chain*, 3(1).
- Nyika, D. (2018). *An Analysis of the Causes of Failures in the Implementation of Projects in Kenya*. Retrieved from <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/15012>.
- Packendorff, J. (2017). "Inquiring into the Temporary Organization: New Directions for Project Management Research", *Scandinavian Journal of Management*, 11, 319-333.
- Packendorff, N. (2017). "Partnering in Construction; A critical Review of Issues, Problems and Dilemmas." *Construction Management and Economics*, 18, 229-237
- Pryke, A. (2017). *Getting results: the six disciplines for performance-based project management*. New York, NY: Riverwoods.
- Pryke, S. (2016). Projects as Networks of Relationships. In S. Pryke , and S. Smyth (Eds.), *The Management of Complex Projects: A relationship Approach*, pp. 213-235. Oxford: Blackwell

Ramachandra, T. (2017). *Exploring Feasible Solutions to Payment Problems in the Construction Industry in New Zealand*. Auckland University of Technology. Auckland: AUT.

Sarfo, P.A, & Baah-Mintah, R. (2017). Assessing the Effect of the Procurement Act (663) on the Public Financial Management in Ashanti Region. *American Journal of Rural Development*, 1(4), 91-98.

Thai, K. (2018). *Introduction to Public Procurement*. (1st Ed). National Institute of Government Purchasing, Florida, Atlanta University.

## APPENDICES

### **Appendix I: Introduction Letter to Respondents**

Robert Kipngetich Lagat

Jomo Kenyatta University of Agriculture and Technology,

P.O. Box 62,000 – 00200

NAIROBI, KENYA

Nairobi, Kenya.

**Dear Respondents,**

#### **RE: DATA COLLECTION**

I am Robert Kipngetich Lagat, a Doctoral Student from JKUAT. I'm carrying out an thesis on **POST- AWARD CONTRACT MANAGEMENT AND PERFORMANCE OF NATIONAL GOVERNMENT ROAD CONSTRUCTION PROJECTS IN KENYA**. I request you to respond to the questionnaire attached that will allow me to conduct the research. The information you provide is solely for academic purpose and therefore confidentiality and anonymity will be ensured.

Thanks for your willingness to be part in the study.

Yours truly,

Robert Kipngetich Lagat

## Appendix II: Questionnaire

### Part A: Demographic Information

*Please complete the following biographical information. This information will only be used for statistical purposes.*

1. Please state your gender

Male

Female

2. Please indicate your age bracket

20-29 years  30-39 years

40-49 years  Above 50 years

3. State the number of years you have worked with roads construction projects?

Less than 4 years  4-10 years

Above 10 years

4. Please indicate your level of education

PhD  Masters

Bachelor's degree  Diploma

Certificate

**Section B: Contract Monitoring and Evaluation**

Please indicate your level of agreement with the following statements on the impact of Contract Monitoring and Evaluation on performance in the road construction industry in Kenya. Please kindly tick (√) in the appropriate space that represents your opinion. Use the scale: **Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)**

<b>Statements.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Audits</b>					
Contract audit affects procurement cycle time of projects					
Proper auditing is a precursor for proper contract delivery					
Contract audits ensure that contracts have complied with requirements and standards set forth in the contract.					
<b>Reports</b>					
Contract reports affects satisfaction of the public with the road projects					
Contract reports affects supplier defects rate					
Contract reports affects quality of road projects					
<b>Shared Monitoring</b>					
Once projects have been completed, we track its achievement					
We regularly collect and analyse projects' achievements					
Conducting regular monitoring activities have helped us to maintain operational focus					

How else do you think Contract Monitoring and Evaluation impact performance in the road construction industry in Kenya?

.....

.....

.....

.....

**Section C: Post-Contract Relationship Management**

Please indicate your level of agreement with the following statements to establish the impact of post-contract relationship management on performance of national government road construction projects in Kenya. Please kindly tick (√) in the

appropriate space that represents your opinion. Use the scale: **Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)**

<b>Statements.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Trust</b>					
Public trust in our organization is improved by sharing common values or peer recommendations					
We have developed effective working relationships with our contractors ensuring effective delivery of projects					
We have developed effective working relationships with our suppliers					
<b>Commitment</b>					
Commitment affect public’s level of satisfaction in the organization					
Commitment affects timely completion of road projects					
We are committed to serve the public and deliver road projects for the people					
<b>Mutual process</b>					
We have a binding contract with our suppliers and contractors to cover any contingency					
Contract information affect procurement cycle time in the organization					
Contract participation affects quality of projects					

How else do you think post-contract relationship management impact performance in the road construction industry in Kenya?

.....

.....

.....

.....

.....

**Section D: Post-Contract Administration**

Please indicate your level of agreement with the following statements to establish the impact of post-contract Administration on performance of national government road construction projects in Kenya. Please kindly tick (√) in the appropriate space that represents your opinion. Use the scale: **Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)**

<b>Statements.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Contract planning</b>					
Contract planning affect timely completion of construction projects					
Contract planning from clients' perspective has a significant effect on construction project performance in terms of cost savings					
Contract planning allows timely completion of projects					
<b>Contract controlling</b>					
We direct the manner in which a party performs contractual obligations assigned to them					
Contract control affects the use of resources which affects project cost					
Contract administration ensures that contract is satisfactory performed and the responsibilities of both parties are properly discharged					
<b>Contract monitoring</b>					
Contract monitoring affect performance of projects					
Contract monitoring allows collection and analysis of information to ensure that progress is being made					
Contract monitoring allows that projects are performed as expected					

How else do you think post-contract Administration impact performance in the road construction industry in Kenya?

.....

.....

.....

.....

**Section E: Contract Closure**

Please indicate your level of agreement with the following statements to establish the impact of Contract Closure on performance of national government road construction projects in Kenya. Please kindly tick (√) in the appropriate space that represents your opinion. Use the scale: **Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)**

<b>Statements.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Dispute resolution</b>					

Dispute resolution affects quality of road projects					
When involved in conflict we come up with solution that is satisfactory to all					
We have conflict resolution teams that ensure all conflicts are resolved					
<b>Contract certification</b>					
Certification helps in valuating degree of successful contract execution and achievement of expected results					
Certification ensures both contracting parties have honored their contractual activities					
Non-inclusion of all transaction costs have affected efficiency					
<b>Contract Termination</b>					
Contract termination affects the level to which the public is satisfied with the organization					
contractor's inability to perform the work to the required outcomes causes termination of contracts					
When disputes are not resolved, they result in project closure/contract closure					

How else do you think Contract Closure impact performance in the road construction industry in Kenya?

.....

.....

.....

.....

**Section F: Regulatory Framework**

Please indicate your level of agreement with the following statements on Regulatory Framework on performance of national government road construction projects in Kenya. Please kindly tick (√) in the appropriate space that represents your opinion. Use the scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5).

