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SCHOOL OF COMMERCE

Research on;

The Effect of Stakeholder Engagement on the Success of Public-School Infrastructure Projects in Addis Ababa: The Case of Lemikura Sub-City Administration.

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DECLARATION

I, MIERAF KETEMA, hereby declare that the thesis work entitled "The Effect of Stakeholder Engagement on the Success of Public-School Infrastructure Projects in Addis Ababa: The Case of Lemi Kura Sub-City Administration" is the outcome of my own effort and study, and that all sources of materials used for the study have been duly acknowledged. I have produced it independently except for the guidance and suggestions of the research advisor, ABRARAW CHANE (PhD). The study submitted by me for the award of the degree of Master of Project Management in graduate studies of Addis Ababa University College of Commerce at Addis Ababa, Ethiopia, is original work, and it has not been submitted for the award of any Diploma or Degree, or any other similar titles of any other university or institution.

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List of Acronyms/Abbreviations

AAU-Addis Ababa University

CDC-Centers for Disease Control and Prevention

ECDC-Ethiopian Construction Design Corporation

EFA-Exploratory Factor Analysis

IAP2-International Association for Public Participation

ICT-Information and Communication Technology

KMO-Kaiser–Meyer–Olkin Measure of Sampling Adequacy

PCA-Principal Component Analysis

PMI-Project Management Institute

PTSA-Parents, Teachers, and Students Association

RA-Research Approach

RD-Research Design

SIP-School Improvement Plan

SNA-Social Network Analysis

SPSS-Statistical Package for the Social Sciences

UNESCO-United Nations Educational, Scientific and Cultural Organization

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ABSTRACT

This study investigates the effect of stakeholder engagement on project success within public-school infrastructure projects in Lemi Kura Sub-city, Addis Ababa. Despite significant government investment, these projects frequently encounter persistent challenges, including delayed completion, cost overruns, and low community satisfaction, often attributed to inadequate stakeholder management. Utilizing a quantitative research approach with an explanatory research design, the study focused on 11 school infrastructure projects undertaken by the Ethiopian Construction Design Works Bureau between July 2023 and July 2024. Data were collected from a target population of project managers, engineers, contractors, consultants, and PTSA representatives using self-administered questionnaires based on a **Likert-type scale**. The analysis examined the causal relationships between communication, participation, collaboration, and stakeholder influence on project outcomes.

The findings reveal that stakeholder communication and stakeholder influence (β=.380, $p < .01$) are statistically significant and positive predictors of project success. Conversely, the study found that stakeholder participation was not a statistically significant predictor ($p = .421$), a result that diverges from traditional management assumptions and suggests that participation without strategic influence or effective communication may not guarantee success. These results underscore the critical importance of prioritizing high-impact influence and robust communication strategies to enhance project performance. The study recommends that project managers in the Ethiopian construction sector focus on managing stakeholder influence and fostering collaborative communication to address existing performance gaps and ensure the successful delivery of school infrastructure.

Keywords :- Project Success, Stakeholder Engagement, Educational Infrastructure Project

CHAPTER: ONE

INTRODUCTION

1.1. Background of the Study

Improving access, quality, and equity in education systems worldwide necessitates the successful delivery of educational infrastructure. Many countries invest heavily in the construction of classrooms, laboratories, libraries, ICT facilities, and other school infrastructure to support learning and accommodate burgeoning student populations. Irrespective of these investments, numerous projects continue to face challenges such as delays, cost overruns, incomplete implementation, and misalignment between delivered facilities and local needs.

Across Africa, the expanding demand for school enrolment has placed significant pressure on the presently existing infrastructure. This results in overcrowded classrooms, inadequate facilities, and deteriorating plus uncomfortable learning centers. Jeffrey K. Pinto (2016) highlights that the performance of infrastructure projects is not only dependent on technical planning but also it relies on how well stakeholders are engaged throughout the project lifecycle. Stakeholder engagement dimensions like communication, participation, influence, and collaboration are now widely recognized as critical components of effective project management.

The sole presence of adequate financial and technical resources does not make sure the effective delivery of educational infrastructure projects but also strategic alignment of the projects with the needs and expectations of multiple stakeholders. Stakeholders in school infrastructure projects include project owners, contractors, consultants, school administrators, teachers, students, parents, and local communities. Each group has uniquely characterized interests, priorities, and expectations (R. Edward Freeman, 1984). If there is no adequate system to address key players, they can be obstacles to achieving the intended project outcomes. For instance, delays in communication between contractors and school administrators may lead to design inconsistencies. On the other hand, insufficient involvement of parents and teachers can reduce the relevance and usability of the completed facilities. (Derek Walker**,** 2015)

Globally, research indicates that stakeholder engagement is a predictor of project success. Studies indicated that projects with effective communication channels, meaningful participation, collaborative problem-solving, and stakeholder empowerment are more likely to meet time, cost, and quality objectives (Rowlinson & Cheung, 2008; Muhammad Waseem, Tahir Saeed, & Saeed

Iqbal, 2024). In contrast, projects with weak engagement often face conflicts, delays, cost overruns, and poor alignment with end-user needs. The multidimensional view of project success of Shenhar and Dvir (2007) reiterates that success extends beyond the traditional "Iron Triangle" of time, cost, and quality. It includes efficiency, customer satisfaction, team development, business outcomes, and preparation for future organizational growth. Stakeholder engagement directly influences these dimensions. It shapes decision-making and improves coordination across all project participants.

In the Ethiopian context, school construction projects are often known for complexity. It involves multiple government levels, contractors, consultants, and community representatives. In Addis Ababa, rapid urbanization and population growth have intensified the demand for new schools and the expansion of existing facilities. Despite government investments, immense projects face one of these potential challenges such as delayed completion, cost escalations, inadequate quality, and low satisfaction among school communities. Previous studies in similar contexts highlight that inadequate stakeholder engagement. This particularly includes insufficient communication, limited consultation, and a lack of collaborative problem-solving that can exacerbate these challenges (Demirksen & Reinhardt, 2021).

To better inform effective project management practices in Addis Ababa's educational infrastructure sector, it is paramount to conceive the relationship between stakeholder engagement and project performance. This study needed to provide empirical validation on how stakeholder management contributed to project success by examining communication, participation, collaboration, and influence as key dimensions of engagement. Insights from this research can inform policymakers, project managers, and other stakeholders on strategies. This can potentially enhance project efficiency, quality, and impact that support the broader goals of equitable and sustainable education development in Ethiopia. If stakeholder engagement is limited, it may contribute to misunderstandings, conflicts, resistance, and inefficiencies in project execution. (Project Management Institute, 2021).

Despite the usefulness of stakeholder engagement, there was a lack of empirical evidence vis-à-vis its impact on the performance of public-school infrastructure projects in Addis Ababa. Therefore, this study sought to examine the effect of stakeholder engagement on the success of public-school infrastructural projects under the Addis Ababa Education Bureau.

1.2. Purpose of the Study

The purpose of this research is to examine the effect of stakeholder engagement on the success of public-school infrastructure projects. These projects are part of the strategic plans of the city-wide school improvement plan of the Addis Ababa Education, with a focus on the dimensions of communication, participation, influence, and satisfaction. To achieve this purpose, the study was utilized as a quantitative research design, using structured questionnaires. It was administered to project managers, engineers, contractors, education bureau officials, and experts involved in planning and implementation. The data was analyzed after collection using statistical techniques such as correlation and regression. The strength and nature of the relationship between stakeholder engagement and project success was evaluated and determined.

1.3. Problem Statement

The successful delivery of public school infrastructure is a critical driver of educational equity, quality lesson delivery, and socio-economic development within municipal administrations (UNESCO, 2021). To accommodate skyrocketing student enrollment and rapid urbanization within the Addis Ababa City Administration, substantial municipal capital and technical resources have been funneled into school expansion and rehabilitation initiatives. However, contemporary project management discourse demonstrates that technical and financial inputs alone do not guarantee project efficacy. Instead, modern public infrastructure success is intrinsically bound to collaborative governance and strategic stakeholder engagement across the project life cycle (Müller & Jugdev, 2012; PMI, 2021). When key actors—such as school administrators, teachers, parents, and local communities—are excluded from the planning and implementation phases, projects frequently suffer from acute design misalignments, minimized usability, and a lack of long-term sustainability (Kerzner, 2017).

Despite strong theoretical consensus linking robust stakeholder engagement to project success, the execution of public school construction projects under the Addis Ababa City Administration has been severely undermined by systemic performance failures. Official project evaluations conducted during the 2014 and 2016 Ethiopian Calendar (E.C.) fiscal cycles revealed critical vulnerabilities across the metropolitan area, documenting two (2) projects characterized by debilitating cost overruns, three (3) projects crippled by extensive scheduling delays, and two (2) projects failing to meet standard quality assurance metrics.

The core operational problem lies in the disproportionate geographic concentration of these multi-dimensional performance breakdowns. Out of the documented infrastructural failures across the capital city, three (3) distinct project failure manifestations were localized entirely within public school construction sites situated within Lemikura Sub-city. Empirical data indicate that these compounding deficiencies—spanning budget inflation, timeline slippage, and substandard structural quality—do not occur in isolation. Rather, institutional evaluations from the administration consistently ranked Lemikura Sub-city as having the poorest stakeholder engagement practices across all administrative zones in Addis Ababa, directly matching localized stakeholder alienation with explicit project failure.

While general construction delays and macroeconomic constraints in Ethiopia are heavily documented in the literature (Tadesse et al., 2016; Lebeza, 2021), a critical research gap persists regarding how localized stakeholder alienation directly translates into compounding, multi-tiered project failure (the simultaneous collapse of budget, schedule, and quality) within public sector educational infrastructure. To date, there is a dearth of empirical evidence modeling this relationship within the specific socio-political context of sub-city administrations in Addis Ababa.

Left unaddressed, these dysfunctional management dynamics will continue to drain municipal capital, delay crucial educational access for a burgeoning youth population, and yield structurally deficient facilities. Therefore, this study seeks to close this empirical gap by analyzing the impact of stakeholder engagement on the performance of public school construction projects in Lemikura Sub-city, ultimately establishing an evidence-based framework to mitigate these critical operational failures.

1.4. Research Questions

The research undertaking will be able to answer the research questions, which are outlined as follows.

RQ1: How much does stakeholder communication influence project success?

RQ2: How does stakeholder participation affect project success?

RQ3: To what extent does stakeholder collaboration with engagement processes affect project success?

RQ4: How much does the stakeholder influence affect project success?

1.5. Research Objectives

1.5.1 General Objective

To examine the effect of stakeholder engagement on the success of projects in public-school infrastructure projects within Lemi Kura subcity.

1.5.2 Specific Objectives

SO1: To analyze the relationship between stakeholder communication and project success.

SO2: To investigate the correlation between stakeholder participation and project success.

SO3: To measure the contribution of stakeholder collaboration and engagement processes to project success.

SO4: To determine how stakeholder involvement contributes to project success.

1.6. Scope and Delimitation of the Study

The Addis Ababa city administration Lemikura subcity was the geographical Scope of this research. The Project Scope included public-school infrastructure projects such as classroom blocks, administration buildings, sanitation facilities, libraries, and water systems. The stakeholder scope was limited to project managers, contractors, school leaders, community members, experts, education bureau officials, and the project owner. Finally, the conceptual scope was narrowed to four dimensions of stakeholder engagement—communication, participation, influence, and collaboration—and their effect on project success.

The deliberate delimitation in scope is targeted to ensure focus and manageability of analysis (Creswell & Creswell, 2018). The study was geographically limited to public school infrastructure construction projects in Lemi Kura Sub-City of Addis Ababa City Administration. Therefore, the exclusion of school infrastructure projects in other sub-cities or regions of Ethiopia was made from the scope of this study.

In terms of project coverage, the study focused exclusively on 11 public school infrastructure construction projects that were undertaken by the Ethiopian Construction & Design Works Office (ECDWO). The infrastructural developments encompassed various types of facilities, including classroom buildings, administrative office buildings, libraries, dining halls, latrines, terrazzo flooring works, and fences. Infrastructure projects outside the public-school education sector were not embraced by this research work. Generally speaking, the study was narrowed to projects initiated on July 8, 2023, and completed on July 7, 2024. Accordingly, projects executed before or after this timeline are purposely ignored from the analysis.

The research population was limited to direct project participants and community stakeholders involved in the selected 11 school construction projects. The project owner, consultants, contractors, site supervisors, education officials, school administrators, and representatives of the local community actors were included.

Finally, the study was delimited to evaluate the chosen dimensions of stakeholder engagement and their influence on project success. There were external factors beyond the scope of this research, such as national economic conditions, policy shifts, or broader institutional reforms.

1.7. Significance of the Study

1.7.1 Practical Importance

The outcomes of this research can provide practical value by supporting improved project planning and stakeholder management within the Addis Ababa Education Bureau. Insights gained from the research can help project managers, engineers, and contractors in reducing delays and strengthening coordination throughout the project lifecycle. The study was expected to promote stronger collaboration among the various actors involved in educational infrastructure delivery, thereby materializing more efficient and effective projects (Bourne, 2016).

From policy perspective, this research held important implications for educational project governance. The evidence generated can inform policy reforms aimed at improving planning and implementation within the education sector. Furthermore, the study was made to strengthen accountability and transparency in infrastructure construction using the role of inclusive and well-structured stakeholder engagement (Heravi et al., 2015). These insights can generally support more sustainable and effective decision-making for future educational infrastructure initiatives.

1.7.3 Academic Importance

This study adds value to the body of knowledge on stakeholder engagement and project success within the context of educational infrastructure in developing countries. Empirical evidence was contributed to the field of project management in the Ethiopian context. The research also stretched theoretical discussions about the examination of how specific stakeholder engagement dimensions affect project outcomes. By doing so, building comparative studies and refining stakeholder engagement models that influence project performance were provided as springboard for upcoming researchers.

1.8 Limitations of the Study

This work was subject to enormous limitations that should be considered when interpreting the findings. First, data were collected through self-administered questionnaires in the research process. These questionnaires may have introduced response bias. Respondents may have provided socially agreeable answers. They may not have fully disclosed their true experiences and perceptions, a common limitation in survey-based research (Podsakoff et al., 2003; Saunders et al., 2019).

Second, the study was geographically limited to school construction projects within Lemikura - Subcity. Consequently, the findings may not be fully applicable to other regions or sectors since the contextual realities, administrative structures and stakeholder dynamics may vary significantly (Yin, 2018; Bryman, 2016).

Third, a cross-sectional research design was employed in this work. It is a snapshot of stakeholder perceptions at a single point in time. This limits the opportunity to evaluate changes in stakeholder engagement practices and project performance across different stages of the project lifecycle (Creswell & Creswell, 2018; Saunders et al., 2019).

Fourth, Factors such as political interference, funding constraints, and contractor capacity were beyond the scope of the study. Independently, they may affect project outcomes of stakeholder engagement practices (Flyvbjerg, 2014; Kerzner, 2017).

Despite these limitations, the study produced meaningful empirical evidence upon the relationship between stakeholder engagement and project performance in public education infrastructure projects.

1.9 Definition of Terms

Stakeholder

In this research, a stakeholder is defined as any individual, group, or organization that can affect or is affected by the decision-making or outcomes of school construction projects under the oversight of the Addis Ababa Education Bureau, more specifically Lemikura Subcity (PMI, 2021).

Stakeholder Engagement

Stakeholder engagement is defined as the systematic involvement of stakeholders with the means such as communication, participation, collaboration, and influence throughout the project lifecycle. **(PMI, 2021; Freeman, 2010).**

Stakeholder Communication

Stakeholder communication refers to using appropriate channels to make sure project-related information is exchanged clearly, consistently, and timely among stakeholders. (Zulch, 2014; PMI, 2021).

Stakeholder Participation

Stakeholder participation is defined as the degree of involving stakeholders in project planning, implementation, and consultative decision-making processes without necessarily possessing final authority. In this study, items entailing involvement opportunities, consultation, and expression of stakeholder views measure participation (IAP2, 2018; Reed et al., 2009).

Stakeholder Collaboration

Stakeholder collaboration refers to the depth of cooperative interaction, joint problem-solving, and shared responsibility among stakeholders during the project implementation phase. It is measured by questionnaire items measuring team spirit, partnership, mutual support, and collective problem solving of project challenges (Ansell & Gash, 2008; Shenhar & Dvir, 2007).

Stakeholder Influence

Stakeholder influence is functionally defined as the magnitude with which stakeholders have the power or authority to alter project decisions, priorities, and outcomes (Aaltonen & Kujala, 2016; Bourne, 2015).

Project Success

Project success is defined as the extent to which school construction projects achieve planned objectives or key targets related to time, cost, quality and overall stakeholder satisfaction. (Atkinson, 1999; Shenhar & Dvir, 2007).

Educational Infrastructure Project

An educational infrastructure project is defined as the construction or expansion of school infrastructures, including classrooms and related physical facilities which are under the oversight authority of the Addis Ababa Education Bureau. (UNESCO, 2021).

Multiple Regression Analysis

Multiple regression analysis is a quantitative statistical technique used in this thesis to examine the effect of individual stakeholder dimension over the project success (Field, 2018; Saunders et al., 2019).

