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EFFECT OF SUPPLIER RISK PROFILING ON CONTINUITY OF ROAD CONSTRUCTION PROJECTS AT KENYA NATIONAL HIGHWAYS AUTHORITY (KeNHA)

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Abstract

The continuity of public infrastructure projects in Kenya, particularly road construction, has been increasingly influenced by the procurement risk management practices adopted by implementing agencies. This study examined the effect of supplier risk profiling on the continuity of road construction projects at the Kenya National Highways Authority (KeNHA). Supplier risk profiling, a strategic component of prequalification and evaluation, was assessed through dimensions such as financial risk, technical capacity, past performance, and legal compliance. Guided by Agency Theory and Resource-Based View (RBV), the study sought to determine whether proactive risk assessment of contractors leads to fewer project interruptions, delays, or contract terminations. The research adopted a descriptive cross-sectional design and targeted procurement professionals, project managers, and contract management officers at KeNHA, as well as contractors engaged in ongoing or recently completed road projects between 2022 and 2025. Data were collected using structured questionnaires administered to 210 respondents selected through stratified random sampling. Descriptive and inferential statistical analyses were used, including Pearson correlation and multiple regression. Findings revealed that financial capacity and technical competence were the most critical risk profiling indicators influencing project continuity. The regression model was significant ($F = 96.47$, $p < 0.001$), explaining 67.2% of the variance in project continuity. Supplier risk profiling had a positive and statistically significant effect ($\beta = 0.473$, $p < 0.001$), indicating that robust vetting procedures reduced the likelihood of project stalling or termination. The study concludes that comprehensive supplier risk profiling is instrumental in safeguarding the continuity of public road construction projects. It recommends institutionalizing risk-based supplier evaluation criteria, digitizing contractor performance databases, and enhancing post-award monitoring to ensure project resilience. These findings have practical implications for KeNHA, the Public Procurement Regulatory Authority (PPRA), and policy actors seeking to improve infrastructure delivery in Kenya.

Keywords: Supplier Risk Profiling, Road Construction, Project Continuity, Kenha, Procurement, Kenya

Background of the Study

Public procurement continues to be a central driver of infrastructure development in Kenya, with road construction accounting for a substantial share of government capital expenditure. The Kenya National Highways Authority (KeNHA), under the State Department for Roads, plays a critical role in planning, developing, and maintaining the country's national trunk roads. However, a persistent challenge affecting road infrastructure delivery is the discontinuity of projects, often caused by contractor underperformance, contractual disputes, or financial incapacity (PPRA, 2023).

One of the key contributors to such discontinuity is the lack of robust supplier risk profiling during the procurement process. Supplier risk profiling involves the proactive assessment of contractors against key risk dimensions such as financial health, technical capacity, past performance, and legal or ethical standing. In theory, incorporating risk-based evaluation into supplier selection enables procuring entities to avoid high-risk contractors and enhances project reliability. In practice, however, risk profiling is often inconsistently applied or superficially conducted—resulting in the award of major construction contracts to suppliers who later default, abandon works, or trigger costly renegotiations (AfDB, 2022; Odhiambo & Kemboi, 2021).

The Public Procurement and Asset Disposal Regulations (PPDR), 2020, emphasize the need for rigorous supplier evaluation, yet many procuring entities, including KeNHA, still struggle to integrate structured risk profiling into procurement workflows. A recent audit by the Auditor General (2023) revealed that over 35% of delayed national road projects were linked to suppliers who had shown prior signs of financial distress or weak technical capacity—factors that could have been flagged through proper profiling. Moreover, some suppliers were found to have ongoing litigations, tax compliance issues, or incomplete projects elsewhere, yet still received fresh awards, undermining both compliance and project continuity.

Global best practices underscore the importance of supplier risk management in large-scale public infrastructure projects. According to the World Bank (2022), robust contractor vetting—using multidimensional risk indicators—can reduce project delays by up to 40% in low- and middle-income countries. Similarly, UNOPS (2021) recommends the use of centralized contractor databases, past performance scoring systems, and automated red-flag tools to prevent the engagement of unfit suppliers.

Despite these insights, Kenya’s road construction sector still lacks a systematic and digitized supplier risk profiling framework. This has resulted in frequent project suspensions, contractor withdrawals, and termination of contracts—factors that significantly undermine the continuity and sustainability of infrastructure development (KeNHA, 2023).

This study therefore sought to examine the effect of supplier risk profiling on the continuity of road construction projects at KeNHA, focusing on how financial, technical, and legal risk assessments influence project performance. By addressing this gap, the research aims to provide evidence-based recommendations to strengthen supplier evaluation mechanisms and improve project outcomes in Kenya’s public procurement landscape.

Statement of the Problem

Despite ongoing reforms in Kenya’s public procurement system, disruptions in road construction projects remained a recurring challenge at the Kenya National Highways Authority (KeNHA) between 2020 and 2024. Reports by the Office of the Auditor General (2023) indicated that over 31% of national road projects initiated during this period experienced discontinuity—manifesting in delays, stalled works, or outright project abandonment. In many cases, these disruptions were directly linked to the poor risk assessment of contractors, with some suppliers lacking the financial, technical, or legal standing required for successful project execution.

