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A Review of the Effects of Stakeholders' Engagement on De-Risking Infrastructural Projects in Nigeria

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Abstract
Stakeholder engagement in infrastructure projects is an ingredient that contributes to project optimal performance. In the process of providing the infrastructure needs for the society, project financiers encounter challenges due to lack of consultation with key players in the infrastructure sector. This inadequacy has led to projects risks which threaten its completion within specifications, budget, and on time. In some cases, this shortcoming leads to abandonment of projects in Nigeria. This article took cognizes of stakeholder's engagement literatures and unearth the dimension of risks because of the lack of involvement or otherwise of key stakeholders such as project managers, project teams, environments, end-users, and residents in infrastructure projects. A conceptual framework of the dimensions of stakeholder's engagement, and de-risking infrastructure projects was developed. The result identified the limitations facing stakeholder engagement in infrastructure projects in Nigeria and grouped them into the stakeholder's maturity, coordination, marginalization, trust, health& Safety, and blended finance mechanism. Also, the result identified the roles in which the maturity of stakeholders in recognizing all key players, the coordination of stakeholders both internally and externally, the health & safety of local residence and end-users, and adequate consultation and involvement without marginalization of stakeholders in mitigating cost overrun risks in infrastructure projects in Nigeria. Public and Private Project financiers must understand the crucial role of stakeholders in mitigating risks in infrastructure projects especially on successful completion of projects, and the effects in providing the needed developmental projects for the populace.

Keywords: Stakeholders engagement, De-risking Infrastructure projects, Maturity, Coordination, Trust, Health & Safety, Marginalization, Blended Finance Mechanisms

Introduction:

With the expansion of Project Management Knowledge areas, stakeholder management and indeed engagement have become essential components of Project Management since the stakeholders pose significant risks and opportunities to a project (Saad et al., 2022). Stakeholders engagement is therefore essential in the implementation of infrastructure projects as the absence or ineffective engagement of stakeholders throughout the project life cycle, particularly in the early phases of planning and implementation will impacted negatively on the projects (Bahadorestani et al., 2020).

It is in this regards that stakeholder management has been recognized by both academics and practitioners as a crucial strategy for attaining project objectives. Some authors (Francisco de Oliveira &Rabechini Jr, (2019), Nederhand& Klijn, (2019) argued that in order to successfully complete a project, a stakeholder approach and involvement are required. Benites-Lazaro & Mello-Théry, (2019) also considered the value of stakeholders' engagement in projects for the sharing of their feedback and the promotion of social fairness, which is essential for sustainable development. Similar to this, Zhuang et al., (2019) believed that a deeper understanding of the stakeholders was vital for the decision-making process, which is a crucial step towards sustainable urban redevelopment. Likewise, Shaqour, (2022) argued that infrastructural development must, at all times during the project's lifecycle, match the expectations of all stakeholders. Additionally, Dansoh et al., (2020) contend that public participation in infrastructure projects increases the likelihood of effective outcomes.

There is no doubt that it is recognized that stakeholder engagement plays a vital role in the timely completion of infrastructure projects. This fact was attested by several authors in recent research work. Dadpour et al., (2019)recognized their relevance to project success. Also are Vuorinen &Martinsuo, (2019) ,Patricia Pinkhasik& Pia Herrmann, (2021), Maria Alina Rădulescu et al., (2020), Charles et al., (2023), Eyiah-Botwe et al., (2020)Joanna Węgrzyn& Anna Wojewnik-Filipkowska, (2022)Canfield et al., (2022), van Aalderen et al., (2023),Erkul et al., (2020)and Khalilzadeh et al., (2023).

