

THE IMPACT OF PROJECT APPRAISAL ON THE DELIVERY OF EAST-WEST ROAD PROJECT IN NIGER DELTA, NIGERIA***Oguibe, Basil Chidi and Okwu-Delunzu Virginia Ugoyibo**¹Department of Quantity Surveying, Faculty of Environmental Sciences, ESUT Business School, Enugu State University of Science and Technology, Enugu Nigeria²Department of Environmental Management, Faculty of Environmental Sciences, Enugu State University of Science and Technology, Enugu Nigeria**Received 12th September 2024; Accepted 09th October 2024; Published online 29th November 2024**

Abstract

The East-West Road project in the Niger Delta region of Nigeria has remained uncompleted since its initiation in 2006 despite the strategic importance of the project to the region. Against this backdrop, this study investigated the impact of project appraisal on the delivery of the project. Three specific objectives guided this study. Thus, the first objective is to identify if proper feasibility studies were done before the initiation of the east-west road project. Second, to examine whether there was effective stakeholder engagement during the East-West Road project appraisal phase, and third to identify the challenges encountered during the project appraisal process. The study employed a descriptive survey approach, using Cochran's method of sample size determination, a sample size of 294 was obtained from a population of 1250 stakeholders (Ministry of Niger Delta Affairs (MNDA) officials, Niger Delta Development Commission (NDDC) officials, Project management team, Contracting firm representatives, Residents and community leaders, Environmental and social impact assessment personnel) in the East-West Road project. A stratified random sampling technique was used to distribute the research questionnaire to the stakeholders. The findings of the study provided several insights. First, it was found that the feasibility studies for the road project were inadequate, with an overall mean of 3.13 on a scale of 5.00, reflecting significant gaps in the appraisal process. Technical assessment is one of the critical aspects of project appraisal that was substantially neglected in the appraisal process. Second, it was revealed that the stakeholder engagement during the appraisal phase was insufficient, evidenced by an overall mean of 2.38. Poor inclusivity and transparency were among the major problems that marred the stakeholder engagement. Lastly, it was revealed that the project appraisal process faced major challenges, including political interference and lack of local expertise, with an overall mean of 4.06 highlighting these critical issues. In conclusion, the study has demonstrated that poor project appraisal is one of the significant problems that have hindered the successful completion of the East-West Road close to two decades since its inception. It is recommended that the Federal government should convoke all the stakeholders involved in the project to make amends, and chart a new course for the completion of the project.

Keywords: Project Appraisal, East-West Road Project, Stakeholder Engagement, Project Management.

INTRODUCTION**Background of the Study**

Project appraisal plays a crucial role in determining the viability and potential success of infrastructure development initiatives. In developing countries like Nigeria, where infrastructure gaps persist, effective project appraisal becomes even more critical to ensure optimal resource allocation and project outcomes (Eja and Ramegowda, 2020). The East-West road project in the Niger Delta region of Nigeria serves as a prime example of a large-scale infrastructure development that has faced numerous challenges. This makes it an ideal case study to examine the relationship between project appraisal and project success or failure. The Niger Delta region, comprising nine states in southern Nigeria, is known for its vast oil reserves and significant contribution to the country's economy. However, the region has long suffered from inadequate infrastructure, environmental degradation, and socio-economic challenges (Jatto, 2024). The East-West road project was conceived to connect major cities across the Niger Delta.

The initiative was intended to address some of these issues by improving transportation links, fostering economic growth, and enhancing regional integration. The project was initiated in 2006, and it spans approximately 338 kilometers, linking Warri in Delta State to Oron in Akwa Ibom State, passing through Bayelsa and Rivers States (Nwangwu *et al.*, 2018). The original completion date of the project was set for 2010, with an initial budget of 211 billion naira. However, the project has experienced significant delays and cost overruns, with completion dates repeatedly pushed back and the budget revised upwards multiple times (Okoye *et al.*, 2017). The persistent challenges faced by the East-West Road project raise questions about the efficacy of its initial appraisal process and subsequent project management. Project appraisal, as defined by Gupta (2023), is a systematic and comprehensive evaluation of a project's feasibility, risks, and potential impacts prior to implementation. It encompasses various aspects, including technical, economic, financial, social, and environmental considerations. The thoroughness and accuracy of this appraisal process can significantly influence a project's trajectory and ultimate success or failure. In developing countries, project appraisal takes on added importance due to limited resources and competing development priorities. Ika and Donnelly (2017) argue that infrastructure projects in Africa often suffer from inadequate appraisal processes. According to the authors, this has led to unrealistic

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expectations, underestimated costs, and overlooked risks. These shortcomings in the appraisal stage can cascade into implementation challenges, delays, and cost overruns that ultimately jeopardize project success. The East-West Road project protracted timeline and budget escalations suggest potential gaps in its initial appraisal. Olanrewaju *et al.* (2018) highlight the importance of comprehensive stakeholder engagement and local context analysis in project appraisals, particularly for large-scale infrastructure projects in complex environments like the Niger Delta. The concept of project success itself is varied and has evolved beyond the traditional "iron triangle" of time, cost, and quality. Joslin and Müller (2016) propose a more holistic view of project success that includes long-term impacts, stakeholder satisfaction, and alignment with strategic objectives. In the case of the East-West Road project, while the delays and cost overruns indicate failures in project management, the ultimate success of the project may need to be evaluated against its broader socio-economic impacts on the Niger Delta region. The role of governance and institutional frameworks in project appraisal and implementation cannot be overlooked. Arimah *et al.* (2019) argue that weak institutional capacity and governance issues in many African countries contribute to poor project outcomes. In Nigeria, the frequent changes in government administration and policy directions have often led to project discontinuities and shifting priorities. For instance, while the East-West Road has not been completed, the federal government has already initiated a new Coastal (Lagos-Calabar) road (Ajuri, 2024). Furthermore, the unique challenges of the Niger Delta region, including environmental sensitivities, complex social dynamics, and security concerns, underscore the need for tailored appraisal methodologies. Anyanwu *et al.* (2017) emphasize the importance of incorporating local knowledge and participatory approaches in project appraisals to ensure contextual relevance and community buy-in.

The financing model for the East-West Road project has also been a subject of scrutiny. Initially funded solely by the Nigerian government, the project later sought additional funding from international development partners and private sector investors (Nwangwu *et al.*, 2018). This shift in financing strategy raises questions about the initial financial appraisal's adequacy and the project's economic viability as originally conceived. Technological advancements and evolving project management methodologies offer opportunities to enhance the project appraisal process. Olanrewaju *et al.* (2019) discuss the potential of digital tools and data analytics in improving the accuracy of project appraisals, particularly in complex infrastructure projects. However, the adoption of such technologies in developing countries like Nigeria may be hindered by capacity constraints and resource limitations. The environmental and social impacts of large infrastructure projects like the East-West Road are increasingly recognized as critical components of project appraisal. Okoye *et al.* (2017) highlight the need for robust environmental impact assessments and social safeguards in infrastructure projects in the Niger Delta, given the region's ecological sensitivity and history of environmental degradation. Lessons learned from the East-West Road project can inform future infrastructure development initiatives in Nigeria and other developing countries. Ika and Donnelly (2017) advocate for a more adaptive and flexible approach to project appraisal and management, recognizing the dynamic nature of large-scale infrastructure projects in challenging environments. Evidently, the East-West Road project in Niger Delta region presents a

compelling case study for examining the impact of project appraisal on project success or failure. The project's protracted timeline, budget overruns, and implementation challenges highlight the critical importance of comprehensive and accurate project appraisal in large-scale infrastructure initiatives. This study therefore aims to look deeper and examine the specific ways in which the project appraisal process influenced the trajectory of the East-West Road project. By analyzing the relationships between appraisal practices and project outcomes, this research seeks to contribute to the broader understanding of effective project appraisal methodologies in developing country contexts.

The East-West Road project in Nigeria's Niger Delta region has been a critical infrastructure effort aimed at improving transportation and economic activity. The project, spanning over 360 kilometers, connects key cities such as Warri, Port Harcourt, and Calabar. However, since its inception in 2006, the road has faced significant delays due to funding shortages, poor project appraisal, and management issues. The road is crucial for regional development, as it links oil-producing areas to major commercial hubs (Usman, 2015). The Federal Government has acknowledged that inadequate yearly funding appropriations significantly hampered the road's progress. To address this, the government recently introduced funding innovations, such as tax credit schemes and SUKUK bonds, to ensure a steady financial flow and speed up project delivery (Musa, 2020). Despite these efforts, the road project continues to experience cost overruns and periodic redesigns, adding to its already inflated budget (Ikelegbe and Onokerhoraye, 2019). In light of these challenges, project appraisal plays a critical role in identifying and mitigating risks that could further delay the East-West Road's completion. Proper appraisal is essential to ensure that technical, financial, and environmental factors are thoroughly assessed to avoid the pitfalls of previous delays.