1.10 Organization of the Study

This study is structured into five chapters. **Chapter One** introduces the research by presenting the background, problem statement, objectives, scope, and limitations. **Chapter Two** reviews relevant literature to establish the theoretical foundations and conceptual framework, while **Chapter Three** details the research methodology, including design, sampling, data collection, and analysis techniques. **Chapter Four** presents and analyzes the results, covering data screening, demographics, measurement model evaluation (EFA, KMO, Bartlett's test, and Cronbach's alpha), and descriptive statistics, while utilizing correlation and multiple regression analysis to test hypotheses and examine the impact of stakeholder engagement on project success. Finally, **Chapter Five** interprets the findings against existing literature, draws conclusions, and provides recommendations for policy, practice, and future research, followed by references and appendices.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual and Theoretical Foundations of Stakeholder Engagement

Public and large-scale construction projects are framed as intricate social and organizational systems which are not purely technical executions (Cicmil et al., 2006). Projects operate within the realm of a couple of stakeholders who have a multitude of expectations and needs. (Bourne & Walker, 2005). They are deemed to act in perplexed social, global, political, and economic spheres. As a result, a project's success is not merely determined by technical execution. Apart from this, a project's performance is determined by taking the desires and expectations of various stakeholders into consideration. Compliance of stakeholders' expectations with the project goals plays a key role in the success of projects. (Muller & Jugdev, 2012)

Stakeholder engagement has therefore been a focal concept in contemporary project management and governance literature. In previous research conflict, resistance, and implementation challenges clearly show that projects failed to acknowledge stakeholder interests. Stakeholder engagement can be understood as the structured and continuous process through which project teams identify relevant stakeholders, understand their interests, assess their influence, and involve them appropriately in project-related activities and decisions (Bourne, 2016; PMI, 2017)

Engagement is not a process composed of discrete parts. It is rather a progressive process spanning from the sharing of basic information to deeper forms of involvement, for instance, participation, collaboration, and shared decision-making. A high level of engagement improves trust, creating stronger alignment between project objectives and stakeholder expectations, and greater adaptability during implementation (Reed, 2008; Olander & Landin, 2008).

The conceptual understanding of stakeholder engagement is grounded in several interrelated theoretical perspectives like Stakeholder Theory, the Stakeholder Salience Model, and relational or network-based approaches. Together, these perspectives explain why stakeholder engagement is essential and how it contributes to improved project outcomes.

2.1.1 Stakeholder Theory

Freeman (1984) posits in his Stakeholder Theory that organizations and projects operate within networked stakeholders. They are supposed to have unique interests that must be addressed to

achieve long-lasting success. Instead of prioritizing a single group, the theory highlights the need of managing relationships with all actors who can affect or are affected by project activities.

The theory has a golden mean business perspective. We must pay attention at least to customers, employees, suppliers, communities, and financiers. Stakeholder theory does not mean that representatives of these groups must sit on governing boards of the firm, nor does it mean that shareholders (financiers) have no rights. It does imply that the interests of these groups are concurrent and they have to focus on how value gets created for each and every stakeholder. (Freeman, Harrison, Wicks, Parmar, & de Colle, 2010).

The theory is commonly discussed through three interrelated dimensions, which are descriptive, instrumental, and normative. (Donaldson & Preston,1995). The descriptive dimension explains how organizations and projects actually behave and operate within a multitude of networks of stakeholders. In large-scale construction projects, the network of relationships among clients, contractors, consultants, regulatory bodies, and local communities across the project lifecycle is highly complicated (Aaltonen & Kujala, 2016).

The instrumental perspective examines the link between stakeholder management practices and performance gains. It suggests that effective engagement contributes to improved project results. It examines the contribution of effective stakeholder engagement to the success of a project. In a nutshell, this dimension suggests that aligning the interests of stakeholders with project objectives reduces conflicts and strengthens cooperation (Donaldson & Preston,1995; PMI,2017).

The normative dimension emphasizes the ethical obligation to recognize and respect stakeholder interests, regardless of immediate economic or operational benefits. Stakeholders possess intrinsic values and legitimate interests regardless of their influence on project outcomes.

According to Stakeholder Theory applied to project management, ignoring stakeholder concerns often leads to resistance, disputes, and uncertainty. Inclusive engagement enhances acceptance and facilitates smoother implementation. The theory, therefore, provides both ethical justification and practical guidance for integrating stakeholder engagement into project governance.

2.1.2 Stakeholder Salience Model

Though the significance of stakeholders in stakeholder theory is provided in clear terms, it offers limited guidance on how the relative importance of stakeholder claims should be weighed and ranked. The Stakeholder Salience Model proposed by Mitchell, Agle, and Wood (1997) stretches itself to fill this shortcoming with its proposal identifying three attributes that determine stakeholder significance: power, legitimacy, and urgency.

According to the Stakeholder Salience Model, power is defined as the capacity of a stakeholder to impact decisions or outcomes in a complicated social network of stakeholders. Legitimacy relates to the perceived appropriateness of a stakeholder's involvement. Urgency reflects the degree to which stakeholder demands require immediate attention. Stakeholders having all three saliences are likely to be pulled by the attention gravity of the management, whereas those with a lesser number of attributes may be addressed selectively (Parent & Deephouse, 2007). The salience model is useful in complex projects where multiple stakeholders compete for attention and resources. It provides a structured explanation for variations in stakeholder influence and supports more strategic allocation of engagement efforts.

2.1.3 The Social Network Analysis

As the focus of the central idea of salience theory is on stakeholder characteristics, Social Network Analysis (SNA) looks into the patterns of relationships among stakeholders. Scholars such as Bourne and Walker (2006), Newcombe (2003), and Olander and Landin (2008) give more emphasis to the significance of networks though influence as a relational phenomenon has not been deeply analyzed. To accommodate this gap, SNA provides a systematic method for examining how influence flows through stakeholder interactions.

A study that was conducted in Australia contributed significant empirical evidence, where SNA was applied to a theological school construction project (Cyram, 2009). Stakeholders were first identified by administering interviews then a questionnaire measured the degree to which each actor influenced others' project-related activities. Based on direct and indirect ties within the network, SNA quantified each stakeholder's influence (Wasserman & Faust, 1994; Scott, 2000). The project manager emerged as the most influential actor, followed by the senior administrative leader. This confirms SNA's capacity to reveal actual influence patterns opposed to perceived attributes.

The study also compared SNA-derived rankings with those produced by the Stakeholder Circle using Spearman's rank-order correlation (Singh & Tiong, 2006). The significant correlation demonstrates that while salience and SNA originated from different theoretical foundations. Both methods can intersect in identifying key influencers. However, SNA offers greater precision by incorporating latent relational dependencies and indirect influence pathways, which attribute-based models may overlook.

2.1.4 Theoretical Synthesis and Integration of Models

Stakeholder Theory, the **Stakeholder Salience Model**, and **Social Network Analysis (SNA)** are integrated to create a multi-layered framework. This helps both the ethical foundations and the superstructure of stakeholder dynamics. **Stakeholder Theory** serves as the core foundation, establishing *why* all interconnected actors must be engaged to secure project success. To address this theory's limitation in prioritizing competing interests, the **Stakeholder Salience Model** is implemented to strategically weigh and rank stakeholder claims based on individual attributes of power, legitimacy, and urgency. Finally, because salience attributes only capture perceived individual traits, **Social Network Analysis** is utilized to map the actual, empirical patterns of relationships and quantify how influence dynamically flows through direct and indirect pathways. By combining these three complementary models, the research moves from broad ethical obligations to individual attribute mapping, and ultimately to precise relational measurement, providing a robust methodology for understanding stakeholder engagement's impact on infrastructure delivery.

2.2 Dimensions of Stakeholder Engagement

Prebanić and Vukomanović (2023) utilized the IAP2 spectrum to describe the progressive nature of stakeholder engagement through five levels.

1. Inform: Provide stakeholders with balanced and objective information that helps them understand issues, alternatives, and/or solutions.

2. Consult: Solicit stakeholder feedback on the analysis, alternatives, and/or decisions made.
3**.** Involve: Work directly with stakeholders throughout the process to ensure that their concerns and desires are consistently understood and addressed.

4. Collaborate: Work in partnership with stakeholders on every aspect of the decision. 5. Empower**:** Place final decision-making in the hands of stakeholders.

In this research, stakeholder engagement, the five hierarchical levels proposed by Yang and Shen, are molded into four dimensions: communication, participation, collaboration, and influence. This concentrates the multidimensional nature of stakeholder engagement as emphasized across project management, public administration, and organizational governance literature (Freeman, 1984; Bryson, 2018; Greenwood, 2007). Prior studies consistently argue that stakeholder engagement is not a single activity but a continuum of interactions that vary in intensity, authority, and impact on decision-making (Rowley, 1997; Donaldson & Preston, 1995).

Communication is related to the inform stage of stakeholder engagement. This is a foundational level marked by the timeliness, accuracy, transparency, and consistency of information fluidity between project teams and stakeholders. Communication enables stakeholders to comprehend project constraints, risks, and anticipated outcomes. This facilitates the informational groundwork for meaningful engagement (PMI, 2017; Zulch, 2014). It is emphasized that effective communication is a precondition for trust building, need alignment, and legitimacy in project governance (Müller & Lecoeuvre, 2014; Bourne, 2015). In complex and public-sector projects, ineffective communication has been connected with stakeholder resistance, conflict proliferation, and project failure. This underlines the core position of communication in engagement processes (Aaltonen & Kujala, 2016; Flyvbjerg, 2014).

Participation as the second dimension embraces the consult and involve levels of engagement. Consultation focuses on soliciting stakeholder opinions, concerns, and preferences. In the planning and implementation phases, involvement occurs in the form of continued interaction. (Yang & Shen, 2014). The two approaches differ in intensity, but both allow stakeholders to share knowledge and perspectives without being authorized for the ultimate decision-making (Bryson et al., 2017). Empirical studies show that stakeholder participation strengthens decision effectiveness and contextual fitness of project outcomes in public infrastructure and development projects (Olander & Landin, 2005; Reed, 2008). Combining consultation and involvement into a single participation construct aligns with prior empirical research. It marks stakeholder input as a unified dimension to give depth and continuity of engagement. (Beringer et al., 2013; Eskerod & Jepsen, 2013).

Collaboration directly reflects the collaborative level of engagement. At this stage, stakeholders and project teams move past their advisory roles to engage in co-planning, shared problem-solving, and co-creation of solutions. Collaboration relies on partnership engagement incorporating shared responsibilities, risks, and resources (Ansell & Gash, 2008; Emerson et al., 2012). Collaborative stakeholder relationships are believed to improve coordination, innovation, and conflict resolution in multi-stakeholder environments (Yang et al., 2011; Aaltonen & Kujala, 2016). Collaborative engagement also supports relational governance mechanisms that complement formal contractual controls, thereby enhancing project adaptability and long-term performance (Poppo & Zenger, 2002; Müller et al., 2012).

Finally, influence represents the empower level of engagement. Empowerment implies that stakeholders possess genuine authority to shape or determine project decisions. It is not a mere participation in procedural activities. In empirical terms, this authority is expressed through stakeholder influence over prerequisites, resource allocation, design options, and project alternatives (Arnstein, 1969; Yang & Shen, 2014). The distinction between symbolic participation and substantive influence is well established in governance literature. Power concentration or dilution is considered a critical indicator of pronounced engagement (Mitchell et al., 1997; Fung, 2006). The conceptualization of empowerment as influence enables the assessment of whether engagement mechanisms translate into real decision-making power. This has significance in public-sector and community-based projects where legitimacy and accountability are primary issues (Bourne, 2015; Bryson, 2018).

The level of engagement differs in depth, intensity, and purpose, depending on numerous contextual factors. The level of stakeholder engagement is mostly affected by project characteristics, stakeholder demands, and governance strategies. (Uddin, Ong &Matous,2023)

Therefore, this study emerges with a four-dimensional perspective of stakeholder engagement: communication, participation, collaboration, and influence. These dimensions represent interaction and integration levels of varying intensity, moving from information exchange toward shared decision-making and measurable impact on project outcomes.

2.2.1 The Critical Role and Challenges of Stakeholder Communication

Communication is a bedrock upon which other dimensions of stakeholder engagement are built. It is defined as the systematic generation, dissemination, and exchange of information between project teams and stakeholders throughout the project lifecycle (Bourne, 2016). Communication enables stakeholders to understand project objectives, processes, risks, and expected outcomes. It allows project teams to receive feedback, concerns, and expectations.

Effective communication among stakeholders is a very crucial step in creating a mutual understanding that enhances a two-way information flow. This can produce an effective communication management incorporating initial steps such as planning, implementing, monitoring, and controlling communication channels. (Johnson, 2012)

According to Kirti, project managers should follow a proactive communication management system that adequately addresses the expectations and aspirations of stakeholders. Effective communication management recognizes the presence of multiple types of communication channels and formats that are used to disseminate information within the project context.

The communication management team is responsible for managing stakeholder relationships and ensuring the effective exchange of information. This entails receiving necessary information to manage stakeholder requirements, furthermore delivering information to the most important stakeholders to keep them on track that their demands are well known and being met.

Effective communication is characterized by key features such as accuracy, timeliness, transparency, and responsiveness (PMI, 2017). This definition recognizes that information flow is not a unidirectional process. But it encompasses two-way communication, enabling dialogue and continuous feedback between project teams and stakeholders. Weak or inconsistent communication often leads to misinformation, mistrust, and conflict (Doloi, 2012).

Empirical research articles suggest that ineffective communications lacking accuracy, timeliness, transparency, and responsiveness, pose challenges such as disagreements, disputes, delays, and inefficiencies in the project environment. However, structured communication builds trust and supports expectation management. This creates a foundation for deeper stakeholder involvement (Yang et al., 2009).

2.2.2 The Challenges and Nuances of Stakeholder Participation

When it comes to participation, it extends beyond the frontiers of information exchange into a higher level of engagement. Stakeholder inclusion in planning, decision-making, monitoring, and implementation activities are the embodiment of participation (Reed, 2008).

Approaches that involve participatory engagement of stakeholders give rise to a sense of belongingness and shared responsibility, thereby increasing project performance and lowering potential disputes during implementation(Freeman, 1984; Arnstein, 1969; Pinto, 2016; Bourne & Walker, 2005).Stakeholder participation imparts the energy of effectiveness if applied in all phases of a project cycle. Participating stakeholders in the initiation phase contribute to the determination of the project scope and identifying potential challenges, which are accompanied by aligning the real demands of stakeholders with the project objectives. (Nijkamp etal,2002; Albert,2004).

In the planning phase, stakeholders' participation injects ideas supporting the formulation of project objectives. It plays key roles in assessing uncertainties and optimizing the utilization of resources beyond formulating objectives. (Nijkamp etal,2002; Albert,2004).The recognition of inconsistencies and misalignments together with enhancement of transparency and accountability strategies are secured if participation is incorporated in the implementation, monitoring, and evaluation phases (CDC,2019; Chang,2013; Katiku,2011).

Therefore, it is important to have the participation of stakeholders in the varying phases of a project to keep stakeholder demands aligned with project objectives.

Consultation is the beginning stage of stakeholder participation. It ensures soliciting stakeholders' feedback on project design. The consultation process in the early phases of a project improves the accuracy of needs assessments. (Reed,2008; Bryson, Crosby & Stone,2018). Thus, consultation is an important milestone, fostering quality decision-making that encompasses diverse opinions in project planning.

Involvement is a much deeper level of participation compared to consultation. It significantly enhances the sense of belongingness and the problem-solving nature of stakeholders, contributing to project success. (Bourne, 2009;Crawford & Earl,2008)

However, participation varies in quality and substance. Tokenistic participation, where stakeholder input is solicited but not meaningfully considered, may lead to frustration and disengagement. Meaningful participation potentially requires clarity of roles, accessibility of structures and mechanisms for decision-making. (Supple et al.,2015)

2.2.3 Conceptual Boundaries and Dimensions of Stakeholder Collaboration

Stakeholder engagement has become a central element of contemporary project management, public administration, and governance frameworks. However, within this broad field, the terms participation and collaboration are frequently conflated, even though they describe different levels of stakeholder involvement and carry different implications for project decision-making and project success. A substantial body of literature highlights that while both concepts relate to engaging stakeholders, they differ significantly in terms of power dynamics, decision-making authority, communication depth, and long-term involvement.

A foundational contribution to distinguishing these concepts is Arnstein's (1969) "Ladder of Citizen Participation," which conceptualizes participation as a hierarchical continuum with eight rungs that range from non-participation (manipulation and therapy), through degrees of tokenism (informing, consultation, placation), to degrees of citizen power (partnership, delegated power, and citizen control). Arnstein argues that much of what is labeled "participation" in practice occurs at the lower rungs, where stakeholders may be consulted or informed but lack actual influence over decisions. This framework introduces a critical insight: participation does not guarantee shared power. Collaboration, in contrast, is closer to the upper rungs—partnership and delegated power—where stakeholders jointly engage in decision-making. Thus, Arnstein's model demonstrates that participation can be passive or symbolic, while collaboration requires active, empowered, and equitable involvement.

