

Stakeholder Characteristics, Government Support, Stakeholder Engagement, and Performance of Competence Based Education Infrastructure Projects in Kenya

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ABSTRACT

The implementation of Competence-Based Education (CBE) in Kenya requires substantial investments in educational infrastructure, including classrooms, science laboratories, workshops, libraries, and ICT facilities. However, the performance of CBE infrastructure projects has been hindered by persistent delays, cost overruns, and compromised quality standards. This study examines the influence of stakeholder characteristics on the performance of CBE infrastructure projects, with government support analyzed as a moderating variable and stakeholder engagement as a mediating variable. Grounded in Stakeholder Theory, Institutional Theory, Resource Dependency Theory, and Social Capital Theory, the study employed a document analysis approach to explore stakeholder dynamics, institutional support mechanisms, and engagement processes shaping project performance. The findings reveal that stakeholder resource capacity, competence, and power relations exert significant direct influence on project performance outcomes. Government support operationalized through funding, policy frameworks, and political commitment moderates the relationship between stakeholder characteristics and project performance, while stakeholder engagement in communication, risk management, and change management mediates the translation of stakeholder attributes into coordinated project outcomes. The combined interaction of stakeholder characteristics, government support, and stakeholder engagement emerged as a decisive determinant of project performance in terms of time, budget, and quality. This study contributes to

project management theory and practice by highlighting the importance of integrated stakeholder and institutional governance frameworks in the effective delivery of educational infrastructure projects.

Keywords: Stakeholder characteristics; government support; stakeholder engagement; project performance; Competence Based Education.

1. Introduction

1.0 Background of the Study

Competence-Based Education (CBE) represents one of the most ambitious and transformative educational reforms in Kenya's post-independence history. Introduced to replace the traditional 8-4-4 system, CBE seeks to equip learners with practical competencies, critical thinking skills, creativity, digital literacy, and lifelong learning capabilities essential for thriving in the 21st-century knowledge economy. Unlike traditional content-driven curricula, CBE emphasizes learner-centered pedagogy, experiential learning, problem-solving, and skills acquisition, thereby

necessitating significant changes in teaching methodologies, assessment frameworks, and learning environments (Republic of Kenya, 2017; KICD, 2019).

The implementation of CBE requires extensive investments in both physical and digital infrastructure, including modern classrooms, science laboratories, workshops, libraries, digital learning platforms, and information and communication technology (ICT) facilities. Infrastructure plays a foundational role in enabling competency-based learning by providing spaces for hands-on experiments, collaborative learning, and technology-supported instruction. Consequently, infrastructure development has become a central pillar of CBE implementation, particularly in junior secondary schools where learners transition to specialized learning pathways.

Despite substantial investments by the Government of Kenya (GoK), county governments, and development partners, CBE infrastructure projects have encountered persistent implementation challenges. These challenges include inadequate and inconsistent funding, procurement delays, limited technical capacity among implementing agencies, weak stakeholder coordination, governance inefficiencies, and compromised quality standards. Such challenges have negatively affected project performance, resulting in delays, cost overruns, and infrastructure that does not fully meet curriculum requirements, thereby undermining the effectiveness of CBE implementation. Project performance in infrastructure development is widely recognized as a multidimensional outcome measured through adherence to schedules, compliance with budgetary constraints, and attainment of specified quality standards (De Oliveira & Rabechini, 2021; Martinsuo & Lehtonen, 2023). In the context of education infrastructure, project performance also has long-term implications for learning outcomes, equity in education, and national development. Delays and quality deficiencies in CBE infrastructure projects may exacerbate educational inequalities, particularly in rural and marginalized regions.

Infrastructure project performance is influenced by complex interactions among stakeholder characteristics, institutional environments, and governance processes. Stakeholder Theory posits that projects are shaped by multiple stakeholders whose interests, power, and attributes influence decision-making and outcomes (Freeman, 1984; Aaltonen & Kujala, 2021). In CBE infrastructure projects, stakeholders include national and county governments, school administrators, teachers, contractors, consultants, communities, parents, donors, and regulatory agencies. Each stakeholder group possesses distinct resources, competencies, and influence structures that shape project implementation and performance outcomes.

Institutional Theory emphasizes the role of regulatory frameworks, norms, and governance structures in shaping organizational behavior and project outcomes (Scott, 2014). In CBE infrastructure projects, institutional frameworks such as education policies, procurement laws, public finance management regulations, and quality standards define stakeholder roles, accountability mechanisms, and governance structures. These institutional factors influence how stakeholders interact, allocate resources, and manage project risks.

Resource Dependency Theory (RDT) posits that organizations depend on external actors for critical resources, and this dependence shapes power relations and decision-making processes (Pfeffer & Salancik, 2003). In CBE infrastructure projects, schools and local communities depend heavily on government funding and regulatory approvals, creating power asymmetries that influence stakeholder behavior and project governance.

Social Capital Theory underscores the role of trust, networks, and collaborative relationships in facilitating collective action and improving organizational performance (Putnam, 2000; Nahapiet & Ghoshal, 1998). In infrastructure projects, social capital is manifested through stakeholder engagement mechanisms such as communication platforms, collaborative decision-making structures, and participatory monitoring systems, which enhance coordination, trust, and project performance.

Although infrastructure project management has received considerable scholarly attention, existing studies have largely focused on sectors such as transport, energy, water, and housing, with limited attention to education infrastructure. Furthermore, many studies examine stakeholder characteristics, institutional support, and stakeholder engagement independently, without integrating these variables into a comprehensive explanatory framework. Few studies have examined the moderating role of government support and the mediating role of stakeholder engagement in education infrastructure projects, particularly in developing countries.

This study addresses these gaps by examining the influence of stakeholder characteristics on the performance of CBE infrastructure projects in Kenya, while investigating the moderating role of government support and the mediating role of stakeholder engagement. By integrating Stakeholder Theory, Institutional Theory, Resource Dependency Theory (RDT), and Social Capital Theory (SCT), this study develops an integrated governance framework for education infrastructure delivery. The study contributes to project management theory by demonstrating how stakeholder attributes, institutional support, and relational governance mechanisms jointly influence infrastructure project performance outcomes.

1.2 Objectives of the study

The study seeks to achieve the following specific objectives:

1. To examine the influence of stakeholder characteristics on the performance of competence based education infrastructure projects in Kenya.
2. To assess the moderating role of government support in the relationship between stakeholder characteristics and the performance of competence based education infrastructure projects in Kenya.
3. To evaluate the mediating role of stakeholder engagement on the relationship between stakeholder engagement and the performance of competence based education infrastructure projects in Kenya.
4. To develop an integrated governance framework for competence based education infrastructure project performance.

1.3 Research Hypotheses

H₁: Stakeholder characteristics significantly influence competence based education infrastructure project performance.

H₂: Government support significantly moderates the relationship between stakeholder characteristics and competence based education infrastructure project performance.

H₃: Stakeholder engagement significantly mediates the relationship between stakeholder characteristics and competence based education infrastructure project performance.

H₄: Stakeholder characteristics, government support, and stakeholder engagement jointly influence competence based education infrastructure project performance.

1. 2. Literature Review

2.0 Introduction

Infrastructure development is a critical enabler of effective curriculum implementation, particularly in competence-based education systems that require learner-centered pedagogies, experiential learning spaces, and technology-enhanced learning environments. In Kenya, the implementation of Competence-Based Education (CBE) has intensified the demand for modern classrooms, science laboratories, workshops, libraries, and ICT infrastructure. However, the performance of such infrastructure projects is often constrained by governance, institutional, and stakeholder-related factors. The literature on infrastructure project performance highlights the central role of stakeholder characteristics, institutional support mechanisms, and stakeholder engagement processes in determining project outcomes. This section reviews theoretical and empirical studies on stakeholder characteristics, government support, stakeholder engagement, and project performance, and identifies research gaps addressed by the present study.

