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# EFFECT OF PROJECT FINANCING ON THE PERFORMANCE OF ROAD INFRASTRUCTURE DEVELOPMENT PROJECTS IN KENYA

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**ABSTRACT**

*Road construction is an important aspect that drives the economy of the country and increases the productivity of the people since it acts as a linkage to various factors of production. However, successful implementation and ultimately performance of these projects requires immense resources that may not be readily available. To overcome the financial and expertise challenges, Governments across the world enter into strategic partnerships with the private sector to help put up such infrastructure. Unlike governments, private sector is out to maximize profits hence the need to charge some fees to enable them recoup their investment. This study therefore set to determine the impact of project financing on the performance of road infrastructure development projects in Kenya. The study was anchored on resource based view theory. The study applied a mixed method approach to collect data from the target population of 199 spread out among 15 road infrastructure development projects in the country. The study utilized both primary and secondary data sources and adopted a combination of descriptive survey research design and explanatory design. For primary data collection, both closed and open-ended questionnaire were used. The questionnaire's reliability was tested through the use of the Cronbach's alpha reliability coefficient. The study also made use of a structured interview process to get more insights on the research questions. The study mainly made use of descriptive statistics to summarize data and inferential statistics and specifically the Multi linear regression were used to test hypothesis. The analysis made use of statistical packages to analyse data and these were presented in the form of tables and figures. The study found that project financing had a positive and significant influence on the performance of road projects in Kenya. The study concluded that project financing increases the amount of financing available and lower the overall risk to acceptable levels for major project stakeholders. The study recommended that it is important to identify the problem to be dealt with concerning the project, the stakeholder to be involved, outline the project goals that are to be achieved and all the relevant project tasks crucial in achieving the results of the project. The study recommended that the organization should identify the right sources of project finance.*

***Keywords**: Financing, Road Construction, Infrastructure Development*

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## INTRODUCTION

The term public private partnership has its origins in the USA. Initially, it was a joint public/private funding for educational programs but later spread to funding other utilities. In the 1970s, the term came to mean public-private joint ventures for urban renewal. According to Buso, Marty and Tran (2017) it is the obligation of the focal government to offer essential types of assistance and infrastructure to the public but financial constraints have altered government choices on public investment and spending. PPP implies a taxpayer driven organization or business that is supported and worked through association arrangements between the public authority and privately owned businesses (Lomoro, Mossa, Pellegrino & Ranieri, 2020).

Most governments have placed a high priority on infrastructure development in Sub-Saharan African countries (AfDB, 2011). Estache (2006) noted that in emerging and developing economies, the financial situation is scarce and there is reluctance to the introduction of PPPs into their national economies. In many developing economies, the use of PPPs is evolving and the use of the private sector in furthering public health goals in low- and middle-income countries (LMICs) is increasingly common (Whyle & Olivier, 2016). Energy, transportation, and information and communication technology are among the critical infrastructures that are severely underfunded. Not only did this affect local productivity, but it also posed a significant challenge to the success of regional integration, which various African countries are attempting to achieve (Africa Competitiveness Report 2013). The lack of innovative approaches to circumventing the financing deficit also contributes to Africa's large infrastructure deficit.

PPP, also known as P3, is a long-term contractual partnership between public and private sectors in financing, designing, operating and implementing government infrastructure and projects. The main aim of adopting PPP mechanism is for economic growth and spurring different economic sectors to development (Hashim, 2017).

Project financing refers to putting at disposal project investment resources required for the project's implementation (Gorshkov & Epifanov, 2016). In project financing, more focus is given to optimal balance between the borrowed funds and owned funds hence reducing risks (Gorshkov & Epifanov, 2016). Project financing is characterized by its ability to employ a myriad of methods, sources and means to ensure investment projects are well financed (Ganbat, Popova & Potravnyy, 2016). Source of project finance include own funds, lease, issues of shares, shares in the capital stock, bonds and bank loans among others. Project financing refers to the process of funding a particular economic unit initiated by sponsors, whereby the ventures of the business risk is shared by the creditors and funding is strictly acquired purposely for the project itself (Pinto, 2017). Project financing is crucial due to the fact that it addresses agency problems hence scaling down funding costs, improve risk mitigation, create value of the project and the decline in asymmetrical information cost (Morea & Gebennini, 2021). According to De Nahlik and Fabozzi (2021) strong project cash flow generation and adequate equity cushion encompass the building blocks of project financing. The current study will seek to measure project financing based on own funds, bank loans, capital stock shares and bonds.