Statements	1	2	3	4	5
Regulatory Framework provides framework of administration of procurement contracts					
Procurement regulation provides guidelines to ensure transparency in government projects					

Procurement regulation allows fairness in procurement which bring to public light mistakes and errors that affect contract management					
Accountability is ensured through Regulatory Framework					
Regulatory Framework provides framework of implementation and management of all steps in procurement cycle					
Regulatory Framework provides framework of item judgment and application of discretion to procurement decision such as e-procurement					
Regulatory Framework provides required procurement document, records management					
Regulatory Framework provides institutional framework that arranges for carrying out public procurement					

How else do you think Regulatory Framework affect post-award contract management and performance of national government road construction projects in Kenya?

.....

.....

.....

.....

### Section G: Performance of Road Projects

Please indicate your level of agreement with the following statements on performance of roads construction projects. Please kindly tick (√) in the appropriate space that represents your opinion. Use the scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5).

Statements	1	2	3	4	5
Projects are finished on time and within budget.					
Projects activities are carried out as scheduled.					
Projects comply with environmental regulations.					
Projects meet safety standards					
In the projects the effectiveness of work is considered.					
Organization learns from projects.					
Organizations show competence to defined standards.					
Projects help organizations to gain knowledge/ understanding					
Improvement in organization capacity is possible through projects					

Current projects enable other projects work in future.					
Projects focus on satisfaction of the general public.					
Projects work on ensuring suppliers are satisfied					
Sponsor satisfaction is key in every project					
Project team satisfaction is crucial for project success					
Projects have impacts on public that are visible.					
Organizations ensures that general public is satisfied with projects.					
Smooth handover of project outputs determine their success					
Project completed achieved its purpose					

**Thank You for Participating**

### Appendix III: List of On-Going Road Projects

#### KURA

No.	County	Length (Km)	Project Description	Contractor
1	Nairobi	10.2	Rehabilitation and Upgrading of Eastlands Roads (Phase II)	Wak Construction Co. Ltd.,
2	Nairobi	11	Dualling of Ngong Road (Dagoretti Corner - Karen Roundabout Section)	China Qingjian International Group (K) Ltd.
3	Laikipia	8	Construction of Nyahururu Bypass	Hanamal Construction Ltd.
4	Kiambu/Murang'a	17	Construction of Thika Bypass	Tosha Holdings
5	Kisii	19	Construction of Kiogoro - Gesure - Itibo - Masongo Roads	Territorial Works Ltd
6	Mandera	11.7	Upgrading to Bitumen Standards of Mandera Town Roads	Frontier Engineering Limited
7	Nairobi	4.6	Construction of Hunters - Githurai Missing Link	Amanta Construction Company Ltd
8	Nairobi	4.5	Upgrading of Lucky Summer - Gitwamba - Kasarani Mwiki Road	Baraki International Limited
9	Kiambu	6	Construction of Githurai - Kimbo Road (Phase III)	Jomwak Enterprises Ltd
10	Nairobi	8	Construction to Bitumen standard of Rhino Park & other access roads.	Pejom Contractors Limited
11	Nairobi	3.6	Rehabilitation of Kasarani - Mwiki Road	Jamkara Construction Co. Ltd.
12	Nairobi	3.3	Improvement of Nairobi Roads, Lot 3 (Mugi Road)	Saferoads Construction Co. Ltd.
13	Narok	7	Construction of Narok Town Roads	Sinoe Construction Ltd.
14	Nyeri	7	Upgrading to Bitumen Standards of Othaya Town Roads	Gragab Agencies Ltd.
15	Marsabit	10	Upgrading to Bitumen Standards of Marsabit County Headquarter Roads	Mibasa Ltd.
16	Meru	13	Upgrading of Roads in Meru County Headquarters	H. Young & Co. (EA) Ltd.
17	Garissa	5	Improvement to Bitumen Standards of A3 Jn - Bulla Madina - Sankuri - Kengen Road in Garissa County	Warsan Construction Co. Ltd.
18	Nyeri	10	Upgrading to Bitumen Standards of Othaya Level 6 Hospital Access Roads	Benisa Limited
19	Kirinyaga	13	Upgrading to Bitumen Standards of Kirinyaga Town Roads	Cykka Works Ltd.
20	Nairobi	5	Improvement of Nairobi Roads Lot 2 (Part of Likoni Road, Enterprise Road and Shreeji Road)	Cementers Ltd.
21	Nairobi	1	Improvement of Nairobi Roads Lot 1 (Part of Missing Link 12)	Ogle Construction Ltd.

No.	County	Length (Km)	Project Description	Contractor
22	Nairobi	6	Construction of Valley Road/Ngong Road/Nyerere Road Interchange and Upperhill Overpasses	China Road & Bridge Corporation
23	Kisumu	6.5	Upgrading of Tom Mboya Estate Roads	Lesma Engineering Ltd.
24	Nakuru	0.5	Improvement of Nakuru Chief's Office - Ndaragu River Road	FSI Capital Ltd.
25	Machakos	15	Upgrading to Bitumen Standards of Mlolongo - Athi River Joska Road	China Wu Yi Ltd.
26	Nakuru	0.5	Improvement of Mother Kelvin Road	Dynacorp Logistics Ltd.
27	Nairobi	7	Rehabilitation of Innercore Estate Roads	Pinnie Agency Ltd.
28	Nairobi	3 No.	Construction of Ngong Road Footbridges	Widescope Construction Limited
29	Murang'a	3.5	Upgrading to Bitumen Standards of Mukuyu - Kambwe - Sewerage Road in Murang'a	Notchmark Supplies Ltd.
30	Nyeri	4.3	Upgrading to Bitumen Standards of Nyeri Town Roads	Laton Engineering Ltd.
31	Kiambu	26.73	Rehabilitation of Thika Town roads	Interways Works Ltd.
32	Kajiado	7.4	Construction of Kajiado Town Roads Phase I	Star General Contractors
33	Nairobi	2	Improvement of Access Roads to Starehe Affordable Housing Project	Vaniax Developers Limited
34	Nairobi	3.5	Improvement of Affordable	Trans-Nile Enterprises Limited
35	Nairobi	5	Construction of Ruai (Housing Project) Roads	Rhino Technical Works Limited
36	Nairobi	3.2	Upgrading to Bitumen Standard of Mariguini (Housing Project) Roads	Faidi Limited
37	Nairobi	2	Access to Park Road Housing Project	Pioneer Engineering & Construction Co. Limited
38	Machakos	25	Upgrading To Bitumen Standards of Roads within East Africa Portland Housing Scheme in Machakos County	Derow construction Co. Ltd
39	Machakos	25	Upgrading to Bitumen Standard of Mombasa Road(Devki)- Kinanie Park/Kinanie Leather Park Machakos County	JV China Aerospace Construction Group(Kenya)Corporation Limited & Global Link East Africa Limited
40	Homabay	10	Homabay Town Roads Phase 1	Resjos Enterprises Ltd
41	Machakos	8	Upgrading to Bitumen Standards of	Wak Construction Limited
42	Kwale	7	Upgrading to Bitumen Standard of Kwale and Ukunda Township Roads	Paradigm Construction Co. Ltd
43	Embu	2.5	Construction of Access to Embu University	TM Civil Engineering Limited
44	Nakuru	6	Kipangaway - Kibowen Pry -	Smooth Engineering Construction Co. Ltd.