KeNHA's 2023 performance report confirmed that 19 out of 58 active trunk road projects were either behind schedule or suspended due to contractor underperformance. Furthermore, analysis from the Public Procurement Regulatory Authority (PPRA, 2023) revealed that more than 40% of contract terminations in infrastructure-related procurement were awarded to suppliers with previously documented non-performance records. These findings highlighted a critical gap in supplier evaluation practices, particularly the limited use of risk profiling tools during prequalification and tender evaluation stages.

While the Public Procurement and Asset Disposal Regulations (PPDR) 2020 require public entities to assess supplier eligibility based on past performance, financial capacity, and litigation history, compliance has been inconsistent. Most procurement evaluations continued to rely on generic templates or checkbox criteria, without applying structured risk assessment models (Odhiambo & Kemboi, 2021). As a result, several contracts were awarded to firms that were either overcommitted, technically deficient, or financially unstable—factors that significantly undermined project continuity.

Empirical studies conducted in the Kenyan context have mostly focused on general contractor performance or procurement compliance but have not adequately explored the role of supplier risk profiling as a predictive tool for project continuity. For instance, Mwangi and Wekesa (2021) examined supplier performance indicators in public works but did not isolate risk profiling as a determinant of project outcomes. Similarly, Muturi and Omollo (2020) assessed contractor delays in road projects but attributed them broadly to capacity gaps and governance issues, without linking them to upstream supplier evaluation practices.

This gap in literature warranted an in-depth study on how supplier risk profiling influenced the continuity of road construction projects specifically under KeNHA. By examining financial, technical, and legal risk indicators during supplier selection, this study provided critical insights into the extent to which proactive profiling mechanisms affected the smooth and uninterrupted implementation of national road projects in Kenya.

Objectives of the Study

General Objective

To examine the effect of supplier risk profiling on the continuity of road construction projects at the Kenya National Highways Authority (KeNHA).

Specific Objectives

1. To assess the effect of financial risk profiling on the continuity of road construction projects at KeNHA.
2. To examine the influence of technical capacity risk profiling on the continuity of road construction projects at KeNHA.
3. To determine the effect of legal and compliance risk profiling on the continuity of road construction projects at KeNHA.
4. To evaluate the combined effect of supplier risk profiling dimensions on project continuity in KeNHA-managed road construction projects.

Theoretical Review

The study was anchored on three interrelated theories that explain the rationale and effectiveness of supplier risk profiling in procurement and project continuity: Agency Theory**,** the Resource-Based View (RBV)**,** and the Risk Management Theory. Each theory offers a unique perspective on how supplier selection, risk identification, and performance assurance influence project outcomes in public procurement settings.

Agency Theory

Agency Theory, originally proposed by Jensen and Meckling (1976), explores the relationship between principals (e.g., government or public institutions) and agents (e.g., procurement officers or contractors), particularly when their interests diverge. In public procurement, procurement officers act on behalf of citizens and institutions but may not always act in alignment with public interest due to information asymmetry, limited oversight, or personal incentives.

This theory supports the importance of supplier risk profiling as a mechanism for reducing agency-related risks. When procurement officers conduct thorough profiling—evaluating financial stability, legal standing, and past contractor behavior—they reduce the chances of awarding contracts to high-risk suppliers who may underperform or act opportunistically. According to Kamau and Karanja (2021), risk-based contractor evaluation mitigates moral hazard by enforcing upfront accountability and improving transparency during supplier selection. Thus, Agency Theory justifies the institutional need for robust profiling tools to align procurement decisions with the principal's goal of successful project delivery.

Resource-Based View (RBV)

The Resource-Based View (RBV) of the firm, popularized by Barney (1991), posits that competitive advantage stems from the acquisition and deployment of valuable, rare, inimitable, and non-substitutable (VRIN) resources. Applied in procurement and supplier management, RBV emphasizes the strategic value of selecting suppliers whose internal capabilities—such as financial strength, technical know-how, and organizational systems—can contribute to project success.

In road construction, the technical and financial capacity of contractors directly influences continuity and completion timelines. Suppliers lacking these core competencies are more likely to default, delay work, or create costly disruptions. A study by Nyaga and Wainaina (2022) found that road construction firms with strong internal project management systems and reliable capital bases had significantly lower disruption rates than firms selected on the basis of price alone. Therefore, RBV highlights the importance of evaluating suppliers as strategic assets and using structured profiling to ensure that only competent suppliers—those with project-enabling resources—are engaged.

Risk Management Theory

Risk Management Theory focuses on identifying, assessing, and mitigating risks to improve decision-making and performance outcomes. In procurement, risk management is critical at both pre-award and post-award stages to avoid project disruptions. The theory underscores the need to proactively analyze supplier-related risks, including creditworthiness, contract history, and regulatory compliance, before awarding contracts (ISO 31000, 2018).