The International Association for Public Participation (IAP2, 2007) further institutionalizes these distinctions through the Public Participation Spectrum, which categorizes engagement into five levels: inform, consult, involve, collaborate, and empower. According to the spectrum, participation represents a broad set of activities aimed at allowing stakeholders to express opinions, but with varying influence. Informing and consulting, for example, are largely one-way or limited two-way communications. Collaboration, however, sits at the higher end of the

spectrum and is defined as a process where "stakeholders work together in each aspect of the decision including the development of alternatives and the identification of the preferred solution." Unlike basic participation, collaboration implies deliberate efforts to integrate stakeholder input into decisions and to strengthen mutual accountability. The spectrum clarifies that collaboration is not merely a higher quantity of participation, but a qualitatively different mode—one grounded in shared responsibility.

Scholars in project and construction management have adopted and expanded these distinctions. Yang and Shen (2015, 2023) argue that participation in construction projects typically involves soliciting feedback, obtaining stakeholder concerns, and communicating project information. These forms of participation are essential but do not necessarily lead to joint decision-making. Collaboration, on the other hand, requires deeper and continuous interaction between project teams and stakeholders, often characterized by joint workshops, shared analysis activities, co-design processes, and ongoing communication loops. Yang and Shen emphasize that collaboration is built upon trust, transparency, and willingness to share project control—conditions that are not required in basic participation. Thus, collaboration reflects a stronger, more integrated relationship that enhances project outcomes by facilitating shared ownership and reducing conflict.

Reed's (2008) comprehensive review of stakeholder participation in environmental management similarly distinguishes participation from collaboration by focusing on the quality and relational depth of engagement. Reed notes that participation can occur at multiple levels, from simple information dissemination to interactive discussions. However, collaboration involves the co-production of knowledge, deliberative dialogue, mutual learning, and long-term partnership-building. Collaboration also necessitates that stakeholders have access to information, influence over the process, and the ability to negotiate outcomes—elements not automatically present in participatory processes. Importantly, Reed highlights that while participation can be designed and executed by project managers without sharing power, collaboration necessarily redistributes decision-making authority.

2.2.4 Determinants and Saliency of Stakeholder Influence

Factors such as Power, legitimacy, expertise, and network position shape influence. Strong influence reveals stakeholder input is integrated into governance and decision-making structures. Minimal influence suggests that engagement may have little practical impact (Parent & Deephouse, 2007).

Influence is the power of a stakeholder to impact the decision-making process. Influence stems from the attributes of stakeholders such as power, legitimacy, and urgency. Stakeholders showing multi-color attributes are considered more salient and can exert a strong influence on the project outcomes. (Mitchel et al., 1997) Government actors, regulators, and local authorities are salient external stakeholders that can shape project processes in the construction sector.(Olander and Landin, 2008)

2.5 Concept of Project Success

2.5.1 Conceptual Definitions

A project is a momentary effort which is executed to create a unique product, service, or result (PMI, 2021). Projects are initiated so as to generate value for organizations and they are executed under constraint extremes related to time, cost, scope, quality, and resources (Kerzner, 2017). However, contemporary project management literature emphasizes that project performance cannot be adequately understood through technical constraints alone, as projects operate within complex organizational and stakeholder environments (Atkinson, 1999; Shenhar & Dvir, 2007).

The conditions, variables, or managerial practices that significantly influence the likelihood of achieving project success are called success factors (Slevin & Pinto, 1988; Kerzner, 2017). They represent the inputs, processes, and contextual entities that contribute to favorable project outcomes. In contrast, success criteria are the standards or benchmarks used to evaluate the successfulness of a project after implementation (Atkinson, 1999). While success factors explain the way success can be achieved, success criteria define how success is objectively measured.

The project management literature has long identified the conceptual designation between success factors and success criteria. Misrepresenting and using these concepts may lead to methodological inconsistencies and ambiguous conclusions (Müller & Jugdev, 2012). Success factors such as leadership, communication, and stakeholder engagement contribute to project performance, whereas success criteria such as cost, schedule, quality, and stakeholder satisfaction are used to

assess outcomes. Establishing this clearcut distinction provides a necessary theoretical background for examining stakeholder engagement as a determinant of project success.

2.5.2 Stakeholder Engagement as a Success Factor in Project Management

Stakeholder engagement is a fundamental principle in project management. Slevin and Pinto (1988) introduce a ten critical success factors model for projects.They emphasized client acceptance and the importance of communication and consultation. Their model showed technical and organizational validity as focal dimensions of project performance. Technical validity ensures that the project solves the problem for which it was initiated, while organizational validity ensures that the project aligns with client needs and organizational expectations.

Stakeholders are individuals or groups that can affect or are affected by project decisions (PMI, 2021). According to Project Management Institute (PMI, 2021), stakeholders can influence multiple aspects of a project, including scope, schedule, cost, project teams, plans, outcomes, culture, quality, and overall success. Given the broader impact, stakeholder engagement becomes a critical managerial function rather than a peripheral activity.

Stakeholder management and engagement deploy stakeholders and their perspectives on project success (Rowlison & Cheung, 2008). Project success is defined by a series of advantages accrued across the span of time as a project progresses (Bannerman, 2008). This shows that project success evolves over time and is influenced by stakeholder perspectives throughout the project life cycle.

The inclusion of stakeholder engagement by utilising effective communication and innovative approaches improves project performance, as evidenced in Pakistan's IT sector (Muhammad Waseem, Tahir Saeed, & Saeed Iqbal, 2024). Stakeholder participation gives opportunities for a large number of individuals, and decision makers have choices to make. Demirksen & Reinhardt(2021) argue that the higher the number of stakeholders, the bigger opinion diversity will be; involvement fosters the dedication and concentration of employees, thereby increasing project performance.

Effective communication amongst stakeholders decreases potential risks and enables project teams to increase performance. In the implementation phase of the project the involvement of stakeholders ensures improvement in cost performance of projects (Jean & Austin, 2022). Khalica Haar (2004) explains that amalgamating proactive stakeholder engagement with project phases

such as planning and implementation further enhances relationships among stakeholders and reduces uncertainties. Involving stakeholders helps society by introducing public knowledge during decision-making in the public sector, resolving stakeholder conflicts, and building mutual trust with government agencies (Jemal, 2023).

Through effective communication, participation, collaboration, and influence stakeholders can be engaged and enable project teams to align project processes with stakeholder expectations and organizational objectives. Stakeholder engagement, therefore, serves not only as a governance mechanism but also as a strategic success factor that supports acceptance, legitimacy, and long-term value realization (Project Management Institute [PMI], 2021)

2.3 Project Success as a Contested Concept

Project success is one of the most contested areas in academic research (Atkinson, 1999; Müller & Jugdev, 2012). Traditional views of project success contend that the Iron Triangle of time, cost, and performance. Although these criteria remain widely accepted realities in practices and textbooks, completing deliverables within budget and time constraints does not necessarily secure that a project is successful (Atkinson, 1999).

Atkinson (1999) critiques the dominance of the Iron Triangle and extends project success measurement into four categories: Iron Triangle performance, Information System success, Organizational Benefits, and Benefits to the Stakeholder Community.

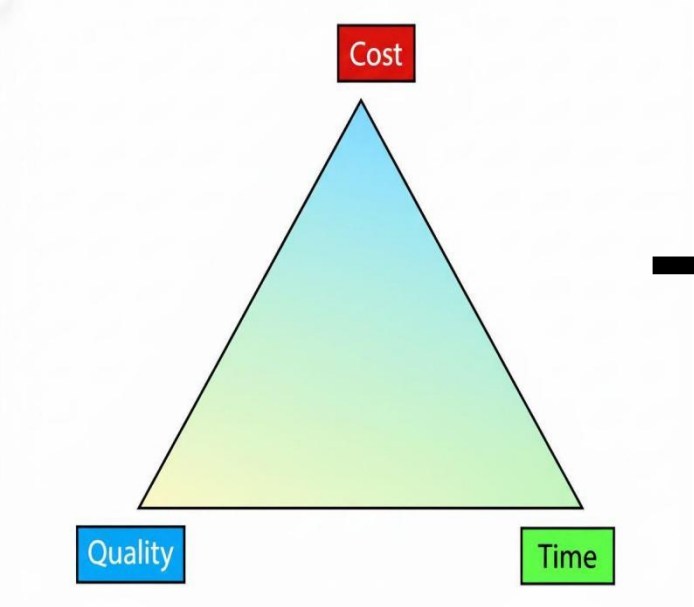


Figure 2.1: The iron triangle of project mangement

Adapted from traditional project management literature (PMI, 2017; Atkinson, 1999). Figure recolored by the author.

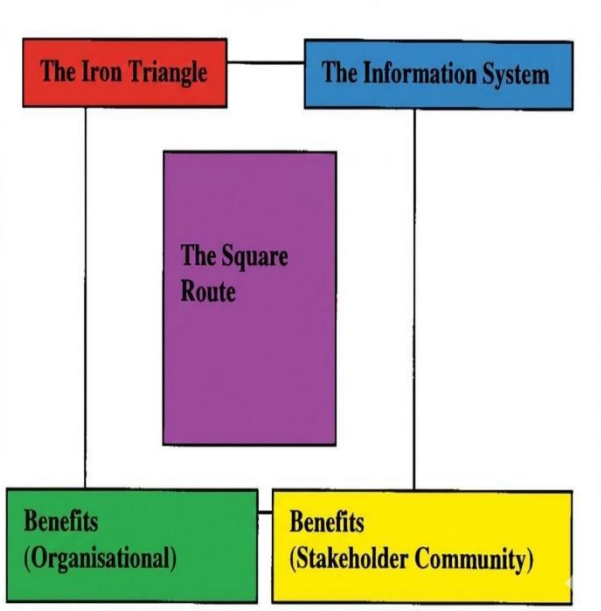


Figure 2.2: The Square Route to Project Success

Adapted from Atkinson (1999). Figure modified by the author through color enhancement for conceptual clarity.

The traditional view of project success assumes customer satisfaction if predefined performance objectives such as cost, time, and quality are met. However, meeting these objectives does not guarantee that customer satisfaction will materialize. Even in non-profit organizations, such as government agencies, project outcomes should contribute to organizational improvement, creating an environment that fosters future opportunities and sustainable success. (Shenhar, Levy & Dvir,1997)

Contemporary literature conceptualizes project success as a multidimensional and dynamic construct which actually expands beyond the frontiers of immediate deliverables (Shenhar et al., 2001). Across stakeholder groups and time horizons,this perspective recognizes that success is assessed in a different manner.

Project success can be understood through multiple dimensions, as emphasized in the Diamond Approach by Shenhar and Dvir. Project efficiency reflects the ability to meet time and budget goals. The impact on the customer considers whether the project meets requirements, achieves customer satisfaction, delivers benefits, and builds loyalty. Impact on the team evaluates stakeholder satisfaction and personal growth highlighting the human resource aspect of project success. Business results seize organizational outcomes such as return on investment and market growth in which strategic objectives are linked to the performance of projects. Finally, preparation for the future examines the development of new technologies in order to ensure that projects contribute to long-term organizational innovation. These dimensions underscore the need for multidimensional stakeholder engagement allowing stakeholders to shape and assess success across technical, organizational, and strategic perspectives (Shenhar & Dvir, 2007)



Figure2.3 Multidimensional Model of Project Success

Adapted from Shenhar et al. (2001) and Shenhar and Dvir (2007). Figure modified by the author.

Figure 2.3 depicts a multidimensional view of project success, extending beyond efficiency measures to include impact on customers, impact on project teams, business and direct success, and preparation for the future. This model reflects the evolving understanding of project success as a dynamic and time-dependent construct. Color differentiation is used to emphasize the multiple dimensions and their interrelationships.

2.4 Empirical Review of Related Studies

2.4.1 Stakeholder Communication and Project Success

Effective stakeholder communication is a critical predictor of project success in both global and Ethiopian contextual realms. International studies indicated that coordination is consolidated among project actors if there exists timely and transparent communication thereby improving performance outcomes (Pinto & Slevin, 1988; PMI, 2017; Toor & Ogunlana, 2010).In a similar fashion, Ethiopian studies on school and road construction projects assured that effective communication positively impacted project success by improving the flow of information and reduction of conflicts (Abdurazak Jemal, 2023; Ethiopian Heritage Authority studies). These findings stress that well-built communication systems align stakeholder expectations thereby fostering project efficiency (Yang et al., 2011).

2.4.2 Stakeholder Participation and Project Success

The active participation of stakeholders enhances decision-making within the project lifecycle. This actually increases ownership and legitimacy of outcomes. Profound international research suggested participatory approaches reduced resistance, making requirements clearer than before and enhanced project outcomes (Olander & Landin, 2005; Yang, Shen, & Ho, 2009). Empirical studies in Ethiopia, including research in Siltie and Jimma Zones affirmed these findings. Excelling adherence to cost, time, and quality targets is shown by projects with higher stakeholder involvement while limited participation affects performance negatively (Jemal Nurye, 2024). This reinforces that participatory engagement is very important so far as public sector construction projects are concerned.

2.4.3 Stakeholder Collaboration and Project Success

Globally collaborative stakeholder relationships are related to higher project success (Bourne & Walker, 2005; Chan et al., 2004; Bryde & Robinson, 2005). In Ethiopia, studies in construction supervision and design projects exhibit that collaboration among consultants, contractors, and project owners reduces misunderstanding and facilitates coordinated action in project delivery. Worku,(2018). This evidence justifies that collaboration strengthens both efficiency-related outcomes and stakeholder satisfaction.

2.4.4 Stakeholder Influence and Project Success

Stakeholder influence is defined as the capacity to affect project decisions and outcomes. Global studies suggest that conflicts, delays, and scope changes resulted from unmanaged stakeholder influence (Mitchell, Agle, & Wood, 1997; Olander & Landin, 2005), while proactive management of influential stakeholders corroborated project success (Yang et al., 2011). A study conducted in Ethiopian road construction projects discovered that stakeholder engagement significantly influences project performance. It underscores that engagement of project stakeholders—such as owners, consultants, and contractors—is crucial for project outcomes (Seid & Assefa,2024).

2.4.5 Project Success Measurement in Public Construction Projects

Project success is tremendously conceptualized as a multidimensional construct encompassing traditional performance metrics (time, cost, quality) and broader stakeholder-oriented standards (Atkinson, 1999; Shenhar et al., 2001). Ethiopian research on school and building projects supported this view. Including stakeholder satisfaction, long-term benefits, and sustainability as success criteria is essential for evaluating public sector projects holistically (Toor & Ogunlana, 2010; Beshah, Mengesha, & Demiss, 2024; Jemal, 2023).

2.5 Conceptual Framework

Based on the conceptual, theoretical, and empirical foundations of the reviewed literatures in this chapter, this study proposed a conceptual framework that links stakeholder engagement to project success. Stakeholder engagement was conceptualized as a construct of multidimension and dynamism. At the same time, a multidimensional outcome holding both technical and stakeholder-oriented performance indicators were employed to unveil project success (Atkinson, 1999; Shenhar & Dvir, 2007).

The framework illustrates that communication provides the informational foundation necessary for trust building among stakeholders (PMI, 2021; Zulch, 2014). During stakeholder participation, an enabling condition is formed to share knowledge and perspectives that improves decision quality and project relevance (CDC, 2019; Chang, 2013; Katiku, 2011; Rowe & Frewer, 2005). Collaboration provides joint problem-solving opportunities, shared responsibility, and partnership among interdependent actors (Ansell & Gash, 2008; Thomson & Perry, 2006). Influence represents the degree to which stakeholder input is transformed into tangible changes in project decisions (Mitchell, Agle, & Wood, 1997; Aaltonen & Kujala, 2016). This position reflects the argument

that engagement processes only contribute to project outcomes when stakeholder inputs are meaningfully embraced in decision-making phases (Arnstein, 1969; Yang & Shen, 2015).

In this view, Project success is not only framed as an automatic outcome of engagement activities. It is the result of meaningful interaction and impact among stakeholders (Turner, 2014; Shenhar et al., 2001). Stakeholder engagement dimensions are combined with multidimensional measures of project success. The framework provides a foundation with coherence for practical study aligning closely with Stakeholder Theory, the Stakeholder Salience Model, and relational perspectives (Freeman, 1984; Mitchell et al., 1997; Borgatti & Halgin, 2011). They all give theoretical and empirical depth to the investigation.

As communication is information exchange, participation is a mixture of consultation and involvement. Empowerment is a term that refers to the influence of stakeholders over the decisions and outcomes of a project (Arnstein, 1969; IAP2, 2018). It is very good to imagine the progressive process of stakeholder engagement by considering the continuum in the white light spectrum that is composed of different colors, analogous to the VIBGYOR spectrum of visible light, which consists of seven colors (Violet, Indigo, Blue, Green, Yellow, Orange, Red). Accordingly, the stakeholder engagement spectrum can be understood as a continuum comprising four progressive dimensions (IAP2, 2018).