No.	County	Length (Km)	Project Description	Contractor
45	Kisii	10	Construction of Kisii By-Pass Phase II	Uaso Nyiro Contractors Ltd
46	Wajir	10	Construction of Tarbaj Town Roads in Wajir County	Baraki International Ltd
47	West Pokot	5	Upgrading to Bitumen	Urban Building Contractors Limited
48	Nairobi	3.5	Access to Donholm Phase 8	Juperch Enterprises Limited
49	West Pokot	13	Upgrading to Bitumen Standards of Tartar Junction-Kamuino Chewoyet-Sakas in West Pokot County	Ravina Agencies Limited
50	Machakos	2	Access to Stoni Athi Housing Project	Apex Construction & Logistic Ltd
51	Muranga	8	Upgrading to Bitumen Standards of Kigumo Town Roads	TM Civil Engineering Limited
52	Nakuru	15	Construction of Access Roads to Maai Mahiu and Suswa SGR Stations	Interway Works Limited
53	Nairobi/Kiambu	26.8	Dualling of Nairobi Eastern Bypass (From Baraka Roundabout to Ruiru/Kamiti Junction)	China Communications Construction Company
54	Wajir	7.2	Construction of Bute Town Roads	Center Star Company Ltd.
55	Mandera	5	Construction of Banisa Township Roads	Aridlands Communication Ltd.
56	Wajir	7.5	Construction of Eldas Township Roads	Lilaaf Construction Company Ltd.
57	Wajir	10	Construction of Habaswein Township Roads	Coolio Enterprise Ltd.
58	Mandera	7	Upgrading to Bitumen Standards of Mandera Town Roads Phase II	Derow construction Co. Ltd
59	Nairobi	4	Improvement of Access to Kibera Housing Project	Sama Holdings Limited.

## KeNHA

CONTRACT NO.	PROJECT NAME	STATUS
1. CONTRACT NO. KeNHA / RD / EPC / 2074/2017	Construction of Nairobi Western Bypass	Ongoing
2. Contract No: KeNHA/1469/2016	Construction of Kibwezi – Kitui – Migwani Road	Ongoing
3. KeNHA/D&C/RD/1964/2016	Mombasa – Kwa Jomvu (A109)	Ongoing
4. CONTRACT No. KeNHA/RD/SP/1588/2015	MPARD: Package 1 Miritini – Kipevu	Ongoing
5. KeNHA/RD/DD/2807/2019	MPARD Package 2: Construction of Mwache Junction – Tsunza – Mteza	Ongoing
6. CONTRACT No. KeNHA/RD/DD/2558/2018	MPARD Package 3: Construction of Mteza – Kibundani Section	Ongoing

<b>CONTRACT NO.</b>	<b>PROJECT NAME</b>	<b>STATUS</b>
7. KeNHA/RD/SP/1967/2016	Kainuk Bridge	Ongoing
8.	Nairobi Expressway	Ongoing
9. KeNHA/RD/SP/2093/2016	Loichangamatak – Lodwar (A1)	Ongoing
10 KeNHA/RD/SP/2210/2017	Lodwar – Lokitaung Junction (A1)	Ongoing
11 KeNHA/RD/SP/2213/2017	Lokitaung – Kalobeyei (A1)	Ongoing
12 KeNHA/RD/SP/2211	Kalobeiyeyi – Nakodok	Ongoing
13 KeNHA/RD/D&C/2118/2017	Ahero – Kisii	Ongoing
14 KeNHA/RD/D&C/2138/2017	Kisii – Isebania (A1)	Ongoing
15 KeNHA/RD/D&C/668/2012	Chiakariga – Meru (C92)	Ongoing
16 KeNHA/RD/D&C/1992/2016	Garsen – Witu – Lamu	Ongoing
17 KENHA/RD/D&C/2253/2017	Ruiru – Githunguri – Uplands Road (C560)	Ongoing
18 KeNHA/RD/M/2032/2016	Stage Construction of Nyaru – Iten Road	Ongoing
19 CONTRACT No. KeNHA/RD/M/2241/2017	Stage Construction of Ugunja – Ukwala – Ruambwa	Ongoing
20 CONTRACT NO: KeNHA/RD/M/2243/2017	Stage Construction of Mau Narok – Kisiriri Road	Ongoing
21 CONTRACT NO: KeNHA/RD/M/2008/2016	Stage Construction of Busia – Malaba Road	Ongoing

<b>CONTRACT NO.</b>	<b>PROJECT NAME</b>	<b>STATUS</b>
22 Contract No KeNHA/RD/M/2242/2017	Construction of Naibor – Posta (Maralal) Road	Ongoing
23 CONTRACT NO: KeNHA/RD/M/2006/2016	Stage Construction and maintenance of Narok – Sekenani Road	Ongoing
24 KeNHA/SP/2013/2017	James Gichuru – Rironi	Ongoing
25 KeNHA/RD/SP/171/2010	Kisumu – Kakamega	Ongoing
26 KeNHA/RD/SP/1973/2016	Kakamega – Webuye (New contract)	Ongoing
27 KeNHA/RD/SP/1912/2016	Kisumu Boys – Mamboleo Jn (A1/C34)	Ongoing
28 KeNHA/RD/D/2514/2018	Magongo Road	Ongoing
29 KeNHA/RD/DD/2788/2019	Lamu Port Access Road	Ongoing
30 KeNHA/RD/CS/SP/1976/2016	Athi River – Machakos Turn off Phase 1	Ongoing
31 KeNHA/RD/SP/1925/2016	Ahero: B1/A1 Interchange	Ongoing
32 KeNHA/RD/SP/1926/2016	B1/C23 Interchange at Kericho	Ongoing
33 KeNHA/HP&D/2540/2018	Construction of Marigat Bridge	Ongoing
34 KeNHA/HP&D/2041/2018	Construction of Endau Bridge	Ongoing
35 KeNHA/HP&D/2499/2018	Construction of Lomut Bridge	Ongoing

<b>CONTRACT NO.</b>	<b>PROJECT NAME</b>	<b>STATUS</b>
36 KeNHA/HP&D/2545/2018	Construction of WeiWei Bridge	Ongoing
37 KeNHA/RD/D&C/458/2011	Loruk – Nginyang – Barpelo (B4) Road	Ongoing
38 KeNHA/RD/D&C/1727/2015	Nuno- Modogashe	Ongoing
39 KeNHA/D&C/RD/2308/2017	Eldoret Town Bypass	

#### **KeRRA**

<b>S/No</b>	<b>Contract No.</b>	<b>Project Name</b>	<b>Contractor Details (Name, Contact)</b>	<b>County</b>	<b>Contract Cost (Ksh)</b>	<b>Kms of Black-Top</b>
1	RWC 97	Chiakariga – Marimanti - Gatunga Road	Westbuild General Contractors	Tharaka Nithi	1,903,532,008.04	<b>25.40</b>
2	RWC 101	Narumoru - Ngarung'iru - Nairutia Ngobit	Dickways Construction Ltd	Laikipia	722,380,140.00	<b>10.06</b>
3	RWC 103	Gakira – Ngonda – Mununga, Gakonya – Mahuaini & Mukuyu – Kambirwa – Mirira/Jcn A2 Roads	Shengli Eng. & Construction Ltd	Murang`a	1,936,407,090.31	<b>38.00</b>
4	RWC 109	Kericho – Ainamoi – Kapsoit&Ainamoi – Thessalia Mission Road, Premier - Kabianga – Taplotin Road, Cheborge - Kibugat Road &Cheplanket - Kapkatet Loop Road And Kerichobypass(Brooke Bond - Kaptebeswet– Chepnyogaa Road)	Intex Construction Ltd	Kericho	5,177,858,297.16	<b>98.43</b>