2.1 Theoretical Foundations

2.1.1 Stakeholder Theory

Stakeholder Theory, initially articulated by Freeman (1984), posits that organizations and projects are influenced by multiple stakeholder groups whose interests, power, and attributes shape decision-making and outcomes. The theory emphasizes that project success depends on the identification, prioritization, and effective management of stakeholder relationships. In infrastructure projects, stakeholders include government agencies, contractors, consultants, beneficiaries, communities, regulatory authorities, and funding institutions. Stakeholder Theory has evolved to incorporate concepts such as stakeholder salience, legitimacy, urgency, and relational governance (Mitchell, Agle, & Wood, 1997; Aaltonen & Kujala, 2021). Recent studies emphasize that stakeholder attributes such as power, competence, and resource capacity significantly influence project governance and outcomes (Bourne, 2021; Eskerod & Jepsen, 2013). In education infrastructure projects, stakeholders such as ministries of education, school management, parents, and communities play critical roles in resource mobilization, governance, and implementation.

2.1.2 Institutional Theory

Institutional Theory explains how formal and informal rules, norms, and governance structures shape organizational behavior and project outcomes (Scott, 2014). Institutional environments provide legitimacy, stability, and governance frameworks that influence stakeholder interactions and project implementation processes. In infrastructure development, institutional frameworks such as procurement laws, public finance regulations, and quality standards define stakeholder roles, accountability mechanisms, and governance structures (Flyvbjerg, 2014). Supportive institutional environments enhance coordination, reduce transaction costs, and improve project performance, while weak institutional frameworks contribute to inefficiencies and governance challenges. In the context of CBE infrastructure projects, institutional frameworks include national education policies, infrastructure standards, procurement regulations, and public finance management systems. These frameworks influence stakeholder behavior, resource allocation, and

project governance.

2.1.3 Resource Dependency Theory (RDT)

Resource Dependency Theory (RDT) posits that organizations depend on external actors for critical resources, and this dependence shapes power relations and decision-making processes (Pfeffer & Salancik, 2003). Organizations seek to manage dependencies by establishing alliances, negotiating power relationships, and diversifying resource sources. In infrastructure projects, stakeholders depend on government funding, donor support, and regulatory approvals. This dependence creates power asymmetries that influence stakeholder behavior and governance structures (Hillman, Withers, & Collins, 2009). In CBE infrastructure projects, schools and communities rely heavily on government funding and institutional approvals, shaping stakeholder power dynamics and project performance outcomes.

2.1.4 Social Capital Theory

Social Capital Theory emphasizes the role of trust, networks, norms, and relationships in facilitating collective action and improving organizational performance (Putnam, 2000; Nahapiet & Ghoshal, 1998). Social capital enhances information sharing, collaboration, conflict resolution, and governance effectiveness. In infrastructure projects, social capital is manifested through stakeholder engagement processes such as communication platforms, collaborative decision-making structures, and participatory monitoring mechanisms (Yang, Shen, & Ho, 2009). High levels of social capital strengthen stakeholder coordination and improve project performance.

2.2 Stakeholder Characteristics and Infrastructure Project Performance

Stakeholder characteristics refer to the attributes and capabilities of stakeholders that influence project governance and outcomes. Key stakeholder characteristics include resource capacity, competence, and power.

2.2.1 Stakeholder Resource Capacity

Stakeholder resource capacity refers to the financial, human, technical, and material resources contributed by stakeholders to project implementation. Adequate resource capacity enhances project continuity, reduces implementation risks, and improves adherence to schedules and budgets. Empirical studies consistently identify resource constraints as a major cause of infrastructure project delays and cost overruns. Flyvbjerg (2014) highlights that inadequate funding and poor financial planning contribute significantly to megaproject failures. In developing countries, limited financial resources, inadequate technical capacity, and shortages of skilled personnel are common barriers to infrastructure project performance (Osei-Kyei & Chan, 2017).

In education infrastructure projects, resource capacity includes government funding, community contributions, donor support, and technical expertise from contractors and consultants. Studies in sub-Saharan Africa indicate that inadequate funding and technical capacity significantly hinder school infrastructure development (Asare & Danquah, 2020; Mwangi & Kimenyi, 2021). However, existing studies often treat resource capacity as a financial variable and fail to integrate human and technical resources into a multidimensional construct. This study conceptualizes stakeholder resource capacity as a composite of financial, technical, and human resources influencing CBE infrastructure project performance.

2.2.2 Stakeholder Competence

Stakeholder competence encompasses technical expertise, professional experience, managerial skills, and decision-making capabilities. Competent stakeholders enhance project planning, monitoring, risk management, and quality assurance processes. In infrastructure projects, the technical competence of contractors, consultants, and project managers is critical for ensuring adherence to design specifications, quality standards, and timelines (Turner, 2014). The competence of public sector officials influences procurement processes, contract management, and governance effectiveness. Empirical studies demonstrate that stakeholder competence significantly influences infrastructure project performance. For instance, Martinsuo and Lehtonen (2023) found that managerial competence and technical expertise significantly improve project delivery outcomes. Similarly, Chen and Liu (2023) reported that stakeholder competence enhances project governance and reduces implementation risks. In education infrastructure projects, the competence of school administrators, engineers, and project managers is critical for aligning infrastructure designs with curriculum requirements and pedagogical needs. Competence gaps contribute to substandard construction, weak monitoring, and poor quality outcomes.

2.2.3 Stakeholder Power and Influence

Stakeholder power refers to the ability of stakeholders to influence project decisions, mobilize resources, and shape governance structures. Power arises from control over resources, authority, expertise, and network influence. Power asymmetries among stakeholders can lead to conflicts, marginalization of weaker stakeholders, and delays in decision-making processes (Mitchell et al., 1997). Conversely, balanced power structures enhance collaboration and participatory governance.

In CBE infrastructure projects, government agencies wield significant power due to control over funding and regulatory approvals. Contractors possess technical power, while communities and school management boards exercise social and political influence. Power dynamics among these stakeholders shape project governance and implementation outcomes. Empirical studies indicate that stakeholder power significantly influences infrastructure project performance. Kinyua, Kamau, and Muturi (2021) found that stakeholder power dynamics significantly affect public infrastructure project success in Kenya. Similar findings have been reported in global infrastructure contexts (Aaltonen & Kujala, 2021).

2.3 Government Support and Infrastructure Project Performance

Government support is a critical determinant of public infrastructure project performance, particularly in developing countries where public funding and regulatory frameworks dominate infrastructure development. Government support is operationalized through funding mechanisms, policy and legislative frameworks, and political commitment.

2.3.1 Government Funding

Government funding ensures continuity of project activities and reduces financial uncertainties. Adequate and timely funding enhances adherence to schedules and budgets, while inconsistent funding contributes to project delays and cost overruns. Empirical studies consistently demonstrate that funding adequacy and timeliness significantly influence infrastructure project performance. Flyvbjerg (2014) identifies financial constraints as a leading cause of megaproject failures. Osei-Kyei and Chan (2017) found that financial capacity is a critical success factor in public–private partnership infrastructure projects. In education infrastructure, government funding is often the primary source of financing, supplemented by donor funding and community contributions. Inconsistent funding flows disrupt project implementation and compromise quality outcomes.