The process of providing funds to complete project-specific tasks is known as financing. Stakeholders in a project can economically share the costs, risks, and benefits of a new project through project financing (Sundararajan & Tseng, 2017). A project's financing can be obtained in a variety of ways, according to Shan, Hwang, and Zhu (2019). In order to obtain the funds necessary to finance a particular project, the stakeholders may have reached an agreement to raise funds jointly or to provide collateral. The estimated future value of the majority of large-scale projects may be sufficient to serve as collateral for investors seeking project financing. Therefore, project viability evaluation, accurate estimation, and planning are the ultimate keys to project financing.

Project financing is a method of organizing and funding large capital-investment projects. Those who have specialized ability to bear specific kinds of project risk are paid to do so. The result is a lower overall cost of

financing, the elimination of deadweight losses to consumers and investors, and, simply, the successful completion of projects that might not otherwise be undertaken (Akhanolu, Ikpetan & Chibuzor, 2016). Project finance is the process of financing a specific economic unit that the sponsors create, in which creditors share much of the venture's business risk and funding is obtained strictly for the project itself. Project finance creates value by reducing the costs of funding, maintaining the sponsors financial flexibility, increasing the leverage ratios, avoiding contamination risk, reducing corporate taxes, improving risk management, and reducing the costs associated with market imperfections. However, project finance transactions are complex undertakings, they have higher costs of borrowing when compared to conventional financing and the negotiation of the financing and operating agreements is time-consuming.

Performance of projects is a measure of what is actualized from the project goals stated in the project scope (Antônio, Geciane Ornella & Alexandre, 2015). It is acknowledged that over 30% of the initiated projects end up being characterised as poorly performing and the policy debate in the project management has shifted to identification of key factors that enhance project performance (Xiong, *et al.*, 2017). While project performance looks at dimensions such as cost, time, quality, health and safety and user satisfaction, Fabre and Straub (2019) mentions that for road projects, performance is seen in terms of costs, time and quality.

Road construction and maintenance projects are characterised by high investment and capital needs which calls for partnership between the government and the private sector. Ullah, Thaheem and Umar (2017) find that the governments face a lot of challenges in delivering utility projects to the public as they have short falls in their budgets to invest hence calling on the private sector to fund such projects and earn reasonable returns. Major road construction projects incur delays in delivery timeliness that is due to insufficient government budgets, but the entry of private sectors cures such a problem. Further, the long bureaucracies that the private sector faces in implementing projects no-longer becomes an issue as the government side of PPP hammers out the details. The PPP strategy cures the challenges of financial limitations, insufficient contractors, cost overruns and delays as both parties work together leading to high instances of successful road projects.

Majanja (2012) conducted a study on financing constraints of infrastructure projects in Kenya. The study covered 87 construction firms. Two alternative variables to measure financing constraints were used. The first on was based on the degree of financing constraints that firms face and the other was the use of bank credit by firms. To measure perceived financing constraint, respondents were asked to rate access to financing as a constraint of project performance. The study results found out that financing constraints were a major obstacle faced by construction firms. The study found out that the local construction firms faced critical issues and problems which affected financing of their projects. Majanja suggested that, government should foster Public-Private Partnerships in order raise adequate funds for constructing road projects. Simmons, (2012) also noted that local firms had a problem of accessing credit facilities as they were viewed to lack collateral security. However, Majanja assumed a direct relationship between finance and success of a project. This study includes other important variables such as monitoring and evaluation and group dynamics management so as to improve the viability of the results. The study concludes that project resource mobilization has a significant effect on performance of road infrastructure projects undertaken by local firms. Financial, physical and technical resources have a significant effect on performance of road infrastructure projects. To aid acquisition of financial and technical resources, Public-private partnership and government guarantee will play an important role. This will improve performance of road infrastructure projects undertaken by local firms