Statement of the Problem

The East-West Road project in Niger Delta region of Nigeria exemplifies the critical challenges facing large-scale infrastructure development in emerging economies. Despite its potential to drive economic growth and improve regional connectivity, the project has been plagued by persistent delays, significant cost overruns, and implementation hurdles since its inception in 2006. These issues raise fundamental questions about the efficacy of the project's initial appraisal process and its subsequent impact on project outcomes. The relationship between project appraisal and project success or failure is of paramount importance, particularly in resource-constrained environments where optimal allocation of public funds is imperative. However, there is a notable gap in understanding how specific aspects of project appraisal influence project trajectories in complex socio-economic contexts like the Niger Delta. The protracted timeline of East-West Road project which has far exceeded its original completion date, and its ballooning budget, which has undergone multiple revisions, suggest potential shortcomings in the initial appraisal process. These challenges points to the need for a comprehensive examination of the role of project appraisal in shaping project outcomes. Key areas of concern include the adequacy of risk assessment, the accuracy of cost and timeline projections, the comprehensiveness of stakeholder analysis, and the consideration of local environmental and social factors. Furthermore, the project's struggles highlight potential gaps in translating appraisal findings into effective project

management and governance strategies. The persistent issues faced by the East-West Road project not only impact its immediate stakeholders but also have broader implications for regional development and public trust in large-scale government initiatives. As Nigeria and other developing nations continue to invest in critical infrastructure, understanding the linkages between project appraisal and project success become increasingly vital. This study aims at addressing this knowledge gap by conducting an in-depth analysis of the East-West Road project, focusing on the impact of its initial appraisal on subsequent project outcomes.

Aim and Objectives of the Study

This study aims at assessing the impact of project appraisal on east-west road project delivery in Niger Delta Nigeria. The specific objectives of the study are to:

1. Identify if proper feasibility (environmental, economic, technical, cost benefit, timeframe) studies were done before the initiation of the east-west road project.
2. Examine whether there was effective stakeholder engagement during the east-west road project appraisal phase.
3. Investigate the challenges of the project appraisal process used for the east-west road project.

The Research Question

The study is guided by the following research questions:

1. Were proper feasibility studies done before the initiation of the East-West Road project?
2. Was there effective stakeholder engagement during the east-west road project appraisal phase?
3. What were the challenges of the project appraisal process used for the east-west road project?

The Statement of Hypothesis

The following null hypotheses were formulated to validate the findings of this study;

- H_{01} : Proper feasibility studies were not done before the initiation of the East-West Road project.
- H_{02} : There was no effective stakeholder engagement during the east-west road project appraisal phase
- H_{03} : The appraisal phase of the east-west road did not encounter significant challenges.

Significance of the Study

This study has significant value for various stakeholders in the infrastructure development sector. Government agencies, particularly those involved in project planning and implementation, will gain insights into enhancing their appraisal methodologies. An insight of this kind can potentially lead to more accurate risk assessments and realistic project timelines and budgets. Policymakers can utilize the findings to formulate more effective policies governing large-scale infrastructure projects. This will drive an improvement in resource allocation and project outcomes. Project managers and practitioners will benefit from a deeper understanding of the critical factors in project appraisal that influence project success, enabling them to refine their approaches and mitigate

common pitfalls. International development partners and financial institutions supporting infrastructure projects in developing countries can use the outcomes of this study to refine their project evaluation criteria and support mechanisms. Academic researchers in project management and development studies will find valuable empirical evidence to further the discourse on project appraisal in challenging environments. Finally, the private sector, particularly companies involved in infrastructure development, can glean insights to improve their project planning and risk management strategies when engaging in public-private partnerships or similar large-scale projects in developing economies.

Scope of the Study

The scope of this study is focused on the East-West Road project Niger Delta region of Nigeria, specifically examining the impact of project appraisal on the project's success or failure. Geographically, the study encompasses the project's entire route, which spans approximately 338 kilometers, connecting Warri in Delta State to Oron in Akwa Ibom State, and passing through Bayelsa and Rivers States. The scope covers the period from the inception of the project in 2006 to 2024. This allows for an analysis of how the initial appraisal has influenced the project's trajectory over time. In terms of subject matter, the study primarily focused on the project appraisal process and its components, including but not limited to technical feasibility studies, economic and financial analyses, environmental and social impact assessments, risk evaluations, and stakeholder analyses. The investigation extended to how these appraisal elements have impacted project outcomes, particularly in terms of timelines, budgets, and overall project performance.

LITERATURE REVIEW

Conceptual Review

Project Appraisal: Definitions, Components, and Best Practices

Project appraisal is a critical phase in the project lifecycle in that it serves as a comprehensive evaluation of a proposed project's viability, risks, and potential impacts. It forms the foundation upon which project decisions are made and subsequent phases are built. At its core, project appraisal is defined as a systematic and analytical process used to assess the merits of a proposed project, its alignment with organizational or national objectives, and its potential for success (Gupta, 2023). This process encompasses a wide range of evaluations, including technical feasibility, economic viability, financial sustainability, social impact, and environmental considerations. The primary goal of project appraisal is to provide decision-makers with robust information to determine whether to proceed with a project and, if so, how to structure and implement it effectively. In the context of infrastructure projects, this evaluation takes on added significance due to the scale of investment, long-term impacts, and complex stakeholder landscapes. Ika and Donnelly (2017) emphasize that comprehensive appraisal is particularly crucial in developing countries, where resources are scarce and the opportunity cost of misallocated funds is high. The components of project appraisal are manifold and interconnected. Technical feasibility analysis assesses the project's technical viability. This may include the

appropriateness of proposed technologies, design considerations, and implementation challenges. For infrastructure projects, this may involve evaluating engineering designs, construction methodologies, and technological requirements. Olanrewaju *et al.* (2018) highlight the importance of incorporating local conditions and constraints into technical feasibility assessments to ensure contextual relevance. Complementing this technical evaluation, economic analysis examines the project's contribution to overall economic welfare, typically involving cost-benefit analysis and examining both direct and indirect economic impacts. For infrastructure projects, this may include assessing impacts on regional productivity, trade facilitation, and long-term economic growth. Anyanwu *et al.* (2017) emphasize the need for robust economic analysis that captures both tangible and intangible benefits in the context of developing economies.

Financial analysis, another crucial component, focuses on the project's financial viability, including cost projections, revenue streams (if applicable), and funding mechanisms. It assesses the project's ability to generate returns or, in the case of public infrastructure, its financial sustainability. Nwangwu *et al.* (2018) discuss the importance of accurate financial projections and innovative funding models for large-scale infrastructure projects in resource-constrained environments. Alongside these economic considerations, environmental and social impact assessments have become increasingly central to project appraisal. Environmental impact assessments evaluate potential environmental impacts, mitigation measures, and compliance with environmental regulations, while social impact analysis examines the project's effects on local communities, including potential resettlement issues, changes in livelihoods, and impacts on social structures. Okoye *et al.* (2017) highlight the critical nature of comprehensive environmental assessments in ecologically sensitive regions like the Niger Delta, while Mok *et al.* (2015) emphasize the importance of participatory approaches in social impact assessments to capture diverse stakeholder perspectives.