2.3.2 Policy and Legislative Frameworks

Policy and legislative frameworks define stakeholder roles, accountability mechanisms, procurement procedures, and quality standards. Supportive frameworks enhance transparency, coordination, and governance effectiveness, while weak frameworks contribute to bureaucratic inefficiencies and governance challenges. Institutional Theory emphasizes that regulatory frameworks shape organizational behavior and project outcomes (Scott, 2014). In infrastructure development, procurement laws, public finance regulations, and quality standards influence stakeholder interactions and project governance (Flyvbjerg, 2014). In CBE infrastructure projects, education policies, infrastructure standards, and procurement regulations define governance structures and implementation processes. Supportive policy frameworks enhance stakeholder coordination and accountability.

2.3.3 Political Will and Commitment

Political will refers to the commitment of political leaders and institutions to prioritize infrastructure development, mobilize resources, and enforce policies. Political commitment influences project prioritization, funding allocation, and stakeholder motivation. Empirical studies demonstrate that political commitment significantly influences infrastructure project performance (Liu et al., 2021). Strong political will enhances resource mobilization, policy enforcement, and stakeholder confidence, while weak political commitment results in fragmented implementation and stakeholder disengagement.

2.3.4 Moderating Role of Government Support

Government support moderates the relationship between stakeholder characteristics and project performance by strengthening or weakening stakeholder contributions to project implementation. Strong government support amplifies the positive effects of stakeholder resource capacity and competence, while weak support constrains stakeholder effectiveness and contributes to project delays and cost overruns. This moderating role aligns with Resource Dependency Theory, which posits that dependence on external institutional resources shapes stakeholder behavior and project outcomes.

2.4 Stakeholder Engagement and Infrastructure Project Performance

Stakeholder engagement refers to stakeholder participation in project lifecycle . Stakeholder Engagement enhances communication,

collaboration, risk management, and change management, thereby improving project governance and outcomes.

2.4.1 Stakeholder Engagement in Communication

Communication is a fundamental component of stakeholder engagement. Effective communication enhances transparency, coordination, and collaborative decision-making. Transparent communication reduces misunderstandings, enhances accountability, and fosters stakeholder trust. Empirical studies demonstrate that stakeholder communication significantly influences infrastructure project performance (Yang et al., 2009). In education infrastructure projects, communication among government agencies, school administrators, contractors, and communities is critical for aligning expectations and resolving conflicts.

2.4.2 Stakeholder Engagement in Risk Management

Risk management is a critical component of infrastructure project governance. Stakeholder participation in risk identification, assessment, and mitigation enhances project resilience and reduces implementation uncertainties. Engaged stakeholders contribute technical expertise, financial resources, and contextual knowledge to risk management processes. Collaborative risk management strategies improve adherence to project timelines and budgets.

2.4.3 Stakeholder Engagement in Change Management

Change management refers to processes through which stakeholders adapt to project modifications, technological innovations, and evolving requirements. In CBE infrastructure projects, curriculum reforms necessitate continuous adaptation of infrastructure designs and learning environments. Stakeholder engagement in change management reduces resistance to change, facilitates consensus-building, and ensures alignment with evolving project requirements.

2.4.4 Mediating Role of Stakeholder Engagement

Stakeholder engagement mediates the relationship between stakeholder characteristics and project performance by translating stakeholder attributes into coordinated governance and implementation processes. Stakeholders with high resource capacity and competence may not achieve strong project performance without effective engagement mechanisms that facilitate coordination and collaborative decision-making. This mediating role aligns with Social Capital Theory, which emphasizes the role of relational governance mechanisms in facilitating collective action and improving organizational performance.

2.5 Project Performance

Project performance is widely conceptualized as a multidimensional construct encompassing time performance, cost performance, and quality performance, commonly referred to as the triple constraint framework (Turner, 2014). In infrastructure projects, performance also includes sustainability, stakeholder satisfaction, and long-term outcomes. De Oliveira and Rabechini (2021) argue that successful project performance requires alignment of scope, time, cost, and quality objectives. Martinsuo and Lehtonen (2023) emphasize that project performance should be assessed using multidimensional indicators, particularly in complex infrastructure projects. In education infrastructure, project performance has long-term implications for learning outcomes, equity, and national development. Delays and quality deficiencies undermine curriculum implementation and exacerbate educational inequalities.

2.6 Empirical Studies on Infrastructure Project Performance

Empirical studies across sectors demonstrate that stakeholder characteristics, institutional support, and stakeholder engagement significantly influence infrastructure project performance. In transport infrastructure, Flyvbjerg (2014) highlights the role of governance structures and stakeholder management in project success. In public–private partnership projects, Osei-Kyei and Chan (2017) identify stakeholder competence, financial capacity, and government support as critical success factors. In education infrastructure, studies in sub-Saharan Africa indicate that inadequate funding, weak governance structures, and limited stakeholder engagement hinder project performance (Asare & Danquah, 2020; Mwangi & Kimenye, 2021). Kenyan studies report similar challenges in school infrastructure development and CBE implementation.

2.7 Research Gaps

Despite extensive research on infrastructure project management, several gaps remain. Few studies have examined CBE infrastructure projects, particularly in developing countries. Most infrastructure studies focus on transport, energy, and water sectors. Second, many studies inadequately operationalize stakeholder characteristics and fail to examine their multidimensional effects on project performance outcomes. The moderating role of government support and the mediating role of stakeholder engagement have not been sufficiently examined in education infrastructure projects. Some studies adopt integrated conceptual frameworks that examine the joint influence of stakeholder characteristics, institutional support, and engagement processes on project performance outcomes. This study addresses these gaps by integrating stakeholder characteristics, government support, and stakeholder engagement into a comprehensive conceptual framework explaining CBE infrastructure project performance outcomes.

2.8 Conceptual Framework

The conceptual framework posits that: Stakeholder characteristics (resource capacity, competence, and power) directly influence CBE infrastructure project performance. Government support (funding, policy frameworks, and political will) moderates the relationship between stakeholder characteristics and project performance. Stakeholder engagement (communication, risk management, and change management) mediates the relationship between stakeholder characteristics and project performance. The joint interaction of stakeholder characteristics, government support, and stakeholder engagement determines project performance outcomes measured in terms of time, budget, and quality.

2. 3. Methodology

3.1 Research Philosophy

This study was anchored in the pragmatism research philosophy, which emphasizes the practical application of knowledge and the integration of multiple theoretical perspectives to address complex real-world problems. Pragmatism rejects rigid ontological and epistemological positions and instead focuses on what works in explaining and solving problems (Creswell & Plano Clark, 2018). Pragmatism was considered appropriate for this study because CBE infrastructure project performance is influenced by technical, institutional, social, and political factors that cannot be adequately explained using a single philosophical paradigm. The philosophy allows the

integration of Stakeholder Theory, Institutional Theory, Resource Dependency Theory, and Social Capital Theory to explain the dynamic relationships among stakeholder characteristics, government support, and stakeholder engagement. Furthermore, pragmatism emphasizes actionable knowledge and policy relevance, making it suitable for studies aimed at improving education infrastructure governance and project delivery outcomes in developing countries.

3.2 Research Design

The study adopted a qualitative conceptual research design using document analysis. Conceptual document analysis is appropriate for synthesizing theoretical and empirical knowledge to develop explanatory frameworks in policy and project management research (Bowen, 2009). Document analysis was selected because CBE infrastructure projects are governed by complex policy frameworks, institutional structures, and stakeholder arrangements that are extensively documented in policy papers, government reports, implementation frameworks, and scholarly literature. This approach enabled the systematic examination of stakeholder dynamics, institutional support mechanisms, and engagement processes.

