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Stakeholders' Resource Management and Performance of Road Construction Projects in Siaya County, Kenya

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Abstract

Road construction projects in Siaya County have been facing challenges including delays in completion, cost overruns, and poor quality. The purpose of this study was to investigate the effect of stakeholders' resource management on the performance of road construction projects in Siaya County, Kenya. The study was anchored on stakeholder theory and utilized the explanatory research design. The target population was four road construction projects in Siaya County. The respondents comprised of Kenya Urban Roads Authority (KURA) officials, contractors, and Siaya county government representatives. A census of all urban road construction projects was conducted. A questionnaire was used to collect primary data that was analyzed using descriptive and inferential statistics. The findings indicated that stakeholders' resource management had a positive and significant effect on road construction projects. The study concluded that stakeholders' resource management greatly determines the performance of road construction projects in Siaya County. The study recommended that project managers should involve stakeholders in project planning, implementation, and execution to the greatest extent possible.

Keywords: *Stakeholders' Resource Management, Project Performance, Road Construction, Projects*

1.0 Introduction

Road transportation is a form of transport in Kenya that is greatly contributing to the country's economy through enhanced mobility. It's highly expected that a poor road network has a negative impact on the citizens living standards and the country at large. The does not only arise from the inability to enhance the movement of people of produce but accidents also affect the country's economy (World Bank, TRN-4, 2015). The rural roads have formed the major road networks that create a connection and accessibility to the rural inhabitants. The government of India, within 50 years, has done much regarding the rural connectivity of all-weather roads and a long-term development plan, the envelopment of rural roads has been given a priority (Ayush, 2014).

The current road infrastructure across the continent is poor resulting in a high cost of transport. This makes goods produced in the continent less competitive compared with the rest of the world. Bad roads and lax regulations also cost lives. A drop in cost of transport by 10 percent would accelerate intra-African trade by 25 percent (World Bank, 2017). The efforts to integrate

the continent by road network are hampered by several challenges. Insecurity in some areas has made use of roads impossible. Wars besides preventing road construction also cause damage to already established works resulting in a need for reconstruction thereby increasing costs as in the case of the Democratic Republic of Congo. There are also highway checkpoints and border controls that limit the use of roads. Even the flow of traffic is prevented by such issues touching on neighbor relations as is with Morocco and Algeria whose border is closed.

In several countries in Africa, the concentration of roads is mainly in urban centers and the coastal ports since they are trade routes that were established in the colonial era to facilitate overseas commodity shipment. Very few roads in regional networks link neighboring countries. A United Nations report in 2012 gives rough estimates to indicate that $18-25 billion annually is required to facilitate adequate infrastructure improvement in the continent that currently invests only about $5 billion yearly. In a bid to attract funding to this sector, some innovative ways have been adopted such as public-private partnerships. Sourcing from non-traditional lenders like China, engaging the private sector in programs such as Finance-Rehabilitate-Operate-Maintain (FROM), Build-Operate-Transfer (BOT), and use of infrastructure bonds popularly Known as Euro-bonds. However, investments in Infrastructure by the private sector in Africa have been very poor. Many consider returns on investment on roads to be very low, especially the rural infrastructure. The ECA noted that in Africa, private companies have, between the years 1982-1994, financed $350million worth of projects while private companies in Latin America financed $10.5 billion worth of projects within the same duration. Most public spending on infrastructure in sub- Saharan Africa is through State enterprises such as the Kenya Roads Board, The Rwanda Transport Development Agency, the Tanzania National Roads Agency, and the Uganda National Roads Authority. These agencies, among other state enterprises, are unable to spend more than one-third of their budgetary allocations because of poor planning, deficiencies in budget preparation, and delays in procurement (United Nations, 2012).

The fiscal budgets for the East African countries on road construction have progressively increased, targeting key road infrastructure of these countries to promote the flow of goods and services among them. For instance, Kenya allocated $954mn, $1.1bn, $1.3bn in 2013/14, 2014/15, 2015/2016 respectively for roads. Uganda, Tanzania, and Rwanda allocated $936mn and an increase of 18.2%, $870mn, $10.2mn respectively. Noting the challenges faced by the road construction agencies, there is a need for an established system to track the use of these funds and ensure quality work is done. In Ghana, a GDP of 8.5% is contributed by the construction sector (Ankrah, 2015). In Tanzania, the construction sector employed 2.3% of the population (Ndulu, 2016). The sector, however, faces major delays in construction which is endemic, and its impact on social and economic activities is frequently discussed (Seboru & Rambo, 2016).