Risk assessment and stakeholder analysis form additional vital components of the appraisal process. Risk assessment involves identifying, analyzing, and developing mitigation strategies for potential risks that could affect project success, including technical, financial, environmental, social, and political risks. Olanrewaju *et al.* (2019) discuss the application of advanced risk assessment methodologies in complex infrastructure projects, emphasizing the need for dynamic risk management approaches. Correspondingly, stakeholder analysis identifies and analyzes the interests, influence, and potential impacts on various stakeholders affected by or involved in the project. Mok *et al.* (2015) propose frameworks for systematic stakeholder analysis in large-scale infrastructure projects, emphasizing its role in project success. Best practices in project appraisal have evolved to address the complexities of modern infrastructure projects, particularly in developing country contexts. A comprehensive and integrated approach that holistically evaluates all key components is paramount. Gupta (2023) argues for a "front-end" approach that emphasizes thorough appraisal in the early stages of project development to minimize downstream issues. This approach is complemented by the use of context-specific methodologies tailored to the unique conditions of each project. Ika and Donnelly (2017) emphasize the importance of adapting appraisal techniques to local conditions, particularly in developing countries where standard methodologies may not

fully capture contextual nuances. Effective stakeholder engagement throughout the appraisal process ensures diverse perspectives are captured and potential conflicts are identified early. This engagement is supported by robust data collection and analysis, with Olanrewaju *et al.* (2019) discussing the potential of digital tools and data analytics in enhancing the accuracy and comprehensiveness of project appraisals. Given the inherent uncertainties in long-term projects, best practice includes conducting scenario analyses and sensitivity tests to assess project viability under different conditions, as advocated by Williams and Samset (2010). To enhance objectivity and credibility, independent review of appraisal findings is often recommended. Arimah *et al.* (2019) discuss the role of independent oversight in improving the quality and reliability of project appraisals, particularly for large public infrastructure projects. This practice is complemented by ongoing efforts in capacity building, with Ika and Donnelly (2017) emphasizing the importance of knowledge transfer and institutional capacity building to improve appraisal practices over time. Project appraisal should be viewed as an ongoing process rather than a one-time event, with mechanisms in place to incorporate lessons learned from past projects into future appraisal practices. This approach fosters continuous improvement and adaptation to changing circumstances. Additionally, best practice in project appraisal, particularly for infrastructure projects, involves assessing long-term impacts beyond the immediate project lifecycle, including evaluating sustainability, adaptability to future needs, and potential externalities (Anyanwu *et al.*, 2017). Transparency and accountability in the appraisal process are crucial for maintaining stakeholder trust and project legitimacy. Arimah *et al.* (2019) discuss the importance of clear communication of appraisal findings and their implications to all relevant stakeholders, ensuring that decision-making processes are open and justifiable. In conclusion, project appraisal serves as a critical foundation for successful project implementation, particularly in the context of large-scale infrastructure projects in developing countries. By adhering to best practices and employing comprehensive, context-specific appraisal methodologies, decision-makers can enhance the likelihood of project success and maximize the developmental impact of infrastructure investments. The evolving nature of project environments necessitates continuous refinement of appraisal practices, incorporating new technologies, methodologies, and lessons learned from past experiences to address the complex challenges of modern infrastructure development.

Theoretical Framework

Contingency Theory of Project Management

The Contingency Theory of Project Management, initially developed in the broader context of organizational management by Lawrence and Lorsch in 1967, was adapted to project management by researchers such as Shenhar and Dvir in the late 1990s and early 2000s. This theoretical framework posits that there is no single optimal approach to project management; rather, the most effective management style is contingent upon various internal and external factors specific to the project environment (Holzmann and Shenhar, 2023). In the context of project appraisal and its impact on project success or failure, particularly for large-scale infrastructure projects like the East-West Road in Nigeria's Niger Delta, the Contingency Theory offers a context-specific perspective. Shenhar (2001) argues that projects should be classified along

several dimensions, including technological uncertainty, system complexity, pace, and novelty. These classifications inform the appropriate management approach, including the depth and focus of the project appraisal process. The application of the theory to this study is particularly relevant given the complex and dynamic nature of infrastructure projects in developing countries. It suggests that the effectiveness of project appraisal in predicting and influencing project outcomes is contingent upon different factors. Such factors are the project's technical complexity, the socio-economic environment of the Niger Delta, the political landscape of Nigeria, and the project's strategic importance to regional development.

The Contingency Theory also highlights the importance of aligning project management practices, including appraisal methodologies, with the specific needs and characteristics of the project (Kaufmann and Kock, 2022). For instance, the environmental sensitivity of the Niger Delta region may necessitate a more rigorous environmental impact assessment as part of the project appraisal process. Similarly, the complex stakeholder landscape in the region might require a more extensive and nuanced stakeholder analysis than what might be typical for projects in less contentious environments. Furthermore, the theory suggests that the criteria for project success should be context-specific. While traditional metrics such as time, cost, and quality remain important, the Contingency Theory advocates for a broader definition of success that considers long-term impacts, stakeholder satisfaction, and alignment with strategic objectives. This perspective is particularly relevant when evaluating the effectiveness of project appraisal in predicting and contributing to project success in the context of the East-West Road project. Joslin and Müller (2015) further developed this theoretical framework by examining the relationship between project governance and project success through a contingency lens. Their work suggests that the effectiveness of project governance structures, which often dictate the nature and extent of project appraisal processes, is contingent upon the project context. This insight is particularly relevant to understanding how the governance structures surrounding the East-West Road project, including those responsible for initial and ongoing project appraisal, have influenced project outcomes. The Contingency Theory also emphasizes the importance of project leadership adaptability (Csaszar and Ostler, 2020). In the context of project appraisal, this implies that those responsible for conducting and interpreting appraisals should be capable of adjusting their approaches based on emerging project realities. This adaptability is crucial in a project environment as dynamic as the Niger Delta, where political, economic, and social conditions can rapidly change.

In conclusion, the Contingency Theory of Project Management provides a valuable theoretical framework for this study. It underscores the need for a context-specific approach to project appraisal and management, particularly for complex infrastructure projects in challenging environments. The application of this theoretical lens helps this study to explore how the alignment (or misalignment) between project appraisal practices and the specific contingencies of the East-West Road project has influenced its trajectory and outcomes. This theoretical perspective will guide the analysis of how project appraisal practices can be optimized to enhance project success in similar contexts. Thus, contributing to more effective infrastructure development in Nigeria and other developing nations.

Stakeholder Theory

Stakeholder Theory, originally proposed by R. Edward Freeman in 1984, has become a cornerstone in understanding the complex relationships between organizations and their various stakeholders. This theory posits that organizations should create value for all stakeholders, not just shareholders, and that effective management requires balancing these diverse interests (Fares, Chung, and Abbasi, 2021). When applied to project management and specifically to project appraisal, Stakeholder Theory offers insights into the nature of large-scale infrastructure projects like the East-West Road in Niger Delta. The relevance of the theory to this study is profound, as it illuminates the influences, and impacts surrounding such projects. With respect to project appraisal, Stakeholder Theory emphasizes the critical importance of identifying, analyzing, and engaging with all relevant stakeholders from the project's inception (Bahadorestani, Naderpajouh, and Sadiq, 2020). This approach is particularly vital in the Niger Delta region, where the complex socio-political landscape and history of environmental degradation have created a sensitive stakeholder environment. Mitchell, Agle, and Wood (1997) expanded on Freeman's work by proposing a model for stakeholder identification and salience based on power, legitimacy, and urgency. This framework is especially pertinent to the East-West Road project, where various stakeholders - from local communities and environmental groups to government agencies and international investors - wield different levels of influence and have varying degrees of legitimacy and urgency in their claims.

The application of Stakeholder Theory to project appraisal suggests that a comprehensive stakeholder analysis should be an integral part of the appraisal process. This analysis would not only identify stakeholders but also assess their potential impacts on the project and the project's impacts on them. Such an approach could have significant implications for the East-West Road project, potentially highlighting overlooked risks or opportunities that traditional appraisal methods might miss. Moreover, Stakeholder Theory advocates for ongoing stakeholder engagement throughout the project lifecycle. In the context of project appraisal, this implies that stakeholder perspectives should be continuously incorporated into project evaluations and decision-making processes. For the East-West Road project, this could mean regular consultations with local communities, environmental experts, and other key stakeholders to reassess and adjust project plans as needed. The theory also underscores the importance of transparent communication with all stakeholders. In terms of project appraisal, this translates to clear dissemination of appraisal findings and their implications to all relevant parties. Such transparency could potentially enhance trust and buy-in from various stakeholders, which is crucial for a project of this scale and complexity in the Niger Delta region. Eskerod and Huemann (2013) further developed the application of Stakeholder Theory in project management, emphasizing the need for a paradigm shift from "management of stakeholders" to "management for stakeholders." This perspective is particularly relevant to the East-West Road project, suggesting that project appraisal should not merely account for stakeholder interests but actively seek to create value for all stakeholders. The theory also highlights the potential for stakeholder engagement to contribute to project sustainability and long-term success. In the context of the East-West Road project, this could mean that effective stakeholder engagement

during the appraisal phase might lead to more sustainable project outcomes, better aligned with the needs and aspirations of the Niger Delta communities. However, it is important to note that applying Stakeholder Theory in project appraisal is not without challenges. Balancing diverse and sometimes conflicting stakeholder interests can be complex and time-consuming. Moreover, in a politically charged environment like the Niger Delta, there may be power imbalances among stakeholders that need to be carefully navigated. Thus, Stakeholder Theory provides a robust framework for understanding and improving the project appraisal process, particularly for complex infrastructure projects like the East-West Road. The emphasis on the importance of comprehensive stakeholder analysis, ongoing engagement, and value creation for all stakeholders, offers valuable insights into how project appraisal can be enhanced to improve project outcomes. The application of Stakeholder Theory in this study can potentially reveal how stakeholder-related factors in the appraisal process have influenced the trajectory of the East-West Road project. It could also provide how future infrastructure projects in similar contexts might benefit from a more stakeholder-centric approach to project appraisal.