3.3 Data Sources and Document Selection

To ensure a comprehensive understanding of the institutional, stakeholder, and governance dimensions of Competence-Based Education (CBE) infrastructure project performance in Kenya, this study relied on multiple categories of authoritative documents. The selection of documents was guided by the principles of relevance, credibility, recency, and alignment with the study objectives. Only sources that were considered authoritative and peer-reviewed were included, thereby enhancing the rigor and reliability of the analysis. The first category comprised national and county government policy documents, including education policies, CBE implementation frameworks, infrastructure development strategies, and sectoral policy reports. These documents provided critical insights into institutional support structures, governance frameworks, and policy priorities that shape the delivery of education infrastructure.

The second category included project implementation and monitoring reports prepared by government agencies, development partners, and implementing institutions. These reports offered valuable information on project governance structures, stakeholder roles, implementation challenges, and performance outcomes. They were particularly useful in identifying practical constraints and institutional bottlenecks that affect project delivery. The third category consisted of academic and scholarly literature, including peer-reviewed journal articles, doctoral theses, scholarly books, and conference proceedings. These sources provided theoretical and empirical grounding on stakeholder management, infrastructure governance, project performance, and education infrastructure. They were instrumental in situating the study within broader scholarly debates and identifying gaps in existing knowledge.

Finally, regulatory and institutional documents such as procurement regulations, public finance management guidelines, and infrastructure quality standards were analyzed. These documents captured institutional constraints and governance mechanisms that directly influence project performance. Together, these diverse sources provided a rich and multidimensional dataset for the study.

3.4 Analytical Framework

The analytical framework for this study was derived from the integrated conceptual model developed by synthesizing four theoretical perspectives: Stakeholder Theory, Institutional Theory, Resource Dependency Theory, and Social Capital Theory. Each theory contributed unique explanatory power to the analysis of CBE infrastructure project performance. Stakeholder Theory informed the examination of stakeholder resource capacity, competence, and power dynamics. It provided a lens through which to understand how diverse stakeholders including government agencies, contractors, consultants, communities, and donors shape project governance and outcomes. Institutional Theory guided the analysis of policy frameworks, governance structures, and regulatory environments. It emphasized the role of formal and informal rules, norms, and institutional arrangements in shaping stakeholder behavior and project implementation processes.

Resource Dependency Theory (RDT) was employed to analyze stakeholder dependence on government funding and institutional legitimacy. RDT highlighted the power asymmetries that arise when schools and communities rely heavily on external resources, and how these dependencies influence project governance and stakeholder interactions. Social Capital Theory provided the basis for examining stakeholder engagement mechanisms, including communication, risk management, and change management. It emphasized the importance of trust, networks, and collaborative relationships in facilitating collective action and improving project performance. By integrating these four theoretical perspectives, the analytical framework conceptualizes CBE infrastructure project performance as a multidimensional outcome shaped by both internal stakeholder dynamics and external institutional conditions. This holistic approach allowed for a nuanced understanding of the complex interactions that determine project performance.

3.5 Operationalization of Study Variables

The operationalization of study variables was guided by the conceptual framework and aimed at translating abstract constructs into measurable dimensions.

Project Performance was operationalized as a multidimensional construct comprising three key indicators: time performance, referring to adherence to project schedules and timelines; cost performance, referring to compliance with budgetary allocations and financial constraints; and quality performance, referring to the attainment of specified infrastructure standards and functional requirements. These indicators reflect the widely recognized triple constraint framework in project management literature and are particularly relevant in infrastructure projects where delays, cost overruns, and quality deficiencies have significant implications for educational outcomes.

Stakeholder Characteristics were operationalized across three dimensions. The first dimension, stakeholder resource capacity, encompassed financial, technical, and human resources contributed by stakeholders to project implementation. The second dimension, stakeholder competence, included technical expertise, professional experience, and leadership or managerial capacity, all of which are critical for effective project planning, monitoring, and governance. The third dimension, stakeholder power and influence, captured decision-making authority, control over resources, and network or political influence. Together, these dimensions reflect the multidimensional nature

of stakeholder attributes that shape project governance and performance outcomes.

Government Support was operationalized through three indicators. The first indicator, funding mechanisms, included budget allocations, timeliness of fund disbursement, and financial accountability systems. The second indicator, policy and legislative frameworks, encompassed education policies, infrastructure standards, and procurement regulations that define governance structures and stakeholder roles. The third indicator, political will and commitment, referred to government prioritization of CBE infrastructure, political leadership support, and institutional enforcement mechanisms. Government support was conceptualized as a moderating variable that conditions the effectiveness of stakeholder contributions to project performance. Stakeholder Engagement was operationalized as a mediating variable through three dimensions: communication, which enhances transparency, coordination, and trust; risk management, which strengthens project resilience and reduces uncertainties; and change management, which facilitates adaptation to evolving curriculum requirements and infrastructure needs. These dimensions reflect the relational governance mechanisms emphasized in Social Capital Theory and highlight the critical role of engagement in translating stakeholder attributes into coordinated project actions.

Stakeholder Engagement- Stakeholder engagement was operationalized as a multidimensional construct reflecting the mechanisms through which stakeholders actively participate in project governance and implementation. Three dimensions were identified to capture the breadth of engagement processes. Stakeholder engagement in communication, encompassed stakeholder consultation mechanisms, information-sharing systems, and feedback and reporting platforms. Effective communication ensures transparency, fosters trust, and facilitates collaborative decision-making among diverse stakeholders such as government agencies, school administrators, contractors, and community representatives. By institutionalizing consultation and feedback processes, communication mechanisms reduce misunderstandings, align expectations, and enhance accountability in project delivery.

The second dimension, risk management, referred to stakeholder participation in risk identification, mitigation strategies, and monitoring and evaluation systems. Engaged stakeholders contribute technical expertise, contextual knowledge, and financial resources to risk management processes, thereby strengthening project resilience. Collaborative risk management enhances the capacity of infrastructure projects to anticipate uncertainties, minimize disruptions, and maintain adherence to timelines and budgets. The third dimension, change management, involved stakeholder participation in project modifications, adaptation to curriculum and infrastructure changes, and training or sensitization initiatives. Given the dynamic nature of Competence-Based Education (CBE) reforms, infrastructure projects must continuously evolve to meet emerging pedagogical and technological requirements. Stakeholder engagement in change management reduces resistance to innovation, facilitates consensus-building, and ensures that infrastructure remains responsive to evolving educational needs.

Overall, stakeholder engagement was conceptualized as a mediating variable that translates stakeholder attributes—such as resource capacity, competence, and power—into coordinated project implementation processes. This mediating role underscores the importance of relational governance mechanisms in bridging stakeholder characteristics and project performance outcomes.

3.6 Data Analysis Procedure

The study employed thematic content analysis to examine the selected documents. This approach was chosen for its ability to capture both explicit and latent meanings within textual data, thereby enabling a nuanced understanding of stakeholder dynamics, institutional support mechanisms, and engagement processes. The analysis followed a systematic process. First, document familiarization involved comprehensive reading of all selected documents to understand their context, content, and relevance to the study objectives. Second, coding was undertaken to identify key concepts and recurring themes related to stakeholder characteristics, government support, stakeholder engagement, and project performance. Third, theme development involved grouping codes into broader thematic categories aligned with the study's conceptual framework. Finally, interpretation and synthesis integrated these themes to identify relationships among variables and generate theoretical insights. Both deductive coding, guided by the conceptual framework, and inductive coding, emerging directly from the documents, were employed. This dual approach ensured analytical rigor by balancing theory-driven analysis with openness to new insights arising from the data.