In Kenya, the adoption of risk management frameworks in public procurement has gained traction, particularly in infrastructure projects. According to Wanjiku and Atieno (2021), agencies like KeNHA and KURA have started integrating supplier risk assessments into tender evaluations, albeit inconsistently. The theory supports the use of predictive tools such as past performance scoring, red-flag indicators, and legal due diligence as standard components of supplier profiling. As highlighted by the African Development Bank (AfDB, 2022), effective risk management during procurement significantly reduces contract failure rates and enhances continuity in donor-funded infrastructure projects across Sub-Saharan Africa. Therefore, Risk Management Theory provides a sound theoretical basis for investigating how structured supplier risk profiling influences road project continuity.

Conceptual Framework

A conceptual framework serves as a visual and theoretical guide that illustrates how variables in a study interact and influence one another. According to Bhattacharya and Sinha Roy (2018), a conceptual framework enables researchers to clarify the hypothesized relationships between independent and dependent variables and guides data collection and analysis. This study examined the effect of supplier risk profiling—defined as the structured pre-evaluation of a supplier's potential to pose threats to procurement outcomes—on the continuity of road construction projects at the Kenya National Highways Authority (KeNHA). The framework was grounded in Agency Theory, Resource-Based View (RBV), and Risk Management Theory, all of which support the systematic management of supplier-related risks in procurement and contract performance.

The independent variable, supplier risk profiling, was disaggregated into three dimensions: financial risk profiling, technical capacity risk profiling, and legal and compliance risk profiling. These profiling elements represent key diagnostic tools used to predict contractor reliability and the likelihood of successful project delivery.

Financial risk profiling refers to the assessment of a contractor's financial stability and capacity to fund project mobilization, operations, and contingencies. As defined by OECD (2020), financial profiling includes analyzing liquidity ratios, audited statements, and credit access to determine whether a supplier can absorb financial shocks or fulfill contractual obligations. In the context of KeNHA, financial instability among contractors has been a significant predictor of stalled projects (Auditor General, 2023). When suppliers are undercapitalized, delays in mobilization, staff payments, and procurement of construction materials are common, often leading to work stoppages (AfDB, 2022).

Technical capacity risk profiling involves evaluating the supplier's competencies, experience, and operational readiness to execute the specific project scope. According to UNOPS (2021), this includes a review of available plant and equipment, qualifications of key personnel, and a proven history of delivering similar infrastructure projects. Contractors who lack adequate machinery or skilled labor often fall behind schedule or deliver substandard work, particularly on complex road construction tasks (Nyaga & Wainaina, 2022). Technical risk profiling thus helps KeNHA preempt performance gaps that may affect continuity.

Legal and compliance risk profiling is defined as the evaluation of a supplier's regulatory standing and ethical record, including tax compliance, litigation history, and adherence to procurement laws. The World Bank (2022) emphasized that unresolved legal cases, history of default, and non-compliance with statutory obligations are red flags that significantly increase the likelihood of project interruptions. For instance, suppliers entangled in legal disputes may face injunctions or funding withdrawal, resulting in delayed or terminated projects (Odhiambo & Kemboi, 2021).

The dependent variable, project continuity, is defined as the uninterrupted progress of construction activities from contract award to project completion, within the planned time, scope, and cost. According to KeNHA (2023), project continuity is a critical indicator of successful procurement outcomes and is negatively affected by supplier underperformance, cash flow problems, or disputes. Metrics of project continuity include timely completion, absence of site abandonment, and uninterrupted workflow (PPRA, 2023).

This study hypothesized that comprehensive and structured supplier risk profiling significantly enhances project continuity in road construction projects. The framework suggested that when KeNHA systematically evaluates suppliers based on financial, technical, and legal dimensions, the likelihood of delays, contract suspensions, or terminations is substantially reduced.

