

## Stakeholder Communication Management and Performance of Road Infrastructure Projects Developed by KeRRA in Kiambu County, Kenya

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Accepted: 11 July 2026 || Published: 04 August 2026

### Abstract

The Government of Kenya has invested heavily in road infrastructure to support economic growth and regional development. However, despite increased funding, many road projects continue to experience delays, cost overruns, and quality-related challenges. Previous studies have attributed poor performance of road infrastructure projects to factors such as inadequate funding, weak contractor capacity, poor planning, slow decision-making, and ineffective monitoring and evaluation. Although these factors explain part of the problem, they do not provide a comprehensive understanding of all the determinants of project performance. In particular, limited attention has been paid to the role of communication management, yet effective communication is essential for coordinating stakeholders involved in infrastructure projects. This study, therefore, examined the influence of communication management on the performance of road infrastructure projects developed by the Kenya Rural Roads Authority (KeRRA) in Kiambu County, with a specific focus on stakeholder communication management. The study was guided by Stakeholder Theory and adopted a positivist philosophy together with descriptive and explanatory research designs. The target population consisted of ten completed road projects, involving 80 respondents drawn from KeRRA, the County Government, and contractors, and a census approach was used. Primary data were collected using structured questionnaires and analyzed using descriptive and inferential statistics with SPSS version 20. A regression model was applied to test the relationship between stakeholder communication management and project performance. The findings revealed that stakeholder communication management had a positive and statistically significant effect on the performance of road infrastructure projects ( $R^2 = 0.435$ ,  $\beta = 0.787$ ,  $p = 0.00 < 0.05$ ). The study concluded that effective stakeholder communication management improves project outcomes. It recommended institutionalizing structured stakeholder communication frameworks, formal feedback mechanisms, and regular stakeholder satisfaction assessments to enhance collaboration and improve the performance of road projects.

**Keywords:** *Communication Management, Stakeholder Communication, Kenya Rural Roads Authority (KeRRA), Road Infrastructure Performance, Stakeholder Theory, Project Performance*

**How to Cite:** Anampiu, R. N., Kiarie, F. K., & Gachengo, L. W. (2026). Stakeholder Communication Management and Performance of Road Infrastructure Projects Developed by KeRRA in Kiambu County, Kenya. *Journal of Entrepreneurship and Project Management*, 6(2), 16-28.

## 1. Introduction

According to Kenya Vision 2030, the effective construction of roads is essential to the nation's overall productivity and economic growth over the next three decades. For the expansion and development of any economy, road infrastructure projects must be successfully carried out and completed. They are also important for generating revenue and jobs. As a direct consequence, the government has made substantial expenditures to expand the road network. Concerns have been raised about the poor performance of road projects, despite the government's continued considerable investments in road development. According to Macharia (2016), more than 50% of Kenya's road infrastructure faces a multitude of challenges that prevent projects from being completed on schedule due to financial constraints.

In 2018, the Kiambu County Government published an integrated development plan for the county covering 2018-2022. The plan stated that the county had a total road network of 5533 kilometers. 249 kilometers of roads have not yet been opened. The roads that adhere to bitumen standards are 865.4 kilometers long, 105 kilometers long on gravel, and 3167 kilometers long on earth. Nevertheless, despite the County's road network, a number of obstacles have been encountered in completing them on time and within the allotted budget. For example, Kasavi (2019) found that 45% of the stakeholders surveyed experienced severe delays in the timelines of the projects they were working on, with the majority of projects surpassing their planned completion durations by more than 6 months. The findings of previous research conducted by Gathoni and Karanja (2016) revealed that among the building projects that were carried out in Kiambu County with the assistance of the Constituency Development Funds (CDF), eighty percent were not completed at all, and just twenty percent of the road infrastructure projects were completed and functioning well. The report that KeRRA compiled on the completion status of road infrastructure projects in Kiambu County as of the year 2021 also makes this conclusion abundantly clear. According to the observations, some highways are still in operation, and construction of these roads began in 2016. Furthermore, a number of road projects, such as the Gatundu - Karinga - Flyover, which started in 2012 and had a scope of 45 kilometers, were completed in 2019, which is a significant amount of time behind schedule. More than one billion Kenyan shillings were spent on the repair project.