The stakeholder engagement spectrum is therefore viewed as a continuum of four progressive paths or dimensions. For the sake of simplifying the stakeholder engagement in this study in terms of its spectral progressive elements, the five bungs in the ladder of stakeholder engagement are reduced to four distinct entities, which are communication, participation, collaboration, and influence (Arnstein, 1969; IAP2, 2018). In this research work, stakeholder engagement is conceptualized as a polychromatic multidimensional process affecting the project success rather than a monochromatic process characterized by a single activity.

The structural design of this conceptual framework rests on two primary theoretical assumptions. First, it assumes a direct, causal, and positive relationship where incremental advancements along the stakeholder engagement spectrum fundamentally drive and determine the multi-dimensional indicators of project success. Second, mirroring the analogy of the VIBGYOR visible light spectrum, this framework assumes that the four independent variables—communication,

participation, collaboration, and influence—are conceptually distinct and mutually exclusive entities for the purpose of empirical measurement, despite being part of the same progressive continuum. While they are dynamically interrelated as a stakeholder moves upward through the stages of engagement, each dimension represents a separate, operationalized phase of interaction with its own unique characteristics (ranging from basic information exchange in communication to shared decision-making authority in influence). This assumption of mutual exclusivity prevents significant multicollinearity during data analysis, allowing the study to isolate, weigh, and determine the exact empirical contribution of each specific engagement dimension toward the technical and stakeholder-oriented outcomes of project success

In conclusion, the proposed conceptual framework delivers a theoretically grounded explanation of how project success is influenced by stakeholder engagement. Conceptually, stakeholder engagement is constructed as a progressive and multidimensional process with continuous components like communication, participation, collaboration, and influence. The framework encapsulates both depth and quality of stakeholder interactions. The adoption of multidimensional measures of project success acknowledged that project outcomes extend beyond technical performance. This framework provided a robust foundation for empirical testing and hypothesis development. It ensured a systematic examination of the pathways through which stakeholder engagement contributes to project success.

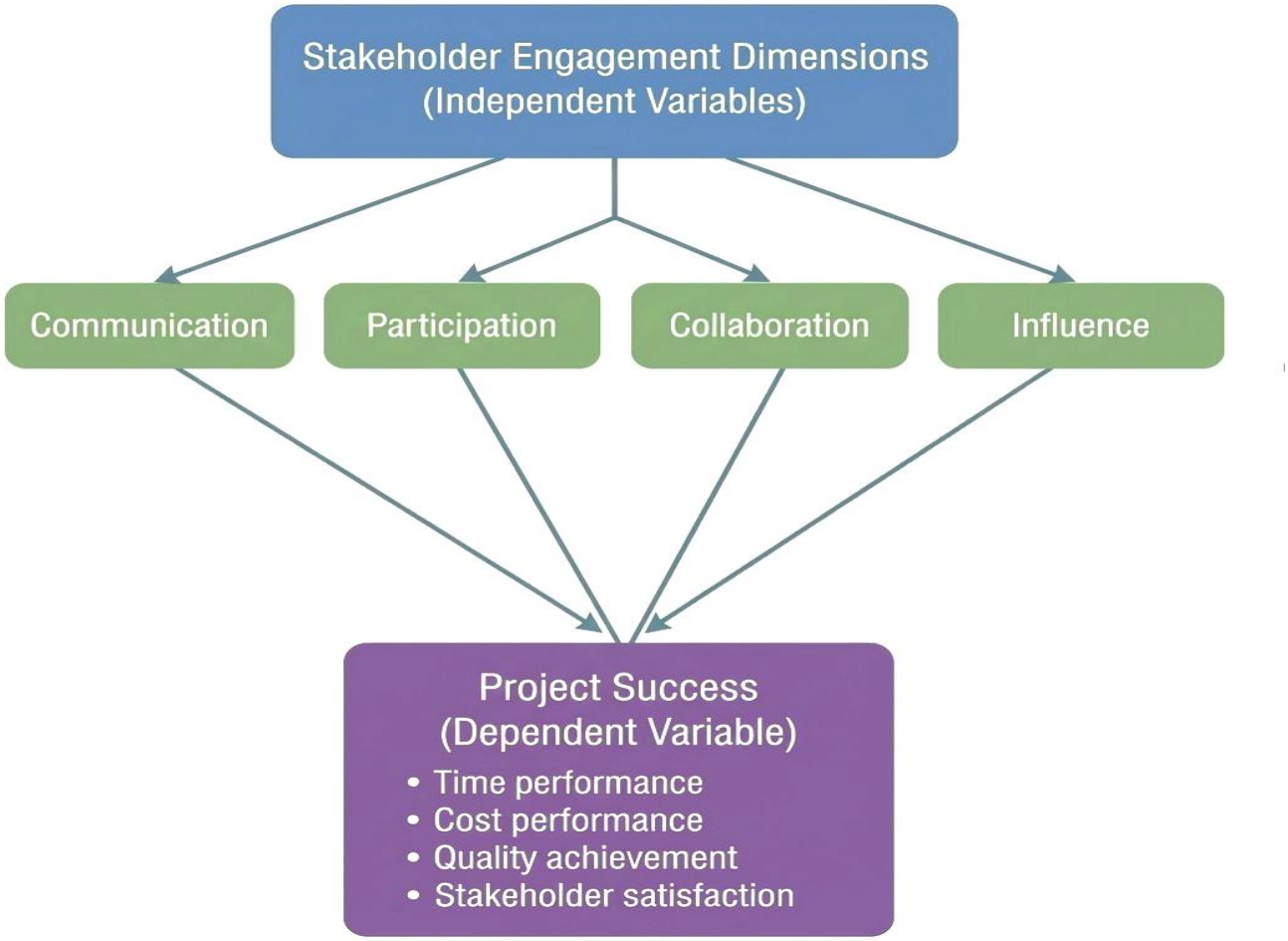


Figure 2.4: Conceptual Framework Linking Stakeholder Engagement Dimensions to Project Success Adapted from IAP2 (2018), Freeman (1984), and Shenhar and Dvir (2007). Figure modified with color coding by the author.

Description: Figure 2.4 presents the conceptual framework adopted in this study, illustrating stakeholder engagement dimensions—communication, participation, collaboration, and influence—as independent variables influencing project success. Project success is conceptualized as a multidimensional construct comprising time performance, cost performance, quality achievement, and stakeholder satisfaction. The use of color coding highlights the distinct engagement dimensions and their direct relationships with project success.

2.6 Research Gap

Stakeholder engagement is widely recognized as a critical factor in the success of construction projects. Stakeholder participation, communication, and collaboration have been unearthed by existing studies. For instance, research on construction projects in developing countries confirmed that inadequate stakeholder engagement can lead to delays, cost overruns, and unsatisfactory project quality. (Eskeroid & Huemann,2018; Osei-Kyei & Chan,2017) Similarly, studies in the education sector have focused on the involvement of school administrators, teachers, and local communities in planning and decision-making processes.

Despite this growing body of knowledge, several gaps remained. Abundant studies tended to treat stakeholder engagement as unidimensional without splitting the individual effects of multiple engagement dimensions on project success. This shortcoming makes it difficult to comprehend the comprehensive effect of stakeholder interactions on project performance.

Research specific to public school construction projects in Ethiopia, and particularly in Addis Ababa, is very limited, though there have been an immense number of studies in the construction sector. The unique administrative structures of the city create conducive conditions that may differ significantly from those examined in other countries or regions. This suggests that findings from international studies may not be directly applicable.

Additionally, prior studies often focussed on quantitative measures of project performance such as cost, time, and quality. Less attention was given to holistic measures of project success, which incorporated stakeholder satisfaction, community acceptance, and long-term sustainability. There is also a scarcity of research applying comprehensive theoretical frameworks, such as the integration of stakeholder theory with project success models, to empirically assess how different engagement dimensions interact to influence outcomes.

In summary, the literature showed a clear need for studies that: (1) examine the causal effects of multiple stakeholder engagement dimensions on project success, (2) focus on public school construction projects in Addis Ababa, and (3) adopt a semi-holistic and context-specific approach to measure project outcomes. Addressing these gaps provided valuable insights into effective stakeholder management strategies. This study contributed to the further understanding of

predictors that determine the success of public-school infrastructure projects in similar urban contexts.

2.7 Hypothesis Development

H1: Stakeholder communication has a significant positive effect on project success.

H2: Stakeholder participation has a significant positive effect on project success.

H3: Stakeholder collaboration has a significant positive effect on project success.

H4: Stakeholder influence has a significant positive effect on project success.

H5: Overall stakeholder engagement has a significant positive effect on project success

CHAPTER THREE

Research Methodology

3.1 Research Design

A research design (RD) is referred to as a blueprint that steers the process of collecting, measuring, and analyzing data to answer the research questions effectively (Khotari,2004). Research designs can be categorized in a multitude of ways based on their purpose and structure. According to Khotari (2004), research design categories are presented and defined as follows. They are classified into three :descriptive , exploratory , and explanatory research designs. A descriptive research design focuses on describing characteristics of a population. An exploratory research design is used when the problem is not clearly defined. Explanatory research design examines cause-and-effect relationships between the variables.

This work employed an explanatory research design to examine the effects of stakeholder engagement on project success. Rather than describing their characteristic features, the primary goal of explanatory research is to explain causal relationships among variables. Explanatory research design is more consistent when a study looks into the cause-and-effect relationships among variables (Saunders, Lewis & Thornhill, 2012). Explanatory research is more inclined towards hypothesis formulation and testing existing relationships . The design enabled the study to predict how stakeholder engagement factors affected project success. It examined the underlying mechanisms and interactions that drove outcomes rather than simply observing patterns. This approach enhanced the strength of findings about the causal effects of communication, participation, collaboration, and influence on project success.

3.2 Research Approach

A research approach (RA) is defined as a plan that gives answers to research questions using detailed methods of data collection, analysis, and interpretation(Saunders, Lewis & Thornhill, 2012). There are three commonly recognized research approaches: qualitative, quantitative, and mixed. The qualitative approach uses open-ended questions and the quantitative approach employs closed-ended questions whereas mixed methods approach couples qualitative with quantitative techniques to gain a comprehensive picture of the research problem. (Creswell, 2014)

A quantitative research approach was adopted by this study. The purpose of the research was to assess the effect of stakeholder engagement on project success using statistically testable variables.

A quantitative approach enabled the researcher to practice stakeholder engagement dimensions—communication, participation, collaboration, and influence. Their relationship with project success parameters were assessed using statistical techniques. Quantitative methodology is appropriate because it ensures hypothesis testing and allows objective measurement. By and large, it provides generalizable findings if applied to large populations (Creswell, 2014).

Moreover, it is aligned with the explanatory research design which was adopted in this study. Thus, the quantitative research approach was employed since it provides a structured and objective means to quantify the effect of stakeholder engagement practices on project success.(Adams, Khan, Raeside & White, 2007).

A mixed-methods approach was explicitly excluded from this study because the primary research goal is deductive hypothesis testing and the objective verification of structural relationships between pre-defined variables. While a mixed approach provides valuable qualitative depth, it is unnecessary for this study as the structural dimensions of stakeholder engagement and project success are already well-established in existing literature and can be accurately quantified. Relying solely on a quantitative approach ensures statistical rigor, avoids the thematic ambiguity of qualitative data, and directly aligns with the explanatory nature of the research design, which seeks to establish statistical patterns and generalizable causal effects across the target population.

3.3 Research Population

A research population refers to the set of individuals, units, or organizations that share common attributes aligned with the study (Kothari, 2004). It is the universal set representing the total aggregate of elements from which the sample is drawn. The findings are generalized for it afterwards. In this study, the target population consisted of project stakeholders involved in public school construction and infrastructure projects in Lemikura subcity, including project managers, engineers, contractors, consultants, government officials, and PTSA representatives. This population was chosen because these groups directly engaged in communication, participation, collaboration, and influence processes that shaped project outcomes.

This study targeted the school infrastructure construction projects undertaken by Ethiopian Construction Design Works Bureau within Addis Ababa, more specifically, Lamikura Sub-City.

It focused on various infrastructure projects in 11 schools. These projects were initiated on July 8, 2023, and completed on July 7, 2024. As monitoring reports of the Addis Ababa Education Bureau SIP Implementation Directorate Construction Monitoring Group confirmed, the projects covered 11 public schools. These projects constituted 11 classroom buildings, 3 administrative office buildings, 2 libraries, 3 dining halls, 2 latrines, 3 terrazzo floors, and 2 fences, etc. The target population in this study included all stakeholders in 11 school projects, entailing all infrastructural constructions ranging from fences to 4-story classroom buildings.

Table 3.1 A List of Projects in the Study

School Construction Projeccts		
No.	**School Name**	**Planned Construction Type**
1	Arabsa Primary School	G+4 Classroom Block
2	Arabsa Secondary School	G+2 Admin & Library Block
3	Yeka Bole Secondary School	G+2 Administration Block
		G+2 Library Block
4	Chefe Primary School	G+4 Block
5	Gara Guri Primary School	G+2 Block
		G+1 Block
6	Goro Primary School	G+4 Block
7	Dudubisa Primary School	G+4 Block
		Boundary Wall (Fence)
		Dining Hall / Cafeteria
8	Beke Primary School	G+4 Block
9	Bole Addis Primary School	G+4 Block
10	Abdi Jarso Primary & Secondary School	G+4 Block
		Two G+2 Blocks
		Dining Hall / Cafeteria
		Toilet Block
		Boundary Wall & Security Guard Tower
		Compound Terrazzo Flooring
11	Beke Secondary School	G+2 Admin & Library Block

The geographical and contextual scope of this study is strictly delimited to the 11 public school infrastructure construction projects undertaken by the Ethiopian Construction Design and Supervision Works Corporation (ECDSWC) within the Lamikura Sub-City of Addis Ababa. These

specific 11 projects were deliberately selected based on a targeted inclusion criterion: they represent the complete, universal registry of public school infrastructural expansions initiated on July 8, 2023, and fully completed on July 7, 2024 (culminating in the 2018 Ethiopian Calendar fiscal period). Other ongoing, uncompleted, or older historical infrastructure projects within the sub-city were intentionally excluded from this study to ensure data homogeneity and to isolate the specific stakeholder dynamics of a single, standardized project lifecycle. Focusing exclusively on projects culminating in 2018 E.C. provides the study with highly contemporary, fresh, and readily available monitoring data verified by the Addis Ababa Education Bureau SIP Implementation Directorate Construction Monitoring Group. Furthermore, these 11 projects offer a comprehensive, representative mix of structural complexities—ranging from foundational boundary fences to complex four-story classroom buildings, administrative offices, libraries, and dining halls. This specific scope allows for a robust evaluation of stakeholder communication, participation, and collaboration across varying scales of public infrastructure delivery, ensuring that the findings are highly applicable to localized urban educational developments.

Table 3.2 A List of Stakeholders in the Study

Stakeholder Category	**Key Stakeholder Entities**	**Population**
1. Government & Regulatory Body	Addis Ababa City Education Bureaus	**2**
	Lemikura Subcity Education Bureau	**2**
	Woreda (District) Education Offices	**6**
	Addis Ababa Construction & Design Corporation	**2**
2.Project Team Members	Contractors & Consultants (Private/Public)	**8**
	Project Staff	**33**
	Project Managers	**2**
3.School & Community Actors	School Administration (Principals & Vice Principals)	**22**
	Parents, Teachers, & Students Association (PTSA)	**33**
Total Number of Stakeholders		**110**

Source: Primary Data,2024

A well-defined population enhances the external validity of a study and therefore conclusions reflect the realities of those affected by the research variables. (Sekaran and Bougie,2016). The population size is 110 in total.

3.4 Sampling Technique

The sampling technique is a procedure that the researcher adopts to select items from the sample. (Khotari,2004). The target population for this study consisted of 110 stakeholders. It involved eleven public school infrastructure construction projects. The population size was so manageable

that the study employed a census technique. Thus, the study sample took into account all members of the population.

To ensure comprehensive representation of the population, the census approach considered all key stakeholder groups, including Education Bureau officials, A.A Construction and design works officials, consultants, contractor personnel, and school-level stakeholders. Sampling bias and sampling error were minimized by allowing every eligible stakeholder to participate in the study.

A complete sampling list was prepared using official project documents and organizational records before collecting data. Then all eligible respondents were identified. Questionnaires were distributed to the entire population of 110 stakeholders. To improve response rates and ensure adequate representation across all stakeholder categories, a strict follow-up was practiced.

The use of a census sampling technique was consistent with methods recommended. Full enumeration was used when the population size was small and accessible. The reliability and validity of study outcomes were enhanced after capturing the complete and vivid picture of stakeholder perspectives (Kothari, 2004; Creswell & Creswell, 2018).

3.5 Measurement

This study included two categories of variables: independent and dependent variables. The independent variables are stakeholder engagement constructs, which are communication, participation, collaboration, and influence. The dependent variable is project success. Each variable was measured with structured Likert-scale items, which is consistent with best practices in quantitative research (Gliem & Gliem, 2003).