5	RWC 113	Ibokolo –Iindanglasia – Shianda - Malaba - Nambacha Road	Gab Intl Construction Ltd	Kakamega	1,171,304,052.00	<b>12.94</b>
6	RWC 114	Ekwanda -Luanda - Esirulo - Magada	Bridgestone Ltd	Vihiga	977,600,213.69	<b>19.30</b>
7	RWC 115	Musikoma- Mungatsi &Myanga-Mateka Roads.	Gab Construction	Bungoma	1,961,277,395.00	<b>21.50</b>
8	RWC 118	Kodiaga-Wagai-Onyinyore/Akala And Nyangweso- Jn, B1 Muhanda (D248/E386)	Hayer Bishan Singh & Sons Ltd	Siaya	1,473,104,887.19	<b>36.80</b>
9	RWC 119	Maseno-Kombewa-Kalandini (D245)& Maseno Town	Hayer Bashan Singh & Sons Ltd	Kisumu	1,726,831,976.96	<b>20.02</b>
10	RWC 125	Muigai Inn-Ichaweri-Gatundu- Kang'Oo, Kibichoi- Ichaweri-Nembu- Gachika, Broadway-Kiandutu- Athena- Engen-Kiaganjo-Muthaiga And Courtesy Beach Loop Roads	H. Young Co. Ltd	Kiambu	5,657,466,404.89	<b>82.30</b>
11	RWC 127	Ololunga -Mukenyo	Trans-Nile Enterprises Ltd	Narok	720,279,659.28	<b>17.04</b>
12	RWC 132	Jnc C67 Kirwara - Kigio - Jnc C67 Blue Post	Dickways Construction	Murang`a	856,792,421.25	<b>6.06</b>
13	RWC 150	Chogoria- Weru- Marima- Kiriani	Donwoods 2.Assignee-China Jiangxi Int, Kenya Ltd	Tharaka Nithi	1,085,311,741.65	<b>6.93</b>
14	RWC 152	Kenol - Ngoleni - Kaani / Mutituni - Kaseve	Nyoro Construction	Machakos	1,663,366,181.95	<b>24.04</b>

15	RWC 156	Ack St.Joseph–Ol Kalau–Gichungo Munyeki–B20 Loop/ Ol Kalou Township Roads	Don Woods	Nyandarua	221,264,931.44	<b>2.40</b>
16	RWC 165	Kiritiri - Siakago	Donwoods 2.Assignee-China Jiangxi Int, Kenya Ltd	Embu	770,361,508.25	<b>9.94</b>
17	RWC 166	Mugeka- Thuita- Kiria Ini, Kagumoini- Karugia & Mataara- Gacharage Road	S. S. Mehta &Son Ltd	Murang`a	1,433,553,021.00	<b>22.23</b>
18	RWC 174B	Isiolo Town Roads Lot 2	Modogashe Agencies Ltd	Isiolo	319,016,706.00	<b>6.00</b>
19	RWC 182	Kabartonjo – (Up) Kipsaraman – Kinyach – Arror Kipsaraman – Kinyach Section) Road	Mattan Contractors Ltd	Baringo	1,993,399,970.97	<b>15.60</b>
20	RWC 188	Elementaita - Mau Narok	Nyoro Construction	Nakuru	1,076,760,246.99	<b>23.00</b>
21	RWC 192	Jn C24 (Tengecha) Koiwa– Kaptebeng`Wet&Koiwa – Cheptalal – Sotit – Kaptebeng`Wet –Chebangang – Kimulot – Changoi (Jn 23) Roads	Stecol Corporation	Bomet	2,262,239,853.68	<b>60.20</b>
22	RWC 217	Mogonga-Kenyenya-Riokindo- Nyabitunwa/Riokindo- Magenche- Kenyenya/Mariba-Nyagancha-Eberege- Daraja/Riokindo-Kenyenya Ttc- Magen	Kiu Construction Ltd	Kisii	2,198,445,275.86	<b>30.32</b>

23	RWC 220	Metembe– Owalo– Rioma – Marani – Ng’Enyi– Bobaracho– Ragogo– Kegogi– Nyakoora– Rioma– Gesieka– Nyaore– Marani	Vaghjiani &Tender Woods Jv	Kisii	2,195,350,951.14	<b>27.02</b>
24	RWC 226	Mosobeti - Kebirigo	Hayer Bishan	Nyamira	675,609,013.95	<b>12.80</b>
25	RWC 232	Moiben – Chebororwa – Kapcherop – Kachibora	Stecol Corporation	Uasin Gishu	2,918,775,029.07	<b>53.64</b>
26	RWC 234	Access-Chuka Univesisty	Westbuild General Contractors	Tharaka Nithi	1,219,685,447.06	<b>16.59</b>
27	RWC 238	Kunene - St Ann - Miomponi	Don Woods - Assigned to Supermega	Meru	1,139,674,418.14	<b>2.74</b>
28	RWC 252	Kiria-Kagaa-Kiruri/Kirurir-Githambo- Murarandia	S.S. Mehta	Murang`a	2,021,385,838.00	<b>32.38</b>
29	RWC 255	Lodwar – Lorugum –Lorengippi –Db – Loya –Kanyao –Alale – Nayuapong –Db –Turkana	Frontier Eng Ltd	Turkana	1,804,372,723.20	<b>10.64</b>
30	RWC 256	Maua –Athiru –Kilili-National Park	Atticon Ltd	Meru	1,204,015,579.61	<b>6.90</b>
31	RWC 260	Gatukuyu - Matara	Wak Construction Ltd	Kiambu	1,454,479,514.00	<b>15.10</b>
32	RWC 262	Mirangi – Tumaini – Mawingu – Kanyiriri Road (Tumaini – Mawingu Section )	Bonfide General Contractors	Nyandarua	763,529,886.04	<b>13.50</b>