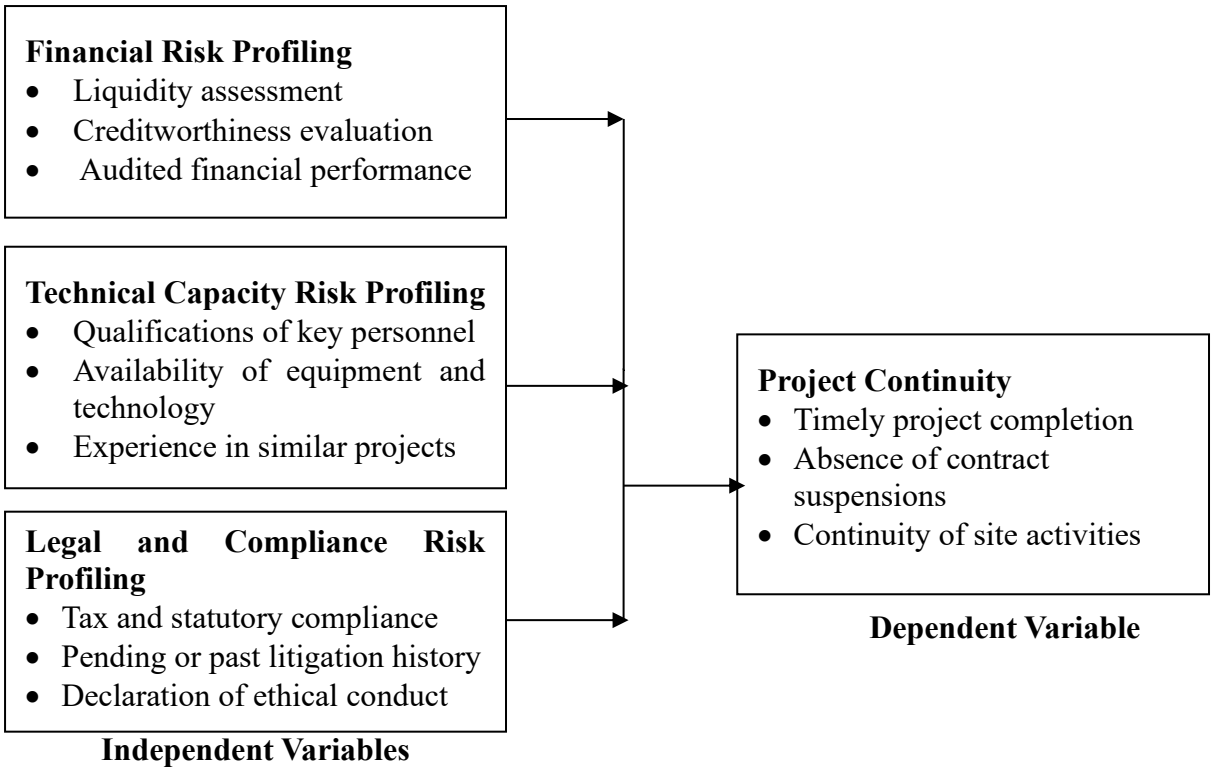

Figure1: Conceptual Framework

Empirical Review

Empirical literature has increasingly highlighted the significance of supplier risk profiling in enhancing project performance and minimizing disruptions in public procurement. However, while international and regional studies have recognized its value, there remains limited empirical work specifically addressing how risk profiling affects project continuity—particularly in the context of road infrastructure projects managed by public agencies such as KeNHA in Kenya.

A study by Chikodzi and Moyo (2021) in Zimbabwe found that road construction projects funded through public procurement frequently suffered from contractor default due to weak pre-award screening mechanisms. The authors observed that inadequate scrutiny of financial records and legal compliance contributed to delays and abandoned sites. Their findings support the inclusion of financial and compliance checks as standard elements of procurement risk assessment.

In Kenya, Wanjiku and Atieno (2021) examined risk management practices in public road construction projects and found that although supplier vetting was acknowledged as important, it was not institutionalized in most agencies. Their survey of public procurement officials revealed that only 36% of respondents regularly conducted comprehensive risk assessments on contractors before contract award. The authors emphasized the urgent need to adopt structured profiling tools to prevent recurring project suspensions and cost escalations.

Similarly, Odhiambo and Kemboi (2021) focused on contractor-related risks in infrastructure projects and concluded that legal disputes and ongoing litigations were among the top contributors to delays and terminations in public construction contracts. However, the study noted that procuring entities rarely incorporated legal history into supplier evaluation matrices highlighting a critical gap between regulatory provisions (e.g., PPADA 2015; PPDR 2020) and actual practice.

A more targeted study by Mutiso and Mwikali (2022) explored the relationship between financial capacity and project success in government-funded infrastructure projects in Kenya. The study found a strong positive correlation ($r = 0.71$) between contractor financial health and

project completion rates, suggesting that suppliers with strong liquidity and credit access were more likely to complete projects on time and within budget.

From a broader perspective, UNOPS (2021) conducted a cross-country assessment of supplier risk profiling practices in public infrastructure procurement and concluded that countries with centralized contractor performance databases and standardized profiling templates reported significantly fewer stalled projects. The report recommended that public agencies adopt multidimensional profiling frameworks that combine financial, technical, and compliance-based indicators to minimize disruption risks.

Despite these contributions, few studies have empirically investigated the combined effect of financial, technical, and legal risk profiling on project continuity in Kenya's public road sector. Most local research has focused either on general supplier performance (e.g., Kamau & Karanja, 2021) or on isolated risk dimensions, without linking profiling practices directly to continuity metrics such as schedule adherence, site stability, and contract completion.

This study, therefore, filled a critical empirical gap by evaluating how multiple dimensions of supplier risk profiling influence the continuity of road construction projects under KeNHA. The study further contributes to existing literature by contextualizing the findings within Kenya's legal and operational procurement environment, offering practical recommendations for procurement practitioners and policy makers.