**Statement of Research Problem**

Road construction is an important aspect that drives the economy of the country and increases the productivity of the people since it acts as a linkage to various factors of production. Roads in developing nations play a big role to the economies as they account for majority of the transportation of cargo and passengers from one place to another; both for trading purposes and leisure (Ndunda, et al., 2017). The performance of the road projects is a capital intensive project that consumes huge financial and other

resources; hence the need for adopting PPP strategy to deliver roads that drive the growth of the economy as it links other sectors and industries. Previous studies done on PPP and infrastructure projects by Wera (2016) and Mutwiri et al. (2018) and that focussed on road construction in Kenya, revealed that the projects faced delays in delivery timelines. Ochienge (2018) also noted that the quality of road infrastructure was below the standards as a result of low quality of materials used in constructing the roads, use of under-qualified staff and inexperienced contractors and limited financial budget allocations.

Studies on PPP mechanism include Huang, Zheng, Ma, Li, Xu and Zhu (2016) in China on the adoption of the PPP strategy and the ability to ensure high performance of the transport infrastructure. It was shown that simulation helped in choosing the viable PPP project in an economic system, but the study creates a conceptual gap as it looks at PPP and transport system in general and it was not contextual since it was done in China which is more developed than Kenya. Debela (2019) analysed the critical success factors of PPP and road projects, showing that effective implementation of PPP is based on committed public agencies, stable socio-political environment and positive legal frameworks and governance. The study creates a contextual gap as it was done in Ethiopia and conceptually it focused on critical success factors of PPPs. Amadi, Carrillo and Tuuli (2018) did a study on stakeholder management in PPP projects and noted that transparency, timing and knowledge of stakeholders in PPP led to high performing PPP projects in terms of quality and maintaining the budget. This study sought to determine effect of project financing on the performance of road infrastructure development projects in Kenya.

**Objective of the Study**

The objective of the study was to determine the effect of project financing on the performance of road infrastructure development projects in Kenya. The study was guided by the following research questions;

- How does project financing affect the performance of road infrastructure projects in Kenya?

## LITERATURE REVIEW

### Empirical Literature Review

Both the effect of contractual agreements and the performance of public-private partnerships were the subjects of an investigation by Wang and Zhao (2018). By comparing actual project outcomes to government goals for initiating the partnerships, the study proposed a conceptual framework for evaluating PPP performance and investigated how a set of contractual arrangements affected PPP performance on each identified goal. A comparative case study of highway PPP experiences in the Commonwealth of Virginia since the 1990s is used to apply the framework. These PPP cases were able to get innovative financing, according to the findings, but their performance was mixed when it came to transferring revenue risk and reducing construction risk. The PPP performance was influenced not only by the interaction between contractual arrangements, private partner selection, financial arrangements, role division, risk allocation, and project characteristics but also by authorizing and supporting legislation in the policy domain, which tended to improve over time with subsequent projects.

Felix Villaba researched the effectiveness of PPP road projects in Europe by comparing methods to measure performance. The study was based on a step-by-step performance plan (PMS), which selected 13 PPP road projects in the EU as examples for research and analysis of 29 performance measures (PMs) and 9 key performance indicators (PMs). According to the findings of the study, the success of a road project is defined as achieving the best or most commonly expected results in terms of cost, system, quality, safety, and stakeholder satisfaction. However, owing to its reliance on a case study design, the study findings are not generalizable to a wider population and the study had a limitation of focusing only on PPP toll roads in Europe.

Project financing mechanisms are steps that are taken by the project managers to be able to source for funds and avail the finances to the different operating units and project phases. It is also about accounting for

every coin to ensure costs and expenditures are aligned to the projections made in the project budget (Arezki & Sy, 2016). Every project requires money to get started, and for capital-intensive projects like infrastructure, financing is critical to project success. According to Lohawiboonkij (2019), any funding gap is a major obstacle to the implementation and delivery of an infrastructure project. As a result, it is important for the project to have sufficient funds available in a timely manner to carry out project activities that will lead to the completion and success of the project. According to the researcher, there are several financing mechanisms for infrastructure projects, including government funding, project finance, government bonds, bank loans, forfeit model and countertrade. The choice of which financing mechanism to be adopted depends on cost of financing or its affordability, the risks, security and covenants for each financing option based on risk management strategy employed and availability of finances for the infrastructure projects.