33	RWC 264	Kapskwony -Kopsiro- Namwela Chwele	China National Aero Tech	Bungoma	2,539,476,361.66	<b>30.70</b>
34	RWC 269	Marigat-Muchongoi-Karandi, Ol Ngarua-Muhotetu- Jnct C77 & Muhotetu-Sipili Roads	Sbi International Holdings	Baringo	5,317,289,068.85	<b>53.00</b>
35	RWC 273	Kadel – Alara – Pala – Kanyadhiang /Centre – Kilusi – Opanga – Ramba Roads	Nairobi Logistics Co.	Homa Bay	2,582,203,746.50	<b>21.00</b>
36	RWC 274	Isiolo -Kiutine- Kina - Garbatula	Jv Hamdeen & Seo & Sons Co	Isiolo/Meru	3,224,680,095.00	<b>37.00</b>
37	RWC 277	Kakamega- Navagoro- Musikoma (C41)	Ranford Holdings Co.	Kakamega	2,006,084,266.90	<b>15.88</b>
38	RWC 279	Brister Girls School - Star Of Hope Children'S Home Loop & Access To Kwihota Secondary School	Global Constrctuion Co	Kiambu	373,145,602.03	<b>7.32</b>
39	RWC 286	Kerugoya(Rutue) -Kiandieri - Gitumbi - Old Kangaita / Baricho - Njegas - Ngaru - Gakoigo - Ithare – Kabare / Gatuto - Mukinduri	Jiangxi Water H. Co Ltd	Kirinyaga	2,926,706,912.00	<b>40.05</b>
40	RWC 287	Omoringamu - Kenyenyema - Motonto / Parainye - Mesesi- Tabaka / Bonyancha - Nyabisiongororo / Iyabe- Sengera - Nyansara / Sengera - Nyakoiba Roads	Civicon Construction/Assigned to Shengli Construction LTD	Kisii	3,469,055,894.74	-

41	RWC 290	Keboko-Nyangusu-Nyamache-Nyachekei Roads	Civicon Construction/Assigned to Shengli Construction LTD	Kisii	1,192,744,468.00	<b>4.58</b>
42	RWC 295	Nyamira - Igonga - Gesonso - Nyabioto ; 2. Nyamatutu - Mogumo – Igonga; 3. Nyagwekoa - Nyabieyo – Riana - Nyamatutu; 4 Riana - Chisaro - Jnc A1; 5 .Ekiendege - Chisaro – Mwata; 6. Motonto - Suneka – Nyagwekoa; 7 Suneka – Kiabusura; 8 Riana - Mwata - Jnc A1; 9 Ekiendege - Ekerorano - Jnc A1 - Bitare - Kiabusura - Motonto - Itibo	China Henan Chico	Kisii	3,643,536,115.60	<b>75.72</b>
43	RWC 299	Kamuongo – Kandwia – Gai – Kyuso – Tymua	Global Works Eng Co	Kitui	1,355,754,492.10	<b>24.00</b>
44	RWC 312	Tawa-Nguluni-Itangini	Coastal	Makueni	1,772,350,732.75	<b>9.00</b>
45	RWC 314	Kali- Kikima- Kitundu- Kuthungu- Nduluku/ Kikima Kyambalasi/ Forest- Kikima And Kikima Utangwa Township Roads	Civicon Construction/Assigned to Shengli Construction LTD	Makueni	2,752,003,985.00	-
46	RWC 315	Laisamis - Ngurunit	Gaamey Construction Co.	Marsabit	980,405,489.78	<b>16.24</b>

47	RWC 318	Odda -Bute-Danaba	1. Kajaja Construction 2. Assignee- Qaana Construction	Marsabit/ Wajir	4,027,452,451.75	<b>39.70</b>
48	RWC 319	Nkubu - Rubiri - Kamurita	Anole Construction Co Ltd	Meru	570,270,659.50	<b>2.06</b>
49	RWC 327	Cocacola - Mpuri - Kithaku - Katheri & Kithurune - Kariene - Kaguma / Gaitu - Giaki	Northern Construction Ltd	Meru	1,815,897,183.25	<b>7.91</b>
50	RWC 328	Kangeta-Muutine Lare	Atticon Ltd	Meru	652,286,763.00	<b>10.22</b>
51	RWC 330	Lare-Ndumuru	Derow Brothers	Meru	999,157,604.50	<b>12.59</b>
52	RWC 333	Motemorabu - Suba Kuria Nyangoge - Nyankore - Getonyanga - Masaba	Pepeta Holdings Ltd	Migori	1,189,983,216.00	<b>10.42</b>
53	RWC 340	Miti Mingi- Bagaria- Naishi- Store Mbili	Hamden Seo & Sons	Nakuru	1,392,357,082.00	<b>24.39</b>
54	RWC 342	Timboroa – Meteitei – Songhor – Kopere & Kaiboi – Chepterwai – Kipkaren River ( Jn. A104) Roads	Sobetra	Nandi	3,783,514,804.45	<b>47.18</b>
55	RWC 343	Danger - Chemsua - Cheptiret - Kesses - Lessos - Jn C36 - Cheptiret - Moi University & Himak - Nandi Hills Road	Civicon Ltd/Assigned to China Railways No.10	Nandi	4,335,828,270.00	<b>34.73</b>
56	RWC 345	Rivatex – Simat – Lemook – Kipkaren Selia – Kapkatembo & Kaplemur – Kabiet & St. Theresa – Centre Kwanza (Sugoi B Dispensary) Roads	Kabuito Contractors	Uasin Gishu/Nandi	3,515,996,105.00	<b>50.10</b>

57	RWC 353	Kijauri - Nyansiongo-Raitigo-Metamaywa	Lee Construction	Nyamira	2,281,474,061.03	<b>27.25</b>
58	RWC 357	Moi`Sbridge - Kachibora / Tuigoin - Chepterit - Barsombe - Kipsigilai	China Henan Chico	Uasin Gishu	1,833,490,398.47	<b>39.12</b>
59	RWC 362	Moisbridge - Moiben River - Kaplamai - Sibanga - Maili Saba - Bwayi - Maili Kumi Na Moja (D330)	Tai Enterprises	Trans Nzoia	2,045,364,453.75	<b>35.21</b>
60	RWC 367	Todonyang - Lokitaung- Kalokol	Associated	Turkana	5,144,294,080.16	<b>56.39</b>
61	RWC 372	Oinamoi-Kapluk- Barwessa	Sbi International Holdings	Baringo	2,165,625,442.42	<b>38.20</b>
62	RWC 379	Matuu - Ekalakal - Kangulu & Jctn C439	Kitho Civil & Eng. Ltd	Machakos	1,268,851,668.20	-
63	RWC 381	Access To Karatina University	Webcon Technical Services	Nyeri	495,094,545.30	<b>9.00</b>
64	RWC 386	Naiberi – Moiben & Jctn Marulla – Koitoror Loop Road.	China Henan Chico	Uasin Gishu	2,644,757,448.30	<b>55.50</b>
65	RWC 403	Nguuni - Nuu	Admo Construction Ltd	Kitui	1,484,617,735.00	<b>21.00</b>
66	RWC 405	Milalani - Mivumoni - Kilulu	Hasil Construction Co Ltd	Kwale	999,435,598.86	<b>17.92</b>
67	RWC 422	Keria-Kathwana	Ngm Co. Ltd	Tharaka Nithi	1,233,303,466.50	<b>6.40</b>