In Kiambu County, Kenya, Wanjohi and Musembi (2024) found that stakeholder engagement significantly and favorably affected the outcome of road-building projects. Their findings confirmed this relationship. Similarly, Kasavi (2019) identified the key factors responsible for the underperformance of road infrastructure projects in Kenya. These factors include inadequate planning, insufficient financing, monitoring, and assessment, inadequate cost estimates, insufficient contractor ability, and slow decision-making. Additionally, 60% of projects in Kiambu County faced budgetary challenges, resulting in significant cost overruns beyond initial estimates. Poor coordination among stakeholders and inadequate monitoring and evaluation (M&E) systems are cited as major contributors to these inefficiencies (Rubia & Kimaru, 2022).

According to a KeRRA (2023) report, KeRRA carried out 44 road infrastructure projects across 30 counties between 2016 and 2021. However, during the implementation phase, the dates of 31 projects were revised, indicating that the construction was not completed by the set completion date. Kiambu is one of the counties where the project dates were revised, indicating that road completion faced challenges. In terms of contextual gaps, factors like funding, contractor capacity, project planning, stakeholders' participation, monitoring, and evaluation have been cited as the main causes of poor performance in road infrastructure in Kiambu County, Kenya (Wanjohi & Musembi, 2024; Kasavi, 2019; Maichuhie, 2017). However, none

of these studies has considered stakeholders' communication management as a factor influencing the performance of road infrastructure in the County.

## **1.2 Research Objective**

To explore the influence of stakeholders' communication management on the performance of road infrastructure projects developed by KeRRA in Kiambu County, Kenya.

## **1.3 Research Hypothesis**

H<sub>0</sub>: Stakeholders' communication does not have a statistically significant effect on the performance of road infrastructure projects developed by KeRRA in Kiambu County, Kenya.

## **2. Literature Review**

### **2.1 Theoretical Review**

Freeman (1984) established the stakeholder theory. Value creation is the key feature of the idea. An essential tenet of the theory is that an organization can thrive only when its members form bonds based on a shared set of values and beliefs. Managers can integrate their own beliefs into the process of developing and executing strategic plans. According to Freeman (2014), stakeholder theory advocates fair, honest, and generous treatment of stakeholders.

According to stakeholder theory, an organization's stakeholders should be identified and managed, and their interests should be balanced. This idea postulates that businesses shouldn't be limited to maximizing profits for their shareholders, but should instead take into account the wants and requirements of their workers, clients, vendors, neighbors, and even the state. It acknowledges that stakeholders can influence and be influenced by organizational activities, and that sustainable success hinges upon creating mutually advantageous relationships (Freeman, 1984; Donaldson & Preston, 1995).

Stakeholder theory broadens the focus of organizational decision-making by encouraging ethical practices and long-term sustainability. To encourage organizations to proactively manage diverse stakeholder interests, reduce conflict, and build trust. In doing so, it enables alignment of organizational goals with stakeholders' expectations, leading to a strong reputation and performance outcomes. In addition, the framework constitutes a complete system for grasping the intricate network of interdependency that influences an organization's accomplishment, and this is especially germane in large-scale infrastructure projects that rely on collaboration across multiple groups to function effectively (Harrison et al., 2015).

Though stakeholder theory has its benefits, it has been criticized for the difficulty of identifying and prioritizing stakeholders, especially where there is a conflict of interest. Although it can be difficult to operationalize in practice, resource constraints and competing demands for other organizational efficiency can arise. Additionally, critics say the theory does not have a clear mechanism for addressing stakeholders' conflicts, and it can diminish organizational concentration if poorly pursued (Jensen, 2002).

Applying stakeholder theory to understand how stakeholder communication management affects the success of road infrastructure projects is wise. Through effective communication with stakeholders, project alignment with stakeholders' demands, risk mitigation, and transparency may be achieved. Stakeholders include government agencies, contractors, local communities, and environmental organizations. Therefore, this theory was adopted in the current study to investigate how tailored communication strategies can elicit stakeholder satisfaction, thereby helping reduce delays and improve project outcomes. A simple example would be that involving community members early in project planning reduces people's

resistance to the project, promotes cooperation, and helps ensure clear communication with contractors, which in turn helps enforce adherence to timelines and budgets.