Research Methodology

Research Design

The study used a descriptive research design to investigate the effect of supplier risk profiling on the continuity of road construction projects at the Kenya National Highways Authority (KeNHA). Descriptive research was appropriate for this study because it allowed the researcher to collect and analyze data without manipulating any variables, thereby describing the existing relationships as they occurred in a real-world setting. According to Kothari (2020), descriptive research enables the researcher to obtain information that reflects current practices, perceptions, and trends from a defined population. This design was suitable for capturing views from both procurement professionals and contractors regarding the extent and impact of financial, technical, and legal risk profiling on project continuity. It also facilitated the use of statistical techniques to examine associations between variables, making it ideal for addressing the study's objectives.

Target Population

The target population consisted of procurement officers, project engineers, contract managers, and prequalified road contractors engaged with KeNHA between the years 2022 and 2024. According to KeNHA's project staffing records (KeNHA, 2023), the agency had a total of 240 relevant personnel directly involved in procurement and project management during the study period, while the list of prequalified contractors comprised 310 registered firms working on ongoing road projects across Kenya.

Sampling Technique and Sample Size

The study employed a stratified random sampling technique to ensure proportional representation across different respondent categories (KeNHA staff and contractors). Stratification was based on professional role (procurement, engineering, contract management, and contractors). The sample size was determined using Yamane's (1967) formula for known populations:

$n=N1+N(e)2$

Where:

n = sample size

N = total population (240 + 310 = 550)

e = margin of error (0.05)

$n=5501+550(0.05)2 = 5501+1.375 \approx 227$

Thus, a sample of 227 respondents was selected for the study, proportionally distributed between KeNHA staff and contractors.

Data Collection Instruments

Primary data were collected using a structured questionnaire, which included both closed-ended and Likert-scale questions. The questionnaire was divided into five sections: background information, financial risk profiling, technical capacity profiling, legal and compliance profiling, and project continuity. The instrument was developed based on validated tools from similar procurement studies (e.g., UNOPS, 2021; Wanjiku & Atieno, 2021) and adapted to the Kenyan road construction context. To ensure content validity, the questionnaire was reviewed by procurement experts and a university supervisor.

Pilot Testing and Reliability

A pilot study was conducted on 20 respondents drawn from the Kenya Urban Roads Authority (KURA), who were not part of the main sample. Feedback from the pilot was used to revise ambiguous or redundant items. Reliability of the instrument was tested using Cronbach's Alpha, where a threshold of $\alpha \geq 0.7$ was deemed acceptable (Nunnally, 1978). The results were: Financial Risk Profiling: $\alpha = 0.81$; Technical Capacity Profiling: $\alpha = 0.84$; Legal and Compliance Profiling: $\alpha = 0.79$; Project Continuity: $\alpha = 0.86$. These results indicated good internal consistency of the data collection tool.

Data Analysis and Presentation

Collected data were coded and analyzed using SPSS version 29. Descriptive statistics (mean, standard deviation) were used to summarize responses. Pearson correlation analysis was employed to assess the relationships between supplier risk profiling dimensions and project continuity. Further, multiple linear regression analysis was conducted to determine the predictive strength of the independent variables on the dependent variable. Diagnostic tests for normality, multicollinearity, and homoscedasticity were performed to ensure validity of the regression model. Results were presented in the form of tables and interpreted in line with the study objectives.

Ethical Considerations

Ethical approval for the study was obtained from the research committee of the affiliated institution. Permission to conduct the study was also sought from KeNHA's Procurement and Human Resources Directorates. Respondents were assured of voluntary participation, confidentiality, and that data collected would be used strictly for academic purposes. No personal identifiers were collected, and the right to withdraw at any stage was respected.

Research Findings and Discussion

Out of 227 questionnaires distributed to KeNHA staff and registered road contractors, 212 were successfully completed and returned, yielding a response rate of 93.4%. This high response rate was attributed to prior engagement with participants, targeted follow-ups, and support from KeNHA's procurement department. According to Babbie (2020), a response rate above 70% is considered excellent for descriptive research and provides reliable insights into population perceptions.

Descriptive Analysis of Study Variables

This section presents the descriptive statistics on the perceptions of respondents regarding the three dimensions of supplier risk profiling—financial, technical, and legal/compliance—and their influence on the continuity of road construction projects at KeNHA. Responses were based on a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The findings are presented in subsections below.

Financial Risk Profiling

Respondents were asked to rate five statements related to the financial capability assessment of contractors. Table 1 presents the results.

Table 1: Descriptive Statistics on Financial Risk Profiling (n = 212)

Statement	Mean	Std. Dev.
Contractors' liquidity should be reviewed before contract award.	4.236	0.671
Access to credit facilities should be verified during evaluation.	4.208	0.742
Financial statements should be audited and current (within 1 year).	4.151	0.733
Low financial capacity contributes to site demobilization.	4.132	0.760
Cash flow assessments should be included in prequalification templates.	4.189	0.705
Aggregate Mean	**4.183**	

Respondents expressed strong agreement with all five statements related to financial risk profiling. The highest-rated item emphasized the need to assess contractor liquidity before awarding contracts (M = 4.236), suggesting widespread awareness that financial soundness is vital to project continuity. Close behind was the belief that access to credit and inclusion of cash flow assessments in bid evaluations are crucial (M = 4.208 and M = 4.189, respectively). The lowest-rated item still received a strong mean (M = 4.132), confirming that respondents widely associated low financial capacity with premature site abandonment. Overall, the high aggregate mean (M = 4.183) reflects consensus that rigorous financial risk screening is an essential procurement practice.