68	RWC 429	Lamuria-Ngobit-Withare-Jnct B5, Jnct B5 (Solio)- Lamuria And Jnct B5 (Gatemu)Ngobit Girls High School-Kihara Primary School	Jiangxiyouse Constr. Co.	Laikipia	2,080,823,009.24	<b>43.75</b>
69	RWC 431	Sigowet-Chepkemel-Kitere/Chepkemel-Kapsorok- Soko Huru	China Wu Yi	Kericho	1,385,974,567.00	<b>29.00</b>
70	RWC 432	Mikinduri – Kunati - Katithine Road	Elite Its Ltd	Meru	1,028,257,190.50	-
71	RWC 439	Makutano - Kacheliba -Konyao	Jiangxi Youse Construction Co Ltd	West Pokot	3,236,569,120.92	<b>63.64</b>
72	RWC 451	Karai - Nairutia - Muringa - Kiawara - Narumoru Babito	Petwa	Nyeri	2,472,921,205.00	<b>42.44</b>
73	RWC 459	Captain - Ndemi - Wanjohi-Ndunyu Njeru	Sbi International Holdings	Nyandarua	3,206,770,190.93	-
74	RWC 462	Gatundu-Mukinye-Juja/Gatundu-Gitati Ini- Karinga/Gatundu- Ituru-Kagumoini-Karinga Roads	H Young Co. (Ea) Ltd	Kiambu	3,382,167,079.00	<b>45.20</b>
75	RWC 480	Jcn A14(Lungalunga)-Vanga/Jego-Majoreni/Jcn A14(Kanana)- Shimoni Road	China Civil Eng. Cor	Kwale	3,188,665,039.67	<b>61.90</b>
76	RWC 484	Sosera - Ekona - Ramasha - Kiomiti	Mahan Ltd	Kisii	824,672,868.05	<b>3.18</b>
77	RWC 485	Kemera - Kiendege - Eberege - Gachuba -Keumbu	Mahan Ltd	Kisii	636,187,496.81	<b>1.22</b>

78	RWC 488	Kilgoris - Shartuka- Soit - Markan- Emurua Dikirr	Parbat Siyani Ltd & Elite Earthmovers Ltd Jv	Narok	1,437,779,257.00	<b>42.28</b>
79	RWC 491	Mulot-Sogoo-Tendwet-Saptet & Sogoo- Ololunga	Parbat Siyani Ltd & Elite Earthmovers Ltd Jv	Narok	2,134,251,297.00	<b>30.82</b>
80	RWC 494	Thanatu Bridge-Kagwata -Mulika Market Road	Mahan Ltd	Meru	591,802,891.25	<b>3.22</b>
81	RWC 496	Masara- Sori	Ceabud Engineering Services Ltd	Migori	1,799,990,236.94	<b>24.70</b>
82	RWC 497	Ongata Rongai – Gataka – Em Mbul Mbul, Co Operative College (Karen) - Matasia - Nkoroi, Ongata Rongai – Nazerene University – Rimpa & Jn (C 58) – Lewisa Academy – Kihara	China Civil Eng. Cor	Kajiado	2,749,366,467.47	<b>19.56</b>
83	RWC 499	Ngecha-Gitangu- Kanjuru/Gitangu(Karia)- Nyathuna/Ngecha-Mahinga-Site (Jnct 104)/ Kabocha- Gikuni-Mukui Karura/Zambezi-Kahuho- Kingeero/Kahuho-Kanjuru/Zambezi- Kamuguga- Kiambaa-Gwa Gichini & Zambezi-Kamuguga Polytechnic- Mangorano.	Shengli Eng Construction Group	Kiambu	2,366,380,170.67	<b>13.22</b>

84	RWC 517	Kibichoi-Kiganjo/Mundoro-Flyover/Gachika- Flyover/Kigaa-Thegi/Kiamwangi-Kahenia-Karembu/D424-Wamita-Gathage/Kagera- Kigingo/E499 Mundoro-Gachika Roads. Brister Girls School - Star Of Hope Children'S Home Loop & Access To Kwihota Secondary School	Stecol Corporation	Kiambu	3,178,333,198.89	<b>38.83</b>
85	RWC 519	U-G29664 Kamunyu A/ U-G29671 Kamunyu B/U- G29572 Gathiaka - Gathuya/ Marigi Gategi/ Cununuki - Gacharage/ Gitwe Kiganjo/ Kahata - Munyuini/ Karinga - Kimaruri/Kuri - Cununuki - Gacharage/Ruburi - Wanugu - Flyover	Jiangsu Provinsial	Kiambu	2,643,682,113.80	<b>5.98</b>
86	RWC 526	Sabasaba-Kamahuha-Kaharati/Sabasaba (C71)- Mbogoini-Mugumoini-Githembe- Gathimaini/Githembe-Karuri-Kambi- Maragua/Mugumo Primary School-Ichagaki-Jora(D418)Ichagaki-Irembu Roads	China N. A. T. I E Corporation	Murang`a	2,298,604,162.50	<b>25.20</b>
87	RWC 538	Ngong-Suswa	Zhongmei Eng Group Ltd	Kajiado	3,999,001,344.96	<b>42.62</b>
88	RWC 540	Kerwa - Thigio/Thigio - Kikuyu/Thigio -Kamangu /Keroe - Makutano	Shengli Eng Construction Group	Kiambu	1,954,370,417.15	<b>6.42</b>
89	RWC 542	Lessos-Namanjala	China National Aero Tech	Trans Nzoia	2,728,196,936.76	<b>20.86</b>

90	RWC 543	Mandera-Fino	County Builders	Mandera	3,222,819,250.70	<b>11.90</b>
91	RWC 549	Mutithi – Kagio / Baricho-Getuya- Kagumo / Kagumo – Kiamaina – Gathuthuma – Gatwe / Kimicha – Canal / Ndaba – Kangai / Kandongu – Kangiciri / Kagio – Kathaka – Kiangwachi & Kandongu – Kangichiri – Karira Mission Hosp – Ngurubani Roads	China Wu Yi Co. Ltd	Kirinyaga	3,073,835,671.50	<b>19.50</b>
92	RWC 551	Karatina Slaughter House-Ragati- Unjiru-Ihwagi- Gaikuyu-Gitunduti- Kabiru-Ini	China Wu Yi Co. Ltd	Nyeri	1,786,145,003.00	<b>9.86</b>
93	RWC 553	Soy-Serekea-Kilimani-Turbo, JNCT (B14) Nangil - Ziwa Machine - Ziwa Sirikwa & Ziwa Sirikwa - Kerotet - Maji Mazuri - Moi's Bridge Road	Nanchang Municipal & Nanchang Foreign Eng Co. Ltd-JV	Kakamega /Uasin Gishu	2,181,150,364.31	-
94	RWC 554	Silibwet - Merigi - Kapkimolwa - Jnc B3 / Longisa - kembu - Hemaner - Tegat - jnc D236	China National Aero Tech	Bomet	2,962,275,249.60	<b>0.74</b>
95	RWC 555	Endarasha-Charity-Gakanga- Embaringo-Kimunyuru- Jnct D447	China Railway No.10	Nyeri	2,391,387,352.45	<b>13.44</b>
96	RWC 557	Kapsait-Kapsangar-Tapash-Sondany	Stecol Corporation	West Pokot	2,438,889,192.00	<b>19.55</b>
97	RWC 558	Marua-State Lodge, Ruthagati- Mahigaini,Chieni- Hiriga- Kiamariga,Ndundu-Ini- Kwa Wambui- Karandi Roads	Stecol Corporation	Nyeri	1,568,668,239.00	<b>21.51</b>