3.7 Ensuring Rigor and Trustworthiness

To enhance methodological rigor, the study employed multiple strategies to ensure trustworthiness: Credibility was strengthened through triangulation of diverse document sources, including policy documents, project reports, and academic literature. This triangulation allowed for cross-validation of findings and reduced the risk of bias arising from reliance on a single type of source. Dependability was ensured by systematically documenting the document selection criteria, analytical procedures, and coding framework. This documentation provides transparency and allows future researchers to replicate the study, thereby enhancing its reliability. Confirmability was achieved by grounding all interpretations in documented evidence and established theoretical frameworks. This minimized researcher bias and ensured that findings were derived from the data rather than subjective assumptions. Transferability was addressed by situating the study within the broader context of education infrastructure development in developing countries. Although the empirical focus was on Kenya, the conceptual framework and findings are applicable to other contexts implementing competence-based education reforms, thereby extending the relevance of the study.

3.8 Reflexivity

The researcher acknowledged their positionality as a scholar in education planning and project management, recognizing that personal expertise and perspectives could influence the interpretation of documents. Reflexive practices were therefore integrated throughout the research process. These included critical evaluation of underlying assumptions, triangulation of multiple sources to balance perspectives, and consistent grounding of interpretations in theory and empirical evidence. By adopting reflexivity, the study sought to minimize bias and enhance the integrity of its findings.

3.9 Ethical Considerations

This study relied exclusively on publicly available documents and academic

literature, and therefore did not involve human participants. Ethical considerations were nonetheless central to the research process. All sources were properly cited, and strict adherence to academic integrity standards was maintained to avoid plagiarism. The study complied with institutional research ethics guidelines for document-based research, ensuring that the analysis was conducted responsibly and transparently.

4.0 . Results and Discussion

4.1 Introduction

This study investigated the influence of stakeholder characteristics on the performance of Competence-Based Education (CBE) infrastructure projects in Kenya, with government support examined as a moderating variable and stakeholder engagement as a mediating variable. Drawing on qualitative document analysis, the study synthesized evidence from policy documents, project implementation reports, and scholarly literature to develop an integrated governance framework for education infrastructure delivery.

The results are presented under four major themes: (i) the direct influence of stakeholder characteristics on project performance; (ii) the moderating role of government support; (iii) the mediating role of stakeholder engagement; and (iv) the joint interaction of stakeholder characteristics, government support, and stakeholder engagement in shaping project performance outcomes. The discussion integrates these findings with Stakeholder Theory, Institutional Theory, Resource Dependency Theory, and Social Capital Theory, while situating them within global infrastructure project management literature.

4.2 Influence of Stakeholder Characteristics on CBE Infrastructure Project Performance

The findings reveal that stakeholder characteristics specifically resource capacity, competence, and power exert a significant direct influence on the performance of CBE infrastructure projects in Kenya. Stakeholders with adequate financial, technical, and human resources were able to sustain project continuity, adhere to schedules, and uphold quality standards. Conversely, limited stakeholder resource capacity was consistently associated with delays, cost overruns, and compromised infrastructure quality.

This underscores the critical role of stakeholder attributes in shaping project outcomes. Infrastructure projects, particularly in education, are inherently complex and resource-intensive. Their success depends not only on financial inputs but also on the technical expertise and managerial competence of stakeholders. The findings therefore highlight the multidimensional nature of stakeholder contributions, which extend beyond funding to include knowledge, skills, and governance capacity.

4.2.1 Stakeholder Resource Capacity

Stakeholder resource capacity emerged as a decisive determinant of project performance. Financial resources enabled the procurement of construction materials, timely payment of contractors, and continuity of construction activities. Technical resources, including engineering expertise and project management tools, facilitated effective planning, monitoring, and quality control. Human resources, particularly skilled personnel, ensured that infrastructure designs were implemented in line with curriculum requirements and pedagogical needs.

Documented evidence indicates that funding shortages, delayed

disbursements, and limited technical capacity among implementing agencies were major contributors to delays and incomplete CBE infrastructure projects. These findings resonate with global infrastructure project management literature, which consistently identifies resource constraints as a primary cause of project failure. Flyvbjerg (2014) reports that inadequate funding and poor financial planning are leading causes of megaproject delays and cost overruns. Similarly, Osei-Kyei and Chan (2017) found that financial capacity and resource availability are critical success factors in public-private partnership infrastructure projects. Within the education sector, resource constraints have been widely recognized as barriers to school construction and quality improvement in sub-Saharan Africa, reinforcing the importance of adequate resource mobilization for project success.

4.2.2 Stakeholder Competence

Stakeholder competence encompassing technical expertise, professional experience, and managerial capabilities was found to significantly influence project planning, implementation, and monitoring processes. Competent stakeholders enhanced project scheduling, procurement management, risk mitigation, and quality assurance, thereby improving project performance outcomes. Conversely, competence gaps among project managers, contractors, and school administrators contributed to weak planning, substandard construction, and inadequate monitoring, ultimately undermining project delivery.

These findings are consistent with Turner (2014), who emphasizes that managerial competence and technical expertise are critical for effective project governance. Martinsuo and Lehtonen (2023) similarly argue that stakeholder competence enhances project performance by improving coordination, decision-making, and risk management. In education infrastructure projects, competence assumes particular importance because infrastructure must align with pedagogical requirements and curriculum standards. Competence gaps not only compromise construction quality but also hinder the ability of infrastructure to support learner-centered pedagogies and experiential learning environments central to CBE reforms.

4.2.3 Stakeholder Power and Influence

Stakeholder power dynamics were found to play a decisive role in shaping governance structures, decision-making processes, and resource allocation in CBE infrastructure projects. Government agencies exerted significant power due to their control over funding flows, regulatory approvals, and policy enforcement mechanisms. Contractors, on the other hand, wielded technical power derived from their specialized expertise in design, engineering, and construction. Communities and school management boards exercised social and political influence, often mobilizing local support, advocating for accountability, and shaping project priorities through grassroots participation.

The study revealed that power asymmetries among stakeholders frequently resulted in delays, conflicts, and the exclusion of weaker stakeholders from decision-making processes. For example, when government agencies monopolized decision-making authority, community voices were marginalized, leading to misalignment between infrastructure outputs and local educational needs. Similarly, contractors with disproportionate technical power sometimes dictated project specifications without sufficient consultation, undermining participatory governance.

These findings align with Mitchell, Agle, and Wood (1997), who argue that stakeholder salience is determined by the interplay of power, legitimacy, and urgency, thereby influencing organizational outcomes. Aaltonen and Kujala (2021) further emphasize that stakeholder power dynamics significantly affect project governance and performance, particularly in complex infrastructure environments. In the Kenyan context, Kinyua, Kamau, and Muturi (2021) report that stakeholder power dynamics are a critical determinant of public infrastructure project success, reinforcing the importance of balanced power structures for effective governance.

Overall, the findings confirm that stakeholder resource capacity, competence, and power are interdependent and collectively critical determinants of CBE infrastructure project performance. Projects characterized by balanced power relations, where diverse stakeholders contribute meaningfully to governance, tend to achieve better outcomes in terms of timeliness, cost efficiency, and quality standards.