Garrido, Gomez, de los Ángeles Baeza and Vassallo (2017) discusses the financial support from the EU to the Spanish road infrastructure as a means of improving economic performance. The researcher reveals that PPP projects that have been supported financially by the EU have led to opening up of the economy and more returns from the investment made. The financial support of the European Union has led to acceleration of development and increasing social, economic and territorial cohesion. Growth and development in the region was based on ease of accessing then EU member states from the constructed roads. The study reveals that the funding programs that were implemented by the EU and channelled to PPP projects resulted in high performance of those projects and realised high economic performance in the region.

The type of project financing may depend on the type of risks involved in accessing the funds. Gorshkov and Epifanov (2016) noted that when looking at project financing for construction of underground structures; sharing when projects finances are sourced from debt financing, there is a presumption that the refunds and repayments will be made from the cash flows generated by the project investment itself. Debt project financing mechanism is preferred when implementing large-scale and high risk projects. In this case, the sources of the funds are the financial institutions like banks, who also act as the organizer of financing through credits and overdrafts, issue bonds and stocks. Providing funds for high risk and capital intensive projects means that the financiers will take a closer look at the dispensation and usage of the funds. For the case of banks as the financiers, they will set aside a team to pay attention to monitoring and implementation of the construction project. Shan, Hwang, and Zhu (2017) reveal when monitoring project finances, regular reports, debt repayment schedules, and the project budget are critical monitoring tools the funds and will be able to tell if there are any deviations.

Other than bank financing for infrastructure development projects, Naumenkova, Tishchenko, Mishchenko and Ivanov (2020) avers that these projects can get finances from corporate state financing and it involves the public-private partnership mechanism. This is where the state or central government attracts private investors and request them to co-finance the projects that are requested by the public. The private sector gets a stake in the project and they are able to recover their investment from the income generated by the project. It also important to consider the pros and cons of each source and mechanism adopted in funding infrastructure development projects. The owners of the project can consider the benefits and drawbacks of each and way in which to pick from public-private partnership, project financing from stocks, bank financing and central government financing.

Khmel and Zhao (2016) the study focus is on mechanisms that can be adopted by project owners and project developers to attract funds that will finance the highway infrastructure construction project. The researchers discuss public-private partnership as a possible source of funds for financing infrastructure project. The PPP financial strategy is ideal since its sources of funds is diversified and the stakeholders are included in all project phases that give infrastructure projects a higher chance for success. The researchers found that developing a financial strategy helped the project managers to attract capital that increases the capacity of the project and through income generating activities the project is able pay for its debts.

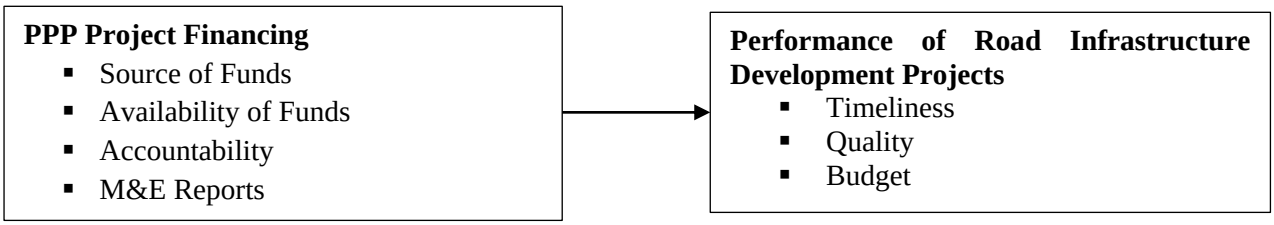
Dabirian, Ahmadi and Abbaspour (2023) analysed the impact of financial policies on Japan construction projects performance in using system dynamics. A System Dynamics (SD model is developed to evaluate the effect of different financial policies on construction project performance. By identifying the feedback loops in the cash flow system, a dynamic model is developed to forecast, plan and manage different policies, including prepayment, overbilling, loans, incentive payment, delay in payment and equipment lease. The findings demonstrate the effects of different policies such as incentive payments on project cash flow estimation, which proved to reduce the project duration, improve the profit and increase the financing during the project execution.