Theory of Project Governance

The Theory of Project Governance, initially proposed by Müller (2009), provides a structured framework for overseeing project performance, ensuring alignment with strategic objectives, and fostering accountability. Proponents such as Müller and Turner have significantly contributed to this field, emphasizing governance mechanisms as essential to achieving project success. Project governance encompasses the structures, processes, and mechanisms that ensure projects are effectively directed and controlled. Considering East-West Road project in Niger Delta, Nigeria, effective project governance is important due to the project's scale, complexity, and socio-economic impact. The governance framework should encompass comprehensive stakeholder engagement, transparent decision-making processes, and robust risk management practices. For instance, integrating inter-organizational collaboration, as explored by Liu and Kou (2024), can enhance stakeholder cooperation and improve project outcomes. Additionally, Guerrero (2023) underscores the importance of addressing conceptual challenges and adopting a holistic governance approach to manage complex projects effectively. Furthermore, Tures (2023) discusses the necessity for clear governance models and practical templates to bridge the gap between theoretical recommendations and real-world applications. Aal (2022) emphasizes Luhmann's organization theory, highlighting the importance of decision-making processes in project governance, which can be particularly relevant in navigating the intricate political and socio-economic landscape of the Niger Delta. Conclusively, applying the Theory of Project Governance to the East-West road project involves establishing clear governance structures, fostering stakeholder collaboration, and ensuring transparency and accountability. This approach not only enhances project success but also contributes to the sustainable development of the region.

Research Gap

The research gap for this study lies in the limited understanding of the specific mechanisms through which project appraisal influences the success or failure of large-scale

infrastructure projects. This gap is particularly pronounced in developing countries, especially in complex socio-economic environments like Nigeria's Niger Delta. While existing literature has established the importance of project appraisal in project outcomes, there is a dearth of empirical research examining the relationships between appraisal practices and project performance in challenging developmental contexts. Current research often focuses on project appraisal in developed economies or in more stable developing regions. A practice like this leaves a significant gap in knowledge about how appraisal processes function and impact projects in volatile, resource-rich areas with complex stakeholder dynamics. The East-West Road project in the Niger Delta presents a unique case study that can address this gap. Through this study, insights will be gained on how traditional appraisal methodologies perform in environments characterized by political instability, environmental sensitivity, and diverse community interests. Furthermore, there is limited research on how the components of project appraisal - such as technical feasibility studies, economic analyses, environmental impact assessments, and stakeholder analyses - interact and collectively influence project outcomes in the context of large-scale infrastructure initiatives in developing nations. This study aims to bridge this gap by providing a comprehensive analysis of these interactions in the context of the East-West Road project. By addressing these research gaps, this study aims to contribute valuable insights to the field of project management, particularly in infrastructure development in challenging environments. It is the conviction of the researcher that this will inform more effective appraisal practices for future large-scale projects in similar contexts.

METHODOLOGY

Research Design

The research design adopted for this study is a descriptive survey approach. This method is particularly suitable for examining the impact of project appraisal on the success or failure of the East-West Road project in the Niger Delta region of Nigeria. This design helps to comprehensively examine and capture the complexities and distinctions of the project appraisal process and its outcomes. The descriptive survey design is appropriate for this study for several reasons. Firstly, it enables the collection of detailed information about the current status of the project, the appraisal processes that were employed, and the perceptions of various stakeholders regarding the project's success or failure. Secondly, the descriptive survey approach facilitates the gathering of both quantitative and qualitative data Creswell and Creswell (2018). The choice of a descriptive survey design is also supported by recent literature in project management research. For instance, Saunders *et al.* (2019) argue that descriptive research designs are valuable for providing accurate profiles of events, persons, or situations, which is pertinent to understanding the complex dynamics of large-scale infrastructure projects.

Area of Study

The area of this study is east-west road, Niger Delta Nigeria. The area politically known as Niger Delta region in Nigeria comprises of nine states in the Southern Nigeria. The states are Bayelsa, Rivers, Akwa Ibom, Cross River, Delta, Edo, Ondo, Abia and Imo. The region is situated in the Southern part of Nigeria and bordered to the south by the Atlantic Ocean and to

the East by Cameroon and lies between the geographical coordinates of latitudes 03°00'N to 06°00'N and longitudes: 0°00'5'E to 08°00'E (Ogbeide *et al.*, 2022). The Niger Delta Basin is a major geological feature of significant petroleum exploration and production in Nigeria making the Region to generate above eighty percent (80%) of the Nation's foreign exchange revenue (Ogbeide *et al.*, 2022 in Oguibe, 2024). The Niger Delta region is connected to Lagos; the commercial hub of Nigeria, through the East-West Road. Despite the economic importance of this region, it has continued to grapple with infrastructural challenges, making it relevant in studying infrastructure projects aimed at addressing these developmental disparities.

Source of Data

This study relies on primary data obtained from key stakeholders involved in the East-West Road project. The stakeholders are; project managers and team members, government officials from Ministry of Niger Delta Affairs (MNDA), Niger Delta Development Commission (NDDC), representatives from contracting firms: Setraco Nig. Ltd handling section I running from Warri to Kaiama (87.4 kilometers) in Delta State and section II of the project running from Kaiama to Port Harcourt (101 kilometers) in Bayelsa/Rivers States, Reynolds Construction Company Nig. Ltd. handling section III of the project stretching from Port Harcourt to Eket (99 kilometers) in Rivers/Akwa Ibom States, and Gitto Costruzioni Gen. Nig. Ltd. handling section IV of the project encompassing the route from Eket to Oron (51 kilometers) in Akwa Ibom State (Ojile, 2021). Other stakeholders are; local community leaders and representatives, and environmental experts and consultants involved in the project.

Population of the Study

The population of this study consists of relevant stakeholders directly involved in or significantly affected by the East-West Road project in Niger Delta region. Based on the stakeholders highlighted in the section three, the population is defined as in Table 1:

Table 1. Population of the study

No.	Stakeholder Group	Population of Stakeholder group
1	Ministry of Niger Delta Affairs (MNDA) officials	50
2	Niger Delta Development Commission (NDDC) officials	50
3	Project management team	100
4	Contracting firm representatives	30
5	Residents and community leaders	1000
6	Environmental and social impact assessment personnel assessment personnel	20
	Total	1250

Source: Researcher's work (2024)

Table 1 shows that the population of the study consist of 50 officials from Ministry of Niger Delta Affairs (MNDA) directly involved in project oversight and management, 50 officials from Niger Delta Development Commission (NDDC) directly involved in project oversight and management, 100 project management team, encompassing project managers, engineers, and other technical staff directly responsible for the project's implementation. Other stakeholders are; 10

individuals from each of the three contracting firms involved in the construction and consultancy aspects of the project, 1000 residents and community leaders along the project corridor, and 20 individuals involved in the environmental and social impact assessments related to the project.

The total population for this study is therefore 1,250 individuals.

Determination of Sample Size

The sample size is statistically determined to ensure that the sample size adequately represents the study population. This study adopts Cochran's formula for sample size determination. The formula is presented in Equations 1 and 2.

$$n_0 = \frac{z^2 \times p(1-p)}{e^2} \quad (1)$$

Where;

n_0 = the sample size

Z = the Z-score (the number of standard deviations from the mean corresponding to the desired confidence level; typically 1.96 for 95% confidence)

P = the estimated proportion of the population that has the attribute in question (0.5 is often used if unknown)

e = margin of error ($\pm 5\%$)

Since the population is not infinite, the finite population correction is applied thus;

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}} \quad (2)$$

Where,

N = population size (1250)

n_0 = initial sample size calculated from Cochran's formula (equation 3.1)

The sample size for the study is thus calculated;

$$n_0 = \frac{(1.96)^2 \times 0.5 \times (1 - 0.5)}{(0.05)^2} = \frac{0.9604}{0.0025} = 384.16$$

Applying the finite population correction;

$$n = \frac{384.16}{1 + \frac{384.16 - 1}{1250}} = \frac{384.16}{1 + 0.3065} = \frac{384.16}{1.3065} = 294$$

Therefore, the sample size is approximately 294.