## **2.2 Empirical Review**

With a focus on best practices, Ludwig (2018) conducted a thorough examination of the role of meetings in the successful completion of both public and private construction projects. The results of the study demonstrated that communication is the main factor influencing the effective completion of building projects. Project success is influenced by several factors, but the most important is ensuring that stakeholders communicate effectively.

Throughout building projects, strong stakeholder communication is fostered through early and ongoing information exchange. In construction contexts, meetings are the main means of disseminating information. Meetings influence project direction and aid decision-making from the start to the conclusion of the project (Abdallah, Shaawat, & Almohassen, 2024). Meetings that are overly frequent or badly planned, however, can result in inefficiencies and lower productivity. Problems will always arise throughout construction projects, and reactive addressing is often futile. Instead, organized meetings should support proactive problem-solving. Since meetings play an integral role in construction project success, they should be conducted to optimize the time and input of all project stakeholders.

A wide variety of experts work on construction projects, and each one brings unique abilities at various stages of the project. Strong stakeholders' participation is essential for road infrastructure projects to succeed, especially prior to commercialization, claim Tengilimoglu, Carsten, and Wadud (2023). This collaboration ensures the creation of safe and effective rules, laws, standards, and decision-making frameworks. Therefore, clear, strategic communication is essential to the successful completion of construction projects.

To determine how stakeholders' communication affected the success of private building projects in Nairobi County, Mwando (2021) carried out the study. Three theoretical frameworks—the Stakeholder Theory, Goal-Setting Theory, and Control Theory—formed the basis of the investigation. A sample of 115 respondents was used in a descriptive study. Project stakeholders were given standardized questionnaires to complete in order to collect data. SPSS Version 22 was then used to evaluate the collected data and produce insights into the efficacy of stakeholders' communication.

The results showed that a range of stakeholders' communication techniques, such as interactive, push, and pull methods, were used. Projects with clearly established communication systems performed better than those without sufficient stakeholder communication channels. According to the study's findings, stakeholder communication is essential to the success of private building projects in Nairobi County. The current study investigated stakeholders' communication management and its impact on the performance of public road infrastructure in Kiambu County, Kenya, in contrast to Mwando's (2021) study, which mainly concentrated on stakeholders' communication in private construction projects.

## **3. Methodology**

The study adopted a positivist research philosophy, which emphasizes objectivity, empirical observation, and statistical analysis in examining relationships among variables. A descriptive and explanatory research design was used to describe stakeholder communication management practices and explain their influence on the performance of road infrastructure projects implemented by the Kenya Rural Roads Authority (KeRRA) in Kiambu County. The target population consisted of 80 personnel involved in ten road infrastructure projects completed

between 2016 and 2021, including KeRRA officers and contractors. Because the population size was small and manageable, the study used a census sampling approach, allowing all members of the population to participate in order to enhance representativeness and minimize sampling bias.

Primary data were collected using a structured questionnaire with Likert-scale items, designed to capture demographic information and perceptions on stakeholder communication management practices and project performance. A pilot study was conducted to test the instrument's validity and reliability. Construct validity was confirmed through expert review and pre-testing, while reliability was assessed using Cronbach's Alpha, yielding an overall coefficient of 0.872, indicating acceptable internal consistency. After obtaining research authorization from Kenyatta University, NACOSTI, and KeRRA, the researcher administered the questionnaires with the help of research assistants, ensuring voluntary participation and respondent confidentiality. Completed questionnaires were collected, checked, and prepared for statistical analysis using SPSS version 29, enabling the study to generate reliable findings on the influence of stakeholders' communication management on the performance of road infrastructure projects in Kiambu County, Kenya. The study employed a simple linear regression model to determine the relationship between stakeholders' communication management and the performance of road infrastructure.

