International Journal of
Supply Chain and Logistics
(IJSCL)

Contract Management and Performance of Roads Construction Projects in Kenya Urban Roads Authority

CARI Journals

International Journal of Supply Chain and Logistics

ISSN 2520-3983 (Online)

Vol. 9, Issue No.8, pp 39 - 55, 2025 www.carijournals.org

Contract Management and Performance of Roads Construction Projects in Kenya Urban Roads Authority

Kithinji Makena Immaculate[1*], Mathias Nzomo Muinde[2], Agnes Mungania[3]

[1]Masters Student: Meru University of Science and Technology

https://orcid.org/0009-0006-1430-738X

[2,3]Lecturer: Meru University of Science and Technology

Accepted: 21st Aug, 2025, Received in Revised Form: 10th Sep, 2025, Published: 21st Sep, 2025

Abstract

Purpose: The study sought to establish the influence of contract management on performance of roads construction projects in Kenya Urban Roads Authority. It was anchored in the institutional theory.

Methodology: The study adopted descriptive research design. The target population involved the Kenya Urban Roads Authority in the Upper Eastern Region. The total population for the study was 145 staffs. Using Slovin's formulae and stratified random sampling, the study sample size was determined to be 106 respondents. The study used structured questionnaires to gather primary data. A 10% of the study sample population was used for pilot testing in Kenya urban roads, central region. In the data processing and analysis, the quantitative data collected was analyzed using SPSS version 26 where descriptive statistics, including means, and standard deviations was analyzed. Inferential analysis focusing on correlation analysis and regression analysis was also done. The results were summarized using tables and figures.

Findings: The findings indicated that contract management practices had a strong influence on project performance. These findings suggest that improvements in contract management, particularly in feedback mechanisms, compliance, relationship building, and risk management, can significantly enhance the success of road construction projects managed by the Kenya Urban Roads Authority.

Unique Contribution to Theory, Practice and Policy: The study demonstrates that contract management measured by contractor collaboration, legal compliance, and risk management together drive better contract performance in road construction projects. It integrates relational, institutional, and risk frameworks to extend contract-management aspects in devolved infrastructure settings. Practically, it offers actionable measures to reduce delays, cost overruns and defects. Lastly, it supports reforms on contract clauses, enforcement, and payment/retention rules to boost accountability and value-for-money.

Keywords: *Contract Management, Project performance, Legal Compliance*

JEL Codes: *L7*

INTRODUCTION

Public procurement is a central mechanism for distributing public resources and driving service delivery; it underpins the success of infrastructure projects that stimulate economic growth and raise living standards. Road construction projects are complex, one-off undertakings constrained by budget, time, technical specifications and available resources; they therefore demand robust procurement and contract management to succeed. Studies report widespread performance problems in Africa's Road sector: time and cost overruns occur in a large share of locally delivered projects (Kemboy, 2022), and many newly constructed roads fail to meet quality standards within five years, often requiring rebuilding (Maendo et al., 2018). These failures have direct consequences for economic development, employment and poverty reduction objectives tied to infrastructure investments.

Contract management is central to project performance. Clear performance metrics, included in tender documents, enable objective assessment and continuous feedback, helping contractors identify improvement areas before and during execution (Muinde, 2022). Effective contract management aligns with statutory frameworks e.g., PPADA and places responsibility on accounting officers to ensure contracts are properly prepared and enforced. Key contractual activities negotiation of terms, change-order control, record keeping and enforcement determine whether projects remain within scope, cost and schedule or devolve into disputes and claims (Akintoye & MacLeod, 2017)

Risk assessment is a prerequisite for systematic risk management. Identifying likelihoods and impacts of potential risks enables procuring entities to design controls, contingency plans and corrective measures that limit disruption and preserve value for money (Christopher, 2018). Contract changes are inevitable in complex construction; managed well they can improve outcomes, but unmanaged changes often escalate costs and invite legal claims. Thus, change management and dispute-resolution mechanisms are essential features of resilient contract management.

Project-level determinants of performance include contractor capacity (financial, managerial and technical), availability and management of equipment and materials, and competence of the project team. Financial capacity ensures cash flow and the ability to absorb shocks; equipment and materials management affects productivity and timeliness; and technical skills enhanced through training drive effective resource allocation, problem solving and adherence to standards (Akal, 2018; Kimemia, 2015). Performance measurement timely completion, budget adherence, quality and stakeholder satisfaction provide the basis for learning, accountability and continuous improvement (Kilani et al., 2024); Barclay & Osei-Bryson, 2018).