Data was collected using partly a designed questionnaire adapted from verified stakeholder engagement scheme developed by Yang et al. (2011) and Bourne (2016). The employment of previously validated instruments boosts construct validity and reliability of the measurement scales (DeVellis, 2017). The questionnaire was produced to include key dimensions, like communication, participation, collaboration, and influence. An accurate assessment of the nexus between the impact of stakeholder engagement and the performance of public-school construction projects are enabled by the project success metrics. Additional assessment tools were developed when existing scales was not completely suitable for the research setting (Saunders et al., 2019). Then the questionnaires were pilot tested to check for validity and reliability.

Moreover, a pilot test involving 10% of the sample was conducted to check clarity, reliability, and respondent understanding. According to Johanson and Brooks (2010), preliminary testing upgrades content and face validity by identifying ambiguous or confusing items.

3.6 Data Types and Data Sources

Primary data was collected directly from respondents by applying questionnaires. Primary data collection is a kind of data collection which is applicable when researchers seek firsthand and context-specific information (Kothari, 2004). Respondents comprised project leaders, technical experts, education bureau officials, construction and design works bureau officials, and PTSA members involved in project activities. Secondary data were obtained from organizational documents and project reports. They are taken to be important to triangulate validity by supplying contextual and historical evidence (Johnston, 2017).

3.7 Data Collection Procedures

Primarily data was collected following a step-by-step procedure to ensure systematic administration right after securing permission from the relevant government offices. Second, respondents were oriented briefly about the research objective. Third, the designed questionnaires were distributed to the participants of the study. Fourth, completed responses were collected within previously agreed timeframe. Fifth, clear communication and structured administration were incorporated to elevate response rates and minimize missing data. (Dillman et al.,2014)

3.8 Data Analysis Techniques

The type of data collected and the research questions shape the researcher in the data analysis approaches. Given the nature of the data that is collected through structured questionnaires, quantitative data analysis methods were very compatible to utilize. (Creswell & Creswell,2018)

Data gathered from the survey were analyzed to conclude general trends in the relationship between independent variables and dependent variable. Descriptive statistics that incorporates means, frequencies, and standard deviations, were computed to provide a summary of respondents' perceptions and engagement levels. The Pearson correlation coefficient was used to quantify the extent and pattern of the relationships between variables. (Khotari,2004; Pallant,2020)

To test the hypothesized effects of stakeholder engagement on project performance, a multiple regression analysis was conducted. The model is expressed as follows:

$$\mathbf{Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Where:

Y = Project Success

$\mathbf{X_1}$ = Stakeholder Communication

$\mathbf{X_2}$ = Stakeholder Participation

$\mathbf{X_3}$ = Stakeholder Collaboration

$\mathbf{X_4}$ = Stakeholder Influence

$\boldsymbol{\beta_0}$ = y-intercept, the expected value of Y when all X = 0

$\boldsymbol{\beta_1}$–$\boldsymbol{\beta_4}$ = regression coefficients, representing the effect of each stakeholder engagement dimension on project performance

$\boldsymbol{\varepsilon}$ = error term, capturing the difference between observed and predicted values of Y

This model permits the testing of how each dimension of stakeholder engagement adds to project success. The multi-faceted project success predictors include project efficiency and stakeholder satisfaction.

The data analysis was performed using Microsoft Excel 2016 and SPSS version 27. It allows computation of descriptive statistics, correlation coefficients, and regression estimates. This analytical approach provides empirical corroboration on the effect of stakeholder engagement activities on multidimensional project success. According to Pallant (2020), regression analysis is appropriate for explanatory works destined to establish causal relationships. The utilization of statistical software, SPSS provides plausible outputs for quantitative modeling (Bryman, 2016).

3.9 Test of Reliability and Validity

Reliability is measure of the degree of repeatability or consistency of the research instrument. (Adams, Khan, Raeside & White;2007). In this study, the repeatability or consistency of the structured questionnaire was thoroughly evaluated by using Cronbach's alpha coefficient. This method is widely applied in social science research and appropriate for instruments that use Likert-scale items. A Cronbach's alpha value of 0.70 or higher was considered satisfactory. This signals the meaningful level of internal consistency among the items which were used to measure stakeholder communication, participation, collaboration, influence, and project success (Nunnally & Bernstein, 1994).

The accuracy of the measuring instrument was verified using content and construct validity. Content validity was ensured by anchoring the questionnaire items in the literature relevant to the relationship of stakeholder engagement and project success. The questionnaire items were partly adapted from previously validated studies (Creswell & Creswell, 2018; Hair et al., 2021). To assess the relevance and comprehensiveness, an expert review was conducted as recommended by Lynn (1986) and Polit & Beck (2006).

Construct validity was assessed using factor analysis to determine whether the questionnaire items appropriately correspond to their respective constructs (Hair et al., 2021; Pallant, 2020). Although the study employs a census, it is still essential to assess the factorability of the data. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were computed not as a test of sampling adequacy, but to prove that correlations among variables are sufficient enough for meaningful factor extraction (Kaiser, 1974; Bartlett, 1954). These processes and procedures support that the constructs are valid and the data are suitable for further statistical analysis.

All in all, the combined decision to select literature-based items, expert review, and factor analysis diagnostics was expected to ensure that the research instrument is reliable, accurate, and appropriate for addressing the objectives of the study.

3.9 Ethical Considerations

Ethical principles made sure that the entire research process realized the protection of participants' rights and well-being. Before data collection, respondents were clearly informed about the purpose of the study and their right to participate voluntarily or withdraw at any stage without penalty. Consent was obtained from all participants and government offices in accordance with established ethical research standards (Resnik, 2018). To maintain confidentiality and anonymity, personal identifiers were excluded from the questionnaire, and responses were treated with strict confidentiality. The study adhered to the principle of non-maleficence (doing-no-harm principle) by ensuring that participation posed no physical, psychological, or professional risk to respondents. In addition, all collected data were securely stored and used exclusively for academic purposes, according to accepted ethical frameworks for social research (Israel & Hay, 2006).

CHAPTER FOUR

Results

4.1 Introduction

This chapter specifically presented the outcomes of data collected from stakeholders of public - school infrastructure projects in Lemikura sub-city. All stakeholders, part of this study, were totally considered during data collection. In a nutshell, census data was collected from specific groups of stakeholders in the scope of this study. Data were collected in order to evaluate the relationship existing between stakeholder engagement and project success in the context of public-school infrastructure construction projects within Lemikura Subcity. The questionnaires were designed into a 5-point Likert Scale format. In the questionnaire respondents were required to express their agreement or disagreement about the subject using scales running from 1 to 5. (1 = strongly disagree, 2 = disagree, 3=neutral, 4= agree, 5=strongly agree). Finally, the collected data were analyzed by employing the statistics software for their code statistical package for the social sciences SPSS version 27 software.

4.2. Response rate and data screening

A total of 110 questionnaires were distributed to only respondents in line with the census approach. 103 questionnaires were returned successfully. This was believed to have adequacy for further statistical analysis, though seven of the distributed questionnaires were not returned. Before the main data collection, 15 questionnaires were distributed and filled out by respondents to evaluate the reliability of the research instrument(questionnaire) using Cronbach's Alpha. These 15 responses were excluded from the final statistical analysis. The returned questionnaires were meticulously analyzed for completeness and consistency. All 103 responses were employed in relevant statistical analysis. Therefore, there are 103 usable responses for further statistical analysis.

Table 4.1: Stakeholders Response Table

Description	Frequency	Percentage
Completed and returned	103	93.60%
Unreturned	7	6.40%
Total	**110**	**100%**

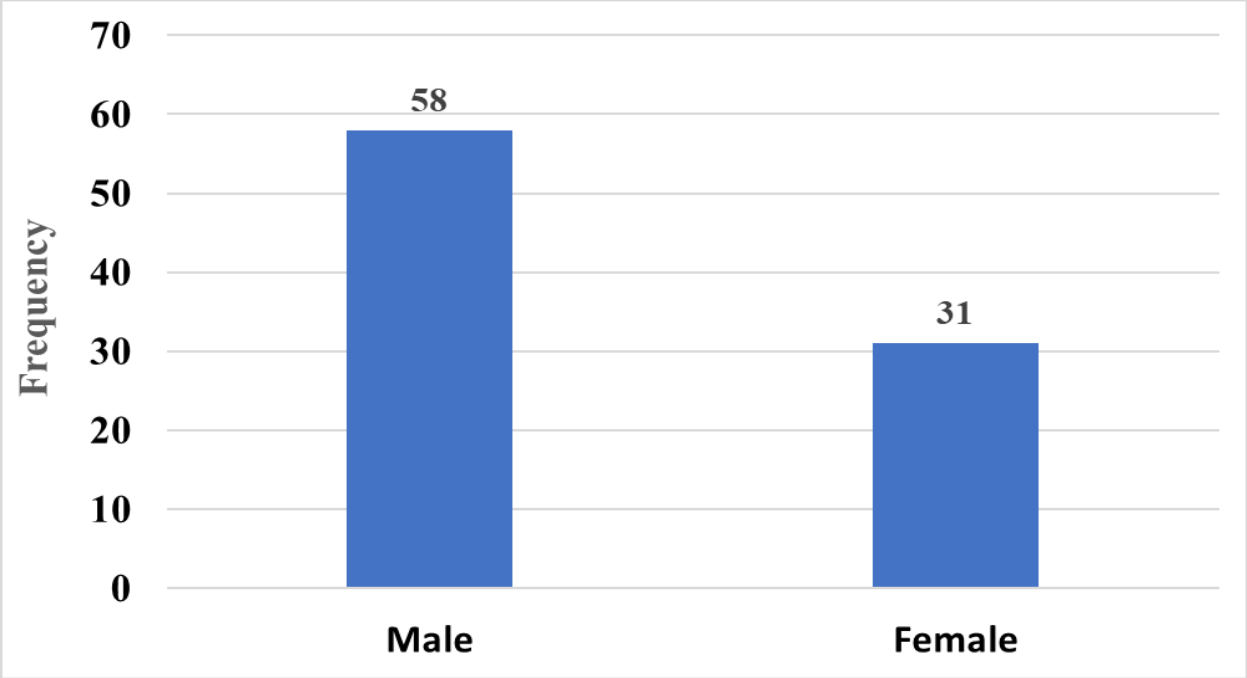
Note: Survey response report showing a final sample size of 103 valid returns after the distribution of a total of 110 questionnaires.

4.3 Demographic information of respondents.

This section provides the demographic information from respondents considered in this study. It actually includes major demographic elements such as gender, age, educational level, work experience, and the roles of respondents. This enables us to have a vivid picture of respondents.

4.3.1 Gender of respondents

2Figure 4.1: Distribution of Respondents by Gender



Note. **N = 89. The bar chart displays the gender mix of the study participants. Male respondents represent the majority of the sample (n = 58), while female respondents account for a smaller portion of the group (n = 31).**

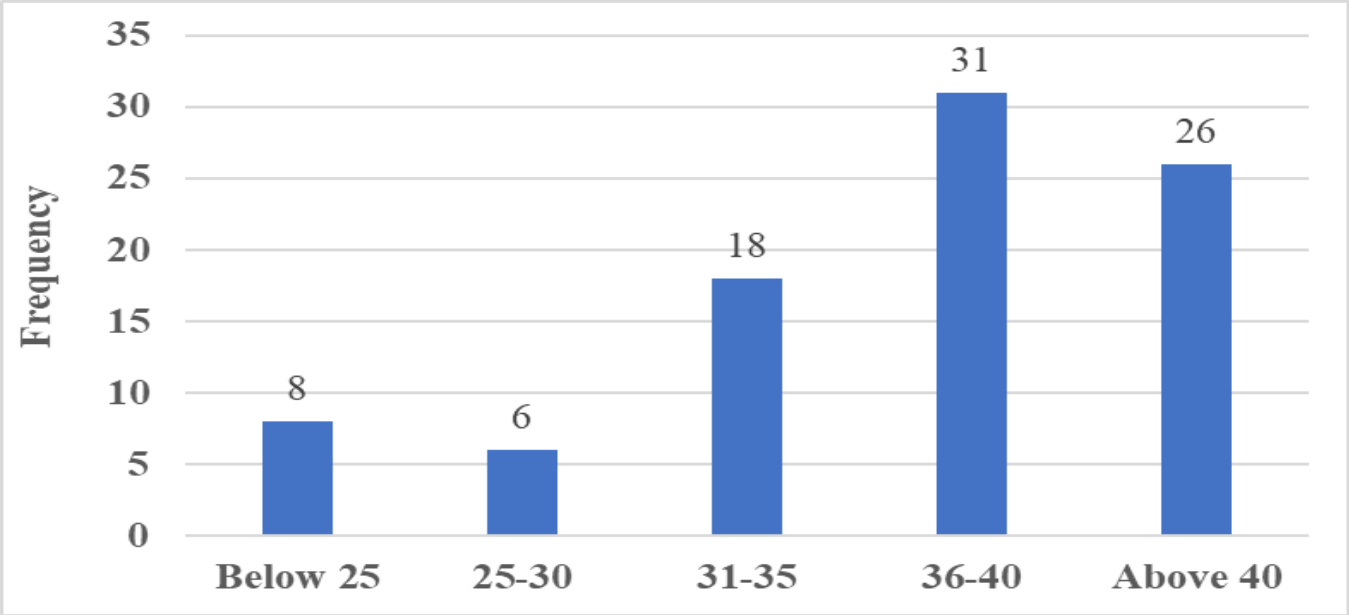
The above figure (4.1) indicates the descriptive frequencies of the research work. This showed the fact that out of 89 respondents, 58(65.2%) of them were male. However, the remaining 31 (34.8%) respondents were female. This implies that the majority of respondents from different stakeholders associated with public schooling infrastructure projects in Lemikura city were male.

4.3.2 Age of respondents

According to Figure 4.2, 8(9%) respondents were below 25 years. 6 (6.7%) of them were between 25 and 30, 18 (20.2%) were between 31 and 35, and 31(34.8%) of them were between 36 and 40. These were the majority of respondents in terms of age group. 26 (29.2%) were the respondents

whose ages were above 40. These were the second largest majority so far as age groups were concerned.

3Figure 4.2 Age of Respondents

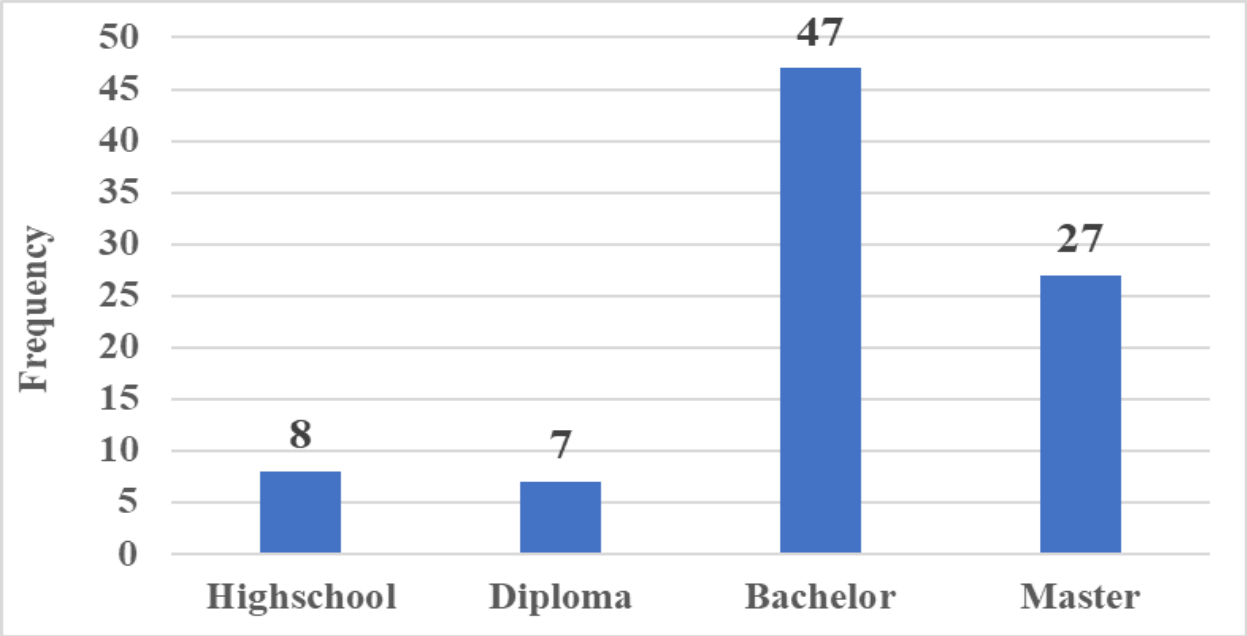


Note. **N = 89. The bar chart illustrates the reality that the majority of respondents are concentrated in the older age categories.**

4.3.3 Educational background of respondents

In Figure 4.3, it was clearly shown that 8(9.0%) of respondents were high school students. 7(7.9%) of them had a diploma. 47 (52.8%) of them had bachelor's degrees. Respondents holding bachelor's degrees were the overwhelming majority. 27(30.3%) respondents were master's degree holders.