The stakeholders' approach seeks to identify those parties that are necessary since the organization can only exist with their defence and support. The concept of stakeholder engagement has been shown to result in more ethical management practices (Mitchell et al., 2022). However, there may be limits to the extend stakeholder engagement may lead in addressing some of the most challenging ethical concerns that managers encounter, such as risk, ambiguity, complexity, equivocality, and a priori irreducible uncertainty. According to Ansu-Mensah et al., (2021), the idea of stakeholder engagement has played an important part in the implementation of key organizations' Corporate Social Responsibility programmes for decades. According to the authors,

efforts must be made to promote and engage various stakeholders for better feedback and to provide a guide in their Corporate Social Responsibility programmes.

The significance of stakeholder engagement in urban infrastructure development was also evaluated by Xue et al., (2022), who saw stakeholder involvement as multidisciplinary in the decision-making process. This is despite the ambiguities in such an assessment due to the difficulties in distinguishing between sustainability choice factors and the variability of preferences across participants. Based on the integration of the planet-people-prosperity framework and the product-organization-process framework, as well as the representation of stakeholders' heterogeneity to reduce evaluation uncertainty, the study concludes that the multidisciplinary decision criteria system advances the understanding of sustainable infrastructure development.

Ngampravatdee et al., (2023) have noted the significance of stakeholder engagement in the successful outcomes of large public transport infrastructure projects. As Projects Transport Planners highlight, such projects are highly visible to the public due to the significant costs and impact involved. As a result, stakeholders must be effectively engaged, particularly from the planning phase, to ensure that informed decisions are made, and potential conflicts are mitigated.

Morshedi et al., (2022) noted that although the public is indirectly involved in the planning stage through information-sharing reports and meetings, they are nonetheless important in the planning and execution stages and should be included in the decision-making process to minimize inconvenience to the local community. By increasing public awareness of how public opinion influences construction project planning, local communities can better define participatory structures.

Ferreira et al., (2020) accentuated the relevance of stakeholder engagement in their study on green infrastructure to improve people's health and wellbeing. The authors emphasized that the involvement of stakeholders offered the necessary effective channels of communication, involvement, and feedback for incorporation into the design. During its execution, such a system fosters confidence, allowing for process and site ownership and stewardship.

Attanasio et al., (2022) investigate how the company's stakeholder groups contribute to the value flow of business models for sustainability. According to the authors, the categorization of stakeholders participating in the value flow dimension, namely value intention, value proposition, value production, value delivery, and value capture, was the result of the stakeholder value flow model of business models for sustainability. You can carry out a more extensive investigation of stakeholder contributions to the business model of the organisation with the aid of the stakeholder value flow model.

Bahadorestani et al., (2020) highlighted the difficulties associated with the absence or ineffective stakeholder engagement during the project life cycle, particularly at the earlier stages of planning and implementation, which frequently has a negative impact on the expected performance of projects. The study indicated that stakeholder involvement assists line project managers in achieving long-term goals by identifying potential conflicts of interest early on. Ebekozien et al., (2023) considered stakeholder engagement in construction projects as a factor that contributes to project optimal performance, particularly in developed countries.

Larsson & Larsson, (2020) have recognized that there has been a substantial rise in the demand for sustainable construction and infrastructure projects, causing an increase in complexity in their implementation. To tackle these challenges, new management practices have emerged over the past decade that necessitate the involvement and coordination of a broader range of skills and expertise from stakeholders throughout the supply chain. This shift in project management approaches has been accompanied by heightened focus on the concept of collaborative business arrangements, often referred to as partnering, which is intended to enhance project outcomes.

Ominde et al., (2023) have determined the important factors that influence stakeholder engagement while evaluating the information communication technology delivery. Evaluation of the degree of stakeholder integration, creation of a project business case, project procedures, and compliance and regulatory concerns in ICT projects are all important for project delivery teams to consider. The concept of stakeholder integration and management have ramifications for the sustainability of ICT projects, the author claims, and there is evidence to support this conclusion. The contribution of stakeholder integration in terms of project sustainability was one of the topics that dominated this research.