Despite increased government funding for roads, Kenyan projects continue to suffer delays, cost overruns and poor workmanship, often linked to weak procurement adherence, inadequate coordination and financial mismanagement (Machira, Ajwang, & Kabubo, 2024). Strengthening contract enforcement, improving contractor selection and capacity, institutionalizing risk assessment and clearer performance metrics are therefore critical actions needed to enhance the delivery and sustainability of road infrastructure. (Lagat, 2025).

Statement of the Problem

Public road projects are pivotal to economic development and social welfare, yet they regularly fall short of time, cost and quality targets despite large public investments (Horvat et al., 2021). In Kenya, recurring procurement and implementation problems taxation changes, reduced development budgets, financing shortfalls, contractor insolvency, weather shocks and encroachment of road reserves have delayed completion of critical works, with documented cases in the KURA Upper Eastern region e.g., the Isiolo hospital road remaining unfinished due to contractor financial constraints Ebekozien & Aigbavboa, 2021; KURA Upper Eastern Report, 2023). Such failures manifest as scope creep, cost overruns, poor workmanship and frequent reworks, undermining the intended socio-economic benefits of infrastructure (Waithera & Susan, 2019; Musau & Kirui, 2018).

Although prior Kenyan studies confirm that procurement practices and contractor capacity affect project outcomes, most have emphasized procurement planning, contractor technical/management skills or general project-management competencies (Luka, 2016; Akali, 2018; Chepkemoi, 2020). Fewer investigations have examined the influence of contract management on road project performance. To address this empirical gap, the present study concentrates on how effective contract management determine timely, cost-conscious and quality delivery of road construction projects in Kenya, thereby offering targeted evidence to improve procurement practice and project oversight.

The null hypothesis was structured as follows:

H_o1: There is no significant influence of contract management on performance of roads construction projects in Kenya Urban Roads Authority.

LITERATURE REVIEW

Theoretical Review

Institutional theory, as introduced by DiMaggio and Powell (1983), explains why organizations within the same field often come to adopt similar structures and practices in response to external pressures. Building on that insight, later scholars consolidated the framework into three interrelated sources of institutional pressure regulative, normative and cultural-cognitive which

together shape organizational behavior (Scott, 2001). The regulative dimension refers to formal rules, laws and sanctions that compel organizations to conform; the normative dimension captures professional standards, codes of practice and the expectations of occupational groups; and the cultural-cognitive dimension denotes shared beliefs and taken-for-granted assumptions that make certain actions appear appropriate or legitimate (Meyer & Rowan, 1977; Scott, 2001).

Applied to public procurement, this theoretical lens helps explain both the form and the limits of compliance. Regulative pressures (statutes, procurement regulations, and oversight bodies) create incentives for procuring entities to adopt formal procedures and contractual safeguards to avoid sanctions and reputational loss (Eyaa & Oluka, 2011). Normative pressures professional procurement associations, peer agency practices and donor expectations further shape what is considered "best practice" in contract negotiation, supplier assessment and risk processes. Cultural-cognitive forces, such as prevailing beliefs about fairness, patronage or bureaucratic routine, influence how rules are interpreted and enacted on the ground; they can either reinforce formal compliance or produce superficial conformity that does not translate into effective performance (DiMaggio & Powell, 1983; Scott, 2001).

For the three constructs central to this study, institutional theory offers specific explanatory leverage. Legal compliance is primarily located in the regulative pillar: formal laws and oversight mechanisms define required procedures and provide the basis for enforcement. Yet compliance in practice depends on normative and cultural support technical skills, professional norms around due process, and public expectations that reinforce adherence. Risk management sits at the intersection of regulative and normative forces: mandatory risk assessments and reporting reflect regulatory demands, while the routine use of risk registers and contingency planning depends on professional norms and managerial routines that are socially reinforced across organizations. Contractor collaboration is driven more by normative and cultural-cognitive dynamics: partnership practices (joint planning, information sharing, cooperative problem-solving) become institutionalized when they are recognized as legitimate and professionally desirable, often complementing rather than substituting formal contractual clauses (Prahinski & Benton, 2004).