4Figure 4.3: Educational Background of Respondents

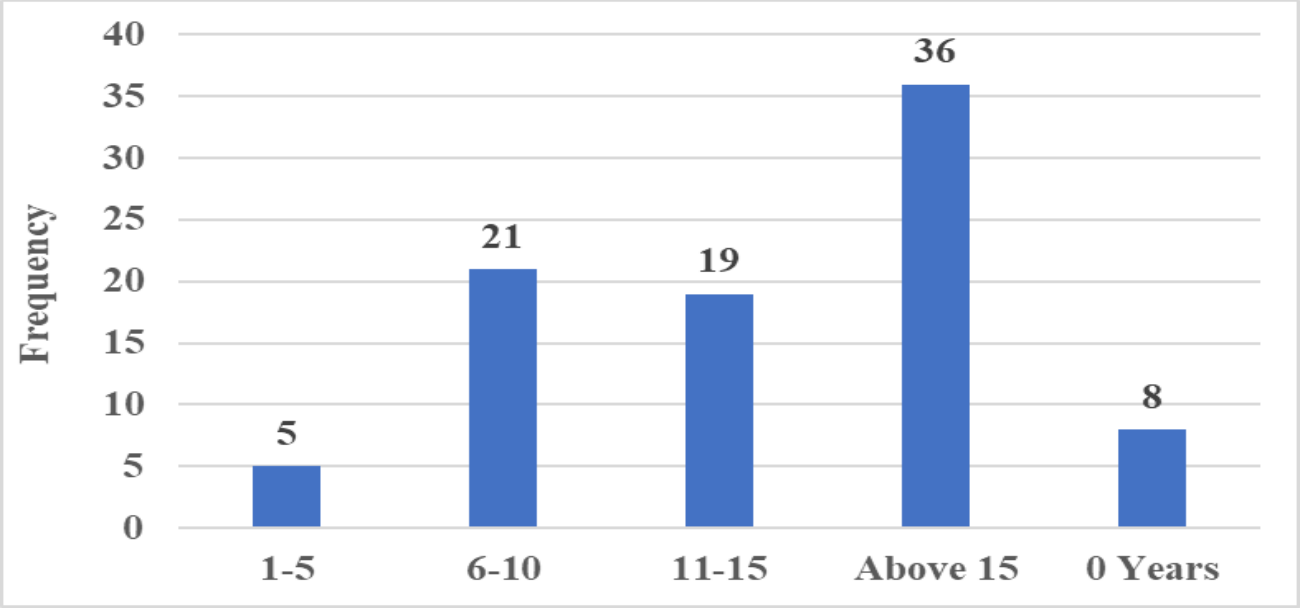


Note. **Figure 4.3 shows the frequency distribution of participants' educational backgrounds (N = 89).**

4.3.4. Work experience of respondents

Figure 4.4 shows that 8 (9%) respondents had no working experience, as the respondents were student PTSA members. 5 (5.6%) respondents had between 1 and 5 years of experience. 21(23.6%) respondents had an experience level between 6 and 10 years. 19 (21.3%) respondents were between 11 and 15 years of experience level, whereas 35 (39.3%) respondents were above 15 years of experience level. This figure implies that the majority of stakeholders had experiences which were greater than 15 years.

Figure 4.4 Work Experience of Respondents

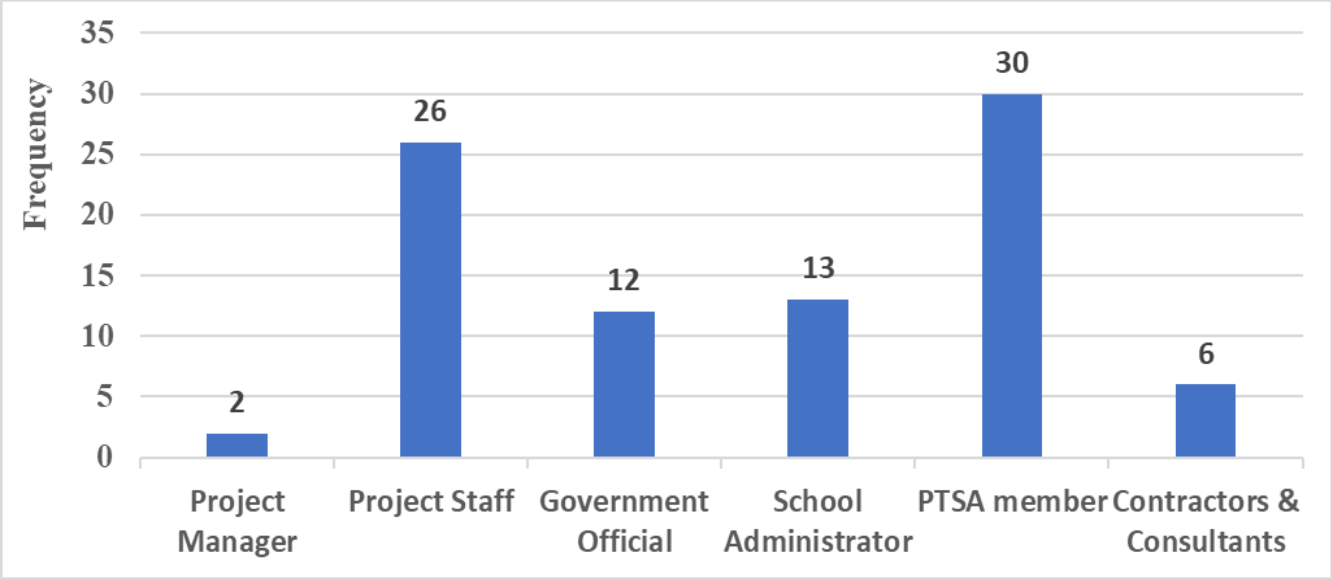


Note. **Figure 4.4 demonstrates the spread of respondents derived from their years of work experience in their professions (N = 89).**

4.3.5 Roles of respondents

Figure 4.5 shows clearly that 2(2.2%) respondents were project managers, 26 (29.2%) project staff, 12(13.5%) government officials, 30 (33.7%) parent-teacher-student-association members, 6 (6.7%) contractors and consultants. The first majority of respondents were PTSA members, and the second majority were project staff members.

6Figure 4.5 Roles of Respondents



Note. **Figure 4.5 displays the disparity of stakeholders by their professional or organizational roles (N = 89).**

4.6 Data reliability

According to Creswell (2014), reliability at its core refers to whether scores from a measuring instrument shows internal consistency. To check the reliability of variable constructs in each segment of the questionnaire, items were estimated by employing Cronbach's alpha coefficient. Cronbach's alpha coefficient is the most widely utilized tool to measure the reliability of measurements. It navigates how well items measure an individual construct. It is simply the mean correlation of items that produce an individual construct. This rating runs from 0 to 1. Cronbach's values greater than or equal to 0.7 were considered acceptable (Pallant,2007). Figure 4.2 indicates that Cronbach's alpha values for the variable dimensions such as communication, participation, collaboration, influence, and project success. It was found that communication, collaboration, and influence on project success variables had Cronbach's alpha values greater than 0.7, except participation, whose Cronbach's alpha value is 0.605. Based on the findings of the survey, the communication, collaboration, and influence in project constructs of the questionnaire were utilized as they were during the period of pilot testing.

Table 4.2 Cronbach's Alpha Coefficients for Stakeholder Engagement and Project Success

Constructs	Cronbach's Alpha	N of Items
Stakeholder communication	0.705	5
Stakeholder Participation	0.605	5
Stakeholder Collaboration	0.791	5
Stakeholder Influence	0.703	5
Project Success	0.838	5
Project Success	0.838	5

Table

Source: Own Survey, 2026: SPSS 27

According to Creswell (2014), Pilot testing is not only used to gauge the reliability and validity of the measuring tool. It's also employed to improve question scales before the administration of the main data collection.

The primary statistical analysis for the participation construct produced a Cronbach's alpha value equal to 0.605 (N=5 items). Even though this is generally considered a marginal value, a thorough probe was made into the total item statistics. This actually revealed pronounced irregularities for the first two items. **"Stakeholders were actively involved in project planning activities",** and **"stakeholders were given opportunities to participate in key decision-making processes."** These items showed negative values for corrected item-total correlations (- .128 and -.138). Pallant

(2007) argues that if the "Cronbach's alpha item deleted" is significantly higher than the present value of alpha for the item then removing the first item would elevate the alpha value to 0.698.

Instead of removing this item, the researcher made a choice of rephrasing two items for the ultimate data collection process. This decision complies with Creswell's (2014) recommendations to utilize feedback from the pilot survey in revising and modifying the items before handling the final data collection. Therefore, the modified versions of the items were **"stakeholders had meaningful involvement during the project's planning stage, and stakeholders were actively consulted before project decisions were made."**

4.6.1 Exploratory factor analysis (EFA)

Exploratory factor analysis (EFA) was conducted to evaluate the measuring items. It is used to assess the validity of the construct for measuring instruments. It actually determines whether or not the observed variables appropriately load onto their theoretical construct counterparts.

Before conducting factor analysis, Kaiser-Meyer-Olkin and Bartlett's test of sphericity were determined to examine how suitable the data were for factor extraction.

Table 4.3: KMO and Bartlett's Test

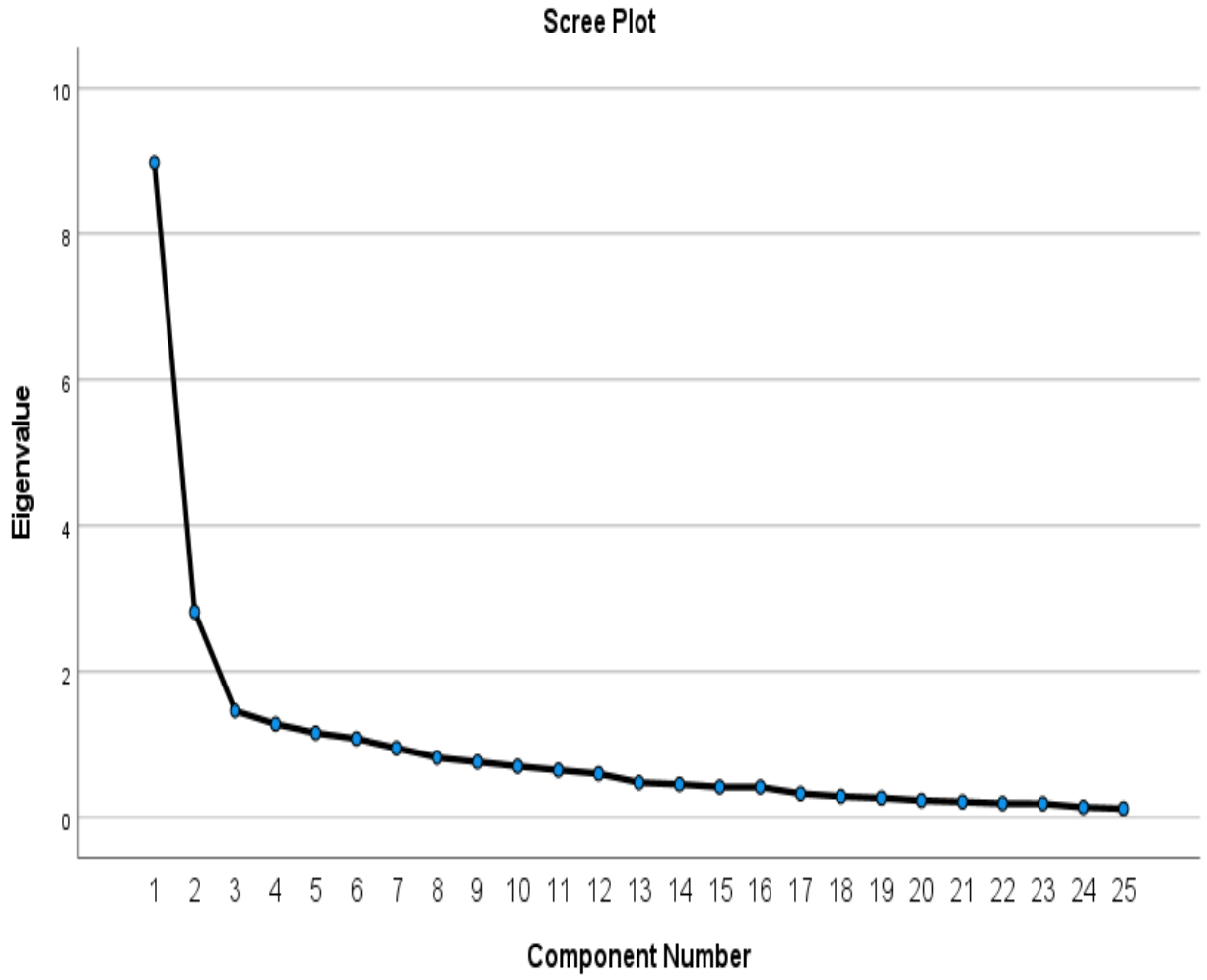
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.848
Bartlett's Test of Sphericity	Approx. Chi-Square	1187.974
	df	300
	Sig.	0.000

Source: Own Survey, 2026: SPSS 27

The KMO value was obtained to be 0.848, surpassing 0.60, which is the prescribed threshold. The observed KMO value indicated that the data was adequate for factor analysis. Bartlett's test of sphericity was found to be ($p<0.01$). This was statistically significant, showing that the correlation matrix was not an identity matrix justifying that the variables were appropriately correlated to exhibit factor analysis. (Pallant2020, Hair etal.,2021)

Principal component analysis (PCA) was used to extract factors. In the beginning, factor extraction was carried out using the Kaiser criterion (eigenvalues greater than 1). Though six components were extracted, the sixth component contained a single item in the construct. The item like "stakeholders felt encouraged to participate in project-related discussions was cross-loaded in the first and fifth components". It was potentially avoidable to achieve an interpretable construct, clarifying the discreteness of constructs (Pallant2020, Hair et al.,2021). The other item, "Overall, I'm satisfied with the performance of the school construction project", fell under component five, making it conceptually inconsistent. Therefore, it was avoidable, leaving component five with a single item, inadequate for stable construct interpretation. In order to further clear out the number of factors in this study, a scree plot was generated. (See figure 4.7). The plot shows that there are six components with eigenvalues greater than 1. However, a four-factor solution was retained as these factors filled a significant proportion of the common variance and provided the most interpretable thematic structure.

7Figure 4.6: Scree Plot Showing the Extraction of Stakeholder Management



Source: Own Survey, 2026: SPSS 27

Varimax rotation was also applied to obtain an interpretable factor structure. This specific method helps minimize the loadings of one individual item across the boundary of two or more components. This method minimizes cross-loadings and enhances the clear interpretability of factors. (Tabachnick and Fidel,2019). Items were embraced into each component (factor) based on the following criteria such as: 1) a minimum factor loading of 0.50, 2) conceptual alignment with underlying constructs, and 3) absence of cross-loadings. Items that did not fulfill these criteria were removed. Items that loaded strongly on a factor but lacked conceptual alignment with that factor were excluded (Pallant,2020).

Table 4.4 Rotated Component Matrix

Items	Component			
	1	2	3	4
Project information was communicated clearly to all relevant stakeholders				
Communication among stakeholders was timely throughout the project lifecycle.			0.639	
The channels used for communication (meetings, reports, etc.) were effective.	0.816			
Stakeholders received adequate feedback on issues raised during the project.	0.767			
Misunderstandings due to poor communication were minimal during the project.	0.747			
Stakeholders were actively involved in project planning activities.			0.690	
Stakeholders were given opportunities to participate in key decision-making.			0.707	
Stakeholder inputs were considered during project implementation.	0.638			
Regular meetings allowed stakeholders to express their views and concerns.	0.740			
Stakeholders felt encouraged to participate in project-related discussions.	0.676			
Stakeholders worked cooperatively to achieve project objectives.				
There was effective teamwork among different stakeholder groups.	0.707			
Project problems were addressed through joint discussion and collaboration.				
Stakeholders supported one another to resolve project challenges.			0.681	
A strong sense of partnership existed among stakeholders during the project.				0.586
Stakeholders had a meaningful influence on key project decisions.			0.566	
Stakeholder recommendations were reflected in project actions.				0.565
Decision-makers respected the opinions of different stakeholders.				
Stakeholders had sufficient authority to project outcomes.				0.541
Power and influence were fairly distributed among key stakeholders.	0.616			
The project was completed within the planned timeframe.		0.580		
The project was completed within the approved budget.		0.708		
The quality of construction met the required standards.		0.599		
The project achieved its intended objectives.		0.741		
Overall, I am satisfied with the performance of the school construction project.		0.647		

Table Source: Own Survey, 2026: SPSS 27

The final rotated solution resulted four distinct factors. Each factor had at least three items. The final rotated solution was obtained after fixing the total number of factors to be four. These four factors collectively explained 58.2% cumulative variance, which is considered acceptable in social science research (Hair et al., 2021). The factors were interpreted and labelled as follows: Factor 1, stakeholder communication; Factor 2, project success; Factor 3, stakeholder participation; Factor 4, stakeholder influence.

Even though some items loaded on factors different from theoretical constructs, they were rearranged based on the conceptual relevance. This emphasizes the importance of theoretical interpretability alongside statistical criteria (Hair et al., 2021; Tabarnick and Fidell, 2019). Therefore, some items were obtained to load on conceptually irrelevant factors despite having acceptable loading values. Such items were relocated to factors conceptually relevant.