98	RWC 559	Hohwe Dam-Karogoto,Gatiki- Ndimaini/River Sagana-JnE560 Gathagara (Mukurweini), Karundudu- D4340- Mungetho Roads	Stecol Corporation	Nyeri	1,382,655,496.00	<b>3.50</b>
99	RWC 560	Riosiri-Moi University(Rongo Campus), Ogwedhi- God Jope Centre	Stecol Corporation	Migori	1,183,520,467.00	<b>12.00</b>
100	RWC 561	Ihwa - Ihururu, Ndugamano – Gura/ Ndugamano - Gachatha, & Gachatha – Kangaita – Ithekehuno - Gatiki Roads	Roben Aberdare (K) Ltd	Nyeri	1,491,008,117.00	-
101	RWC 562	Thaara – Karaba – Muthuthini – Gikondi, & Gaikundo – Gakindu - Gikondi – Mukurweini Roads	Roben Aberdare (K) Ltd	Nyeri	1,330,162,198.00	-
102	RWC 563	Githagara-Kagicha/Witima- Giathenge/Chinga Boys- Nyamari/Gathunguri- Kabebero/Gachemi-Kihome/ Gatuturu-Kirangi	Roben Aberdare (K) Ltd	Nyeri	1,854,676,121.00	<b>7.10</b>
103	RWC 566	Ndaragwa - Maili Kumi /Ndaragwa - Kanyagia - Subuku/ Ndaragwa-Ngamini Uruko/ Jnc B-Karagoini Secondary School- Wakahoti Centre/ Githae (Karagoini Nursery School) Roads	China Railway No. 10 Eng. Co. Ltd.	Nyandar a	2,037,119,111.40	-
104	RWC 567	Maili Kumi - Subuku- Sipala- Shamata - Kaka - Kariam/ Warukira- Shamata/ Shamata Town Roads/ Access to Shmata Girls Secondary School Roads	China Railway No. 10 Eng. Co. Ltd.	Nyandar a	1,682,045,518.40	-

105	RWC 568	Mbita - Sindo - Kiabuya - Karungu	China Civil Eng. Construction Corporation	Homa Bay	2,469,411,261.05	<b>8.30</b>
106	RWC 569	Tala- Ol Donyo- Sabuk- (C446)	China Railway No. 10 Eng. Co. Ltd.	Machakos	1,417,477,696.05	<b>8.98</b>
107	RWC 570	Kyangong- Chebunyo- Longisa Road	China Civil Eng. Construction Corporation	Bomet/Na ndi	2,063,901,748.21	-
108	RWC 571	Tenden- Kibingos Road	China Henan International Corporation Grp. Ltd	Elegeyo Marakwet / Uasin Gishu	1,300,114,027.80	-
109	RWC 572	Gisambai- Shamakoko Road	Nariana Enterprises Ltd	Vihiga	943,249,925.50	<b>1.40</b>
110	RWC 574	E495 Ndaragu (A2)- Mangu (C66) Bob Harris Road	SS Mehta & Sons Ltd	Kiambu	777,339,510.00	<b>3.50</b>
111	RWC 575	Kilgoris- Logorian	Guangxi Hydroelectric Construction Bureau (K) Ltd	Narok	1,529,983,502.41	-
112	RWC 576	Riosiri - Ensoko - Ikoba & Gotichaki - Stores Loop	Nam Rajope Services & Supplies limited	Kisii	839,993,131.09	-
113	RWC 577	Kiambiriria - Kuresoi - Chepsir	China Wu Yi Co. Ltd	Nakuru/ Kericho	1,695,492,203.60	
114	RWC 578	Kaelo - Kamukunji - Mutuati	Rowla Construction Co. Ltd	Meru	630,816,108.40	-
115	RWC 580	Rwegetha-Mabae-Kirwara-Ithangariri- Gatunyu/ Gituamba-kiawahiga-Murake- Gatanga Girls & John Demethew Road (Kiriemu - Gathaiti)	FM & Sons Const. Grp	Murang'a	455,046,250.00	<b>0.91</b>

116	RWC 581	Alliance - Green Garden - Ha Itiyo - Musa Gitau - Hathiru Road	Debroso Construction Ltd	Kiambu	550,449,178.35	<b>0.98</b>
117	RWC 583	Kerugia - Chui - Gitugi - Kagumoini- Kajama Road	Aegis Construction Ltd	Murang'a	789,492,047.30	-
118	RWC 584	Limuru - Karanjee/ Njenga Primary- Matuguta/ Gatiria- Gathangari/ Junction 427- Limuru Girls Secondary School (E428) - Limuru - Murengeti	Aegis Construction Ltd	Kiambu	581,612,431.90	-
119	RWC 585	Mumias - Musanda.	Tai Enterprises	Kakamega	628,382,569.20	-
120	RWC 586	Gekano - Amabuko & Manga - Motemumwamu	Guangxi Hydroelectric Construction Bureau (K) Ltd	Nyamira	1,420,024,202.17	-
121	RWC 587	Mararal-Losuk	Tunasko Insaat Anonim Sirket	Samburu	1,401,284,446.34	-
122	RWC 589	Boiman-Pasenga-Sirunga-Gachwe-kwa Mumbi	Henan Highway Engineering Group Co. Ltd.	Nyandaru a	1,442,468,083.20	-
123	RWC 590	Itumbe-Motonto-Baraine-Sameta- Igare/Riakemoni- Mosoro-Ogembo	Stecol Corporation	Kisii	1,267,893,936.05	-
124	RWC 591	Kimbimbi - Kutus /Kimbimbi – Kajiji – Piai/ Kti – Ithareri – Kianguenyi/ Kirigu – Kianyaga / Kagaita - Mugumo Road	China Wu Yi Ltd	Kirinyaga	2,490,051,942.60	-
125	RWC 592	Jnct C513 Kwa Meja-Gathaithi-C515 Muthinga	Mutech Motors & Civil Engineering Ltd	Nyeri	675,210,030.00	-