At the same time, institutional theory draws attention to limits and trade-offs. Organizations often adopt institutionalized practices to achieve legitimacy rather than operational efficiency, and formal rules may become decoupled from day-to-day operations if capacity or incentives are weak (Meyer & Rowan, 1977). Thus, in contexts where procurement law is strong but enforcement and technical capacity are weak, formal compliance may not yield improved project performance. For this study, institutional theory therefore not only justifies focusing on legal compliance, risk management and contractor collaboration, but also frames the analysis: the

research will examine how these practices are adopted under institutional pressures and whether that adoption translates into improved contract performance in road construction projects.

Conceptual Framework

The conceptual framework translates the study's core ideas into a clear, testable map of relationships. It identifies the key constructs, specifies the direction of their expected influence, and shows how contextual conditions may strengthen or weaken those links (Cairney & St Denny, 2025). In this study, Contract management was the independent variable and Performance of Roads Construction Projects was the dependent variable as depicted below.

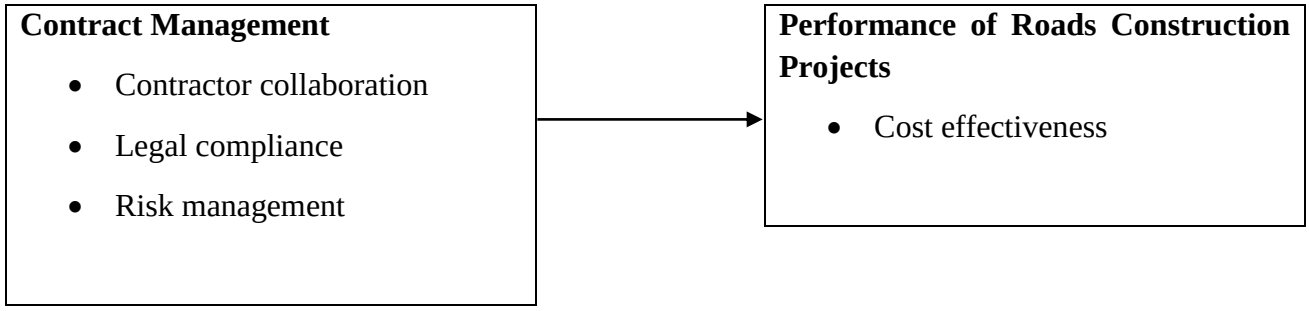

Figure 1: Conceptual Framework

Empirical Review

Contract management has emerged as a critical determinant of project success, particularly in complex and resource-intensive undertakings such as road construction. Effective management of contracts ensures that timelines, budgets, and quality standards are met, while poor practices often lead to delays, cost overruns, and compromised outcomes. Empirical studies affirm the positive influence of contract management on project performance. For instance, Salome, (2018) examined housing construction projects in Nairobi County and established that contract management strategies were strongly correlated with enhanced performance, highlighting that effective monitoring and administration of contractual terms improves project delivery. Similarly, Nzansimana and Mulyungi, (2020), studying the Rwandex Remera Road Construction Project in Rwanda, reported that clear communication and structured contract management processes significantly contributed to timely and successful project implementation. These findings underscore the universal relevance of contract administration in infrastructure delivery across contexts.

In Kenya, Mutua, Waiganjo, and Oteyo, (2015) further demonstrated that contract management practices directly shape outsourcing decisions and overall project outcomes in medium-sized manufacturing firms. Their results indicated that although outsourcing was common, contract

management remained the defining factor in determining whether such engagements translated into satisfactory performance. Collectively, these regional studies emphasize that the capacity to negotiate, monitor, and enforce contracts is central to project success in both construction and allied sectors.

Beyond local contexts, international scholarship highlights the importance of managerial competencies in effective contract execution. Khan (2018) identified communication, professionalism, leadership, and business skills as essential competencies for project leaders, while other studies reinforce the necessity of a balanced skillset for project management. In the construction sector, leadership, effective communication, and technical proficiency are hallmark competencies of top-performing project managers (Kassa et al., 2023). Additionally, a structured literature review pinpoints critical competencies such as risk management, adaptability, interpersonal skills, and technical expertise as foundational for delivering successful projects (Pariafsai & Behzadan, 2021). Moreover, practical frameworks highlight that leadership, stakeholder and conflict management, trust building, and communication are especially vital in navigating complex construction environments (Rehan et al., 2024). Taken together, these studies reinforce the view that contract management is not merely an administrative activity but a strategic process requiring both technical and relational competencies. For road construction projects, this implies that effective contract oversight encompassing negotiation, compliance monitoring, risk allocation, and communication is indispensable for achieving timely completion, cost control, and quality outcomes.