The Kenyan long-term development plan Vision 2030 aims to make Kenya a nation having firmly structured infrastructures including well-developed airports, roads, telecommunication, ports, and railway. Road, being the highly used means of transport, caters for 93 percent of Kenya's transportation systems thus with such development, according to Vision 2030, Kenya will have made a major transformation in the transportation systems (Kenya Roads Boards, 2014). Over years the country's road construction projects have been poorly managed and have had major issues associated with poor quality (Mandala, 2018). In Thika Superhighway, the construction cost changed from the initially budgeted Kshs 24.44 billion to Kshs 34.45billion while the completion date changed from July 2011 to July 2013. In addition, after the

completion of the project, the sewerage system located along the Thika Super Highway had to be modified.

In Siaya County, the road network is very poor despite having over 30% of its annual resource allocation to road construction and repair. According to the County Government, Ministry of Roads and Infrastructure (2019), the county government of Siaya has invested over 100 billion over the last 10 years on roads with most of the construction being hampered by poor workmanship from rogue contractors, poor citizenry maintenance of the roads which has led to poor usage, dilapidation, and collusion with corrupt county officials to swindle county resources. This is indicative of limited or lack of stakeholder participation where the residents are the main stakeholders.

1.1 Research Problem

Notwithstanding the state commitment to realize development through funding of various road development projects; road performance continues to face cost overruns, rework, scope variation, customer dissatisfaction, and delay due to many pitfalls in the project cycle and thus causing stagnation in the development of the economy and realization of vision 2030 (Mandala, 2018). Completion delays, cost overruns, and poor construction quality have all plagued road construction projects (Maina, 2013). The cost of constructing the Thika Super Highway, for example, increased from 26.44 billion to 34.45 billion (World Bank 2014). This has raised several questions about the role of stakeholder involvement in the successful completion of road construction projects.

In Siaya County, poor road project success can contribute to delayed economic growth, increasing poverty, and unemployment. According to a report from the Siaya County Public Works Department (2017), 66% of roads need to be rebuilt, but contractors have spent almost double the budget, with construction taking 2-4 years longer than originally planned and the quality of these projects still poor. The government has made efforts to establish local and institutional structures for road development, reconstruction, and maintenance to address the poor implementation of road construction projects. These include the passage of the Kenya Roads Act 2007; the establishment of the Kenya National Highway Authority (KENHA) in 2007; Urban Road Management in Kenya for 2007 (KURA); and the Kenya Rural Roads Agency since 2007 (KERRA). Project failure is still reported even with these steps in place (KPMG, 2014). These project failures may be due to a low understanding of the community and a lack of participation of stakeholders in Kenya's county and national government-funded projects (Muturi & Oguya, 2016).

Previous studies have been conducted on project performance. Wera (2016) used the African Child and Community Development Agency in Kibera, Kenya, to assess the impact of the venture identification process on program execution. Nalianya (2017) examined the effects of monitoring mechanisms on the implementation of non-governmental programs. There exists limited information on the link between stakeholders' resource management and project performance. The current study, therefore, sought to fill the research gap by investigating the effect of stakeholders' resource management on the performance of road construction projects in Siaya County, Kenya.

2.0 Literature Review

2.1 Theoretical Framework

The study was anchored on the stakeholders' theory advanced by Freeman (1984). The theory examines stakeholder management and its impact on the success of a project. The theory looks

into individual preferences and tries to fulfill most of them. Generally, stakeholder theory states that each person interested in a project ensures that their interests are met. Stakeholders have earlier been defined as people with an invested interest in the ongoing project. Traditionally, the shareholders and the owners of the company were considered important and ensured that their interests and needs in the organization came first. In recent years, this strategy has been refined when stakeholder theory states that the interests of other people such as workers, suppliers, consumers, financiers, communities, government agencies, cities, political parties, and trade unions are important (Friedman & Miles, 2014).

Stakeholder theory has its detractors. According to Blatberg (2013), stakeholder theory states that at best, the interests of numerous stakeholders might be compromised or weighed against one another. Researchers go on to say that this is due to its emphasis on negotiation as the primary means of resolving conflicts between interest groups. On the contrary, Blatberg offered dialogue, and this led him to defend a business idea he described as "patriotic" as an alternative to stakeholder philosophy. Stakeholder theory, according to Laplume et al. (2008), contradicts the principles that underpin a market economy by extending the political concept of a "social compact" to businesses.

The theory applies to this research since it defines the responsibilities and priorities of all stakeholders involved in a project. Who is typically involved in a project is examined by philosophy. Stakeholder theory aimed to classify particular project stakeholders and then investigate how managers view those countries as stakeholders. This theory aided in comprehending all project stakeholders, their roles and ramifications, as well as the effect they have on the project.