These findings align closely with the results of Mutiso and Mwikali (2022), who reported a strong positive relationship between contractor liquidity and timely project delivery in Kenya's infrastructure sector. Similarly, UNOPS (2021) emphasized that financial due diligence—including cash flow assessment and credit risk analysis—is a global best practice for ensuring contractor reliability. The emphasis on current audited statements reflects compliance with PPRA (2023) guidelines on financial eligibility criteria, which require updated financial disclosures to prevent the engagement of undercapitalized firms..

Technical Capacity Risk Profiling

Five statements assessed respondents' perceptions of technical evaluation. Table 2 summarizes the results.

Table 2: Descriptive Statistics on Technical Capacity Profiling (n = 212)

Statement	Mean	Std. Dev.
Contractor experience in similar projects should be a mandatory criterion.	4.208	0.693
Availability of key equipment should be confirmed before contract award.	4.123	0.738
Technical personnel qualifications should influence evaluation scores.	4.160	0.711
Poor technical capacity leads to construction delays.	4.198	0.682
Evaluation committees should conduct site visits to verify capacity.	4.085	0.765
Aggregate Mean	**4.155**	

Respondents showed strong support for the integration of technical risk profiling in procurement. They particularly emphasized the necessity for prior experience in similar projects (M = 4.208) and the negative effects of poor technical capacity on delivery timelines (M = 4.198). Qualifications of technical personnel and availability of machinery also received high means, reflecting the belief that competent human and physical resources are necessary for execution. The lowest, though still strong, mean (M = 4.085) was recorded for the statement on conducting site visits, possibly due to practical limitations like budget or time constraints. The aggregate mean of 4.155 indicates that respondents viewed technical profiling as essential to preventing execution bottlenecks.

The findings are consistent with Nyaga and Wainaina (2022), who found that inadequate technical vetting often results in delays and cost overruns in Kenyan road projects. UNOPS (2021) similarly noted that many public infrastructure failures globally stem from over-reliance on pricing instead of evaluating a supplier's operational readiness. Additionally, KeNHA (2023) highlighted cases where technically underqualified contractors failed to mobilize essential equipment, reinforcing the importance of evaluating experience and capacity prior to contract award.

Legal and Compliance Risk Profiling

This subsection presents views on the importance of legal background checks and compliance screening. Table 3 displays the results.

Table 3: Descriptive Statistics on Legal and Compliance Profiling (n = 212)

Statement	Mean	Std. Dev.
Contractors should be screened for pending litigations.	4.038	0.781
Tax compliance certificates should be verified with KRA.	4.113	0.754
Blacklisted firms should be automatically disqualified.	4.123	0.722
Affidavits on ethical conduct should be mandatory.	3.981	0.786
Legal disputes can delay or terminate project implementation.	4.132	0.769
Aggregate Mean	**4.077**	

Respondents moderately agreed with all legal and compliance risk profiling statements. The highest-rated item emphasized that ongoing or past legal disputes can lead to delays or terminations (M = 4.132). Respondents also strongly supported verifying tax compliance (M = 4.113) and disqualifying blacklisted firms (M = 4.123). The lowest-rated item concerned the requirement for ethical conduct affidavits (M = 3.981), suggesting that while important, this measure may be perceived as procedural or hard to enforce. The overall aggregate mean (M = 4.077) shows that legal vetting is seen as essential, though perhaps less rigorously applied than financial or technical screening.

These findings mirror the observations of Odhiambo and Kemboi (2021), who found that most delayed infrastructure projects in Kenya were linked to legal disputes with contractors. Similarly, World Bank (2022) emphasized the importance of pre-contract screening for tax and litigation risks in public works procurement. The relatively lower score on affidavits reflects the finding by Wanjiku and Atieno (2021) that compliance declarations, though legally mandated, often lack follow-up or verification mechanisms, reducing their perceived impact.

Project Continuity

Respondents were also asked to rate their perceptions of continuity in KeNHA-managed road projects. Table 4 presents these findings.