RESEARCH METHODOLOGY

This study adopted descriptive research design. It was best suited because it helped gather information into details by investigating how, where, who, what and when aspects of the study. It also helped to explain the relationship between the variables (Aggarwal & Ranganathan, 2019). The unit of analysis for the study involved the Kenya Urban Roads Authority in the Upper Eastern Region. The total population for the study was 145 staffs who consisted of 48 roads inspectors, 45 supervising engineers, 20 supply chain management officers, 20 Finance and Accounting officers and 12 Surveyor in the Upper Eastern Region. The research used stratified random sampling because it enabled representation of each department and party under study that was, KURA staff, roads inspectors, Engineers and allows overview of a bigger population with a border of fault that can be determined statistically (Musyoka & Mutuku 2023). Using slovins formulae, the sample of 106 respondents was derived.

Table 1: Sample Size

Category	Sample Size	Percentage
Road's inspectors	35	33
Supervising Engineers	33	31
Supply chain management officers	15	14
Finance and Accounting officers	15	14
Surveyor	8	8
Total	**106**	**100**

Structured questionnaires containing open-ended, closed-ended, and 5-point Likert scale items were used to collect primary data. A pilot study was conducted to test the validity and reliability of the instruments. Descriptive statistics (means and standard deviations) were employed to summarize the data, while inferential statistics (correlation and regression analysis) were conducted using SPSS Version 26 to examine relationships among variables. The regression model was structured as follows:

$$Y = \beta_0 + \boldsymbol{\beta}_1 X_1 + \varepsilon$$

Where; Y=Performance of roads construction projects

β_0=constant

β_i is the coefficient for X_i

X_1= Contract Management

ε = error term

RESEARCH FINDINGS AND DISCUSSIONS

Table 2: Response Rate

Item	Frequency	Percentage
Distributed questionnaires	106	100
Completed and returned questionnaires	97	91.5
Un returned questionnaires	9	8.5

According to Dillman, Smyth and Christian (2014), a high response rate is desirable as it increases the representativeness of the sample and strengthens the reliability and validity of the results. In this study, 97 out of the 106 distributed questionnaires were successfully completed, yielding a response rate of 91.5 percent. The remaining 9 questionnaires, representing 8.5 percent, were not returned.

Descriptive Analysis (Contract Management)

The study examined respondents' views on various aspects of contract management and their influence on supply chain performance. Using a 5-point Likert scale, participants were asked to indicate the extent to which they agreed with specific statements related to the application of contract management practices in Kenya urban roads authority, where 1 denoted Strongly Disagree and 5 denoted Strongly Agree. The descriptive results of this analysis are presented in Table 3 below.

Table 3: Contract Management Descriptive Results

Contract Management	N	Mean	SD
We always provide feedback to our contractors in terms of their performance	97	4.38	0.488
Maintaining a good relationship with contactors influences performance of roads construction projects	97	3.89	0.762
We continuously comply with PPADA, 2015	97	4.01	0.700
We believe that legal compliance is based on procurement standards set by public procurement regulatory bodies	97	4.29	0.455
Performance of roads construction projects is influenced by how organizations handle risks which they encounter when undertaking projects	97	4.45	0.500
We encourage subcontracting by the contractors as a strategy for sharing risks	97	3.18	0.540
Average	97	4.03	0.574