2.2 Empirical Review

In the building industry in Ireland, O'Halloran (2014) analyzed stakeholder resource management. The research was carried out on 322 building managers in the Irish construction industry. Preliminary research suggests that project managers in the Irish construction industry believe that most methods of analyzing and engaging stakeholder resources are effective. The results show that construction project managers in Ireland are more likely to implement resource management procedures for stakeholders according to a structured methodology. This study uses the role of stakeholders in resource management as the only measure of construction project implementation, while the current study uses other variables on stakeholder engagement and project implementation.

Nyabera (2015) examined the influence of partners' involvement on program success in Kenya. The study is based on the findings of the study, which show that the initiatives proposed by stakeholders in the project's implementation are good and successful. Based on these results, the existing Compassion Sponsorship program guidelines need to be evaluated to optimize the impact of stakeholder engagement on the implementation of the Compassion program and thereby increase its effectiveness.

Abdi and Gakuu (2018) investigated the factors determining the execution of a health project in Isiolo, Kenya. According to the findings of the report, project execution is a difficult process that involves meeting project specifications in the project management plan. As a result, all stakeholders must be engaged. It uses descriptive research statistics and follows a descriptive research style. According to the findings, stakeholders should be more involved in project management to align their priorities with stakeholder expectations and reduce dissonance levels, resulting in increased satisfaction. This study focused solely on one sector of the

economy and neglected to include an exploratory overview of what is going on in other sectors of the economy.

Ontiri (2016) looked into the impact of stakeholder involvement on program success. When stakeholder engagement is unsatisfactory, there is doubt and ambiguity. The study draft was approved during the review. The study found that project sustainability was guaranteed by involving stakeholders in project implementation. The organization must ensure that all stakeholders are fully involved with future ventures because this will help the project move forward. This research focused exclusively on a manufacturing project and neglected to discuss other projects, such as road building, which, compared to the clay work projects, have unique challenges.

Research on stakeholder involvement in community development projects in Ghana was conducted by Boon et al. (2013). They agreed that the increasing role of stakeholders in project delivery requires a framework to ensure that they are actively committed to increasing project effectiveness. The results show that although it is very difficult to involve actors in the implementation of community development projects, the application of the model can reduce the stress that often arises from project implementation. The study recommends accepting stakeholder involvement in project implementation as it helps to distribute project roles, rights, and responsibilities evenly among project participants.

In a collaborative water management project in Cameroon, Lekunze (2018) conducted a stakeholder interest study on resource management in integrated water management. The results of the various approaches utilized in this study are analyzed to determine the function of youth in water management. According to the findings, organizations that used a stakeholder engagement method to engage young people were more likely to succeed than those that did not. This study analyzed the youths as the only stakeholders in the water project and therefore failed to address other stakeholders like women and the community opinion leaders.

3.0 Research Methodology

The study utilized the explanatory research design. The study focused on four projects by KURA. The respondents were employees involved in the execution of the road construction project. A total of 32 KURA officials, contractors, and county government representatives took part in the study. A census of all urban road construction projects in Kenya was conducted. A questionnaire was used to collect primary data. The collected data were analyzed by descriptive and inferential statistics. Descriptive statistics such as percentage, frequency, and means were used. Regression analysis was used to establish relationships between the study variables.

4.0 Results and Discussion

4.1 Descriptive Analysis

This section provides descriptive analysis results based on stakeholders' resource management and project performance.

Stakeholders' Resource Management

The study evaluated the effect of stakeholders' resource management on the performance of road construction projects in Siaya County, Kenya. A Likert scale of 5 to 1 was used to measure stakeholders' resource management. Table 1 illustrates the outcome.

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Table 1: Stakeholders' Resource Management

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	M	Std. dev
Stakeholders are fully involved in the planning of road projects' resources.	0.00%	10.00%	36.70%	43.30%	10.00%	3.53	0.82
Stakeholders are fully involved in the recruitment of an adequate labor force during the road construction	6.70%	3.30%	10.00%	63.30%	16.70%	3.80	1.00
There is a road projects budget which is developed in close consultation with all stakeholders	3.30%	3.30%	10.00%	66.70%	16.70%	3.90	0.84
All stakeholders are represented on a regular budget monitoring committee that measures expenditures against the budget.	6.70%	10.00%	13.30%	56.70%	13.30%	3.60	1.07
Stakeholders are fully involved in ensuring accountability in the management of project resources.	10.00%	20.00%	6.70%	46.70%	16.70%	3.40	1.28
Stakeholders receive regular updates on the projects' resource management.	3.30%	10.00%	13.30%	66.70%	6.70%	3.63	0.89
Average						**3.64**	**0.98**

Table 1 demonstrated that a big number of the participants were in agreement with the claim that stakeholders are fully involved in the planning of road projects' resources (Mean = 3.60, standard deviation =1.13), stakeholders are fully involved in the recruitment of adequate labor force during the road construction (Mean = 3.60, standard deviation =1.13), and there is a road projects budget which is developed in close consultation with all stakeholders (Mean = 3.90, standard deviation =0.84).

