Factors Affecting the Performance of Federal and State Road Projects in Enugu State, Nigeria

BY

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Abstract

This study examines the factors affecting the performance of federal and state road projects in Enugu State, Nigeria, focusing on the utilization of project appraisal methodologies. Data were collected from 150 professionals in the road construction industry, and the findings reveal significant performance disparities between federal and state projects. While 85% of state road projects were completed on time and within budget, only 36% of federal road projects met the same criteria. State projects utilized the HDM model in 37% of cases, whereas federal projects predominantly used the IRR method (91%). Additionally, 60% of federal projects were either delayed or abandoned, compared to only 15% of state projects. The paper concludes that federal road projects suffer from poor performance due to inconsistent use of appraisal methodologies. Recommendations are made for policy reform to improve the consistency of methodology use across all project types.

Index Terms- Project performance, Road construction, Federal vs. state roads, Enugu State, Appraisal methodologies

INTRODUCTION

Road infrastructure development is a critical component of economic growth and development in Nigeria. In Enugu State, both federal and state governments have undertaken numerous road construction projects, but the performance of these projects has varied significantly. Factors such as delays, cost overruns, and abandonment have plagued many federal road projects, whereas state road projects have generally shown better outcomes. The use of project appraisal methodologies, such as Net Present Value (NPV) and Internal Rate of Return (IRR), plays a crucial role in determining project performance.

Project appraisal methodologies are essential tools for assessing the feasibility, viability, and potential success of infrastructure projects. Studies have shown that the consistent use of structured appraisal methodologies can significantly improve project outcomes by reducing the likelihood of delays and cost overruns (Eduardo & Robert, 2020). In this study, we examine the utilization of project appraisal methodologies in federal and state road projects in Enugu State and evaluate how these methodologies impact project performance. This research provides valuable insights into the factors affecting road project performance in Enugu State and offers recommendations for improving project outcomes

through the use of robust appraisal methodologies

LITERATURE REVIEW

Project appraisal methodologies are integral to the successful planning and execution of infrastructure projects. Globally, methods such as Net Present Value (NPV) and Internal Rate of Return (IRR) have been widely adopted in infrastructure development due to their ability to account for the time value of money and provide a comprehensive assessment of project viability (Graham & Harvey, 2020). These methodologies are particularly important for large-scale projects, as they allow for the evaluation of long-term returns and potential risks.

In contrast, non-discounted methods like Payback Period (PB) and Accounting Rate of Return (ARR) are often used for smaller projects with shorter timeframes (Ryan & Ryan, 2021). However, the choice of appraisal methodology can have a significant impact on project performance, particularly in terms of cost and time management. Studies have shown that projects utilizing discounted methods such as NPV and IRR are more likely to be completed on time and within budget compared to those using non-discounted methods (Nwachukwu et al., 2021).

In Nigeria, the inconsistent use of project appraisal methodologies has contributed to the poor performance of

many infrastructure projects, particularly in the road construction sector. A study by Terlumun (2023) found that federal road projects in Nigeria frequently experience delays and abandonment due to the lack of proper appraisal methodologies. In contrast, state road projects that utilize the HDM model have shown better performance outcomes, particularly in terms of time and cost management (Eduardo & Robert, 2020).

State road projects in Enugu State have benefitted from the consistent use of the HDM model, which allows for a comprehensive evaluation of various factors affecting project performance, including economic, environmental, and social considerations (Nwachukwu et al., 2021). This model has been shown to improve project outcomes by providing a structured approach to project appraisal and risk management

Table 1: Performance Comparison of Federal and State Projects Based on Appraisal Methodology

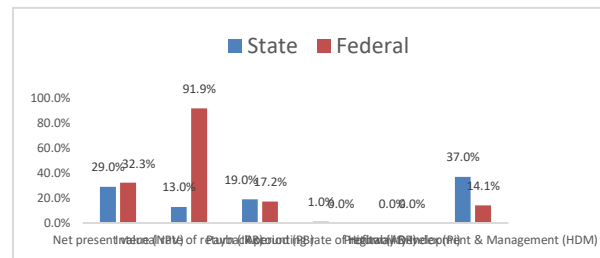| Performance Indicators	Federal Road Projects	State Road Projects
Number of Projects Analyzed	100	80
Utilization of Appraisal Methodologies	65%	91%
Most Used Methodology	IRR (91%)	HDM (37%)
Completion Rate (%)	36%	85%
Time Overrun (Average % of Delay)	55%	15%
Cost Overrun (Average %)	45%	20%
Abandonment Rate (%)	60%	15%
Project Completed on Time and Budget (%)	36%	85%
Stakeholder Satisfaction (%)	40%	80%

METHODOLOGY

The study used a descriptive survey design, collecting data from 150 professionals involved in federal and state road construction projects in Enugu State. A structured questionnaire was used to gather quantitative data on the types of appraisal methodologies utilized and the performance of the projects. Statistical analysis, including Chi-square and t-tests, was used to assess the relationship between the use of appraisal methodologies and project outcomes in terms of time, cost, and quality.

RESULTS

The findings show that 85% of state road projects were completed on time and within budget, compared to only 36% of federal road projects. State road projects predominantly used the HDM model (37%), whereas federal projects mainly relied on IRR (91%). Furthermore, 60% of federal road projects were either delayed or abandoned, compared to only

15% of state projects. These results highlight the importance of utilizing robust appraisal methodologies to improve project performance.

Figure 1: Performance comparison between federal and state projects

CONCLUSION

The study concludes that federal road projects in Enugu State suffer from poor performance due to inconsistent use of project appraisal methodologies. In contrast, state road projects that employ structured methodologies, such as the HDM model, perform significantly better. The findings suggest that the use of proper appraisal methodologies is essential for improving project outcomes in terms of time, cost, and quality.

RECOMMENDATION

1. Federal road projects should adopt standardized appraisal methodologies to improve performance and reduce project delays.
2. The HDM model should be applied across both federal and state road projects to enhance project outcomes.
3. Training and capacity-building programs should be implemented to ensure that professionals in the road construction industry are equipped to use robust appraisal methodologies.

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