Respondents indicated a strong tendency to provide feedback to contractors regarding their performance, with a mean score of 4.38 and a standard deviation of 0.488, suggesting consistency in this practice. On the importance of maintaining a good relationship with contractors was acknowledged, with a mean score of 3.89 and a standard deviation of 0.762,

implying moderate agreement among respondents and some variation in perspectives. Further, on the Compliance with PPADA, 2015, respondents generally agreed that they continuously comply with the Public Procurement and Asset Disposal Act (PPADA), 2015, as reflected in a mean score of 4.01 and a standard deviation of 0.700. on the opinion about the Legal compliance, based on procurement standards set by regulatory bodies, was widely agreed upon, with a mean score of 4.29 and a standard deviation of 0.455. The respondents believed that project performance is significantly influenced by how risks are managed during road construction, with a mean score of 4.45 and a standard deviation of 0.500, reflecting a strong consensus. Lastly, the support for subcontracting as a strategy for risk-sharing was relatively weaker, as evidenced by a lower mean score of 3.18 and a standard deviation of 0.540, suggesting greater variation in respondents' opinions on this approach. This align with the findings of Okello et al. (2021), where they argue that continuous monitoring and progress tracking are essential for identifying challenges early and ensuring that projects stay on course. These findings collectively underscore the importance of contract management in the construction sector in Kenya, supporting the idea that effective contract oversight not only streamlines processes but also ensures compliance, timely completion, and successful project delivery**.**

Further, the respondents were asked how contract management influences performance of roads construction projects in Kenya. The results showed that 28.9% of respondents identified contract management as a key factor in leading to efficiency during the contracting process, emphasizing its effectiveness in streamlining procedures. Following closely, 26.8% highlighted that contract management ensures the compliance of obligations by both parties, underlining its importance in maintaining legal and contractual commitments. Additionally, 25.8% of respondents pointed out that contract management contributes to the timely completion of projects, suggesting its role in meeting deadlines. Lastly, 18.6% of respondents noted that contract management helps in tracking the progress of projects, reinforcing its value in monitoring ongoing work. These study findings align with findings by Karoki & Mwangani (2020), where it was found that effective contract management practices directly correlate with improved operational efficiency, particularly in the construction sector, by ensuring smoother workflows and minimizing procedural bottlenecks. Similarly, this resonates with research by Mawia Itumo & Ngugi (2016) which found that compliance with contractual terms is essential in minimizing disputes and ensuring that both parties fulfill their respective responsibilities, which ultimately leads to the success of construction projects in Kenya.

Performance of Roads Construction Projects

Table 4: Opinion on Performance of Roads Construction Projects

Performance of Roads Construction Projects	N	Mean	SD
We have frameworks of ensuring cost effectiveness in construction activities	97	4.04	0.644
Adherence to project budgets during the execution of roads projects is achieved	97	3.99	0.489
There is successful completion of road projects on time in the region	97	3.21	1.030
Adherence to set quality standards and road construction project specifications and site instructions is high	97	3.84	0.786
Average		3.77	0.737

The findings show that respondents perceived cost-effectiveness frameworks as one of the most significant contributors to successful project execution with a Mean of 4.04, Standard deviation of 0.644. Adherence to project budgets scored a Mean of 3.99 and a Standard deviation of 0.489 suggesting effective financial management in most projects. However, while respondents felt that adherence to quality standards and project specifications scoring a Mean = 3.84 and Standard deviation of 0.786 was satisfactory, the timely completion of road projects scored a Mean of 3.21and a Standard deviation of 1.030 was rated comparatively lower, indicating challenges in meeting deadlines. Studies such as Alu, Akinola, and Oladokun, (2024) have shown that proper financial control is one of the most significant factors contributing to the successful execution of construction projects. The data suggest that strong financial planning and monitoring mechanisms play a crucial role in preventing cost overruns and ensuring projects remain within budget.

Further, respondents were asked to give the main causes of delay in completion of roads construction projects in upper eastern region. The most significant challenge, as reported by the majority of respondents, was weather conditions, with 51.5% of participants highlighting this as a major issue. This was followed by budget constraints (20.6%) and political instability (17.5%). A smaller proportion of respondents (10.3%) noted that insecurity and ethnic instability posed challenges to project execution. The findings are consistent with findings from study by Alu et al., (2024) which highlighted that adverse weather conditions, such as heavy rainfall or extreme temperatures, often lead to project delays, increased costs, and equipment downtime. This

reflects the real-world difficulties in road construction projects, especially in regions with variable climates.