Sampling Technique

In this study, a stratified random sampling technique was employed to ensure representative sampling across all stakeholder groups involved in the East-West Road project in the Niger Delta region. The total population of 1,260 was stratified into six distinct groups, and a sample size of 294 will be proportionally allocated across these strata. The allocation

will be calculated based on each stratum's proportion in the total population, using Bourley's formula:

$$n_h = \frac{n_o \times N_h}{N} \quad (3)$$

where

n_h = sample size of stratum h

n_o = sample size of the study

N_h = the population size for stratum

N = the total population

The resulting allocation is presented in Table 3.2.

Table 2. Sample allocation to the six stakeholders (strata)

No.	Stakeholder Group	Population (N_h) of Stakeholder group	Proportional Allocation n_h with Minimum Sample Size
1	Ministry of Niger Delta Affairs (MNDA) officials	50	12
2	Niger Delta Development Commission (NDDC) officials	50	12
3	Project management team	100	24
4	Contracting firm representatives	30	7
5	Residents and community leaders	1000	235
6	Environmental and social impact assessment personnel	20	4
	Total	1250	294

Source: Researcher's work (2024)

This stratification ensures that each subgroup is represented proportionally to its size in the population. Within each stratum, simple random sampling was applied to select the specified number of participants, maintaining the probabilistic nature of the sample. This combination of stratification and random selection enhances the precision of population estimates while minimizing sampling error.

Instrument of Data Collection

The primary instrument for data collection in this study is a structured questionnaire, designed to address the three research objectives effectively. This instrument is particularly suitable for the descriptive survey design adopted for this research. The structured questionnaire was carefully crafted to ensure comprehensive coverage of the research objectives while maintaining clarity and ease of response for participants. It primarily consists of closed-ended questions using five-point Likert scales. The questionnaire was organized into three distinct sections, each aligned with one of the research objectives: Thus, the first section includes questions assessing the effectiveness of the appraisal process for the East-West Road project. The second section focused on identifying and rating the importance of stakeholder engagement in the project appraisal that have influenced the project's outcomes. Lastly, the third section uncovers specific weaknesses or gaps in the appraisal process. The use of a structured questionnaire aligns with best practices in project management research. As noted by Müller and Klein (2019), structured instruments are effective for gathering standardized data across diverse stakeholder groups in complex project environments. Additionally, Ika *et al.* (2020) emphasize the importance of tailoring data collection instruments to the specific context of infrastructure projects in developing countries, which has been considered in the design of this questionnaire.

Method of Data Analysis

The data collected was subjected to quantitative analysis using statistical methods, the statistical method comprise of both descriptive and inferential techniques. The findings from each of the three-research questions were evaluated using mean and standard deviation. On the other hand, the three formulated hypothesis was analyzed using two-way one sample t-test. The analysis was conducted using Microsoft Excel, and Statistical Package for Social Science software (SPSS).

RESULTS

This section presents data obtained by the researcher and the analysis of the data, and subsequent interpretation of the results of the analysis. Against this backdrop, this chapter outlines four sections. The first Section focuses on the presentation of data obtained in relation to each of the three research questions. The second section centres on the analysis of the data obtained using statistical tools. The third section is concerned with the test of hypotheses, while the last section focuses on the discussion of the results obtained from the analyses. The Table 3 below presents the data obtained from the participants using questionnaire as research instrument. The questionnaire sought to identify if proper feasibility studies was done before the initiation of the East-West Road project. Furthermore, the questionnaire was divided into eight (8) items focusing on different aspects on feasibility study. The participants provided responses in accordance with their level of agreement with the questionnaire items. The last column of the table captures the total number of participants. Table 4 presents the field data obtained regarding the second research question which aimed to examine whether there was effective stakeholder engagement during the east-west road project appraisal phase. The research question was broken into eight questionnaires (items), each measuring how stakeholders were involved in different aspects of the feasibility study. The participants provided their responses in five polychotomous choices measuring their levels of agreement with each the provision of each item. Table 5 presents the data gotten from the participants in the study in relation to the third research question. The Table contains eight questionnaire items in respect to the third research question which sought to identify the challenges encountered during the feasibility study in the east-west road project.

Data Analyses

Statistical Analysis of Research Question One

Table 6 presents the analysis of data presented in Table 3 obtained in respect of the first research question. The first item assessed whether the feasibility studies conducted before the implementation of the East-West Road project were comprehensive. The results indicated that a majority of respondents disagreed with this statement, with 69.2% choosing either disagree or strongly disagree. Only a small fraction of respondents; 21.4% either strongly agreed or agreed. The mean score of 2.29, along with a standard deviation of 1.30, reflects a general perception that the feasibility studies were not comprehensive. More so, the second item considers whether environmental impact assessments were thoroughly carried out prior to the commencement of the project.

Table 3. Participants responses on whether proper feasibility studies was done before the initiation of the east-west road project (Research Question 1)

S/N	Item	SA	A	U	D	SD	TL
1	The feasibility studies conducted before the project implementation were comprehensive.	28	35	28	106	97	294
2	Environmental impact assessments were thoroughly carried out prior to project commencement.	54	68	19	89	64	294
3	Stakeholder consultations were adequately conducted during the planning phase.	31	47	14	109	93	294
4	The cost-benefit analysis performed before the project was accurate and reliable.	129	107	11	23	24	294
5	Technical assessments of the project's viability were sufficiently detailed.	59	63	5	99	68	294
6	The project's potential risks were thoroughly identified and assessed during the planning stage.	25	43	24	123	79	294
7	The pre-implementation planning adequately considered local socio-economic factors.	122	120	8	23	21	294
8	The timeframe estimated for project completion during the planning phase was realistic.	154	107	7	17	9	294

Key: SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree, TL = Total

Source: Researcher's work (2024)

Table 4. Participants responses on whether there was effective stakeholder engagement during the east-west road project appraisal phase (Research Question 2)

S/N	Item	SA	A	U	D	SD	TL
1	All relevant stakeholder groups were identified and included in the engagement process.	33	41	10	113	97	294
2	Stakeholders were provided with clear and comprehensive information about the project during the appraisal phase.	28	36	18	111	101	294
3	Adequate time was allocated for stakeholders to review and respond to project information.	29	36	23	109	97	294
4	Multiple channels (e.g., meetings, surveys, online platforms) were used to engage stakeholders effectively.	17	21	9	134	113	294
5	Stakeholders' concerns and suggestions were actively sought and documented during the engagement process.	54	31	11	101	97	294
6	The project team was responsive to stakeholder feedback and inquiries.	68	57	14	86	69	294
7	Stakeholder input had a noticeable influence on the project design and planning.	41	23	12	105	113	294
8	The overall stakeholder engagement process during the project appraisal phase was transparent and inclusive.	52	47	11	97	87	294

Legend: SD = Strongly Disagree, D = Disagree, U = Undecided, A = Agree, SA = Strongly Agree

Source: Researcher's work (2024)

Table 5. The responses of the participants on the challenges of the project appraisal process used for the east-west road project (Research Question 3)

S/N	Item	SA	A	U	D	SD	TL
1	There was insufficient time allocated for the project appraisal process.	136	109	7	25	17	294
2	The appraisal process lacked adequate local expertise and knowledge of the Niger Delta region.	154	103	11	14	12	294
3	Political interference compromised the objectivity of the project appraisal.	160	112	4	8	10	294
4	There was limited access to reliable data for accurate cost and time estimations.	126	119	7	19	23	294
5	The appraisal process failed to fully engage all relevant stakeholders.	152	114	9	12	7	294
6	The environmental complexity of the Niger Delta was not adequately addressed in the appraisal.	147	103	18	14	12	294
7	The appraisal process underestimated the security challenges in the project area.	91	65	12	69	57	294
8	There was insufficient consideration of potential changes in economic conditions over the project's lifespan.	123	119	12	23	17	294

Source: Researcher's work (2024)

The mean score here is slightly higher at 2.86, with a larger spread in responses (standard deviation of 1.46). While 41.5% of respondents either strongly disagreed or disagreed, there is a noticeable portion of respondents (41.5%) who agreed that the environmental impact assessments were thorough. However, the mean score still leans towards disagreement, indicating that the environmental considerations was insufficiently addressed before the project began. For stakeholder consultations during the planning phase, the majority of respondents expressed dissatisfaction, as evidenced by the mean score of 2.37 and a standard deviation of 1.35. A significant 68.7% of participants either disagreed or strongly disagreed with the adequacy of stakeholder consultations. However, the fourth item, which examines the accuracy and reliability of the cost-benefit analysis, presents a contrasting view. With a high mean score of 4.00 and a standard deviation of 1.24, the responses indicate that most participants (80.3%) agreed or strongly agreed that the cost-benefit analysis was accurate and reliable. This suggests that while other aspects of the feasibility study were perceived as inadequate, the financial and economic evaluations were conducted with a reasonable degree of accuracy. Furthermore, the fifth item addressed the sufficiency of technical assessments regarding the viability of the project. The mean score of 2.82, coupled with a standard deviation of 1.50, reflects a somewhat divided opinion among respondents. A significant portion (56.8%) disagreed or strongly disagreed that the technical assessments were sufficiently detailed, which indicates potential inadequacies in evaluating the technical aspects of the project.