Table 4: Descriptive Statistics on Project Continuity (n = 212)

Statement	Mean	Std. Dev.
Projects often face delays due to contractor underperformance.	4.198	0.671
KeNHA road projects are frequently completed behind schedule.	4.075	0.722
Some contractors abandon sites mid-project.	4.057	0.738
Financially unstable contractors disrupt work timelines.	4.236	0.682
Projects with risk-assessed suppliers show fewer interruptions.	4.094	0.705
Aggregate Mean	**4.132**	

Respondents strongly agreed that continuity issues are prevalent in KeNHA-managed road projects, largely due to contractor-related challenges. The highest mean was for the disruption caused by financially unstable suppliers (M = 4.236), reinforcing the perceived importance of pre-award financial evaluation. Contractor underperformance and project abandonment also scored highly (M = 4.198 and M = 4.057), indicating that these issues are commonly observed. The agreement that risk-assessed suppliers are less likely to trigger delays (M = 4.094) affirms the relevance of risk profiling. An aggregate mean of 4.132 supports the idea that risk-based procurement enhances project continuity.

These findings support Auditor General (2023) reports indicating that over 30% of road projects between 2022 and 2023 suffered delays due to supplier incapacity. The responses align with AfDB (2022), which found a strong correlation between weak contractor vetting and project disruption in African road infrastructure. PPRA (2023) also confirmed that many contract terminations in the public sector could be traced back to inadequate due diligence during supplier selection.

Correlation Analysis

Pearson's correlation coefficient was used to measure the strength and direction of the relationships between the independent variables and project continuity. Results are presented in Table 5.

Table 5: Pearson Correlation Matrix

Variables	1	2	3	4
1. Financial Risk Profiling	1			
2. Technical Capacity	0.612	1		
3. Legal & Compliance	0.533	0.574	1	
4. Project Continuity	0.679**	0.658**	0.603**	1

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

The correlation coefficient between financial risk profiling and project continuity was $r = 0.679$ ($p < 0.01$), indicating a strong positive relationship. This suggests that as financial screening of contractors improves—through liquidity assessments, verification of audited statements, and cash flow analysis—the likelihood of uninterrupted project execution increases. These results are consistent with Mutiso and Mwikali (2022), who reported that financially stable contractors demonstrated higher project completion rates in Kenya's public infrastructure sector.

A moderate-to-strong positive correlation was found between technical capacity profiling and project continuity ($r = 0.658$, $p < 0.01$). This means that accurate evaluation of technical qualifications, experience, and equipment availability is associated with smoother project progression. The findings align with Nyaga and Wainaina (2022), who emphasized that contractors lacking key technical competencies contributed to significant schedule slippage in road construction projects.

The correlation between legal/compliance profiling and project continuity was $r = 0.603$ ($p < 0.01$), also indicating a moderate positive relationship. This suggests that contractors who are screened for litigation history, tax compliance, and ethical conduct are less likely to cause

project delays. These findings validate the work of Odhiambo and Kemboi (2021), who found that unresolved legal risks often lead to contract suspensions and terminations in Kenyan infrastructure projects.).

Multiple Regression Analysis

A multiple linear regression was conducted to determine the predictive strength of supplier risk profiling dimensions on project continuity.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.754	0.569	0.562	0.294

The model shows a multiple correlation coefficient (R) of 0.754, indicating a strong positive relationship between the combined supplier risk profiling dimensions and project continuity. The R Square value of 0.569 reveals that approximately 56.9% of the variance in project continuity can be explained by the three risk profiling variables. The Adjusted $R^2 = 0.562$ confirms the model's reliability while adjusting for the number of predictors, reducing the likelihood of overfitting. This suggests that supplier profiling is a substantial driver of continuity outcomes in KeNHA's road construction projects.

Table 7: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	34.52	3	11.51	133.10	0.000
Residual	26.22	208	0.126		
Total	60.74	211			

The ANOVA table confirms that the regression model is statistically significant ($F = 133.10$, $p < 0.001$). This indicates that at least one of the supplier risk profiling variables significantly predicts project continuity. The large F-value and low p-value suggest that the combined predictors contribute meaningfully to explaining variations in project outcomes. This supports the theoretical basis of Agency Theory and Risk Management Theory, which posit that reducing contractor-related risks leads to improved performance and fewer disruptions in execution.

Table 8: Regression Coefficients

Predictor	B	Std. Error	Beta (β)	t	Sig.
Constant	0.412	0.113		3.646	0.000
Financial Risk Profiling	0.387	0.054	0.421	7.167	0.000
Technical Capacity	0.351	0.051	0.398	6.882	0.000
Legal & Compliance	0.293	0.059	0.336	5.152	0.000

Financial Risk Profiling ($\beta = 0.421$, $p < 0.001$): This was the strongest predictor of project continuity. The positive and significant coefficient indicates that a one-unit increase in financial risk profiling score leads to an expected 0.387-unit increase in project continuity, holding other variables constant. This underscores the critical importance of conducting rigorous financial due diligence—such as reviewing audited statements and credit histories—to reduce the risk of cash flow disruptions or project abandonment. These findings reinforce the conclusions of Mutiso and Mwikali (2022) and the Auditor General's 2023 report, both of which linked stalled road projects to financially unfit contractors.