## **4. Results and Discussion**

### **4.1 Response Rate and Background Information**

The study administered 80 questionnaires; 53 were successfully returned, yielding a response rate of 66.25%, while 27 were not returned, representing a non-response rate of 33.75%. Although the response rate was slightly below the ideal threshold of 70%, it was considered adequate for social science research involving human participants, where full participation is often limited by workload, availability, and other commitments. The achieved response rate was therefore sufficient to support meaningful statistical analysis and reliable interpretation of the findings. The demographic analysis focused on respondents' gender, age, work experience, designation, and background training in communication management to determine whether the sample adequately represented personnel involved in road infrastructure projects. The gender distribution showed that the majority of respondents were male (72%) compared to 28% female, reflecting the common dominance of men in technical and infrastructure-related sectors. The age distribution indicated that most respondents were in the mid-career category, particularly between 31 and 35 years, followed by those above 41 years, suggesting that the projects are largely handled by experienced and professionally mature personnel.

Further background information revealed that most respondents had substantial experience in road construction projects, with the largest proportion having worked for 6–10 years, followed by those with 11–15 years of experience, indicating that the study relied on participants with adequate practical exposure to project communication and implementation. In terms of designation, the majority were Road Engineers and members of the planning team, followed by surveyors, supervisors, and inspectors, demonstrating that the data was obtained from technically competent personnel directly involved in project planning, supervision, and execution. This diversity of professional roles enhanced the reliability of the responses by incorporating both strategic and field-level perspectives. However, the findings also showed that only 45% of respondents had received formal training in project communication management, while 55% had no prior training, suggesting a potential gap in stakeholders' communication skills. This lack of training may influence coordination, information flow, and



overall project performance, thereby justifying the need to examine communication management practices in road infrastructure projects developed by the Kenya Rural Roads Authority in Kiambu County, Kenya.

## 4.2 Descriptive Analysis

### 4.2.1 Descriptive Analysis for Stakeholders' Communication Management

The study sought to examine the extent to which stakeholder communication management influences the performance of road infrastructure projects developed by Kenya Rural Roads Authority (KeRRA) in Kiambu County, Kenya. Effective stakeholder communication has been widely acknowledged in project management literature as a critical determinant of project success, particularly in complex public-sector infrastructure initiatives where multiple actors interact across different administrative and technical levels. In this regard, the study focused on assessing respondents' perceptions of collaborative practices, such as stakeholder reviews, a shared vision, and cohesion among stakeholders, to evaluate project milestones. The descriptive results are presented in Table 1.

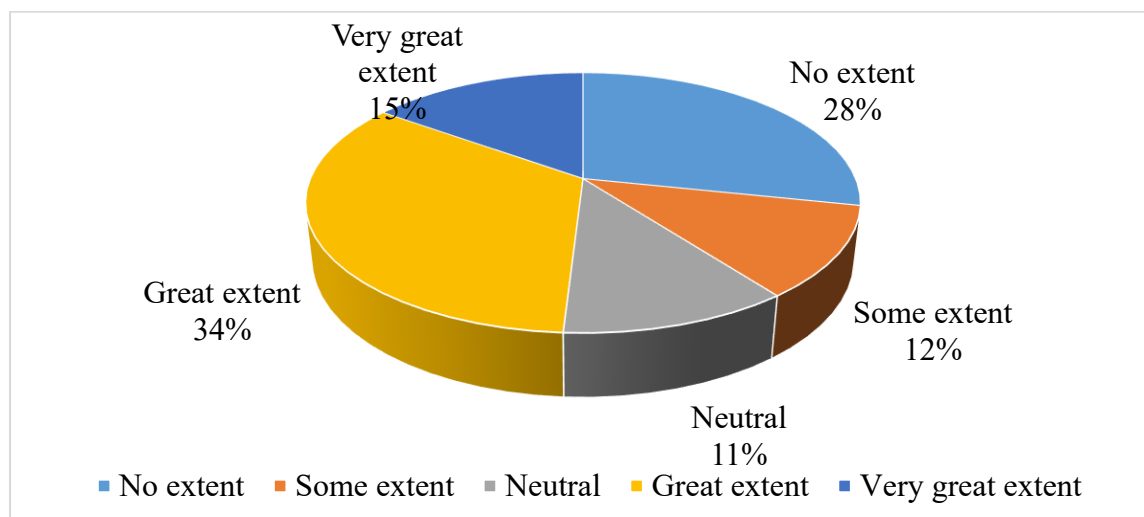
**Table 1: Descriptive Results for Stakeholders' Communication Management**