Regarding the identification and assessment of potential risks, the mean score of 2.36 and a standard deviation of 1.26 suggest a generally negative perception. With 68.7% of respondents disagreeing or strongly disagreeing. It appears that risk management practices during the planning phase were seen as lacking. The seventh item evaluates whether local socio-economic factors were adequately considered in the pre-implementation planning. The results here are more positive, with a mean score of 4.02 and a standard deviation of 1.18. A large majority (82.3%) agreed or strongly agreed that socio-economic factors were considered, which indicates that this aspect of the feasibility study was handled effectively. Finally, the estimated timeframe for project completion is considered. With a mean score of 4.29 and the lowest standard deviation (0.99) among the items, this aspect received the most favorable responses. An overwhelming 88.8% of respondents agreed or strongly agreed that the timeframe estimated during the planning phase was realistic. This suggests that time management and scheduling during the feasibility study were perceived as appropriate.

Statistical Analysis of Research Question Two

Table 7 presents the analysis of data in relation to the second research question. The overall mean score of 2.38 with a standard deviation of 1.38 suggests a generally low perception of stakeholder engagement effectiveness among participants. This outcome indicates that many aspects of stakeholder involvement may not have met the desired standards during the

project appraisal phase. The first item, concerning the identification and inclusion of relevant stakeholders, had a mean score of 2.32 and a standard deviation of 1.35. The majority of respondents (71.4%) either disagreed or strongly disagreed with the assertion that all relevant stakeholders were identified and included. This indicates a significant gap in the stakeholder identification process, which could have affected the overall effectiveness of stakeholder engagement during the project. Similarly, the provision of clear and comprehensive information to stakeholders during the appraisal phase was rated low, with a mean of 2.25 and a standard deviation of 1.30. The data reveals that 72.2% of the respondents disagreed or strongly disagreed that stakeholders received adequate information. This highlights a potential communication breakdown that may have hindered informed decision-making by stakeholders. The third item, which assessed whether stakeholders were given adequate time to review and respond to project information, also scored low with a mean of 2.29 and a standard deviation of 1.31. A significant portion of respondents (70.1%) felt that insufficient time was allocated for stakeholders to engage meaningfully with the project details. This suggests that the engagement process may have been rushed, leaving little room for thorough stakeholder participation. Furthermore, the use of multiple channels to engage stakeholders effectively was particularly poorly rated, with a mean of 1.96 and a standard deviation of 1.11. The high percentage of disagreement (84.0%) suggests that the methods used to engage stakeholders were inadequate. This likely limited the opportunities for stakeholders to participate in the appraisal process through various platforms, further diminishing the inclusiveness of the engagement process. In terms of actively seeking and documenting stakeholder concerns, the mean score was slightly higher at 2.47, with a standard deviation of 1.49. While some respondents (28.9%) agreed or strongly agreed that this was done effectively, a majority still expressed dissatisfaction. The responsiveness of the project team to stakeholder feedback received a mean score of 2.89, the highest among all items, with a standard deviation of 1.53. Although 42.5% of respondents acknowledged some level of responsiveness, the remaining majority either disagreed or remained neutral. Furthermore, the influence of stakeholder input on project design and planning scored a mean of 2.23 with a standard deviation of 1.40, which shows that most respondents did not perceive a noticeable impact of their input on the final project outcomes. This finding suggests that even when feedback was provided, it may not have been effectively incorporated into the decision-making process. Finally, the transparency and inclusiveness of the overall stakeholder engagement process during the appraisal phase received a mean score of 2.59 with a standard deviation of 1.49. Although this score is relatively higher compared to other items, the majority of respondents (62.6%) still expressed dissatisfaction, indicating that the process was perceived as lacking in openness and inclusivity.

Statistical Analysis of Research Question Three

Table 8 is an analysis of the data obtained from the study participant in respect to the third research question. The first item assessed whether insufficient time was allocated for the project appraisal process. A majority of respondents (83.4%) agreed or strongly agreed that the time allocated was indeed insufficient, as reflected in a high mean score of 4.01 and a standard deviation of 1.16. More so, the second item explored whether the appraisal process lacked adequate local expertise

and knowledge of the Niger Delta region. With 87.4% of respondents agreeing or strongly agreeing, and a mean score of 4.27 with a standard deviation of 1.02, the data strongly indicates that the appraisal process may not have sufficiently incorporated local insights. This lack of localized knowledge could have hindered a thorough understanding of the unique challenges of the region, leading to suboptimal project decisions. In a similar vein, political interference is another significant concern, as indicated by the third item. An overwhelming 92.5% of respondents believed that political interference compromised the objectivity of the project appraisal, as shown by a mean score of 4.37 and a relatively low standard deviation of 0.91. This high consensus suggests that the appraisal process may have been influenced by non-technical considerations, which could undermine the credibility and effectiveness of the overall project planning. The fourth item examines the availability of reliable data for accurate cost and time estimations. The mean score of 4.04 and a standard deviation of 1.19 indicate that 83.4% of respondents felt that there was limited access to reliable data. This limitation likely affected the accuracy of the financial and scheduling estimates of the project, potentially leading to cost overruns and delays during implementation. Again, inadequate stakeholder engagement is highlighted in the fifth item, with 90.5% of participants agreeing or strongly agreeing that the appraisal process failed to fully engage all relevant stakeholders. The mean score of 4.33 and a low standard deviation of 0.90 reinforce this perception. This lack of engagement could result in a lack of buy-in from key stakeholders, potentially leading to resistance or challenges during the project execution phase. The sixth item addressed the extent to which the environmental complexity of the Niger Delta was considered during the appraisal. With a mean score of 4.22 and a standard deviation of 1.04, a significant portion of respondents (85.0%) believed that the environmental challenges were not adequately addressed. Given the ecological sensitivity of the Niger Delta, this oversight could have serious implications for the sustainability and environmental impact of the project. More so, the seventh item explored whether security challenges in the project area were adequately considered. The mean score here is lower at 3.22, with a higher standard deviation of 1.56, indicating more varied responses. While 53.1% of respondents felt that security challenges were underestimated, a substantial minority disagreed. This mixed perception suggests that while security issues were recognized, their potential impact may not have been fully anticipated or adequately planned for. The final item examined the extent to which potential changes in economic conditions over the lifespan of the project were considered. With a mean score of 4.05 and a standard deviation of 1.14, the responses show that 82.3% of participants believed there was insufficient consideration of these factors. Economic fluctuations can significantly impact large infrastructure projects, and this perceived oversight could affect the project's long-term viability.

Test of Hypotheses

Evaluation of the First Null Hypothesis

Table 9 is a summary of one sample t-test conducted to analyze the first null hypothesis. The first null hypothesis tested whether proper feasibility studies were conducted before the initiation of the East-West Road project, with the null hypothesis suggesting that feasibility studies were not adequately performed ($\mu = 3$).