Andrei Polejack et al., (2023), the degree of investment in an Integrated Ecosystem Assessment (IEA) is typically determined by the significance of stakeholders, including scientists and policymakers, in positions of power that influence decision-making. Understanding these stakeholders' perceptions of and understanding of IEA, as well as the reasons behind their involvement, is therefore crucial. As a result, it's critical to identify stakeholders, communicate with them, and respect their interests.

The combined effect of these identified stakeholders' risks in infrastructure projects constitutes a significant risk to project success. Furthermore, not many studies have been accomplished in Nigeria on the risk linked to stakeholders, as much of the literature analysed on stakeholder risk factors are identified in developed nations. Because of these findings, this study is predicated on a substantial discrepancy in

knowledge. As such, the intent of this study is to gain insight into the effects of risks identified from stakeholders' point of view. This studyreviewed stakeholders of all kinds that are engaged or not in Infrastructural projects,and the measures taken in de-risking the risks.

Literature Review:

The origin of stakeholder theory has been closely linked to the concept of strategy since its inception, with the aim of improving business policies and strategies (Freeman & Mcvea, 2001). According to Eskerod (2020), organisations, whether they are permanent or temporary, consist of stakeholders who can impact or be influenced by the organization's operations and accomplishments. Given that establishing and maintaining stakeholders' relationships is the primary driver of value creation, managing these relationships effectively is essential to achieving and sustaining success in any business venture, regardless of the success criteria used.

Therefore, given the significance of stakeholders' viewpoints, it is imperative for managers and business owners to accord them the attention they deserve when making decisions. Projects owners and their likes acknowledged the importance of stakeholders in de-risking infrastructure projects, hence, the constant consultation with both internal and external stakeholders to ensure that their point of views is part of the decisions to avert project failure, suspension, delay, and cost overruns (Victar et al., 2023)

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Waris et al., (2022) declare that the complexity and underlying risks of government infrastructure projects have made external stakeholder management even more crucial to modern project management, particularly in developing nations where policymakers and infrastructure programme planning are affected by the diverse range of stakeholders and their expectations from the government.

Even though a lot of infrastructure projects are being implemented, Tirmizi & Arif, (2023), asserted that they experience delays and cost overrunswhich can be attributed to the failure to recognize, engageand address stakeholders risks. Likewise, Wojewnik-Filipkowska et al., (2021)noted that neglecting stakeholders can has a detrimental impact on infrastructure project's success. Furthermore,Zafar et al., (2020) argued that overlooking the attributes, significance, and abilities of stakeholders to influence a project during its planning and implementation may cause stakeholders to become dissatisfied, mistrustful, and antagonistic, which can result in project disputes, overspending, delays in the timeline, and even project termination.

Several studies have linked infrastructure failures to several risks related to stakeholders in infrastructure projects. Abduh et al., (2022) linked stakeholders' risk to the maturity of the procurement units to deliver difficult infrastructure projects in Indonesia. Luo et al., (2019) attribute stakeholder risk to supply chain distribution in a building project in Hong Kong due to dynamic risk interdependency involving large numbers of stakeholders because of poor coordination amongst stakeholders. In the same vein, Nawaz et al., (2020) link project stakeholder risk to health and safety effects on local populations and major project stakeholders in developing nations.

The marginalization of end-user stakeholders in decision making was cited by Toriola-Coker et al., (2022) as a significant barrier to public private partnership project in Nigeria. Similarly, Nallaperuma-Arachchige et al., (2022), identified poor coordination as the risk between the public and government authorities in Sri Lanka which most likely end up in lengthy and costly lawsuits. Furthermore, people's perceptions and thoughts regarding the development of various urban transport infrastructure projects are greatly influenced by the public's level of trust in the government (Wang et al., 2023)

The comprehension of the health and safety implication of stakeholders is the characteristics and foundation on which construction industry in developing countries operates is crucial for both practical and theoretical reasons (Boadu et al., 2020). Furthermore, Blended finance mechanism is a strategy that seeks to leverage private funds risks for the realization of sustainable development goals (Smith et al., 2022).From the above literature, this research will review in detail some of the risks attributed to stakeholders and the possible findings on how to de-risk such risks related to infrastructure projects.