Correlation Analysis

Correlation analysis provides insights into whether and how variables co-vary that is, whether an increase or decrease in one variable corresponds to an increase or decrease in another. According to Pallant (2016), Pearson's product-moment correlation coefficient is one of the most commonly used techniques for measuring this relationship, particularly when the data are normally distributed and measured on interval or ratio scales. The coefficient (r) ranges from –1 to +1, where values closer to ±1 indicate a stronger relationship. See Table 4

Table 5: Pearson product moment correlation of contract management and performance of roads construction projects

Variable		Contract Management	Performance of Roads Construction Projects
Contract Management	Pearson Correlation	1	0.542
	Sig. (2-tailed)		0.000
	N	97	97
Performance of roads construction projects	Pearson Correlation	0.542	1
	Sig. (2-tailed)	0.000	
	N	97	97

The results revealed a positive and statistically significant correlation between the two variables, with a Pearson correlation coefficient (r) of 0.542 and a p-value of 0.000 ($p < 0.05$). This indicates a strong positive relationship**,** suggesting that improvements in contract management are associated with better performance outcomes in road construction projects. The significance level confirms that this relationship is not due to random chance, supporting the inference that effective contract management plays a meaningful role in influencing project success.

Regression Analysis

Regression analysis helps quantify both the strength and direction of relationships, facilitating informed, data-driven decisions and accurate forecasting. In addition to identifying which variables significantly affect outcomes, regression analysis also measures the extent of their influence (Montgomery, Peck, & Vining, 2012).

Table 6: Model Summary on Contract management and performance of roads construction projects

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.542	0.293	0.286	1.814

a Predictors: (Constant), Contract Management

Table 5 presents a summary of the regression analysis conducted to assess the effect of contract management on the performance of road construction projects. The correlation coefficient (R) was recorded at 0.542, reflecting a moderately strong positive association between effective contract management and project performance outcomes. The R Square value of 0.293 indicates that 29.3% of the variability in project performance can be attributed to contract management. The Adjusted R Square, which takes into account the number of predictors in the model, was 0.286, signifying that 28.6% of the variation in performance is accurately accounted for by the predictor variable. These findings underscore the significant contribution of contract management to the overall performance and success of road construction projects.

Table 7: Analysis of Variance on contract management and performance of roads construction projects

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.839	1	129.839	39.452	.000[b]
	Residual	312.656	95	3.291		
	Total	442.495	96			

a. Dependent Variable: performance of roads construction projects

b. Predictors: (Constant), contract management

The Analysis of Variance (ANOVA) results presented in Table 6 evaluate the overall significance of the regression model assessing the effect of contract management on the performance of road construction projects. The calculated F-value was 39.452, with a significance level (p-value) of 0.000, which is well below the conventional threshold of 0.05. Therefore, the null hypothesis **H_o1: There is no significant influence of contract management on performance of roads construction projects in Kenya Urban Roads Authority** was

rejected and the study arrived at a conclusion that the model was statistically significant and that contract management has a meaningful impact on project performance at 5% significance level.

Table 8: Regression coefficient on Contract management and performance of roads construction projects

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	3.156	1.906		1.655	.001
	Contract management	0.493	.078	.542	6.281	.000

a. Dependent Variable: performance of roads construction projects

The model results showed that regression equation $Y= \beta_0+\beta_1X_1+Ɛ$ translated to $Y=3.156+0.493X_1+Ɛ$. This implied that holding all the factors constant, contract management had a constant of 3.156 implying that, there exist other explanatory variables that result to variations in performance of roads construction projects other than the study variable. The unstandardized coefficient (B) for contract management was 0.493, indicating that for every one-unit increase in the contract management score, the performance of road construction projects is expected to increase by 0.493 units, holding other factors constant. Lastly, contract management had a statistically significant effect on performance of roads construction projects (p-value 0.000<0.05). This strongly supports the conclusion that effective contract management positively and significantly contributes to the success of road construction projects.

CONCLUSION AND RECOMMENDATION

The study established that contract management has a significant and positive effect on the performance of road construction projects under the Kenya Urban Roads Authority in the Upper Eastern Region. Correlation analysis revealed a moderately strong and statistically significant association ($r = 0.542$, $p < 0.05$) between contract management and project performance, while regression analysis indicated that 29.3% of the variation in performance could be explained by contract management practices. The regression coefficient ($B = 0.493$, $p < 0.05$) further showed that improvements in contract management directly enhance project outcomes. These results underscore that practices such as compliance with procurement regulations, structured contractor feedback, relationship management, and proactive risk control are critical drivers of efficiency, quality, and timely delivery of road projects.