Table 6. Descriptive statistical analysis of research question one

S/N	Item	SA	A	U	D	SD	TL	\bar{x}	σ
1	The feasibility studies conducted before the project implementation were comprehensive.	28 (9.5%)	35 (11.9%)	28 (9.5%)	106 (36.1%)	97 (33.1%)	294 (100%)	2.29	1.30
2	Environmental impact assessments were thoroughly carried out prior to project commencement.	54 (18.4%)	68 (23.1%)	19 (6.5%)	89 (30.3%)	64 (21.8%)	294 (100%)	2.86	1.46
3	Stakeholder consultations were adequately conducted during the planning phase.	31 (10.5%)	47 (16.0%)	14 (4.8%)	109 (37.1%)	93 (31.6%)	294 (100%)	2.37	1.35
4	The cost-benefit analysis performed before the project was accurate and reliable.	129 (43.9%)	107 (36.4%)	11 (3.7%)	23 (7.8%)	24 (8.2%)	294 (100%)	4.00	1.24
5	Technical assessments of the project's viability were sufficiently detailed.	59 (20.1%)	63 (21.4%)	5 (1.7%)	99 (33.7%)	68 (23.1%)	294 (100%)	2.82	1.50
6	The project's potential risks were thoroughly identified and assessed during the planning stage.	25 (8.5%)	43 (14.6%)	24 (8.2%)	123 (41.8%)	79 (26.9%)	294 (100%)	2.36	1.26
7	The pre-implementation planning adequately considered local socio-economic factors.	122 (41.5%)	120 (40.8%)	8 (2.7%)	23 (7.8%)	21 (7.1%)	294 (100%)	4.02	1.18
8	The timeframe estimated for project completion during the planning phase was realistic.	154 (52.4%)	107 (36.4%)	7 (2.4%)	17 (5.8%)	9 (3.1%)	294 (100%)	4.29	0.99
Overall mean/ Standard deviation								3.13	3.13

Source: Researcher's work (2024)

Table 7. Descriptive statistical analysis of research question two

S/N	Item	SA	A	U	D	SD	TL	\bar{x}	σ
1	All relevant stakeholder groups were identified and included in the engagement process.	33 (11.2%)	41 (13.9%)	10 (3.4%)	113 (38.4%)	97 (33.0%)	294 (100%)	2.32	1.35
2	Stakeholders were provided with clear and comprehensive information about the project during the appraisal phase.	28 (9.5%)	36 (12.2%)	18 (6.1%)	111 (37.8%)	101 (34.4%)	294 (100%)	2.25	1.30
3	Adequate time was allocated for stakeholders to review and respond to project information.	29 (9.9%)	36 (12.2%)	23 (7.8%)	109 (37.1%)	97 (33.0%)	294 (100%)	2.29	1.31
4	Multiple channels (e.g., meetings, surveys, online platforms) were used to engage stakeholders effectively.	17 (5.8%)	21 (7.1%)	9 (3.1%)	134 (45.6%)	113 (38.4%)	294 (100%)	1.96	1.11
5	Stakeholders' concerns and suggestions were actively sought and documented during the engagement process.	54 (18.4%)	31 (10.5%)	11 (3.7%)	101 (34.4%)	97 (33.0%)	294 (100%)	2.47	1.49
6	The project team was responsive to stakeholder feedback and inquiries.	68 (23.1%)	57 (19.4%)	14 (4.8%)	86 (29.3)	69 (23.5%)	294 (100%)	2.89	1.53
7	Stakeholder input had a noticeable influence on the project design and planning.	41 (13.9%)	23 (7.8%)	12 (4.1%)	105 (35.7%)	113 (38.4%)	294 (100%)	2.23	1.40
8	The overall stakeholder engagement process during the project appraisal phase was transparent and inclusive.	52 (17.7%)	47 (16.0%)	11 (3.7%)	97 (33.0%)	87 (29.6%)	294 (100%)	2.59	1.49
Overall mean/ Standard deviation								2.38	1.38

Source: Researcher's work (2024)

Table 8. Descriptive statistical analysis of research question three

S/N	Item	SA	A	U	D	SD	TL	\bar{x}	σ
1	There was insufficient time allocated for the project appraisal process.	136 (46.3%)	109 (37.1%)	7 (2.4%)	25 (8.5%)	17 (5.8%)	294 (100%)	4.01	1.16
2	The appraisal process lacked adequate local expertise and knowledge of the Niger Delta region.	154 (52.4%)	103 (35.0%)	11 (3.7%)	14 (4.8%)	12 (4.1%)	294 (100%)	4.27	1.02
3	Political interference compromised the objectivity of the project appraisal.	160 (54.4%)	112 (38.1%)	4 (1.4%)	8 (2.7%)	10 (3.4%)	294 (100%)	4.37	0.91
4	There was limited access to reliable data for accurate cost and time estimations.	126 (42.9%)	119 (40.5%)	7 (2.4%)	19 (6.5%)	23 (7.8%)	294 (100%)	4.04	1.19
5	The appraisal process failed to fully engage all relevant stakeholders.	152 (51.7%)	114 (38.8%)	9 (3.1%)	12 (4.1%)	7 (2.4%)	294 (100%)	4.33	0.90
6	The environmental complexity of the Niger Delta was not adequately addressed in the appraisal.	147 (50.0%)	103 (35.0%)	18 (6.1%)	14 (4.8%)	12 (4.1%)	294 (100%)	4.22	1.04
7	The appraisal process underestimated the security challenges in the project area.	91 (31.0%)	65 (22.1%)	12 (4.1%)	69 (23.5%)	57 (19.4%)	294 (100%)	3.22	1.56
8	There was insufficient consideration of potential changes in economic conditions over the project's lifespan.	123 (41.8%)	119 (40.5%)	12 (4.1%)	23 (7.8%)	17 (5.8%)	294 (100%)	4.05	1.14
Overall mean/ Standard deviation								4.06	1.13

Source: Researcher's work (2024)

The alternative hypothesis posits that the feasibility study was adequate ($\mu \neq 3$). The calculated t-statistic for this test is 0.28. When compared against the critical t-value of ± 2.365 for a two-tailed test at $\alpha = 0.05$ with 7 degrees of freedom, the t-statistic falls well within the range where the null hypothesis is failed to be rejected. Specifically, the calculated t-statistic (0.28) is significantly lower than the critical value (2.365), indicating that the observed difference between the sample mean and the hypothesized population mean is not statistically significant. Given these findings, the conclusion is that there is insufficient evidence to reject the null hypothesis.

This suggests that, based on the available data, the adequacy of the feasibility study conducted before the initiation of the East-West Road project cannot be confirmed as statistically significant. In other words, the results indicate that participants' perceptions do not strongly support the assertion that the feasibility studies were sufficiently thorough.

Evaluation of the Second Null Hypothesis

Table 10 presents one sample t-test on the second null hypothesis. The second hypothesis tests whether stakeholder

engagement during the East-West Road project was effective. The null hypothesis (H_{02}) suggests that stakeholder engagement was not effective ($\mu = 3$), while the alternative hypothesis posits that it was effective ($\mu \neq 3$). A one-sample t-test was conducted to examine this hypothesis, using data collected from participants. The calculated t-statistic yielded a value of -1.27.

Table 9. One sample t-test on the first null hypothesis

Summary Of One Sample t-test On the First Hypothesis	
Parameters	Description
Null Hypotheses	H_{01} : Feasibility study was not adequate ($\mu = 3$)
Alternate Hypothesis	H_1 : Adequate feasibility study ($\mu \neq 3$)
Sample mean	3.13
Test value (μ_0)	3.00
Standard deviation (s)	1.29
Sample size (n)	8
Standard error (SE)	$\frac{s}{\sqrt{n}} = 0.46$
t-statistic Calculation	$\frac{\bar{x} - \mu_0}{SE} = 0.28$
Degree of Freedom	7
Critical t-value (Two-tailed), $\alpha = 0.05$	± 2.365
Comparison	Calculated t-statistic (0.35) < Critical value (2.365)
Conclusion	Fail to reject H_{01} : There is no enough evidence to conclude adequate feasibility

Source: Researcher's work (2024)

Table 10. One-Sample T-Test on the Second Null Hypothesis

Summary Of One Sample t-test On the Second Hypothesis	
Parameters	Description
Null Hypotheses	H_{02} : Stakeholder engagement was not effective ($\mu = 3$)
Alternate Hypothesis	H_2 : Effective stakeholder engagement ($\mu \neq 3$)
Sample mean	2.38
Test value (μ_0)	3.00
Standard deviation (s)	1.38
Sample size (n)	8
Standard error (SE)	$\frac{s}{\sqrt{n}} = 0.49$
t-statistic Calculation	$\frac{\bar{x} - \mu_0}{SE} = -1.27$
Degree of Freedom	7
Critical t-value (Two-tailed), $\alpha = 0.05$	± 2.365
Comparison	Calculated t-statistic (-1.27) < Critical value (2.365)
Conclusion	Fail to reject H_{02} : There is no enough evidence to conclude effective stakeholder engagement.