Stakeholders' maturity

It is fundamentally important that the maturity or experience of stakeholders plays a crucial role in de-risking infrastructure projects. As such, Prebanić&Vukomanović, (2021) posit that stakeholders' management practices must be digitally transformed in order to boost productivity. According to the authors, project managers' lack of digital innovation in building project management practices has resulted in decreased efficiency. Hence, there is a need to reengineer and digitally change processes in building projects and construction firms using social network analysis and web-based apps rather than social media.

The influence of traditional authority on the pre-construction stakeholder management process for infrastructure projects around the world was another method, Dansoh et al., (2020) used to analyse the maturity of stakeholders. The interactions between traditional authorities and other stakeholders indicated six different types of influence: polarization, acculturation, compromise, instability, and power and role suppression. The authors contend that these results will provide project managers with knowledge for the development of practical strategies for controlling the influence of traditional authorities during the pre-construction phase of infrastructure projects.

Bushuyev et al., (2020.) contended that the project manager's emotions during a crisis involving an infrastructure project might be used to measure stakeholder maturity. The authors define emotional infection as a social and psychological mechanism for spreading the project manager's mental state to other stakeholders to inform and foster

new organizational behaviour as well as the inclusion of people in particular mental states that have an impact on management effectiveness.

Stakeholders' coordination

There are several stakeholders involved in infrastructure projects. These stakeholders may be internal or external to the project. According to Al Nahyan et al., (2019), it is vital to identify and involve key stakeholders in the early stages of infrastructure projects. Project managers need to understand the legitimacy, strength, and urgency of the stakeholders to coordinate and achieve the efficacy of management procedures. The authors hypothesized that multiple stakeholders have an impact on coordination, decision-making, knowledge-sharing, and communication at different stages of a building project. Understanding stakeholder legitimacy, authority, and urgency at different stages of a project is essential as a result.

Lehtinen & Aaltonen, (2020) investigated how external and internal stakeholders are coordinated in a Northern European inter-organizational project. Three organizational solutions were determined by the study based on governance, values, and dynamism. According to the authors, governance-based solutions provide a broad framework for organizing the involvement of external stakeholders, whilst value-based solutions encourage genuine cooperation, and dynamism-based solutions assist quick organization. The engagement of external stakeholders in interorganizational initiatives was organized in large part by these three organizing strategies.

Ninan et al., (2019) discusses how projects coordinate external stakeholders utilizing strategies like persuasion, delegation, give and take, additional work for stakeholders, and flexibility. The writers also look at the project team's resources, including hiring discretion, financial discretion, and government support. They concluded that changes in the resource base can significantly affect strategic action and, consequently, the results of megaprojects.

Stakeholders' marginalization

Marginalization of stakeholders refers to the condition in which certain stakeholders within an organization, project, or community are excluded or pushed to the periphery of decision-making processes, resource distribution, or overall involvement. According to Toriola-Coker et al., (2022), one of the main obstacles to the efficient growth and development of Private Public Partnership (PPP) projects in Nigeria and other developing countries worldwide is the marginalization of end-user stakeholders in PPP projects. The problem of end-user marginalization in Nigerian PPP road projects, according to the authors, can be resolved by actively involving end-user stakeholders in decision-making from conception to completion.

Witz et al., (2021) emphasized the importance of marginalized stakeholders in the growing number of substantial social pushback to megaprojects. According to the authors, the disparity in project support stems from varying conceptions of legitimacy among different stakeholder groups. The authors argued that project legitimacy among stakeholders in megaprojects should be renegotiated on a constant basis, with consequences for future advancements in project governance.