Technical Capacity Profiling ($\beta = 0.398$, $p < 0.001$): Technical profiling was also a significant and strong predictor of project continuity. The coefficient implies that better evaluation of contractor expertise, equipment, and experience contributes significantly to ensuring uninterrupted progress on-site. The relatively high beta value demonstrates that technical deficiencies are a major source of execution problems, validating the RBV theory, which

emphasizes the value of internal capabilities as predictors of operational success (Barney, 1991). The results echo the findings of Nyaga and Wainaina (2022), who found that contractors lacking the required machinery or skilled personnel were frequent contributors to project delays.

Legal and Compliance Profiling ($\beta = 0.336$, $p < 0.001$): Although the smallest of the three predictors, legal and compliance profiling still had a significant and positive influence on project continuity. This suggests that evaluating a contractor's regulatory history, litigation exposure, and ethical compliance can meaningfully reduce project disruptions. The findings are consistent with Odhiambo and Kemboi (2021) and World Bank (2022), which both emphasized that unresolved legal or tax issues often lead to project stoppages, reputational risks, or forced contract terminations.

Conclusions

The first objective of the study was to assess the effect of financial risk profiling on the continuity of road construction projects at KeNHA. The findings revealed that financial profiling had the strongest and most significant positive influence on project continuity. Respondents agreed that liquidity assessment, verification of audited financial statements, and evaluation of access to credit are critical practices in contractor selection. The regression results confirmed that improvements in financial risk profiling lead to measurable increases in the likelihood of project completion without disruption. Therefore, the study concludes that rigorous financial vetting during supplier evaluation is a cornerstone for mitigating mid-project abandonment, delayed mobilization, and funding shortfalls.

The second objective aimed to examine the influence of technical capacity risk profiling on project continuity. The study found that evaluation of prior experience, technical staff qualifications, and availability of key construction equipment significantly contributed to improved project outcomes. Descriptive data showed a strong consensus among respondents that technical deficiencies frequently result in construction delays, while regression analysis confirmed that technical profiling is a significant predictor of continuity. The study therefore concludes that contractor capacity to execute the technical scope of work is a critical determinant of whether a road project progresses without delays or scope variations.

The third objective was to determine the effect of legal and compliance risk profiling on project continuity. Although this dimension had a slightly lower impact compared to financial and technical profiling, it still emerged as statistically significant. Respondents agreed that screening for tax compliance, litigation history, and ethical conduct plays a preventive role in eliminating risks that can lead to legal disputes or contract nullifications. As such, the study concludes that legal and regulatory due diligence enhances project security and should not be overlooked during procurement planning.

Lastly, the fourth objective sought to evaluate the combined effect of all three dimensions of supplier risk profiling on project continuity. The regression model showed that 56.9% of the variation in project continuity was explained by financial, technical, and legal risk profiling. This confirms the theoretical premise that when supplier vetting is approached comprehensively, the risk of project delays, terminations, or cost overruns is significantly reduced. The study therefore concludes that supplier risk profiling is not merely a procedural requirement but a strategic tool for achieving infrastructure delivery objectives in Kenya's public road sector.

Recommendations

Based on the strong influence of financial risk profiling on project continuity, the study recommends that KeNHA formalize and standardize financial due diligence procedures across all construction tenders. Tools such as cash flow ratio analysis, independent verification of bank statements, and scoring templates for financial strength should be integrated into supplier

evaluation frameworks. This would prevent the engagement of undercapitalized firms that are likely to default or abandon works.

Given the important role of technical capacity profiling, the study recommends enhancing technical evaluation criteria to focus not only on documentation but also on field verification. Evaluation committees should conduct physical or remote verification of equipment and engage industry experts to validate the qualifications of key personnel. Contractors should be required to demonstrate execution of similar projects under comparable complexity and budget thresholds.

In response to the findings on legal and compliance risk profiling, the study recommends that KeNHA invest in automated compliance verification systems. These should be linked with national databases such as the KRA iTax system, EACC's integrity records, and court registries for real-time screening of bidders. Affidavits should be backed with third-party validation to ensure integrity in procurement.

As the study showed that all three dimensions of profiling work best in combination, the study recommends that KeNHA, in collaboration with the Public Procurement Regulatory Authority (PPRA), develop a centralized digital Contractor Risk Register. This system should track performance history, past defaults, blacklist status, and contract execution trends. Such a tool would allow procurement officers to make evidence-based decisions and reduce overreliance on manual evaluations.

Finally, the study recommends continuous capacity building for procurement and evaluation teams to equip them with skills in financial analysis, risk-based sourcing, and legal compliance screening. Strengthening internal evaluation capacity will ensure that supplier risk profiling is not only policy-compliant but practically effective in driving project success.

Suggestions for Further Research

Future studies could adopt a longitudinal approach to track the long-term effects of supplier risk profiling on project outcomes beyond continuity, such as cost and quality. Comparative studies across other road agencies like KURA and KeRRA are also recommended to assess institutional differences. Researchers may also explore the use of digital tools (e.g., data analytics, e-procurement) in enhancing profiling effectiveness. Additionally, studies should examine moderating factors like political interference or contract management practices. Finally, research on post-award contractor monitoring can provide a complete view of procurement risk management.

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