Source: Researcher's work (2024)

This negative t-value signifies that the sample mean is lower than the test value, further indicating perceptions of inadequate stakeholder engagement. However, when this t-statistic is compared to the critical t-value of ± 2.365 for a two-tailed test at $\alpha = 0.05$ with 7 degrees of freedom, it becomes evident that the calculated t-statistic does not exceed the critical threshold. As the calculated t-statistic (-1.27) falls within the acceptance region, which is less extreme than the critical value of ± 2.365 , we fail to reject the null hypothesis. This outcome indicates that there is insufficient evidence to conclude that stakeholder engagement during the project was effective. The results suggest that the participants did not strongly perceive the engagement process as meeting the necessary standards of inclusiveness, responsiveness, and transparency. This finding aligns with earlier observations from the analysis of stakeholder engagement data, where respondents expressed dissatisfaction with various aspects of the engagement process. The statistical analysis further reinforces the conclusion that stakeholder engagement in the East-West Road project was perceived as lacking, which could have contributed to various challenges faced in the project's appraisal and execution phases.

Evaluation of the Third Null Hypothesis

Table 11 presents test of the third null hypothesis. The third hypothesis tests whether significant challenges affected the appraisal process of the East-West Road project. The null hypothesis (H_{03}) posits that no significant challenges affected the appraisal process ($\mu = 3$), while the alternative hypothesis suggests that significant challenges did indeed impact the appraisal ($\mu \neq 3$). The t-statistic was calculated to be 2.50. This t-statistic is compared against the critical t-value of ± 2.365 for a two-tailed test at $\alpha = 0.05$ with 7 degrees of freedom.

Table 11. One sample t-test on the third null hypothesis

Summary Of One Sample t-test On the Third Hypothesis	
Parameters	Description
Null Hypotheses	H_{03} : No significant challenges affected the appraisal process ($\mu = 3$)
Alternate Hypothesis	H_3 : Significant challenges affected the appraisal ($\mu \neq 3$)
Sample mean	4.06
Test value (μ_0)	3.00
Standard deviation (s)	1.13
Sample size (n)	8
Standard error (SE)	$\frac{s}{\sqrt{n}} = 0.40$
t-statistic Calculation	$\frac{\bar{x} - \mu_0}{SE} = 2.50$
Degree of Freedom	7
Critical t-value (Two-tailed), $\alpha = 0.05$	± 2.365
Comparison	Calculated t-statistic (2.50) > Critical value (2.365)
Conclusion	Reject H_{03} : There is enough evidence to conclude significant challenges during the feasibility process.

Source: Researcher's work (2024)

In this case, the calculated t-statistic (2.50) exceeds the critical value (2.365), indicating that the difference between the sample mean and the hypothesized population mean is statistically significant. Given that the calculated t-statistic surpasses the critical value, the null hypothesis is rejected. This leads to the conclusion that there is sufficient evidence to support the alternative hypothesis: significant challenges did indeed affect the appraisal process of the East-West Road project. The responses of the participants suggest that these challenges were substantial and likely impacted the overall effectiveness of the project appraisal.

DISCUSSION

The results indicate that the feasibility studies conducted before the initiation of the East-West Road project were perceived as inadequate. Evidently, several critical aspects of the project planning phase, such as technical assessments and environmental impact analyses, were particularly deficient. This aligns with the findings of Mafimisebi (2016), who identified poor project planning as a leading cause of project failures in Nigeria. The finding that the feasibility studies were not comprehensive suggests a possible lack of thoroughness in the early stages of the project. This gap in planning may have set the stage for later challenges in execution. Moreover, the results reflect inadequacies in stakeholder consultations during the planning phase, an issue also highlighted by Nigusu (2022) in the context of Ethiopian road projects, where a lack of employee participation in the project appraisal process was a significant problem. Effective stakeholder engagement is crucial for identifying potential risks and ensuring that the project is aligned with local needs and expectations. The apparent shortcomings in this area for the East-West Road project may have contributed to the challenges being encountered in its implementation. Conversely, the positive

assessment of the cost-benefit analysis and the consideration of local socio-economic factors suggest that certain elements of the feasibility study were well-executed. This is consistent with the findings of Muhammad and Mohd (2020), who emphasized the importance of financial systems and stakeholder management in achieving project success. However, the overall inadequacies in other critical areas of the feasibility study, as indicated by the results, likely undermined the potential benefits of these well-conducted aspects. Thus, while some aspects of the project planning process were executed effectively, the deficiencies in key areas such as technical assessments, environmental impact analysis, and stakeholder engagement suggest that the feasibility studies were not comprehensive enough to ensure the successful delivery of the East-West Road project. More so, the results of the second research question suggest that stakeholder engagement during the appraisal phase of East-West Road project was significantly inadequate. The findings highlight a recurring theme of insufficient stakeholder involvement, as most respondents indicated that key aspects of the engagement process were poorly executed. This includes the identification of relevant stakeholder groups, the provision of clear project information, and the use of multiple engagement channels. These deficiencies in stakeholder engagement are consistent with the challenges identified in the literature, such as those highlighted by Nigussu (2022), where a lack of effective communication and participation in project appraisal processes was a significant issue.

The limited use of various engagement channels, such as meetings, surveys, and online platforms, further underscores the disconnect between the project team and the stakeholders, which likely hindered the effective gathering of stakeholder input. This lack of engagement resonates with findings from studies like Amadi (2021), which noted that community conflicts and poor stakeholder management were significant contributors to project delays and abandonment in the Niger Delta. The failure to actively seek and document the concerns and suggestions of stakeholders, as reflected in the results, suggests a missed opportunity to incorporate valuable local insights. Furthermore, the low responsiveness of the project team to stakeholder feedback, as perceived by the respondents, indicates a lack of transparency and inclusivity in the engagement process. This is critical, as effective stakeholder engagement is known to enhance project success by fostering trust and ensuring that the project aligns with the needs and expectations of those it impacts, as evidenced in the findings of Muhammad and Mohd (2020). From the foregoing, it is evident that the inadequate stakeholder engagement observed in the East-West road project likely contributed to the challenges hindering the effective implementation of the project.

Furthermore, the results regarding the third research question indicate that several significant challenges were present in the project appraisal process for the East-West road project. The finding that political interference was particularly problematic aligns with broader studies, such as those by Amadi (2021), which have highlighted the negative impact of political factors on project outcomes in Nigeria. This interference undermined the technical rigor of the appraisal process, leading to decisions that were not fully aligned with the project's practical needs. Additionally, the appraisal process was perceived as lacking adequate consideration of the complex environmental and security challenges specific to the Niger Delta region. This

oversight is consistent with Mafimisebi's (2016) findings, where poor project planning, including the underestimation of local challenges, was identified as a primary cause of project failures. The limited engagement of relevant stakeholders further compounded these issues. It is known that effective stakeholder involvement is pertinent for gathering local insights and ensuring that all relevant factors are considered. Muhammad and Mohd (2020) underscore this point in their emphasis on stakeholder management for project success. Moreover, the results suggest that the appraisal process suffered from a lack of access to reliable data, which is critical for accurate cost and time estimations. This issue, coupled with an insufficient consideration of potential economic changes over the lifespan of the project, points to a broader problem of inadequate planning and foresight. As evidence in the literature, Shahzad *et al.* (2018) have identified inadequate planning and foresight as key determinants of project success.

Summary of Findings

1. The feasibility studies for the East-West Road project were inadequate, with an overall mean of 3.13, reflecting significant gaps in technical assessments.
2. Stakeholder engagement during the appraisal phase was insufficient, evidenced by an overall mean of 2.38, indicating poor inclusivity and transparency.
3. The project appraisal process faced major challenges, including political interference and lack of local expertise, with an overall mean of 4.06 highlighting these critical issues.

Conclusion

This study concludes that the appraisal process of East-West Road project in the Niger Delta was marred by significant deficiencies that critically impacted its execution and overall success. The feasibility studies were insufficiently comprehensive, particularly in technical assessments and stakeholder consultations, which likely set the stage for subsequent challenges. Stakeholder engagement during the appraisal phase was notably lacking, with poor communication and inclusivity, further undermining the project's foundation. Additionally, the appraisal process was compromised by political interference, inadequate local expertise, and a failure to fully address the environmental and security complexities of the Niger Delta. These findings underscore the need for more rigorous and inclusive project appraisal practices to enhance the success of large-scale infrastructure projects in complex regions like the Niger Delta.

Recommendation

1. The Federal government of Nigeria should endeavour to establish more robust and inclusive stakeholder engagement during project appraisal phase to mitigate the spate of uncompleted projects like the East-West Road in Nigeria.
2. Future projects should prioritize thorough and detailed feasibility studies, particularly focusing on technical assessments, environmental impact analysis, and socio-economic factors.
3. To safeguard the objectivity and effectiveness of the project appraisal process, mechanisms should be put in place to minimize political interference.

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