|                                                                                                                                                  | SD         | D            | UD         | A            | SA           | $\mu$       | $\sigma$    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|------------|--------------|--------------|-------------|-------------|
|                                                                                                                                                  | f(%)       | f(%)         | f(%)       | f(%)         | f(%)         |             |             |
| Regular stakeholder reviews are conducted to measure and evaluate project milestones.                                                            | 1<br>(1.9) | 2<br>(3.8)   | 3<br>(5.7) | 23<br>(43.4) | 24<br>(45.3) | 4.26        | .880        |
| There is positive cohesion among all stakeholders involved in implementing the road infrastructure.                                              | 1<br>(1.9) | 31<br>(58.5) | 3<br>(5.7) | 15<br>(28.3) | 31<br>(58.5) | 4.36        | .963        |
| All the involved stakeholders in the implementation of road infrastructure projects have a shared vision based on the project being implemented. | 0<br>(0.0) | 5<br>(9.4)   | 3<br>(5.7) | 24<br>(45.3) | 21<br>(39.6) | 4.15        | .907        |
| <b>Average Score</b>                                                                                                                             |            |              |            |              |              | <b>4.26</b> | <b>.917</b> |

The results presented in Table 1 indicate that respondents generally agreed that stakeholder coordination and communication play a significant role in the development of road infrastructure projects undertaken by KeRRA in Kiambu County. Regarding whether regular stakeholder reviews are conducted to measure and evaluate project milestones, the mean score of 4.26 suggests strong agreement among participants. The standard deviation of 0.880 indicates a moderate level of variability, implying that although the majority supported the statement, there were some differences in the extent of agreement. A total of 24 respondents (45.3%) strongly agreed, while 23 (43.4%) agreed, indicating that the majority of respondents perceive stakeholder review processes as active and consistent. These findings concur with research on project management, which highlights that stakeholder review mechanisms enhance project transparency and enable timely decision-making (Makoveyenko et al., 2020).

The study further established strong respondent agreement on positive cohesion among stakeholders involved in road infrastructure implementation, as indicated by a mean of 4.36. Although the standard deviation is relatively higher (0.963), suggesting diversity of opinions, the distribution still shows strong endorsement: 31 (58.5%) strongly agreed, and 15 (28.3%) agreed. High cohesion implies that stakeholders share mutual trust and collaborative attitudes, elements that Santoso and Gallage (2020) identify as crucial for achieving alignment between stakeholder interests and project outcomes. The finding underscores the importance of relational dynamics in determining the smooth execution of infrastructure projects.

Respondents also agreed (mean = 4.15) that stakeholders share a common vision for the project being developed. The standard deviation (0.907) suggests moderate variability in perceptions; however, the majority of responses were positive, with 21 respondents (39.6%) strongly agreeing and 24(45.3%) agreeing. The shared-vision concept is supported by Bezuhla and Bezuhla (2020), who argue that stakeholder alignment around core project objectives reduces ambiguity and fosters coordinated decision-making. The absence of respondents selecting "strongly disagree" further reinforces the collective perception of shared purpose. Respondents also shared their views on the extent to which stakeholder communication management affected the performance of road infrastructure projects by KeRRA. The results are shown in Figure 1.



**Figure 1: Extent to which Stakeholder Communication Management affects Performance of Road Infrastructure Projects**

As shown in Figure 1, 34% indicated that stakeholder communication management affected the performance of road infrastructure projects to a great extent, 15% to a very great extent, and 12% to some extent. On the other hand, 28% indicated no extent, whereas 11% remained neutral. Collectively, these results demonstrate that stakeholder engagement within KeRRA-implemented road infrastructure projects in Kiambu County, Kenya is perceived as highly interactive, collaborative, and well-coordinated. Additionally, the consistently high mean values in Table 1 (average mean score 4.26) reflect strong agreement across all measured dimensions of stakeholders' communication and coordination. Additionally, a common opinion among respondents about the efficacy of stakeholder-related procedures is reflected in the comparatively low standard deviations across several items. These findings collectively reinforce the argument that effective communication structures enhance the quality of project execution, minimize operational disruptions, and promote collective ownership of project outcomes.