Dansoh et al., (2020) recognized the value of involving traditional authorities, who are strong public figures with significant influence over the public and stakeholder management processes on PPP projects all over the world. The study finds that traditional authorities play a crucial role in establishing a connection between project implementers and the public during the stakeholder management process.

Stakeholders' trust

People's perceptions and thoughts regarding the development of various urban transport infrastructure projects are greatly influenced by the public's level of trust in the government (Wang, et al, 2023). According to the study, social trust positively influences public acceptance, directly or indirectly through perceived benefit and -risks and self-efficacy.Tengilimoglu et al., (2023) investigated the confidence of interest groups in the possibilities of implementing a connected and automated vehicle system in urban traffic. The results of the study showed that despite the many benefits, there is a lack of consensus among stakeholders on what should be considered the benefits of maximizing connected and automated vehicle systems for society.Magoola et al., (2021) stated that when implementing Public-Private Partnership (PPP) projects focusing on community involvement, they found that trust and community involvement are significantly related to PPP performance.

Ge et al., (2020) affirmed the greater importance of the influence of trust on public acceptance of road infrastructure projects when testing a social psychological model of public acceptance of road infrastructure projects as compared to the perception of benefit and risk which also had a less significant impact on residents.

Stakeholders' health and safety

Construction companies often experience a high number of Occupational Health and Safety (OHS)-related injuries, which can occur when safety measures are not followed. This poses a risk to workers' lives and well-being. However, a study conducted by Mohandes& Zhang, (2021) found that the Holistic Occupational Health and Safety Risk Assessment Model can be a valuable tool for safety professionals. This model provides a comprehensive ranking system that considers all aspects of construction workers' safety, ensuring their well-being is protected during the entire process.

However, according to Akinlolu et al., (2022), advanced technologies like virtual reality (VR), online databases, Geographic Information Systems (GIS), Building Information Modelling (BIM), Unmanned Aerial Vehicle (UAV), 4D Computer-Aided Design (4D CAD), and wearable robotics are being utilized to enhance construction site safety and health. The study disclosed that the current trend in construction health and safety technology research involves project design and planning for health and safety, visualization and image processing for construction projects, digital technologies for project monitoring, information management, and Internet of Things, automation and robotic systems, accident prevention and structure evaluation, and health and safety.

According to a study conducted by Sami Ur Rehman et al., (2021), the COVID-19 pandemic has significantly impacted the global economy, including the construction industry. The research revealed that the construction sector faced numerous challenges, including delays in project schedules, interruptions in cash flows, postponements of permits and approvals, and inspections, as well as travel restrictions, serious health and safety concerns, and material and equipment shortages. These issues hindered the timely completion of construction projects.

To alleviate the harmful effects of the pandemic on the industry, stakeholders, such as government organizations and construction companies, introduced measures like economic support programs, digitalization of processes, fee and fine waivers, and the establishment of health facilities, among other statutory relaxations, which successfully supported the industry.
Furthermore, according to Boadu et al., (2020) it is crucial for both practical and theoretical reasons to comprehend the health and safety (H&S) implications of the characteristics and foundation on which the construction industry in developing countries operates. The study emphasized that these characteristics, particularly the inadequacy of a skilled and knowledgeable workforce, reliance on labour-intensive methods, and the absence of a single regulatory authority, pose significant challenges for H&S management in the industry.

Zhang et al., (2020), emphasize the importance of ensuring the safety of construction workers, which has long been a pressing issue worldwide. To address this, it is crucial to have a dependable method for continuously monitoring construction sites to promptly eliminate potential hazards. The study indicates that using advanced computer vision techniques to extract and process video and image information can serve as effective solutions for safeguarding the health and well-being of construction site workers.

Stakeholders' blended finance mechanism

Blended finance is a strategy that seeks to leverage private funds for the realization of sustainable development goals (SDGs). Nevertheless, according to a study by J. Smith et

al., (2022) , this approach has yet to be fully integrated into the context of conservation activities that involve identifying opportunities, barriers, and risks to scaling up private finance for nature within community-based natural resource management.