**Theoretical Framework**

**Resource Based View Theory**

This RBV theory was developed by Penrose (1959) to link resources with the firm's competitive positioning. According to Barney (2001), a firm can use its employee pool as a key resource to gain a competitive advantage. For an organization to remain competitive, it must ensure that its pool of resources cannot be easily substituted by other competitors, that they are scarce and rare, and that such resources cannot be easily imitated by competitors. RBV is based on the fact that the bundle of resources that an organization has should be valuable with no close substitutes from rivals in addition to being rate in nature as the starting point of competitive advantage in the firm (Galbreath, 2005). The RBV focuses on ensuring that the identified resources meet the established criteria of rarity, value, non-substitutability, and inimitableness. An organization will be able to adopt value creation strategy when resources in place are deemed to be valuable in nature. A rare and valuable resource should be such that it is only firm that controls the same resource and this gives an organization sustained competitive advantage. This theory will be used to anchor the variable of public private partnership project financing and performance of road infrastructure development projects.

**Conceptual Framework**




**Independent Variable** **Dependent Variable**

**Figure 1: Conceptual Framework**
**Source: Researcher (2021).**

**METHODOLOGY**

The current study was guided by pragmatism research paradigm which advocates for research mixed-methods into social inquiry (Morgan, 2014). The study employed descriptive research design. The design is preferred due to its inherency simplicity, utility in diverse contexts, flexibility and inquisitive attributes into phenomenon under study (Doyle, McCabe, Keogh, Brady & McCann, 2020). The study also used a mixed method approach. The study was conducted in Kenya and on road infrastructure projects and respondents in Nairobi, Kiambu, Kajiado, Mandera, Marsabit, Wajir, Taita Taveta, Bungoma, Busia, Vihiga, Embu, Kirinyaga, Laikipia, Muranga, Nyeri, Tharaka Nithi, Mombasa, Migori, Narok, Lamu, and Nakuru Counties. The target population was composed of members of the public sector including the PPP unit, road agencies, environmental agencies, the county government, regulatory boards and contractors. Records at the Ministry of Roads and Infrastructure showed that there were 23 large projects that were being implemented in the county; but this study concentrated on the large infrastructure development roads projects. The research applied

purposive sampling in selecting only the large infrastructure development projects. Since the targeted population was small, census was employed such that all 199 respondents made it into the final sample size.

The study used both primary and secondary data sources. The questionnaires were used to collect key data, and were designed to include open and closed questions. The semi-structured instrument helped collect qualitative data and quantitative data (Sheard, 2018). Primary data was collected for the independent study variables of project identification, project financing, project risk management and stakeholder participation and secondary data mainly collected information on the dependent variable of performance of the road infrastructure development projects.

After the data collection process was completed, all field materials (the questionnaires, data collection sheets, field notes) was cleaned, completed and arranged in readiness for analysis. The information was then programmed and fed in statistical package for social science (SPSS version 25.0) for further analysis. The researcher also used inferential statistics to allow the sample results to be generalized to the larger population.

## FINDINGS

### Project Financing

The descriptive statistics results on project financing were provided in Table 2.

**Table 2: Project Financing**

| Statements on Project Financing | M | SD |
|---|---|---|
| The source for funding this road project was through capital stocks shares. | 4.27 | 0.853 |
| The cost of the project was largely financed through own funds. | 4.29 | 0.720 |
| Money for this road project were acquired from bank loans. | 4.25 | 0.724 |
| The project financing assessment considered the proportion of finances to be provided by the Government of Kenya | 3.88 | 1.227 |
| The Government of Kenya committed to availing the required finances for the project on a timely basis | 3.90 | 1.099 |
| This project is partly financed by private capital | 4.19 | 0.921 |
| This project is partly funded through Government bonds | 4.13 | 0.981 |
| This project is partly funded through repayable loans from financial institutions | 3.99 | 1.050 |
| The project is financed wholly through the user-pay arrangements | 4.00 | 0.954 |
| The project has the support of Multilateral Development banks. | 3.78 | 1.180 |
| The costing of each financing was assessed and affordable ones chosen | 4.14 | 0.820 |
| The risks involved in different financing mechanisms were assessed before settling on the ones chosen | 4.32 | 0.834 |
| The contract covenants between financiers and Government of Kenya were assessed prior to disbursement of funds for the project | 3.81 | 1.277 |
| Private investment capital was assessed and found viable for this project | 3.72 | 1.367 |
| All the financing advanced towards the project can be fully accounted for | 3.46 | 1.466 |
| **Aggregate Score** | **4.01** | **1.032** |