Further, the participants agreed that all stakeholders are represented on a regular budget monitoring committee that measures expenditures against the budget (Mean = 3.60, standard deviation =1.07), stakeholders are fully involved in ensuring accountability in the management of project resources (Mean = 3.40, standard deviation =1.28), and stakeholders receive regular updates on the projects' resource management. (Mean = 3.63, standard deviation =0.89). The participants generally agreed with the assertions on stakeholders' resource management (Mean=3.64, standard deviation=0.98).

Performance of Road Construction Projects

Descriptive findings relating to project performance are shown 2.

Table 2: Performance of Road Construction Projects

Statement	Poor	Bad	Moderate	Good	Excellent	M	Std. dev
Completion on time	16.70%	16.70%	6.70%	16.70%	43.30%	3.53	1.59
Completion within budget	6.70%	6.70%	6.70%	23.30%	56.70%	4.17	1.23
Sustainability of the project	20.00%	20.00%	0.00%	10.00%	50.00%	3.50	1.72
Intended purpose	6.70%	13.30%	16.70%	50.00%	13.30%	3.50	1.11
Achieved Business Objectives	6.70%	13.30%	40.00%	26.70%	13.30%	3.27	1.08
Stakeholder satisfaction	13.30%	3.30%	0.00%	73.30%	10.00%	3.63	1.16
Average						**3.60**	**1.32**

Table 2 revealed that most of the participants noted that completion of the projects on time was good (Mean = 3.53, standard deviation =1.59), completion of the projects within budget was good (Mean = 4.17, standard deviation =1.23), sustainability of the projects was good (Mean = 3.50, standard deviation =1.72).

Furthermore, the respondents noted that the intended purpose of the road projects was good (Mean = 3.50, standard deviation =1.11), achieved business objectives of the road projects were moderately good (Mean = 3.27, standard deviation =1.08), and stakeholder satisfaction of the road projects was good (Mean = 3.50, standard deviation =1.11). The participants generally rated aspects related to the performance of road projects as good (Mean=3.60, standard deviation=1.32).

4.2 Regression Analysis

Regression analysis was done to determine the effect of stakeholders' resource management on the performance of road construction projects. Table 3 presents model summary results.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495a	0.245	0.218	0.50395

a Predictors: (Constant), Stakeholders' Resource Management

Results in Table 3 revealed that stakeholders' resource management explained 24.5 percent variation of road construction projects performance. This implied that considering the independent variable, there was a probability of predicting road construction projects performance by 24.5% (R2=0.245), implying the remaining 75.5% was attributed to other factors affecting project performance not included in the study. Table 4 indicates ANOVA results.

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Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.311	1	2.311	9.101	.005b
	Residual	7.111	28	0.254		
	Total	9.422	29			

a Dependent Variable: Project Performance

b Predictors: (Constant), Stakeholders' Resource Management

The findings in Table 4 indicated that the F statistic of 9.101 with a p-value of 0.005 significant at 5% revealed that the regression model was significant, hence, the contribution of the independent variable was significant in predicting road construction projects performance. Table 5 indicates the regression coefficient results.

Table 5: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.8	0.933		0.858	0.398
	Stakeholder Resource Management	0.768	0.255	0.495	3.017	0.005

a Dependent Variable: Project Performance

The regression results in Table 5 showed that stakeholders' resource management had a positive and significant effect on road construction projects (β =0.768, p=0.005) at a 5% significant level. This implied that a marginal increase in stakeholders' resource management leads to 0.768 units increase in performance road construction projects. The output concurred with those of Cameroon, Lekunze (2018) who found that resource management enhanced water projects. The findings also agreed with Abdi and Gakuu (2018) who suggested that stakeholders should be more involved in project management to harmonize their priorities with the expectations of stakeholders and minimize dissonance levels, thus increasing satisfaction.

5.0 Conclusion

The study concluded that stakeholders' resource management had a positive and significant relationship with the performance of road construction projects. In addition, involving stakeholders in the planning of road projects' resources boosts project performance. Further, preparing a project budget in close consultation with the stakeholders enhances project success. The study also concluded that the involvement of stakeholders in the recruitment and selection process enhances project performance. In addition, giving stakeholders regular updates on the projects' resource management enhances project performance.

6.0 Recommendations

The study recommended that project managers should involve stakeholders in project planning, implementation, and execution to the greatest extent possible. Stakeholders are essential because they monitor project progress to ensure that their investments are not squandered.

Stakeholders also check on the status of the new location and put pressure on the project to move forward.

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