Christiansen, (2021) reported that blended finance has gained widespread acceptance in development strategies as a means of addressing financing shortfalls associated with achieving the Sustainable Development Goals. Furthermore, the use of blended finance has expanded to include the establishment of biodiversity markets and attracting private investors.

According to Möykkynen&Pantelias, (2021) viability gap funding (VGF) serves as an alternative means of leveraging public funds and engaging private infrastructure investment stakeholders in developing countries. Their research revealed a need for increased VGF in low- and middle-income countries, as well as other significant insights. Although the study primarily examines infrastructure development in Africa, its findings may also be relevant to other developing markets.

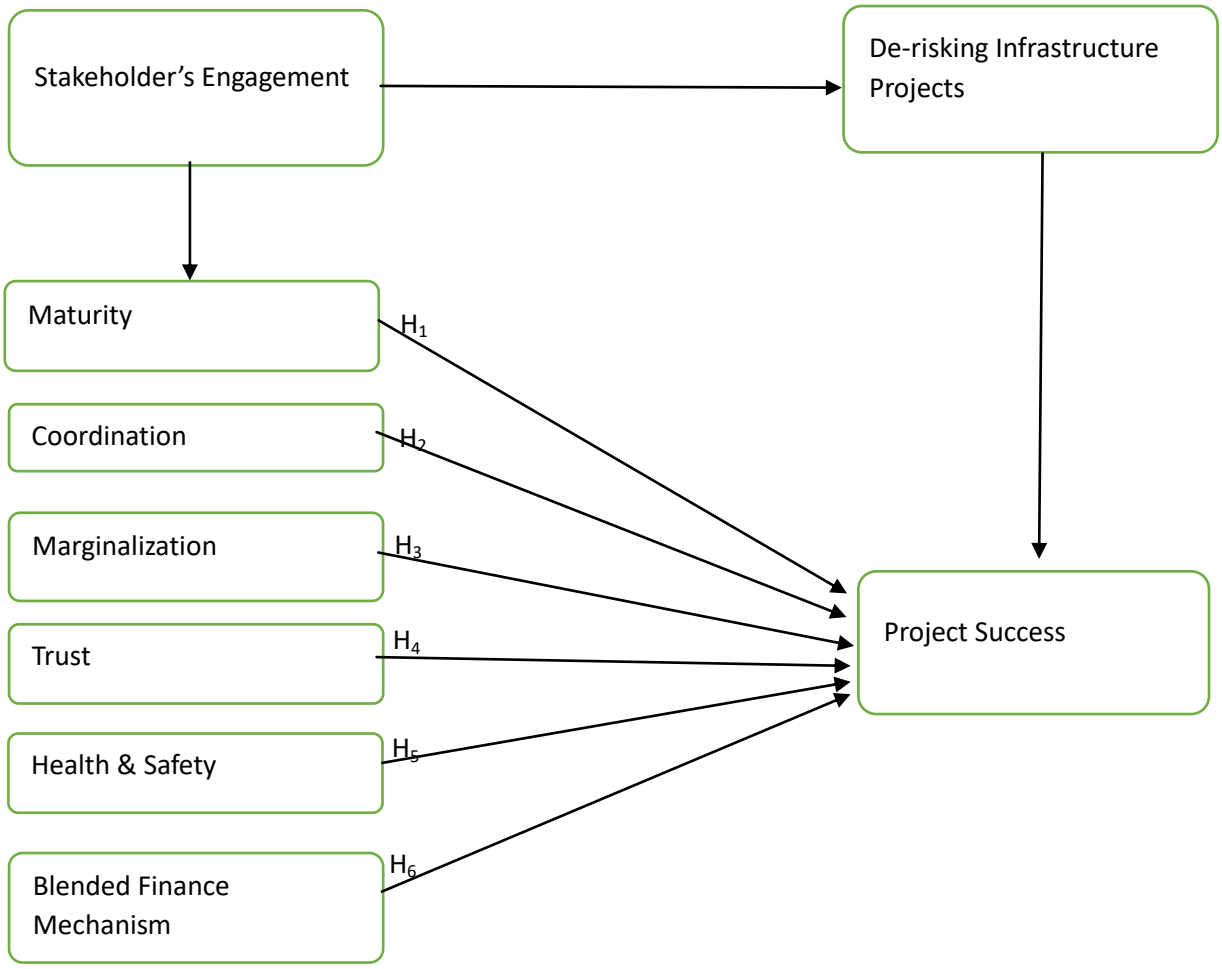

Figure 1: Dimensions of stakeholders'engagement and de-risking infrastructure projects

Conceptual framework

Figure 1 shows the schematic representation of variables and proxies of stakeholders' engagement and de-risking infrastructural projects. According to the conceptual framework, the proxies of stakeholder's engagement identified through literature, namely, maturity, coordination, marginalization, trust, health &safety, and blended finance mechanism has an effect in the successful completion of infrastructure project for any project owner in Nigeria.In Nigeria, and for the purpose of this study, the proxies of stakeholder's engagement have shown to influenceinfrastructural projects especially on successful completion of projects. Available information indicates that due to lack of effective understanding of the project information, project managers lack the maturity to understand the implications of various project stakeholders and their influence on successful completion of project has led to project completion delays with high financial implications.

De-risking the effect of lack of the coordinating ability of various stakeholders both internal and external in infrastructure project has an effect in successful completion for projects. This is because infrastructure projects have large numbers of stakeholders whose puts or lack of it has an adverse effect in projects logical completion.