Based on these findings, the study recommends that the Kenya Urban Roads Authority strengthen contract oversight through structured feedback mechanisms and regular performance evaluations to improve contractor accountability. Compliance with the Public Procurement and Asset Disposal Act (2015) should be strictly enforced to promote transparency and reduce risks. Relationship-building initiatives, including stakeholder engagement forums and collaborative project reviews, should be encouraged to foster trust and minimize conflicts. Furthermore, the Authority should invest in proactive risk management by enhancing institutional capacity to anticipate and address uncertainties. Lastly, clear subcontracting guidelines and monitoring frameworks should be developed to ensure that subcontractors' performance aligns with overall project objectives and quality standards.

Areas for Further Research

Future studies could extend this research by conducting comparative analyses across different regions of Kenya or among various government agencies to determine whether the influence of contract management on project performance is context-specific or consistent nationwide. Further, given the importance of risk management highlighted in this study, future work could explore the effectiveness of specific risk mitigation strategies in ensuring project success. Moreover, since subcontracting emerged as a contested risk-sharing approach, it would be valuable to assess the conditions under which subcontracting contributes positively to performance in large-scale public infrastructure projects.

REFERENCES

Aggarwal, R., & Ranganathan, P. (2019). Study designs: Part 2 Descriptive studies. *Perspectives in Clinical Research, 10*(1), 34–36.

Akal, A. (2018). *Determinants of Performance in Road Construction Projects in Kenya*. Nairobi: JKUAT Press.

Akali, T., & Sakaja, Y. (2018). Influence of contractors' financial capacity on performance of road construction in Kakamega county. American Scientific Research Journal for Engineering, Technology, and Sciences), 46(1), 34-50.

Akintoye, A., & MacLeod, M. J. (2017). *Risk analysis and management in construction*. International Journal of Project Management, 15(1), 31–38.

Alu, A. J., Akinola, A. O., & Oladokun, M. G. (2024). Impact of project cost control on the financial performance of the Nigerian construction industry: A qualitative approach. *Open Journal of Business and Management, 12*(4), 1954–1973.

Cairney, P., & St Denny, E. (2025). Understanding the role of conceptual frameworks: how they shape research design, analysis, and interpretation. *International Journal of Social Research Methodology*, 28(2), 150–163.

Chepkemoi, J. (2020). Influence of project management skills on performance of road construction projects in Machakos County, Kenya [Master's thesis, University of Nairobi].

Christopher, M. (2018). *Logistics & supply chain management* (5th ed.). Pearson Education.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (4th ed.). John Wiley & Sons.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160.

Eyaa, S., Ntayi, J. M., & Namagembe, S. (2011). Explaining non-compliance in public procurement in Uganda. *International Journal of Business and Social Science, 2*(11), 35–44.

Horvat, M., Mladenovic, G., & Nenad, S. (2021). The contribution of road infrastructure to economic development. *Infrastructure Economics Journal, 5*(1), 1–12.

Jabareen, Y. (2009). Building a conceptual framework: Philosophy, definitions, and procedure. International Journal of Qualitative Methods, 8(4), 49–62.

Karim, K., & Marosszeky, M. (2011). *Improving construction project outcomes through effective training and development*. Journal of Engineering, Design and Technology, 9(3), 231–247.

Karoki, W., & Mwangani, P. (2020). *Influence of contract management on performance of public hospitals in Nairobi City County, Kenya*. International Journal of Supply Chain and Logistics, *4*(1), 46–69.

Kassa, R., Ogundare, I., Lines, B., Smithwick, J. B., Kepple, N. J., & Sullivan, K. T. (2023). Developing a construct to measure contractor project manager performance competencies. *Engineering, Construction and Architectural Management*. Advance online publication.

Kemboy, C. (2022). *Infrastructure Challenges in African Road Construction Projects*. African Journal of Project Management, 4(2), 77–88.

Khan, N. (2018). *Contract Management*. In *Public Procurement Fundamentals: Lessons from and for the Field* (pp. 63–72). Emerald Publishing Limited

Kilani, Q., Harahsheh, F., Najdawi, S., Khzouz, A., Al-badaineh, G., Abualfalayeh, G., & Hanandeh, A. (2024). Evaluating the impact of scope, time, cost, and quality management on project performance and business overall performance in the Jordanian financial sector. Journal of Project Management, 9(4), 301–310.