4.3 Moderating Role of Government Support

The study found that government support moderates the relationship between stakeholder characteristics and CBE infrastructure project performance. Government support, operationalized through funding mechanisms, policy and legislative frameworks, and political commitment, was observed to either strengthen or weaken the influence of stakeholder characteristics on project outcomes. When government support was strong, stakeholder contributions were amplified, resulting in improved project performance. Conversely, weak or inconsistent government support undermined stakeholder effectiveness, leading to delays, cost overruns, and compromised quality.

4.3.1 Government Funding

Adequate and timely government funding was found to be a pivotal factor in strengthening the positive effects of stakeholder resource capacity and competence on project performance. Stable funding flows enabled continuous construction activities, timely payment of contractors, and procurement of materials, thereby improving adherence to project schedules and budgets. In contrast, inconsistent funding flows, fiscal constraints, and delayed disbursements weakened stakeholder contributions, disrupted project continuity, and contributed to cost overruns.

These findings corroborate Flyvbjerg (2014), who identifies financial constraints as a major cause of infrastructure project failure. Osei-Kyei and Chan (2017) similarly emphasize that financial capacity is a critical success factor in infrastructure projects. Within the education sector, government funding is often the primary source of financing, making adequacy and timeliness particularly critical for sustaining project

performance.

4.3.2 Policy and Legislative Frameworks

Supportive policy and legislative frameworks were found to create an enabling institutional environment for CBE infrastructure development. Such frameworks clarified stakeholder roles, strengthened accountability mechanisms, and reduced bureaucratic bottlenecks. Procurement regulations, infrastructure standards, and public finance management frameworks were particularly influential in shaping stakeholder coordination, transparency, and governance effectiveness.

These findings align with Institutional Theory, which posits that regulatory frameworks shape organizational behavior and project outcomes (Scott, 2014). Flyvbjerg (2014) similarly argues that governance frameworks and institutional arrangements significantly influence infrastructure project performance. In the context of CBE infrastructure projects, supportive policies enhanced stakeholder coordination and accountability, while weak or fragmented frameworks contributed to governance challenges, inefficiencies, and implementation delays.

4.3.3 Political Will and Commitment

Political will emerged as a pivotal determinant of project prioritization, funding allocation, and stakeholder motivation. Strong political commitment was associated with increased resource mobilization, effective policy enforcement, and enhanced stakeholder confidence. Political leaders who prioritized education infrastructure reforms were able to galvanize institutional support, secure funding, and sustain stakeholder engagement. Conversely, weak political commitment resulted in fragmented implementation, inconsistent funding, and diminished stakeholder participation, ultimately undermining project performance. These findings are consistent with Liu et al. (2021), who emphasize the role of political commitment in public project success. Political leadership influences infrastructure prioritization and resource allocation, thereby shaping project outcomes. In the Kenyan context, political will has been particularly critical in determining whether CBE infrastructure projects are implemented effectively or stalled due to competing priorities and resource constraints.

4.3.4 Moderating Effect of Government Support

Government support was found to moderate the relationship between stakeholder characteristics and CBE infrastructure project performance by providing institutional legitimacy, financial stability, and regulatory clarity. Strong government support amplified the positive effects of stakeholder resource capacity and competence, enabling stakeholders to mobilize resources more effectively, adhere to schedules, and maintain quality standards. Conversely, weak or inconsistent government support constrained stakeholder effectiveness, undermined coordination, and contributed to project delays and cost overruns.

This finding extends Resource Dependency Theory by demonstrating how dependence on government resources and institutional legitimacy conditions stakeholder behavior and project outcomes in education infrastructure projects. In contexts where government support is robust, stakeholders are empowered to act collectively and strategically, while in environments of weak support, resource scarcity and institutional uncertainty exacerbate risks and inefficiencies.

4.4 Mediating Role of Stakeholder Engagement

The findings indicate that stakeholder engagement mediates the relationship between stakeholder characteristics and CBE infrastructure project performance. Engagement processes particularly communication, risk management, and change management were found to significantly influence the effectiveness with which stakeholder attributes were translated into coordinated project actions and outcomes.

4.4.1 Stakeholder Engagement in Communication

Effective stakeholder communication enhanced transparency, trust, and coordination among project actors. Structured communication channels facilitated timely information sharing, reduced misunderstandings, and supported collaborative decision-making. These mechanisms improved project scheduling, reduced stakeholder conflicts, and strengthened quality control systems. These findings align with Yang, Shen, and Ho (2009), who report that stakeholder communication significantly influences infrastructure project performance. Transparent communication fosters trust, accountability, and collaboration, thereby enabling stakeholders to align expectations and work toward shared objectives.

4.4.2 Stakeholder Engagement in Risk Management

Stakeholder engagement in risk management strengthened project resilience and reduced implementation uncertainties. Engaged stakeholders contributed technical expertise, financial resources, and contextual knowledge to identify, assess, and mitigate project risks. Collaborative risk management strategies improved adherence to project timelines and budgets, while also enhancing the capacity of projects to withstand unforeseen challenges. These findings support Turner (2014), who emphasizes the importance of risk management in project governance. Stakeholder involvement in risk management not only enhances resilience but also ensures that risks are addressed collectively, reducing the likelihood of unilateral decision-making that may overlook critical vulnerabilities.

4.4.3 Stakeholder Engagement in Change Management

Stakeholder engagement in change management enhanced project adaptability and stakeholder buy-in during implementation. Active involvement in project modifications reduced resistance to change, facilitated consensus-building, and ensured alignment with evolving curriculum and infrastructure requirements. In the context of CBE reforms, where pedagogical and technological needs are continually evolving, stakeholder engagement proved essential in ensuring infrastructure remained responsive and relevant. These findings align with Social Capital Theory, which emphasizes the role of relational governance mechanisms in facilitating collective action and improving organizational performance (Putnam, 2000; Nahapiet & Ghoshal, 1998). By fostering trust and collaboration, stakeholder engagement in change management created a supportive environment for innovation and adaptation.

4.4.4 Mediating Effect of Stakeholder Engagement

Stakeholder engagement mediated the relationship between stakeholder characteristics and project performance by translating stakeholder capacity, competence, and power into coordinated governance and implementation processes. Stakeholders with high resource capacity and competence were more effective when engagement mechanisms facilitated collaboration and coordination. This finding extends Social Capital Theory by demonstrating the mediating role of engagement processes in infrastructure project governance. Engagement mechanisms acted as relational bridges, enabling diverse stakeholders to pool resources, share expertise, and collectively address challenges, thereby improving project outcomes.

4.5 Joint Interaction of Stakeholder Characteristics, Government Support, and Stakeholder Engagement

The findings demonstrate that stakeholder characteristics, government support, and stakeholder engagement jointly shape the performance of CBE infrastructure projects in Kenya. Stakeholder characteristics provide internal implementation capacity, government support contributes institutional resources and legitimacy, and stakeholder engagement facilitates coordination and collaboration among actors. Projects characterized by strong stakeholder resource capacity, consistent government support, and active stakeholder engagement were more likely to achieve performance targets within the triple constraints of time, budget, and quality. Conversely, limited stakeholder capacity, fragmented government support, and weak stakeholder engagement were associated with delays, cost overruns, and compromised quality standards. Government support was found to strengthen stakeholder engagement by creating participatory platforms, enforcing regulatory frameworks, and providing financial incentives.

In turn, stakeholder engagement enhanced the effective mobilization and utilization of stakeholder resources and competencies, generating synergistic effects that improved overall project performance. This integrated governance perspective highlights the multi-level nature of education infrastructure projects and underscores the necessity of adopting integrated stakeholder and institutional management approaches. By recognizing the interdependence of stakeholder characteristics, government support, and engagement processes, policymakers and project managers can design governance frameworks that foster collaboration, enhance resilience, and improve the delivery of education infrastructure in developing contexts.