Items like

1. Project information was communicated clearly to all relevant stakeholders.

2. Stakeholders worked cooperatively to achieve project objectives.

3. Project problems were addressed through joint discussion and collaboration.

were removed since they had values less than 0.5 across components. Items like “There was effective teamwork among different stakeholder groups” and “Power and influence were fairly distributed among key stakeholders” were found to be under the communication construct as far as the extraction of tools was concerned, but these items were theoretically irrelevant to the communication factor. Therefore, they were reassigned to the influence component.

Based on the rotated factor matrix data and the conceptual relevance of factors, the researcher determined the four constructs alongside items. The following table presents a series of factors and their underlying items. Items were assigned based on statistical loadings and theoretical conformity to ensure conceptual consistency and construct validity. (Hair et al., 2021.)

5 Table 4.5 Rotated Component Matrix-Factor Categorization

	Factor Name	Item Statement	Loading
1	**Communication**	The channels used for communication (meetings, reports, etc.) were effective	0.816
		Stakeholders received adequate feedback on issues raised during the project	0.767
		Misunderstandings due to poor communication were minimal during the project	0.747
		Stakeholder inputs were considered during project implementation	0.638
		Regular meetings allowed stakeholders to express their views and concerns	0.740
		Stakeholders felt encouraged to participate in project-related discussions	0.676
		Communication among stakeholders was timely throughout the project lifecycle	0.639
2	**Project Success**	The project was completed within the planned timeframe	0.580
		The project was completed within the approved budget	0.708
		The quality of construction met the required standards	0.599
		The project achieved its intended objectives	0.741
		Overall, I am satisfied with the performance of the school construction project	0.647
3	**Participation**	Stakeholders were actively involved in project planning activities	0.690
		Stakeholders were given opportunities to participate in key decision-making	0.707
		Stakeholders supported one another to resolve project challenges	0.681
		There was effective teamwork among different stakeholder groups.	0.707
4	**Influence**	A strong sense of partnership existed among stakeholders during the project	0.586
		Stakeholder recommendations were reflected in project actions	0.565
		Stakeholders had sufficient authority over project outcomes	0.541
		Stakeholders had a meaningful influence on key project decisions	0.566
		Power and influence were fairly distributed among key stakeholders	0.616

Note: Items were retained based on factor loadings ≥ 0.50 and conceptual relevance. Items in bold were reassigned based on theoretical alignment to ensure construct validity.

4.6.2 Reliability Analysis

Following the exploratory factor analysis, reliability analysis was operationalized to gauge the internal consistency of items that were organized into the new factor structure ready for interpretation. This analysis was done previously with the pilot survey in order to assess the reliability of items in the questionnaire. But this one was intended to evaluate the reliability of each construct using Cronbach's alpha coefficient. Reliability measures the extent to which a multiple-item metric consistently measures an underlying construct (Anderson et al., 2024).

The analysis used the computation of Cronbach's alpha coefficient for every identified factor such as stakeholder communication, stakeholder participation, stakeholder influence, and project success, as they were outlined in the table below.

Table 4.6 Reliability Statistics Before and After Deletion

Construct	Items (Initial)	Alpha (Initial)	Items Removed	Items (Final)	Alpha (Final)	Reliability Status
Communication	7	0.841	None	7	0.841	High
Project Success	5	0.82	None	5	0.82	
Participation	4	0.671	**There was effective teamwork among different stakeholder groups.**	3	0.701	Acceptable
Influence	5	0.326	**A strong sense of partnership existed among stakeholders during the project**	4	0.788	

Table Source: Own Survey, 2026: SPSS 27

A Cronbach's alpha value of 0.7 or higher is considered acceptable (Hair et al., 2021; Pallant, 2020). A Cronbach's alpha value was computed to assess whether the constructs demonstrated

acceptable reliability. In the table above, each Cronbach's alpha value was greater than 0.7, which makes it acceptable according to Pallant (2020).

Participation showed Cronbach's alpha value of 0.671. The removal of the item "there was effective teamwork among different stakeholders "improved the Cronbach's alpha value to 0.701. Similarly, the influence construct initially showed a very low reliability (α=0.326); however, upon deleting the item, a strong sense of partnership existed among stakeholders during the project significantly increasing Cronbach's alpha to 0.788. The process was steered by the Cronbach's alpha if item deleted criterion and item total correlations which are targeted to improve scale reliability (Hair et al.,2021; Pallant, 2020). The final results indicated that all factors reached acceptable levels of internal consistency by exceeding the minimum recommended threshold 0.7, which is recommended by Pallant (2020).

4.7 Descriptive statistics analysis

This research work employed the Five-point Likert Scale, ranging from 1=strongly disagree to 5=strongly agree. To simply interpret mean scores, they were categorized as follows: 1.00 to 2.49 reveals a low level of agreement, 2.50 to 3.49 shows a moderate level, and 3.50 to 5.00 indicates a high level of agreement. These categories are used consistently in the discussion under this subtopic.

Table 4.7Analysis of Stakeholder Responses on Effective Communication

Item	**Response Category**	**N**	**%**	**Mean**
Communication among stakeholders was timely throughout the project lifecycle.	Strongly Agree	29	32.6	**4.19**
	Agree	48	53.9	
	Neutral	12	13.5	
	Disagree	0	0	
	Strongly Disagree	0	0	
Stakeholders felt encouraged to participate in project-related discussions.	Strongly Agree	30	33.7	**4.1**
	Agree	44	49.4	
	Neutral	11	12.4	
	Disagree	2	2.2	
	Strongly Disagree	2	2.2	
	Strongly Agree	33	37.1	**4.15**

Item	Response Category	N	%	Mean
Misunderstandings due to poor communication were minimal during the project.	Agree	43	48.3	
	Neutral	8	9	
	Disagree	3	3.4	
	Strongly Disagree	2	2.2	
Stakeholders received adequate feedback on issues raised during the project.	Strongly Agree	28	31.5	**4.11**
	Agree	47	52.8	
	Neutral	12	13.5	
	Disagree	0	0	
	Strongly Disagree	2	2.2	
Regular meetings allowed stakeholders to express their views and concerns.	Strongly Agree	34	38.2	**4.21**
	Agree	45	50.6	
	Neutral	7	7.9	
	Disagree	1	1.1	
	Strongly Disagree	2	2.2	
Stakeholder inputs were considered during project implementation.	Strongly Agree	26	` 29.2	**4**
	Agree	45	50.6	
	Neutral	12	13.5	
	Disagree	4	4.5	
	Strongly Disagree	2	2.2	
The channels used for communication (meetings, reports, etc.) were effective.	Strongly Agree	36	40.4	**4.2**
	Agree	41	46.1	
	Neutral	8	9	
	Disagree	2	2.2	
	Strongly Disagree	2	2.2	

Source: Own Survey, 2026: SPSS 27

According to the data presented in table 4.7 communication among stakeholders was perceived to be timely throughout the project cycle. The mean score (M = 4.19) reveals a high level of agreement among respondents, with 86.5% respondents agreeing or strongly agreeing, while 17.5% took a neutral position. This indicates communication was reinforced within the appropriate schedule. Similarly, participants agreed that stakeholders were encouraged to participate in project-related discussions. The mean score (M=4.101) signifies a high level of agreement, with

83.1% of participants agreeing or strongly agreeing, 12.4% were neutral, while a small portion of 4.4% respondents disagreed, or strongly disagreed. This demonstrates vividly that with the projects were participatory.

Additionally, respondents reported that misunderstandings to support communication were minimal. The mean score (M=4.116), indicates a high level of agreement in which 85.4% of respondents were perceived to agree or strongly disagree, whereas 9% remained neutral and 5.6% showed disagreement. This finding implies that communications were effective enough to deter potential misunderstandings. Moreover, respondents regarded that adequate feedbacks were provided on issues raised by stakeholders. The mean score (M=4.11) reveals a high level of agreement among respondents with 84.3% of them agreed or strongly agreed. 13.5% had a neutral stance as 2.2% showed their disagreements. This outcome reveals appropriate feedback system was in place to accommodate grievances or issues related to the projects.

Respondents highlighted that regular meetings were allowed to express the views and concerns of stakeholders. The mean score (M= 4.21) represents a strong consensus of respondents. A large proportion of respondents (88.8%) reflected their agreement. But 3.3% of the respondents stressed their disagreement, while 7.9% took a neutral position. This finding indicates that opinions were entertained with regular meetings so as to include other perspective in project activities. By the same token, respondents acknowledged that stakeholder inputs were used during the implementation phase. The mean score (4.00) highlights the high level of agreement. A substantial majority (79.8%) agreed or strongly agreed, while 13.5% remained neutral. A minimal portion, 6.7%, exhibited disagreement. This reveals that the inputs from the stakeholders were incorporated to improve the implementation phase of the project.

Finally, respondents perceived that the channels of communication used were effective. The mean score (M=4.20) reflects the fact that there was a high level of agreement. 86.5% of respondents agreed or strongly agreed, whereas a small portion, 4.4% of respondents, disagreed, and 9.0% remained neutral. This reveals that the communication channels were successful to help effective communication among stakeholders.

Table 4.8 shows participants of the study regarding the active involvement of stakeholders in project planning activities, the measure, the mean score (M =4.20) indicates the high level of agreement with 86.5% respondents, while a minimum portion M is equal to a minimum portion 1.1% disagreed and 12.4% remained neutral.

Table 4.8: Analysis of Stakeholder Perceptions on Participation

Item	**Response Category**	**N**	**%**	**Mean**
Stakeholders were given opportunities to participate in the key decision-making process.	Strongly Agree	32	36	**4.19**
	Agree	45	50.6	
	Neutral	9	10.1	
	Disagree	3	3.4	
	Strongly Disagree	0	0	
Stakeholders were actively involved in project planning activities.	Strongly Agree	31	34.8	**4.2**
	Agree	46	51.7	
	Neutral	11	12.4	
	Disagree	1	1.1	
	Strongly Disagree	0	0	
Stakeholders supported one another to resolve project issues.	Strongly Agree	22	24.7	**4.11**
	Agree	55	61.8	
	Neutral	12	13.5	
	Disagree	0	0	
	Strongly Disagree	0	0	

Source: Own Survey, 2026: SPSS 27

This generally illustrates that the active participation of stakeholders was exhibited during the planning phase of the construction projects. Similarly, the respondents acknowledged that stakeholders were made to participate in the decision-making stages. The mean score (M = 4.19) indicates a large extent of agreement. The vast majority of respondents (86.6%) agreed, while a small proportion (3.4%) disagreed, and 10.1% remained neutral. This finding reflects that the project practitioners provided opportunities for stakeholders to play key decision-making roles in project activities.

Furthermore, the respondents perceived that project challenges were resolved by the support of stakeholders for one another. The mean score (M = 4.11) shows a high level of agreement with substantial majority (86.5%) whereas a small proportion (13.5%) took a neutral position. This result reveals that stakeholders collaborated in support of one another to overcome problems within the realm of the projects.

8 Table 4.9: Analysis of Stakeholders Perceptions on Participation

Item	Response Category	N	%	Mean
Stakeholder recommendations were reflected in project actions.	Strongly Agree	28	31.5	**4.03**
	Agree	39	43.8	
	Neutral	19	21.3	
	Disagree	3	3.4	
	Strongly Disagree	0	0	
Stakeholders had sufficient authority to project outcomes.	Strongly Agree	18	20.2	**3.72**
	Agree	40	44.9	
	Neutral	20	22.5	
	Disagree	10	11.2	
	Strongly Disagree	1	1.1	
Stakeholders had a meaningful influence on key project decisions.	Strongly Agree	27	30.3	**4.04**
	Agree	47	52.8	
	Neutral	8	9	
	Disagree	6	6.7	
	Strongly Disagree	1	1.1	
Power and influence were fairly distributed among key stakeholders.	Strongly Agree	21	23.6	**3.74**
	Agree	39	43.8	
	Neutral	18	20.2	
	Disagree	7	7.9	
	Strongly Disagree	4	4.5	

Source: Own Survey, 2026: SPSS 27

Table 4.9 results manifest that respondents acknowledged stakeholder recommendations were embraced in project activities. The mean score (M= 4.03) implies a high level of agreement in which a large proportion, 75.3%, agreed while 21.3% remained neutral and 3.4% respondents

disagreed. This outcome reflects that well-thought project actions were implemented as per stakeholder recommendations.

Respondents regarded that stakeholders were significantly authorized. The mean score (M= 3.72) indicates a high level of agreement among respondents, a substantial proportion (65.1%) agreed or strongly agreed while 12.3% disagreed, 22.5% responded neutrally. This finding signifies that stake-holding actors were significantly empowered to show authorities guiding project to the final milestones of the project outcome. Participants of this study perceived a pronounced influence of stakeholders on key project decisions. The mean score (M = 4.04) indicates a substantial level of respondents who agreed. A large number of respondents (83.1%) agreed or strongly agreed. However, 7.8% respondents disagreed while 9.0% took a neutral stance. This result implies the fact that stakeholders significantly influenced project decisions to shape project activities into attaining the desired project outcomes.

Table 4.9 results indicate participants acknowledged the fair and just distribution of power in the interface among key stakeholders. The mean score of 3.74 shows a high level of agreement with a large proportion (67.4%) of respondents reflecting their agreement while 12.4% participants disagreed and 20.2% took a neutral position. This fact clearly shows that the project's practice manifested the fair and just distribution of power and influence among key stakeholders.

According to Table 4.10 results, participants of this study believed that the project was completed as per the schedule. The mean score (M=4.12) represents a strong level of agreement among respondents with overwhelming majority (87.6%) agreeing while a small proportion (4.5%) disagreed and 7.9% exhibited a neutral stance. This result suggests that the project was completed within the scheduled time frame and there was no lagging behind the schedule.

Similarly, respondents demonstrated that the quality parameters were met by the construction projects. The mean score (M=4.112) coupled with a significant majority (86.5%) reflects a high level of agreement. 10.1% respondents took a neutral position, while 3.3% of them disagreed. This shows that the construction projects met the required quality standards indicating no quality-related complaints and grievances.

8 Table 4.10: Analysis of Stakeholder Perceptions on Project Success

Source: Own Survey, 2026: SPSS 27

Item	Response Category	N	%	Mean
The project was completed within the planned timeframe.	Strongly Agree	26	29.2	**4.12**
	Agree	52	58.4	
	Neutral	7	7.9	
	Disagree	4	4.5	
	Strongly Disagree	0	0	
The project was completed within the approved budget.	Strongly Agree	21	23.6	**3.94**
	Agree	48	53.9	
	Neutral	16	18	
	Disagree	2	2.2	
	Strongly Disagree	2	2.2	
The quality of construction met the required standards.	Strongly Agree	26	29.2	**4.11**
	Agree	51	57.3	
	Neutral	9	10.1	
	Disagree	2	2.2	
The project achieved its intended objectives.	Strongly Disagree	1	1.1	**4.11**
	Strongly Agree	27	30.3	
	Agree	46	51.7	
	Neutral	15	16.9	
	Disagree	1	1.1	
	Strongly Disagree	0	0	
Overall, I am satisfied with the performance of the school construction project.	Strongly Agree	28	31.5	**4.19**
	Agree	53	59.6	
	Neutral	5	5.6	
	Disagree	3	3.4	
	Strongly Disagree	0	0	

Respondents acknowledged that projects were completed within the earmarked budget. The mean score (M=3.94) represents a high level of agreement. The majority of respondents, 77.5%, agreed or strongly agreed, while 4.4% showed their disagreement and 18.0% of them responded neutrally. This fact clearly implies that no budget overruns were seen in projects indicating how the effective

use of allotted budgets within project was. Meanwhile, the higher level of neutrality percentage, 18.0%, is indicative that respondents had no clear knowledge about the financial information like project budgets or costs. Respondents believed that the projects were able to achieve their intended targets. The mean score (M=4.11) indicates a high level of agreement. The overwhelming majority of respondents (82.0%) agreed or strongly agreed contrary to the disagreement shown by insignificant proportion (1.1%) of respondents and a meaningful proportion (16.9%) were neutral. This fact reveals that the intended project targets were successfully achieved.

Respondents in this research acknowledged their satisfaction with the performance of the construction projects. The mean score(M=4.19) indicates a strong agreement. The vast majority of participants, 90.1%, agreed while 3.45% respondents disagreed and 5.6% had a neutral position. This finding implies that the overall performance of projects was satisfactory in terms of quality, budget, schedule and others.

4.8 Descriptive statistics for composite scores

The composite mean scores of the four composites were computed and presented in Table 4.11. These scores measure the average of mean scores of items included in the specific composites. The findings revealed that the composite mean score for stakeholder communication is 4.138 with a standard deviation of .5959. This indicates that the majority of respondents generally acknowledged a high level of effective communication between stakeholders in the projects. The standard deviation .5959 indicates moderate variability of responses. This implies that the large majority of respondents shared similar perceptions, though there were minor differences.