4.2.2 Performance of Road Infrastructure Projects

The study sought to investigate the Performance of Road Infrastructure Developed by KeRRA in Kiambu County, Kenya. The descriptive results for the performance of road infrastructure projects are presented in Table 2.

Table 2: Descriptive Results for the Performance of Road Infrastructure

|                                                                                | SD         | D          | UD           | A            | SA           | $\mu$ | $\sigma$ |
|--------------------------------------------------------------------------------|------------|------------|--------------|--------------|--------------|-------|----------|
|                                                                                | f(%)       | f(%)       | f(%)         | f(%)         | f(%)         |       |          |
| The project's due dates are met.                                               | 3<br>(5.7) | 3<br>(5.7) | 12<br>(22.6) | 28<br>(52.8) | 7<br>(13.2)  | 3.62  | .985     |
| The project makes good use of the budget.                                      | 3<br>(5.7) | 0<br>(0.0) | 6<br>(11.3)  | 17<br>(32.1) | 27<br>(50.9) | 4.23  | 1.050    |
| The infrastructure projects are carried out within the established parameters. | 0<br>(0.0) | 3<br>(5.7) | 9<br>(17.0)  | 18<br>(34.0) | 23<br>(43.4) | 4.15  | .907     |
| Average Score                                                                  |            |            |              |              |              | 4.00  | .981     |

The findings on the performance of road infrastructure projects by the Kenya Rural Roads Authority indicate generally strong performance, as reflected in an overall mean score of 4.00 and a standard deviation of 0.981. This suggests that respondents largely perceive the projects as performing well across key dimensions: timeliness, budget utilization, and adherence to established parameters, though with moderate variability in their perceptions. The relatively high overall mean implies that performance standards are largely being achieved, while the standard deviation indicates some differences in experience across projects or regions.

Regarding whether project due dates are met, 52.8% of respondents agreed, and 13.2% strongly agreed, for a total of 66.0% positive responses. However, 5.7% strongly disagreed, 5.7% disagreed, and a notable 22.6% were undecided. The mean score of 3.62 and standard deviation of 0.985 indicate moderate agreement with relatively wide dispersion in responses. This suggests that while most projects are completed within stipulated timelines, inconsistencies may be attributable to external factors such as procurement delays, weather conditions, funding disbursement timing, or contractor capacity. The relatively high proportion of undecided respondents suggests variability in performance across project sites, indicating that schedule adherence, though satisfactory overall, may not be consistently achieved.

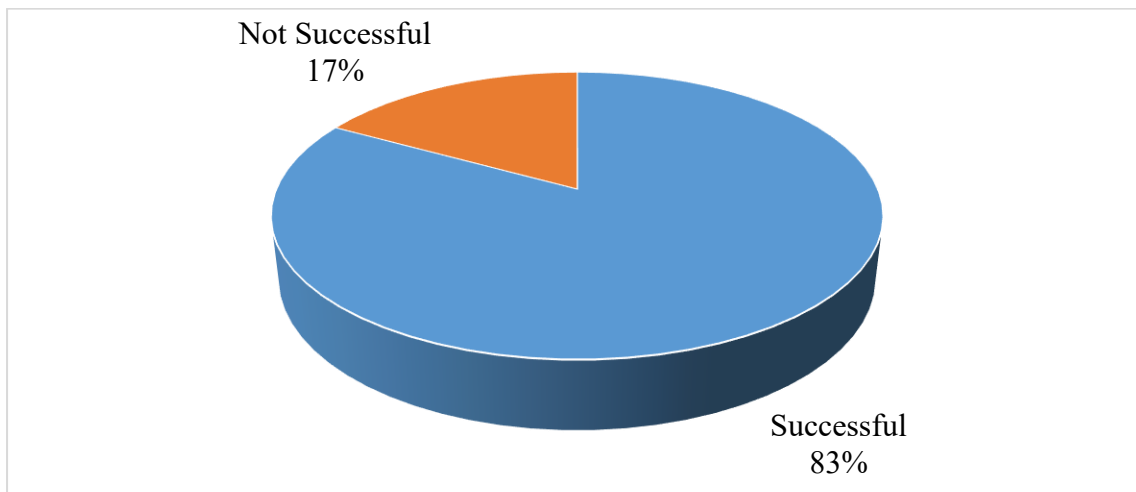
Regarding budget utilization, the results show strong positive perceptions. A combined 83.0% of respondents agreed (32.1%) or strongly agreed (50.9%) that projects make good use of budgets, while 5.7% strongly disagreed and 11.3% were undecided, with no respondents selecting “disagree.” The mean of 4.23—the highest among the three indicators—and a standard deviation of 1.050 suggest strong agreement but with slightly greater variability. The high mean indicates effective financial management practices, prudent resource allocation, and possibly strong oversight mechanisms. However, the relatively high standard deviation suggests that perceptions of budget efficiency vary across projects, potentially reflecting differences in cost-control practices or unforeseen expenditures in certain locations.