Stakeholders' marginalization in infrastructure projects in Nigeria has shown to pose risk in successful completion of projects. Identification and full consultation with stakeholders such as communities, authorities, designers, beneficiaries, project financiers will enhance de-risk infrastructural projects as their inputs are considered in all phases of projects. The effects of the lack of stakeholders'trust, especially when stakeholders' inputs on projects are not considered usually leads to disputes with its attended delays and financial implications. With this, stakeholders no longer trust Government or project owner's pronouncement on successful infrastructure projects due to percept lack of trust because of several abandoned projects all over Nigeria.The neglect of Health & safety of stakeholders especially the local communities along projects routes influences timely completion of infrastructural projects especially where the activities of a works contractor have a negative impact on the health and safety of workers and the immediate communities.

Infrastructural projects financing is crucial for successful completion of projects. The involvement of financing stakeholders is crucial to augment funding gaps. The effects of the lack of blended finance mechanism would have a detrimental impact on successful completion of infrastructural projects.

In conclusion, there are links of the effects of the proxies of stakeholders' engagement in successful completion of projects in Nigeria. To overcome the effects of the proxies, project owners need to pay attention to these the proxies to de-risk their effects. So,

effective stakeholder engagement with particular attention to these proxies will de-risk infrastructural project in Nigeria.

Conclusion and recommendation

Stakeholder engagement in infrastructure projects development plays a crucial role for the projects managers, government, clients, residents, end-users as well as financiers of infrastructure projects. The result identified the risks associated with stakeholders in infrastructure projects in Nigeria and grouped them into the stakeholder's maturity, coordination, marginalization, trust, health& Safety, and blended finance mechanism. Also, the result identified the roles in which the maturity of stakeholders in recognizing all key players, the coordination of stakeholders both internally and externally, marginalization of stakeholders by not considering their inputs, stakeholders negative perception of government to implement projects, health & safety of local residence and end-users, and adequate consultation and involvement without marginalization of stakeholders in mitigating risks in infrastructure projects in Nigeria. Public and Private Project financiers must understand the crucial role of stakeholders in mitigating risks in infrastructure projects especially cost overrun which has a negative effect for Government providing the needed infrastructure projects especially roads and housing for the populace.

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