Kimemia, J. G. (2015). Determinants of projects delay in the construction industry in Kenya; The case of selected road projects implemented by Kenya National Highways Authority in Kenya's Coast Region (Doctoral dissertation, University of Nairobi).

KURA Upper Eastern Reports. (2023). *Quarterly Project Implementation Report*. Kenya Urban Roads Authority.

Luka, R. N. (2016). Influence of public procurement practices on road construction projects implementation; a case of Kenya urban roads authority (KURA) Machakos (Doctoral dissertation, University of Nairobi).

Machira, A. M., Ajwang, P., & Kabubo, C. (2024). Assessment of the impact of sustainable procurement practices on the cost of road construction projects in Kenya: A case study of KeRRA. International Journal of Engineering Research & Technology (IJERT), 13(03).

Maendo, E., James, K., & Mugambi, F. (2018). *Assessment of Road Maintenance Projects Performance*. Journal of Civil Engineering, 8(1), 23–31.

Mahamid, I., Bruland, A., & Dmaidi, N. (2012). Causes of delay in road construction projects. *Journal of Management in Engineering*, *28*(3), 300–310.

Mahamid, I., Sweis, G., & Assaf, S. A. (2012). Factors affecting construction project time and cost in Jordan. *International Journal of Project Management*, 30(5), 405-414.

Mawia Itumo, J., & Ngugi, K. (2016). *Effect of contract management on procurement performance in NGOs in Nairobi County*. Academic Journal of Social Sciences and Education, *4*(1).

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.

Montgomery, D. C., Peck, E. A., & Vining, G. G. (2012). Introduction to linear regression analysis (5th ed.). Wiley.

Muinde, M. (2022). *Performance Measurement in Public Procurement*. Journal of Procurement and Supply Chain, 5(2), 19–29.

Musau, A., & Kirui, P. (2018). Determinants of performance of government construction projects. *International Journal of Procurement and Logistics, 6*(3), 45–55.

Musyoka, L. M., & Mutuku, M. (2023). Influence of benchmarking on the performance of road infrastructure projects in Wajir County, Kenya. *International Journal of Social Science and Humanities Research*, 5(4), 45–58.

Mutua, J. M., Waiganjo, E., & Oteyo, I. N. (2014). The influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi County, Kenya. *International Journal of Business and Social Science*, *5*(9), 32–45

Nsanzimana, J., & Mulyungi, P. (2020). *Effect of contract management practices on performance of road construction projects in Kigali: A case of Rwandex-Remera road*

construction project. *International Journal of Science and Research (IJSR), 9*(10), 1739–1745

Okello, A. M. (2021). *Monitoring and evaluation data management and project performance: A review on infrastructure projects*. *Research & Development*, *2*(3), 43–49.

Pallant, J. (2016). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (6th ed.). Maidenhead, UK: Open University Press/McGraw-Hill.

Pariafsai, F., & Behzadan, A. H. (2021). Core competencies for construction project management: Literature review and content analysis. *Journal of Civil Engineering Education, 147*(2), 04021010.

Perera, O., & Colverson, S. (2012). *Sustainable Procurement in Infrastructure Projects*. International Institute for Sustainable Development.

Prahinski, C., & Benton, W. C. (2004). Supplier evaluations: Communication strategies to improve supplier performance. *Journal of Operations Management*, 22(1), 39–62.

Rehan, A. K., Thorpe, D. S., & Heravi, A. H. (2024). Leadership practices and communication framework for project success: The construction sector. *International Journal of Construction Management*. Advance online publication.

Salome, O. L. (2018). *Contract management practices and performance of housing construction projects in Nairobi City County, Kenya: A case of National Construction Authority* (Master's thesis). Kenyatta University, Nairobi, Kenya

Scott, W. R. (2004). *Institutional theory: Contributing to a theoretical research program*. In K. G. Smith & M. A. Hitt (Eds.), *Great Minds in Management: The Process of Theory Development* (pp. 460–485). Oxford, UK: Oxford University Press.

Sunindijo, R. Y., & Zou, P. X. W. (2011). CHPT construct: Essential skills for construction project managers. *International Journal of Project Organization and Management, 3*(2), 139–163.

Waithera, K. B., & Susan, W. (2019). Factors affecting cost overruns in construction projects a case of Kenya National Highways Authority. International Journal of Business Management and Finance, 1(1).