**Source: Survey Data (2022)**

The results as presented in Table 1 indicated that the respondents agreed that project financing had an effect on the performance of road infrastructure development projects in Kenya as indicated by the aggregate mean score of 4.01 with a low variation of responses as indicated by standard deviation of 1.032. The findings concur with Garrido, Gomez, de los Ángeles Baeza and Vassallo (2017) study that discussed the financial support from the EU to the Spanish road infrastructure as a means of improving economic performance. The researcher reveals that PPP projects that have been supported financially by the EU have led to opening up of the economy and more returns from the investment made. The finding also is in line with Akali and Sakaja

(2018) who investigated the influence of contractors' financial capacity on performance of road construction in Kakamega County. The study found that contractors' financial capacity had a positive significant influence on the performance of road construction in Kakamega County.

The respondents agreed on the statements that; the risks involved in different financing mechanisms were assessed before settling on the ones chosen (M=4.32, SD=0.834), the cost of the project was largely financed through own funds (M=4.29, SD=0.720), the source for funding this road project was through capital stocks shares (M=4.27, SD=0.853), money for this road project were acquired from bank loans (M=4.25, SD=0.724), this project is partly financed by private capital (M=4.19, SD=0.921), the costing of each financing was assessed and affordable ones chosen (M=4.14, SD=0.820), this project is partly funded through Government bonds (M=4.13, SD=0.981), the project is financed wholly through the user-pay arrangements (M=4.00, SD=0.954).

The respondents also agreed on the statements that; this project is partly funded through repayable loans from financial institutions (M=3.99, SD=1.050), the Government of Kenya committed to availing the required finances for the project on a timely basis (M=3.90, SD=1.099), the contract covenants between financiers and Government of Kenya were assessed prior to disbursement of funds for the project (M=3.81, SD=1.277), the project has the support of Multilateral Development banks (M=3.78, SD=1.180) and that private investment capital was assessed and found viable for this project (M=3.72, SD=1.367).

These findings are consistent with Khmel and Zhao (2016) study which focused on mechanisms that can be adopted by project owners and project developers to attract funds that will finance the highway infrastructure construction project and found that developing a financial strategy helped the project managers to attract capital that increases the capacity of the project and through income generating activities the project is able pay for its debts. Other than bank financing for infrastructure development projects, Naumenkova, Tishchenko, Mishchenko and Ivanov (2020) avers that these projects can get finances from corporate state financing and it involves the public-private partnership mechanism. This is where the state or central government attracts private investors and request them to co-finance the projects that are requested by the public. The finding also agree with Mukami's (2021) research looked at the impact of funding activities on the completion of selected county-funded construction projects in Kitale Town. According to the findings of the study, which were based on the objective of funding activities, funding for construction projects has been delayed due to a number of factors, including the fact that the majority of the money that has been allocated to the county budget has not arrived from the national government in a timely manner, poor resource management on the part of the managers in charge, a lack of prioritization given to salaries paid to workers and a lack of equal weight given to the construction of projects, and the possibility that some contractors do not have enough.

The respondents indicated neutral on the statement that all the financing advanced towards the project can be fully accounted for (M=3.46, SD=1.466). The finding contradicts with Gorshkov and Epifanov (2016) who noted that when looking at project financing for construction of underground structures; sharing when projects finances are sourced from debt financing, there is a presumption that the refunds and repayments will be made from the cash flows generated by the project investment itself. The finding also concur with Gichuru (2016) investigated the impact of bank loan funding on project performance: a case study of youth group initiatives funded by Kenya commercial banks in Imenti South District, Kenya. The study concludes that high bank loan interest rates, lack necessary collateral and lack of flexible repayment terms had a negative impact on access to credit availability and thus adversely affected the performance of youth groups' projects.