Similarly, the statement that infrastructure projects are carried out within established parameters received strong support. A total of 34.0% agreed, and 43.4% strongly agreed, for a total of 77.4% positive responses. Only 5.7% disagreed, and 17.0% were undecided, with no



strong disagreement recorded. The mean score of 4.15 and standard deviation of 0.907 indicate strong and relatively consistent agreement. This suggests that most projects adhere to predefined scope, quality standards, and regulatory requirements. Compliance with established parameters reflects effective project planning, supervision, and quality control systems, which are critical in public infrastructure development.

Overall, the results demonstrate that road infrastructure projects by the Kenya Rural Roads Authority are perceived to perform strongly, particularly in financial management and adherence to project specifications. While timeliness shows comparatively lower performance and greater variability, the overall high average of 4.00 confirms that project performance is generally positive. The moderate dispersion across indicators suggests that strengthening consistency in schedule management could further enhance overall project outcomes. Lastly, respondents were asked to rate whether the performance of road infrastructure developed by KeRRA in Kiambu County, Kenya, was successful. The results are shown in Figure 2.



**Figure 2: Performance Rating of Road Infrastructure Projects by KeRRA**

The performance rating of road infrastructure projects by the Kenya Rural Roads Authority (KeRRA) presents a strongly positive outcome, with an overwhelming 83% of projects classified as "Successful." This high success rate suggests that the organization's project management practices, planning processes, and execution strategies are largely effective in delivering road infrastructure that meets predefined objectives, whether related to scope, budget, schedule, or quality standards (Project Management Institute, 2021). However, the 17% of projects rated as "Not Successful" is a non-trivial minority that warrants attention. From a strategic standpoint, this figure represents not only a failure to deliver specific project benefits but also a potential misallocation of public funds and resources (Kerzner, 2017). For KeRRA, this 17% segment offers a critical diagnostic opportunity. By conducting a comparative analysis between the successful and unsuccessful cohorts, the organization can identify specific risk factors, systemic weaknesses, or recurring challenges, such as procurement delays, community resettlement issues, or contractor performance problems, that lead to failure. Addressing the root causes behind this 17% is essential for driving continuous improvement and moving closer to the ideal of universal project success in public infrastructure development.

### 4.3 Relationship Between Stakeholder Communication Management and Performance of Road Infrastructure

The study sought to establish the relationship between stakeholder communication management and the performance of road infrastructure developed by KeRRA in Kiambu County, Kenya. A bivariate linear regression analysis was conducted to determine the relationship. Table 3 shows the results.