4.6 Theoretical Contributions from the Results

This study extends Stakeholder Theory by conceptualizing stakeholder characteristics as a multidimensional construct comprising resource capacity, competence, and power. While prior research has often treated stakeholder attributes in isolation, this study demonstrates their collective and direct influence on infrastructure project performance. By integrating these dimensions, the study advances a more holistic understanding of how stakeholder salience shapes project governance and outcomes in education infrastructure.

The study advances Institutional Theory by empirically demonstrating the moderating role of government support in stakeholder–project outcome relationships. Institutional frameworks such as funding mechanisms, policy clarity, and political commitment were shown to condition the effectiveness of stakeholder contributions. This finding underscores the importance of institutional legitimacy and regulatory

environments in shaping project performance, thereby extending Institutional Theory into the domain of education infrastructure governance.

Further, the study contributes to Resource Dependency Theory (RDT) by illustrating how dependence on government funding and institutional legitimacy shapes stakeholder behavior and project governance outcomes. The findings highlight the power asymmetries that emerge when schools and communities rely heavily on external resources, and how these dependencies influence decision-making, resource allocation, and project continuity.

The study enriches Social Capital Theory by demonstrating the mediating role of stakeholder engagement in translating stakeholder characteristics into coordinated project actions and outcomes. Engagement mechanisms such as communication, risk management, and change management were shown to foster trust, collaboration, and adaptability, thereby enhancing project resilience and performance.

The study contributes to the broader project governance literature by proposing an integrated multi-level governance framework that links stakeholder characteristics, institutional support, and engagement processes to project performance outcomes. This framework provides a novel theoretical lens for understanding the complex interplay of actors, institutions, and relational mechanisms in education infrastructure delivery.

4.7 Implications for Education Infrastructure Governance

The findings carry significant implications for education infrastructure governance in Kenya and other developing countries implementing competence-based education reforms. First strengthening stakeholder resource capacity and competence is critical for improving infrastructure project performance. Capacity-building programs targeting school administrators, project managers, and contractors are recommended to enhance technical expertise, managerial skills, and decision-making capabilities. Secondly, sustainable and predictable government funding mechanisms are necessary to ensure continuity of infrastructure projects. Funding stability reduces uncertainties, prevents project delays, and enables stakeholders to plan and implement projects more effectively.

Third, supportive policy and legislative frameworks should be strengthened to enhance accountability, reduce bureaucratic inefficiencies, and provide clear governance structures. Streamlined procurement regulations, transparent financial management systems, and enforceable quality standards are essential for improving project outcomes. Fourth, structured stakeholder engagement frameworks should be institutionalized to enhance communication, risk management, and change management. By embedding participatory mechanisms into project governance, stakeholders can collaborate more effectively, anticipate risks, and adapt to evolving curriculum and infrastructure requirements. These implications highlight the need for integrated governance approaches that combine stakeholder capacity, institutional support, and engagement processes to achieve timely, cost-effective, and high-quality education infrastructure delivery.

3. Conclusion

This study examined the influence of stakeholder characteristics on the performance of Competence-Based Education (CBE) infrastructure projects in Kenya, with government support as a moderating variable and stakeholder engagement as a mediating variable. Anchored in Stakeholder Theory, Institutional Theory, Resource Dependency Theory, and Social Capital Theory, the study adopted a qualitative document analysis approach to develop an integrated governance framework for education infrastructure delivery.

The findings demonstrate that stakeholder characteristics specifically resource capacity, competence, and power exert a significant direct influence on project performance. Stakeholders with adequate financial, technical, and human resources contributed positively to project continuity, adherence to timelines, and attainment of quality standards. Stakeholder competence enhanced project planning, procurement management, monitoring, and quality assurance processes, while stakeholder power dynamics shaped governance structures, decision-making processes, and resource allocation.

Government support was found to moderate the relationship between stakeholder characteristics and project performance outcomes. Funding adequacy and timeliness, supportive policy and legislative frameworks, and strong political commitment strengthened the positive effects of stakeholder characteristics. Conversely, weak institutional support constrained stakeholder contributions and contributed to delays, cost overruns, and compromised infrastructure quality.

Stakeholder engagement was identified as a mediating mechanism that translates stakeholder characteristics into coordinated project implementation outcomes. Engagement in communication enhanced transparency, trust, and coordination among stakeholders. Engagement in risk management strengthened project resilience and reduced implementation uncertainties. Engagement in change management enhanced adaptability and stakeholder buy-in during implementation. The mediating role of stakeholder engagement underscores the importance of relational governance mechanisms in infrastructure project delivery.

The joint interaction of stakeholder characteristics, government support, and stakeholder engagement emerged as a decisive determinant of CBE infrastructure project performance. The findings highlight the multi-level governance nature of education infrastructure projects and underscore the necessity of integrated stakeholder and institutional management approaches for achieving timely, cost-effective, and high-quality infrastructure delivery.

1. Theoretical Contributions

First, the study extends Stakeholder Theory by conceptualizing stakeholder characteristics as a multidimensional construct comprising resource capacity, competence, and power. By demonstrating the direct influence of these characteristics on infrastructure project performance, the study advances stakeholder theory beyond traditional emphases on stakeholder identification and prioritization. It highlights the importance of stakeholder capability and influence dynamics in shaping outcomes within public sector projects, particularly in education infrastructure delivery.

Second, the study advances Institutional Theory by empirically demonstrating the moderating role of government support in stakeholder–project outcome relationships. The findings reveal how funding mechanisms, policy frameworks, and political commitment shape stakeholder behavior and condition the effectiveness of stakeholder contributions. This extends Institutional Theory by showing how institutional legitimacy and regulatory clarity can either amplify or constrain stakeholder effectiveness in project governance.

Third, the study contributes to Resource Dependency Theory (RDT) by illustrating how dependence on government funding and institutional legitimacy shapes stakeholder power dynamics and project governance outcomes in education infrastructure projects. The findings demonstrate how external institutional resources influence internal stakeholder relationships, decision-making processes, and project continuity, thereby reinforcing the centrality of resource dependencies in shaping governance outcomes.

Fourth, the study enriches Social Capital Theory by demonstrating the mediating role of stakeholder engagement in transforming stakeholder characteristics into coordinated governance and implementation processes. Engagement mechanisms such as communication, risk management, and change management were shown to facilitate collective action, build trust, and improve project resilience, thereby strengthening project outcomes.

Further, the study contributes to the broader project governance literature by proposing an integrated multi-level governance framework that links stakeholder characteristics, institutional support, and engagement processes to infrastructure project performance outcomes. This framework addresses gaps in prior research that treated these variables independently and did not incorporate moderating and mediating mechanisms, offering a more holistic lens for analyzing education infrastructure delivery.

5.2 Policy Implications

The findings of this study have significant implications for policymakers responsible for education infrastructure development in Kenya and other developing countries implementing competence-based education reforms. Policymakers should establish sustainable and predictable funding mechanisms for CBE infrastructure projects. Multi-year budgeting frameworks, dedicated education infrastructure funds, and performance-based financing mechanisms can enhance project continuity and reduce financial uncertainties. Policy and legislative frameworks governing education infrastructure development should be strengthened to clarify stakeholder roles, enhance accountability, and reduce bureaucratic inefficiencies. Harmonization of national and county-level policies is essential to improve coordination and implementation efficiency.