From the interviews, the respondents indicated that the project financing mechanisms that were applied in this current project included; the government may fund a project with all or part of its capital investment and look to the private sector for its expertise and efficiency. The government may also decide to hire a private

operator to run and maintain the facilities or deliver the service after sourcing out the civil works for the project through conventional procurement

**Performance of Road Infrastructure Development Projects**

The descriptive statistics results on the performance of road infrastructure projects are provided in Table 2.

**Table 2: Performance of Road Infrastructure Development Projects**

| Statements on Performance of Road Infrastructure Development Projects | M | SD |
|---|---|---|
| All the operations of the project were extremely efficient. | 4.29 | 0.864 |
| The contractor employed advanced technology in undertaking the project. | 4.49 | 0.730 |
| The contractor has employed highly skilled manpower to undertake the project. | 4.30 | 0.746 |
| The human resource carrying out the project have an outstanding reputation experience in their career. | 4.03 | 1.094 |
| This project is on schedule as per project plan | 4.20 | 0.830 |
| The implementation of this project has adhered to budgetary provisions | 4.34 | 0.781 |
| The implementation of this project is likely to be completed on time | 4.19 | 0.968 |
| The quality of this project is as per the plan | 4.36 | 0.871 |

**Source: Survey Data (2022)**

The results as illustrated in Table 2 indicated that the respondents strongly agreed on the statements that; the contractor employed advanced technology in undertaking the project (M=4.49, SD=0.730), the quality of this project is as per the plan (M=4.36, SD=0.871) and that the implementation of this project has adhered to budgetary provisions (M=4.34, SD=0.781). The findings agree with Muturi and Oguya (2016) study that investigated factors that contributed to the implementation of road construction projects in Kenya's arid and desert regions. The research focused on the road projects Isiolo – Moyale (A 2) and Garissa – Modogashe (C 81). The study noted that performance of road projects focuses on performance in terms of cost and timeliness and noted that there is a positive relationship between the contractor's competency, project financing, timely availability of resources and stakeholder conflict management and performance

The respondents agreed on the statements that; the contractor has employed highly skilled manpower to undertake the project (M=4.30, SD=0.746), all the operations of the project were extremely efficient (M=4.29, SD=0.864), this project is on schedule as per project plan (M=4.20, SD=0.830), the implementation of this project is likely to be completed on time (M=4.19, SD=0.968) and that the human resource carrying out the project have an outstanding reputation experience in their career (M=4.03, SD=1.094). The findings are in line with Doloi (2012) study that investigated the timing effects and construction risks associated with costs in the operational performance of PPP projects. According to research, performance can be measured in three categories: time, cost, and performance. In seven major PPP projects in Australia, data were collected using a questionnaire survey. A number of key risk factors affecting time, cost, and performance are assessed using standard mathematical and analytical methods.

## CONCLUSIONS AND RECOMMENDATIONS

The study sought to determine the effect of project financing on the performance of road infrastructure development projects in Kenya. The study revealed that project financing had a positive and significant influence on the performance of road projects in Kenya. The risks involved in different financing mechanisms were assessed before settling on the ones chosen, the cost of the project was largely financed through own funds, the source for funding this road project was through capital stocks shares, money for this road project were acquired from bank loans and the project is partly financed by private capital.

The study concluded that project financing increases the amount of financing available and lower the overall risk to acceptable levels for major project stakeholders. Project financing allows the organization to undertake projects without exhausting its ability to borrow amount for the projects, provides stronger

incentives for careful project evaluation and risk assessment, facilitates the projects to undergo careful technical and economic review, eliminates the dependency on alternative nature of funding a project, enables to have prolonged credit opportunities and matches specific assets with specific liabilities.

The study recommended that for better project financing, the organization should carry out a proper project identification in need of investment or other assistance. Determine the feasibility of launching the project to know the costs of human resources, technology, and other components of the project. The study also recommended that the organization should identify the right sources of project finance and ways of mitigating the project risk.

**Suggestions for Further Studies**

From the results in regression analysis, the study concluded that there a remaining 0.139(13.9%) that could account for other variables not studied. Therefore, this study suggests that further studies should be carried out focusing on other variables not studied to address this gap. In addition, the study focused of road projects in Kenya. Therefore, there is need for other studies that focus on other types of projects.

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