**Table 3: Relationship between Stakeholder Communication Management and Performance of Road Infrastructure**

| Model Summary |                   |          |                   |                            |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model         | R                 | R Square | Adjusted R-Square | Std. Error of the Estimate |
| 1             | .660 <sup>a</sup> | .435     | .424              | 2.10837                    |

a. Predictors: (Constant), Stakeholder Communication Management

| ANOVA <sup>a</sup> |            |                |    |             |        |                   |
|--------------------|------------|----------------|----|-------------|--------|-------------------|
| Model              |            | Sum of Squares | df | Mean Square | F      | Sig.              |
|                    | Regression | 174.766        | 1  | 174.766     | 39.316 | .000 <sup>b</sup> |
| 1                  | Residual   | 226.706        | 51 | 4.445       |        |                   |
|                    | Total      | 401.472        | 52 |             |        |                   |

a. Dependent Variable: Performance of Road Infrastructure

b. Predictors: (Constant), Stakeholder Communication Management

| Coefficients <sup>a</sup> |                                      |  |                             |            |                |      |
|---------------------------|--------------------------------------|--|-----------------------------|------------|----------------|------|
| Model                     |                                      |  | Unstandardized Coefficients |            | Standardized t | Sig. |
|                           |                                      |  | B                           | Std. Error | Beta           |      |
|                           | (Constant)                           |  | .574                        | 2.030      | .283           | .778 |
| 1                         | Stakeholder Communication Management |  | .787                        | .126       | .660           | .000 |

a. Dependent Variable: Performance of Road Infrastructure

Performance of Road Infrastructure = .574 + .787 (Stakeholder communication management).

The simple linear regression analysis reveals a strong, statistically significant positive relationship between Stakeholder Communication Management (SCM) and the Performance of Road Infrastructure (PRI). The model summary indicates a robust correlation coefficient (R) of .660, with Stakeholder Communication Management explaining 43.5% of the variance in project performance ( $R^2 = .435$ , Adjusted  $R^2 = .424$ ). This substantial explanatory power demonstrates that effectively managing communications with stakeholders is a major determinant of infrastructure project success.

The ANOVA results strongly confirm the model's excellent fit,  $F(1, 51) = 39.316$ ,  $p < .001$ . The coefficients table shows that for every one-unit increase in the effectiveness of stakeholder communication management, the performance of road infrastructure projects increases by 0.787 units ( $B = 0.787$ ,  $\beta = 0.660$ ,  $t = 6.270$ ,  $p < .001$ ). This finding is firmly grounded in stakeholder theory, as articulated by Freeman (1984), who posited that organizations must

actively manage relationships with groups that can affect or are affected by the achievement of organizational objectives.

In the context of road infrastructure projects, which typically involve government agencies, local communities, contractors, suppliers, and end-users, the ability to systematically identify stakeholders, analyze their expectations, and engage them through targeted communication strategies appears critical. As Olander and Landin (2005) demonstrated in their study of construction projects, stakeholder influence can significantly affect project outcomes: poor stakeholder management leads to resistance, delays, and cost overruns, whereas proactive engagement fosters goodwill and smoother execution. The strength of this relationship also aligns with the Project Management Institute's (2021) emphasis on stakeholder engagement as a core competency, in which effective communication management ensures stakeholders' support and alignment with the project's objectives throughout the project lifecycle.

Given that 43.5% of the variance in performance is explained by stakeholder communication management alone, this finding suggests that practitioners should prioritize developing robust stakeholder communication strategies, recognizing that building strong relationships with the many groups involved in project outcomes is just as important to the success of infrastructure projects as technical execution.

## 5. Conclusion

Stakeholder communication management emerges as a significant predictor of infrastructure project performance, confirming that targeted engagement with the diverse groups who can affect or are affected by project outcomes adds unique value beyond general communication practices. The findings acknowledge that road infrastructure projects inherently involve multiple parties, government agencies, local communities, contractors, suppliers, and end-users whose expectations, concerns, and interests must be systematically identified and addressed. Effective stakeholder communication management ensures that these groups remain informed, engaged, and supportive throughout the project lifecycle, thereby minimizing resistance, preventing delays, and maintaining the project's social license to operate.

## 6. Recommendations

In light of the results, which show that positive cohesion and frequent stakeholder reviews are already standard procedures, stakeholder communication management has a major impact on project performance. By institutionalizing established stakeholder communication frameworks that ensure all relevant parties are continuously involved throughout the project lifecycle, KeRRA is advised to strengthen these current methods for improved performance. To systematically record stakeholders' expectations and concerns, formal feedback methods should be established. Stakeholder satisfaction surveys should be carried out regularly to evaluate the success of communication tactics and identify opportunities for further in-depth cooperation and relationship development.

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