126	RWC 594	Kerwa – Acre Tano – Chege Mbitiru – Kiroe – Catholic – Kanduma – Mindo – Gikira/ Mahinga (Ndiri) – Gitangu (Kabungo)/ Gitangu – Kwa Henry (Kabocha)/ Gwa Gichini – Mahinga (Reli) Roads	S.S. Mehta & Sons Ltd	Kiambu	1,959,999,999.00	-
127	RWC 595	Nyabigena-Matangamano-Nyakorere-Nyamarambe	Stecol Corporation	Kisii	880,549,474.00	-
128	RWC 596	Jct C69 Engineer – Mbiginano – Gathara / Jct C69 Tulaga – Gathara – Kianguyo – Ha Benjamin – Jnc C69 Engineer/ Access Roads To Mwiteithie Primary & Secondary Schools / Ha Kagiri – Ha Benjamin /Access To Tulaga Farmers Cooperative Society / Tulaga- Thindi Primary / Ha Chege- Muthambure - Mbirithi Roads	Guangxi Hydroelectric Construction Bureau Kenya Ltd.	Nyandarua	1,523,500,886.72	-
129	RWC 597	Piai – Murinduko – Mumbuni – Kiumbuini – Ndindiruku – Marurumo – Kiandegwa – Jctn B24	Stecol Corporation	Kirinyaga	2,241,726,161.00	-
130	RWC 598	Jct A2 Kwa Mumero- Kithithina Primary– Jct A2 Mia Moja/ Jct A2 Timau – Rugirando - Ngusishi Jct A2 & Jct A2 Makutano - X Lewa - Mbuju - Ngare Dare Roads	Guangxi Hydroelectric Construction Bureau Kenya Ltd.	Meru	1,704,284,334.95	-
131	RWC 599	Ichamara – Thangathi – Rutune – Kariru – Kimathi / Mihuti – Rutune And Maseno – River Sagana – Githuaini – A2 Kariti Roads	Stecol Corporation	Nyeri	1,643,056,136.00	-

132	RWC 600	Number Karabok-Adiedo	China Civil Engineering Construction Corporation	Homa Bay	925,480,558.71	-
133	RWC 601	Nyabisabo-Mkt-Nyakwama-Amariba	China Henan International Corporation Grp. Ltd	Kisii	1,070,391,372.00	-
134	RWC 602	Oinamoi- Kapkayo- Tenges/ Kapkayo- Kipsaos	China Henan International Corporation Grp. Ltd	Baringo	2,907,206,653.50	-
135	RWC 603	Muvakari - Kanyuambora/Wets Access/Kanyuambora – Kamomo - Kageri/Access to Gatatha primary – Kwa Muindi, Access to Kathagutari primary & secondary, Access to Kathigagaceru primary & secondary & market loops	Tunasko Insaat Anonim Sirket	Embu	1,646,083,232.50	-
136	RWC 604	Cheborge Junction - Kipwasituiya Market Road/Sotik – Sulal Roads	Kiu Construction Ltd	Kericho	590,662,628.00	-
137	RWC 605	Chepkorniswa – Kapchemogen – Kaporowo – Sina Road	Jiangsu Provinsial	West Pokot	989,708,612.80	-
138	RWC 606	Naitiri – Misikhu / Nzoia Bridge – Matunda/Access roads to market centres and institutions Roads	Jiangsu Provinsial	Kakamega / Bungoma	1,682,266,637.60	-

139	RWC 607	Kiambu-Raini, Jnct, Kaspat Road, Nduota - Gathanga – Kiguaro, Jnct (Banana-Raini Road) - Karuri High School - Jnct /(Banana - Ndenderu) Road, - Jnc (Banana - Ruaka Road), Gachie – Gacharage, Kantataria - Raphelites - Kabuku And Loop Road, Jnctg13 - Jnct/C564 Road Loop, Jnct/ A104 -Gatimu Pcea - Jnc /C562 Road/ Gatimu, Jnct C562/ Access To Gatimu Catholic Church - Tilisi Farm & Accesses To Insitutions	Sinohydro Corporation Ltd.	Kiambu	3,317,469,057.34	-
140	RWC 608	Msau - Mbale - Werugha - Mghange - Bura	Stecol Corporation	Taita Taveta	2,171,221,594.00	-
141	RWC 609	Kamukunji - Kisanana - Kapkitur - Mugurin - Laka Bogoria/ Kapkitur - Mogotio (Phase 1)	Intex Construction Ltd	Baringo	3,685,562,082.08	-
142	RWC 610	A2 Juja - Juja Farm - Munyu - Jnc A3 Garissa Road	H.Young & Sons Co. Ltd	Kiambu	1,728,381,579.00	-
143	RWC 611	Piai-Mbiri-Ngiriambu Jnc/ Kiamutugu-Mucagara- Karumandi- Katugura/Mucagara-Thumaita- Kamagunda-Kamweti-Kavote-Kimunye	Stecol Corporation	Kirinyaga	2,005,603,983.00	-
144	RWC 612	Bamburi - Mwakirunge - Kaloleni	Abdulkhaki Ahmed Bayusuff & Sons Ltd	Kilifi	2,198,769,794.92	-
145	RWC 613	Kasoyo - Riwo - Seretunin - Talai - Kasisit - Kampi Samaki (Phase 1)	Henan Highway Engineering Group Co. Ltd.	Baringo	2,935,657,107.76	-
146	RWC 614	Bamba - Ganze - Kilifi	China Wu Yi Co. Ltd	Kilifi	2,279,827,204.80	-

147	RWC 615	Nyabigena-Matangamano-Esaka- Nyamarambe	Decotech Enterprises Ltd	Kisii	489,975,865.50	
148	RWC 616	Tagwa- Mbiriri-Warazo- Jet/Richardson- Maragima/Karkulet- Naromoru Girls/Muriru-Burguret- A2 Nyumba Round- Mlima Kenya Secondary/Mirera- Matanya-Thome- Ngoro Theru/ Jnct Mirera-Olpejeta Gate-Marura Dispensary & Access to MatanyaPrimary School- Mirera Centre Roads	Roben Aberdare (K) Ltd	Nyeri	2,989,382,750.20	-
149	RWC 617	Kithangathini - Kavumbu	Bridgeways Construction Ltd	Machakos	608,406,892.00	-
150	RWC 618	Nyaburu (Jnc C20)- Oboke-Rangwe Road	Decotech Enterprises Ltd	Homa Bay	983,693,046.90	
151	RWC 619	Kabichbich - Kapcherop	Adawa Investment Co. Ltd	Elgeyo Marakwet	1,340,180,303.10	-
152	RWC 620	Mayanja-Bisunu-Sirisia-Marikisi	Spencol Contractors Ltd	Bungoma	1,099,949,076.50	
153	RWC 621	Sagana-Kathaka-Thiguku/ Miruri- Mahigaini- Nyamindi-Kiumbuini	China Wu Yi Co. Ltd	Kirinyaga	2,156,518,001.42	
154	RWC 622	Mbale-Magada-Wemilabi-Luanda	Bridgestone Construction Co. Ltd	Vihiga	1,009,926,899.50	
155	RWC 623	Lunza - Shika - Ikolomani / Manyunza - Dido/ Harambee - Shitsisori/ Malaba - Khanga -Mushiba - Harambee/ Ikonyoro - Isonga (Phase 1	China Int. Water & Electric Corp.	Bungoma/ Busia	1,759,508,160.00	-
156	RWC 624	Galana Kulalu Bridge/ Access Roads & Internal Work	H. Young Co. Ltd	Kilifi	1,493,350,940.00	-

### **Project Performance**

- Timely completion
- Cost of the project
- Project quality

### **Post-contract Relationship Management**

- Trust
- Commitment
- Mutual process

### **Post-Contract Administration**

- Contract planning
- Contract controlling
- Contract monitoring

### **Post -Contract Appraisal**

- Audits
- Report
- Shared monitoring

**Contract Closure**

- Dispute resolution
- Contract certification
- Contract Termination

**Regulatory Framework**

- Transparency
- Fairness
- Accountability