Strong political commitment and leadership are necessary to prioritize CBE infrastructure development within national and county development agendas. Political leaders should demonstrate sustained commitment through consistent funding allocations, policy enforcement, and stakeholder coordination mechanisms. Institutional mechanisms for stakeholder engagement should be formalized within

policy frameworks. National guidelines for stakeholder participation, risk management, and change management should be developed to enhance participatory governance in education infrastructure projects.

5.3 Managerial and Practical Implications

The findings also have important implications for project managers, school administrators, contractors, and implementing agencies. Project managers should prioritize stakeholder capacity development, including training in technical skills, financial management, procurement, and project governance. Strengthening stakeholder competence enhances planning, monitoring, and quality assurance processes. Balanced stakeholder power structures should be promoted to ensure inclusive governance and participatory decision-making. Mechanisms for community participation, school management involvement, and contractor accountability should be institutionalized to prevent power asymmetries and foster collaborative governance.

Structured stakeholder engagement frameworks should be integrated into CBE infrastructure project management processes. Regular communication platforms, participatory risk management systems, and adaptive change management strategies can enhance collaboration, reduce conflicts, and improve project performance. Implementing agencies should adopt integrated governance models that align stakeholder characteristics, institutional support mechanisms, and engagement processes. Such models can enhance coordination, reduce inefficiencies, and improve project outcomes across time, cost, and quality dimensions.

5.4 Implications for Education Planning and Development

Beyond project management, the findings have broader implications for education planning and national development. Timely and high-quality CBE infrastructure delivery is critical for achieving curriculum objectives, improving learning outcomes, and enhancing equity in education. Delays and quality deficiencies risk exacerbating disparities between urban and rural schools, undermining the equity goals of education reforms. Integrated governance frameworks can enhance the sustainability of education infrastructure investments and ensure alignment with curriculum reforms and pedagogical innovations. By embedding stakeholder engagement and institutional support into governance structures, education infrastructure can remain adaptive to evolving educational needs. Strengthening stakeholder governance in education infrastructure projects contributes to broader public sector governance reforms and enhances institutional capacity for development planning. Effective governance in education infrastructure delivery can serve as a model for other sectors, reinforcing accountability, transparency, and participatory decision-making in public administration.

5.5 Limitations of the Study

Despite its contributions, this study is subject to several limitations that should be acknowledged. The study relied exclusively on qualitative document analysis, which, while providing rich contextual insights, limits the ability to establish causal relationships among stakeholder characteristics, government support, stakeholder engagement, and project performance outcomes. Document analysis is inherently retrospective and interpretive, and therefore does not capture real-time stakeholder

perceptions, behaviors, or evolving dynamics during project implementation. This study focused specifically on CBE infrastructure projects in Kenya, which may constrain the generalizability of the findings to other contexts. Education systems, governance structures, and institutional environments vary considerably across countries, and these contextual differences may influence stakeholder dynamics and project outcomes in ways not captured by this study.

This study did not employ quantitative methods to test the proposed hypotheses. While the conceptual framework was developed and supported through qualitative synthesis, empirical validation is necessary to determine the magnitude, direction, and statistical significance of relationships among the study variables. Without quantitative testing, the explanatory power of the framework remains provisional. The study relied on secondary data sources, including policy documents, project reports, and scholarly literature. Such sources may be subject to reporting biases, selective emphasis, or data limitations. The absence of primary data collection means that stakeholder perspectives were interpreted indirectly rather than captured through direct engagement. Taken together, these limitations highlight the need for complementary research approaches to strengthen the robustness and applicability of the findings.

5.6 Directions for Future Research

Building on the findings of this study, several avenues for future research are recommended. First, quantitative empirical studies using surveys, structural equation modeling, and econometric techniques should be conducted to test the proposed hypotheses and validate the conceptual framework across different contexts. Such studies would provide statistical evidence on the strength and significance of relationships among stakeholder characteristics, government support, stakeholder engagement, and project performance. Longitudinal studies are needed to examine how stakeholder characteristics, government support, and stakeholder engagement evolve throughout the project lifecycle. Tracking these dynamics over time would provide insights into how early-stage governance decisions influence long-term project outcomes.

Comparative cross-country studies should be undertaken to assess the applicability of the integrated governance framework in diverse institutional and infrastructural contexts. Such studies would help identify context-specific variations and enhance the framework's global relevance. Future research should explore additional mediating and moderating variables, such as financing strategies, governance structures, digital project management tools, and community participation. Incorporating these variables would deepen understanding of the complex mechanisms that shape education infrastructure project performance.

Qualitative case studies and mixed-methods research designs could provide richer insights into stakeholder dynamics, institutional governance, and engagement processes in specific CBE infrastructure projects. Case-based approaches would allow for detailed exploration of successes, failures, and lessons learned, while mixed-methods designs could combine the strengths of qualitative and quantitative approaches. By pursuing these directions, future research can build a more comprehensive evidence base, refine theoretical frameworks, and generate actionable insights for policy makers, project managers, and education planners engaged in infrastructure development under competence-based education reforms.

References

- Aaltonen, K., & Kujala, J. (2021). Towards an improved understanding of stakeholder dynamics: The role of power, legitimacy, and urgency. *International Journal of Project Management*, 39(1), 123–134.
- Asare, K. B., & Danquah, M. (2020). Financing education infrastructure in sub-Saharan Africa: Challenges and opportunities. *International Journal of Educational Development*, 72, 102130.
- Bourne, L. (2021). *Stakeholder relationship management: A maturity model for organizational implementation* (2nd ed.). Routledge.
- Chen, Q., & Liu, J. (2023). Stakeholder competence and governance mechanisms in complex infrastructure projects. *Project Management Journal*, 54(2), 155–169.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- De Oliveira, G. F., & Rabechini, R. (2021). Project performance measurement systems: A multidimensional approach. *International Journal of Project Management*, 39(2), 202–214.
- Flyvbjerg, B. (2014). *Survival of the unfit: Why the worst infrastructure gets built—and what we can do about it*. Oxford University Press.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1
- KICD (Kenya Institute of Curriculum Development). (2019). *Competency-based curriculum framework*. Nairobi: KICD.
- Kinyua, G., Kamau, R., & Muturi, W. (2021). Stakeholder power dynamics and performance of public infrastructure projects in Kenya. *International Journal of Project Management Research and Practice*, 13(3), 45–59.
- Liu, Y., Zhang, Y., & Wang, J. (2021). Political commitment and public infrastructure project performance: Evidence from developing countries. *Public Management Review*, 23(4), 567–589.
- Martinsuo, M., & Lehtonen, P. (2023). Stakeholder competence and performance in complex projects. *International Journal of Project Management*, 41(3), 345–358.
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience. *Academy of Management Review*, 22(4), 853–886.
- Mwangi, J., & Kimenyi, L. (2021). Governance challenges in school infrastructure development in Kenya. *African Journal of Education Policy*, 8(1), 77–95.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266.
- Osei-Kyei, R., & Chan, A. P. C. (2017). Critical success factors for public–private partnership infrastructure projects. *International Journal of Project Management*, 35(2), 133–148.
- Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective* (2nd ed.). Stanford University Press.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster.
- Republic of Kenya. (2017). *Basic education curriculum framework*. Nairobi: Ministry of Education.
- Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities*
- Turner, J. R. (2014). *The handbook of project-based management* (4th ed.). McGraw-

Hill.

Yang, J., Shen, G. Q., & Ho, M. (2009). Exploring critical success factors for stakeholder management in construction projects. *Journal of Construction Engineering and Management*, 135(9), 855–867.