Similarly, the composite mean score for participation is 4.1865 (SD=.5412). This indicates a high level of positive perception of respondents regarding participation in the projects. The standard deviation (.5412) reflects the moderate consistency of respondents showing slight differences. Moreover, the mean composite score of influence 3.885 (SD= 0.72959) shows that the majority of respondents perceived that stakeholders are meaningfully influential in the projects. The standard deviation (0.7260) is moderate, indicating that there were modest dispersions in opinions. Lastly, the composite score of project success 4.0966(SD=.57217) reflects a high level of respondents perceived the projects were successful. The standard deviation (.57217) shows that there were

some deviations among the opinions of respondents, even though the scores were relatively clustered toward the mean.

Table 4.11 Composite Mean Scores for Stakeholder Engagement

	N	Mean	Std. Deviation
Communication Composite Score	89	4.1380	.59585
Project Success Composite Score	89	4.0966	.57217
Participation Composite Score	89	4.1685	.54152
Influence Composite Score	89	3.8848	.72599
Valid N (listwise)	89		

Source: Own Survey, 2026: SPSS 27

4.9 Correlation Analysis

Data analysis was carried out to examine the correlation between independent variables: communication, participation, influence, and the dependent variable (project success). The linear relationship between the independent and dependent variables was determined employing the Pearson (**r**) correlation coefficient. This coefficient reveals the magnitude of the relationship between the dependent and independent variables. The strength of the relationship between variables using guidelines in the table was adapted from Julie Pallant (2007).

Table 4.12 Interpretation of Pearson Correlation(r)

Coefficient Range (r)	Strength of Association
±0.50 to ±1.00	Strong
±0.30 to ±0.49	Moderate
±0.10 to ±0.29	Weak

Source: Adapted from Julie Pallant (2007).

In Table 4.12, the correlation between stakeholders' engagement and performance is provided. A Pearson analysis was conducted to assess the relationship between variables. The results indicated that all the variables were correlated at the 0.01 confidence level. The results show that the communication composite score is strongly correlated with project success ($r=0.579$, $P < 0.01$) implying the fact that improvements made to communication can maximize or contribute to project success.

Table 4.13: Pearson Correlation Matrix for Stakeholder Engagement and Project Success

Variable	Communication	Project Success	Participation	Influence
Communication Composite	1	.579**	.323**	.569**
Project Success Composite	.579**	1	.372**	**.610****
Participation Composite	.323**	.372**	1	.496**
Influence Composite	.569**	**.610****	.496**	1

Note: Correlation is significant at the 0.01 level (2-tailed). N = 89.

Source: Own Survey, 2026: SPSS 27

Similarly, communication is strongly correlated with influence (r = .69, p < .01) and a moderate correlation with participation (r = .323, p<.01).Furthermore, influence is strongly and positively correlated with project success(r=.610, p <.01) indicating that when stakeholders are given a say, project success increases.

In addition, participation has a moderate correlation with project success (r = 0.372, p <0.01). This implies that participation is not a key driver of project success compared to being effective in communication and influential in decision-making.

4.10 Statistical Diagnostics

Before running the multiple regression analysis, it was highly demanding to verify that the dataset complied with the fundamental assumptions of linear modeling. Testing the assumptions is a preliminary procedure which ensures the validity of statistical inferences (Hair.et.al,2019). Therefore, the following checkups for normality, homoscedasticity, absence of multicollinearity, and independence of error (lack of autocorrelation) were performed to prove the compatibility of the data for further inferential statistical analysis.

4.10.1 Multicollinearity Test

According to Field (2018) in a linear regression model, multicollinearity emanates from two or more predictors that immensely correlate with one another. Diagnostically, multicollinearity is measured using the variance inflation factor (VIF). A VIF value exceeding 10 (a tolerance value below 0.1) indicates a possible multicollinearity problem.

As it was presented in Table 4.14, all VIF values for the research variables ranged between 1.330 and 1.762. They were below the conservative thresholds 5.0 (Tabarnick & Fidell, 2019). Similarly, all tolerance values were above the 0.10 limit with values ranging from 0.568 up to 0.752. Therefore, the results imply a multicollinearity problem, which is not a concern in this model. The independent variables make a unique and stable prediction of the study's success.

Table 4.14: Multicollinearity Diagnostics for Stakeholder

Coefficients[a]			
Model		**Collinearity Statistics**	
		Tolerance	**VIF**
1	Communication Composite Score	0.674	1.484
	Participation Composite Score	0.752	1.330
	Influence Composite Score	0.568	1.762

Note: Dependent Variable: Project Success Composite Score

Source: Own Survey, 2026: SPSS 27

4.10.2 Normality of data distribution

Shapiro-Wilk test was used to assess the normality of data distribution. It has sensitivity and appropriateness for samples size below 2000. (Shapiro and Wilk, 1965) As indicated in table **4.15**, the results showed that all four variables produced significant level below 0.05, ($p < .05$). This implies that the data set significantly deviates from normal distribution. The assumption of normality is frequently violated in social sciences due to the boundedness of Likert scales (Field, 2018). Furthermore, Hair et.al (2019) argues that the effect of non-normality on the validity of regression results is diminished because of the Central Limit Theorem for sample size approaching 100 (N=89). Regression analysis is primarily concerned with the normality of residuals(errors) rather than raw independent variables. Since the multicollinearity fell within acceptable bounds, the data was believed to have met the necessary requirements.

Table 4.15: Shapiro-Wilk Test for Normality(N=89)

Variable	Statistic	df	p
Project Success	.911	89	< .001
Communication	.827	89	< .001
Participation	.916	89	< .001
Influence	.951	89	.002

Note. **Significance (*p*) < .05 indicates that the distribution deviates significantly from normality.**

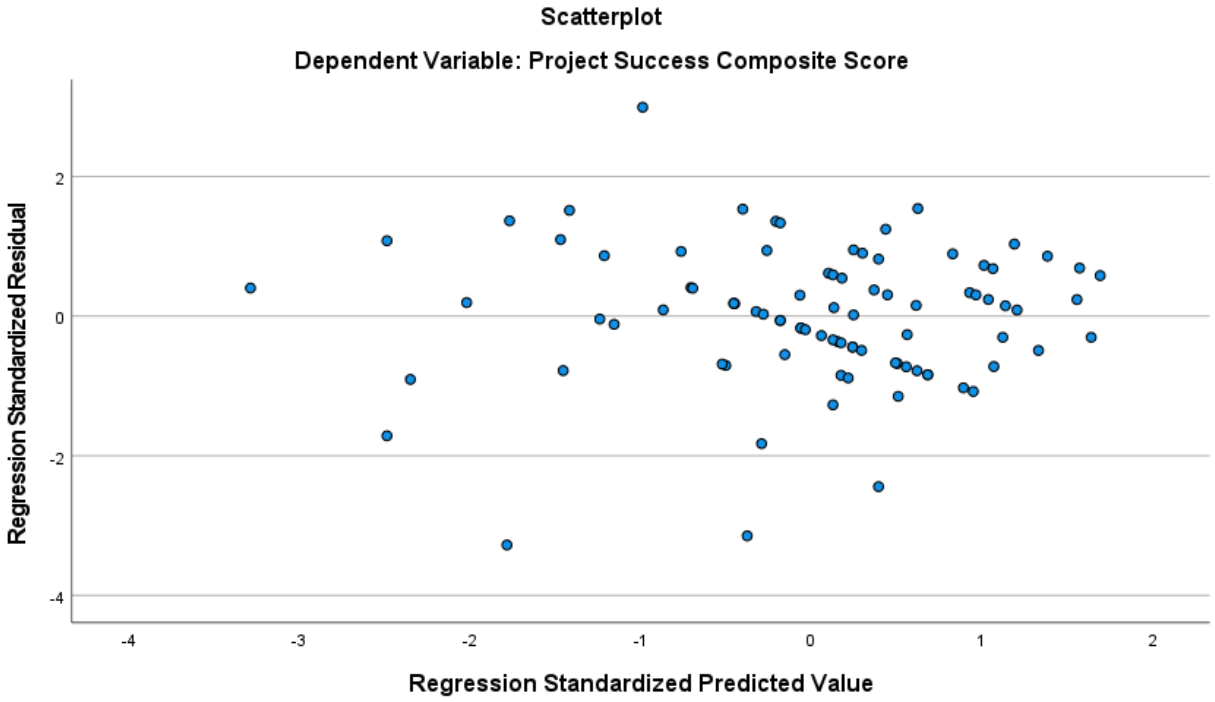
Source. **Own Survey, 2026: SPSS 27**

4.10.3 Homoscedasticity Test

This homoscedasticity implies the dispersion of residuals across all levels of the independent variables. This assumption is significant since the errors are heteroskedastic. The standard errors of regression coefficients may be biased, leading to inaccurate significance tests (Field, 2018). The data points are distributed across the plot without following a fixed and known pattern like a funnel. The variance of the error terms is uniform since there are random dispersions of residuals around the zero line.

While the Shapiro-Wilk test in the previous section indicated non-normal data visually the scatterplot (Figure 4.7) shows that the relationship between the predictors and the dependent variable is stable. Therefore, the assumption of homoscedasticity is satisfied further consolidating the utilization of the multiple regression model for hypothesis testing (Tabachnick and Fidell, 2019).

Figure 4.7 Scatterplot



Note. **The random, rectangular distribution of data points across the plot indicates that the variance of the residuals is constant, confirming the assumption of homoscedasticity.**

Source. **Primary Data Analysis (2026).**

4.10.4 Independence of errors (Durbin-Watson Test)

One of the assumptions to be made is regression error independence. The Durbin-Watson test is used to evaluate the independence and uncorrelation of residuals or errors. The Durbin-Watson values usually run from 0 to 4. A Durbin-Watson statistic close to 2 or within the range of 1.5 to 2.5 implies the independence error is likely satisfied. The Durbin-Watson values below 1 or above 3 unveil the challenge of autocorrelation of residuals making the analysis invalid. According to Field (2009), the Durbin-Watson score of 2.030 is almost perfect in which a value of 2.0 indicates no autocorrelation exists among residuals.

4.11 Regression analysis

Regression analysis is the statistical method used for explaining the relationship between project success and independent variables. Statistical significance of relationships is calculated and evaluated by researchers. A multiple regression analysis was used to assess the impact of the engagements upon project success. A 95% confidence level was used with 0.05 significance level.

In regression analysis, the R^2 weighs how well the independent variables contribute to the variability or dispersion of the dependent variable. According to Hair et.al. (1998), a value approaching or greater than 50% implies that the majority of outcomes are explained by predictors. Therefore, as the R^2 increases, the explanation of factors provided a more robust and complete representation of the situation under study. In the table (4.16) which is provided below, the coefficient of the determination (R^2) is 0.456. This implies that 45.6% of the variation in project success is explained by communication, participation, and influence, but the remaining 54.4% of the variance cannot be explained by these factors and there are other unexplored factors that were not considered in this study model. This suggests a moderate explanation of the model. In Social Science Research, R^2 values between 0.3 and 0.5 are acceptable as human behavior is shaped by a multitude of factors (Andy Field,2013; Jacob Cohen,1988).

Table 4.16 Model Summary for Stakeholder Engagement and Project Success(N=89)

Model	R	R^2	Adjusted R^2	SE of the Estimate	Durbin-Watson
1	.675[a]	0.456	0.437	0.42943	2.03

Note. **[a] Predictors: (Constant), Influence Composite Score, Participation Composite Score, Communication Composite Score.**

Note. **[b] Dependent Variable: Project Success Composite Score.**

Source. **Own Survey, 2026: SPSS 27**

The adjusted coefficient of determination (Adjusted R^2) was 0.437, implying that the model is generally explains about 43.7% of the variance in the project success. The minor difference between R^2 (0.456) and adjusted R^2 (0.437) indicates that the considered independent variables have a meaningful contribution to the model that there is minimal overestimation of the explained variance (Andy Field,2013).

The ANOVA table gives F-test to find out that the regression model has more significance as a predictor of outcome than the mean. Table 4.17 illustrates that F-statistic is 23.742 with a significance level of $p<0.01$.

Table 4.17 ANOVA Results for the Regression Model(N=89)

Model	Sum of Squares	df	Mean Square	F	p
Regression	13.134	3	4.378	23.742	< .001[b]
Residual	15.675	85	0.184		
Total	28.809	88			

Note. **[a] Dependent Variable: Project Success Composite Score.**

Note. **[b] Predictors: (Constant), Influence Composite Score, Participation Composite Score, Communication Composite Score.**

Source. **Own Survey, 2026: SPSS 27**

The p-value is much lower than the standard p level of 0.05. Thus, the null hypothesis which states that there is no relationship between the dependent variable and the independent variables is automatically rejected. This result justifies that the statistical fitness and validity of regression model for the dataset. The combined effect of communication, participation, and influence is a

predictor of project success (Field,2018). According Hair et.al (2019) a high F-ratio indicates a significant portion of the variance related to the unexplained residuals is explained by the model.

The explanatory power of the regression model is more than 23 times greater than the residual error, which provides a robust justification for interpreting individual variable coefficients. Apart from this, the significance (P< .001) confirms the model is highly reliable and the observed relationships are likely to have occurred by chance. Therefore, ANOVA finding strengthens the validity of the multiple regression model. They vividly reflect that the model is fit enough to explain the observed patterns in project outcomes.

According to Hair et al. (2019), a parsimonious model is the one which has a high degree of fit using the minimum number of independent variables. This reduces the challenge of overfitting in which a model describes random noise than underlying structural relationships. In this study, parsimony was evaluated by Akaike Information Criterion (AIC) and by Bayesian information criterion (BIC).

Table 4.18: Goodness of Fit for the Regression Model(N=89)

Statistic	**Value**	**df**	**Value/df**
Deviance	15.675	85	0.184
Scaled Deviance	89	85	
Pearson Chi-Square	15.675	85	0.184
Scaled Pearson Chi-Square	89	85	
Akaike's Information Criterion (AIC)	108.014		
Finite Sample Corrected AIC (AICC)	108.737		
Bayesian Information Criterion (BIC)	120.458		
Consistent AIC (CAIC)	125.458		

Note. **Information criteria are in smaller-is-better form. The full log likelihood function is used in computing information criteria.**

Source. **Own Survey, 2026: SPSS 27.**

The results provided in the table 4.18 highlights the strong foundation for the regression model. The AIC value 108.04 shows the high-level predictive accuracy is little information loss.

According to Burnham and Anderson (2024) the AIC simplifies model selection by removing unnecessary perplexity. In this study, the low AIC sufficiently substantiates that the degree selected independent variables contribute to an optimal fit for the data. The low AIC implies that the model is well narrowed to specifics and avoids the consideration of redundant variables.

Additionally, the BIC value (120.458) provides a strong evidence for the validity of the model. Based on Raftery (1995) thresholds a stable and low BIC-values shows the model gained the underlying structural relationships without overfitting. Generally, BIC value of 120.458 shows a very strong justification that the regression model is fit compared to the null model (Gedeon Schwarz,1978).

A multiple regression analysis was undertaken for assessing the extent of relationship existing between independent variables, communication, association, influence, and independent variables. The regression model was tested for significance. The findings were summarized in the table provided below.

Table 4.19: Regression Coefficients for Predictors of Project Success

Predictor	B	SE	β	t	p
(Constant)	1.257	0.417		3.017	0.003
Communication	0.326	0.094	0.339	3.481	< .001
Participation	0.079	0.097	0.075	0.808	0.421
Influence	0.299	0.084	0.38	3.576	< .001

Note. Dependent Variable: Project Success Composite Score.

Source. **Own Survey, 2026: SPSS 27**

The table presents the results of multiple regression analysis indicating that the model significantly predicts the project success. Influence and communication appeared the very significant independent variables predicting the success of public-school infrastructure construction projects.

Influence Composite Score was the strongest predictor in the model with (β=.038, t = 3.58, t< .001). This implies project success rises by 0.380 whenever the influence is increased by one standard deviation given all other variables remain the same.

By the same token, Communication Composite Score was another significant predictor (β= .339, t =3.48, p < .001). A one-unit increase in standard deviation of communication composite score causes an increase in standard deviation of project success by 0.339. On the other hand, the participation composite score didn't sufficiently predict the project's success (β= .075, t = .808, p =.421. Though participation has a correlation with the project's success, it does provide a unique predictive value like communication and influence. A multiple linear regression analysis was employed to assess the research model and based on underlying hypotheses. The unique contribution of each stakeholder engagement dimension toward predicting project success was evaluated using this statistical method. The hypotheses were tested by assessing the unstandardized coefficients (β) to determine the nature of the relationship and the p-values to establish statistical significance at 0.05 alpha level.

The regression model is presented as follows:

$$\mathbf{Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\varepsilon}$$

Where:

Y = Project Success (dependent variable)

$\mathbf{X_1}$ = Stakeholder Communication

$\mathbf{X_2}$ = Stakeholder Participation

$\mathbf{X_3}$ = Stakeholder Influence

$\boldsymbol{\beta_0}$ = y-intercept, the expected value of Y when all X = 0

$\boldsymbol{\beta_1}$–$\boldsymbol{\beta_3}$ = regression coefficients, representing the effect of each stakeholder engagement dimension on project performance

$\boldsymbol{\varepsilon}$ = error term, capturing the difference between observed and predicted values of Y

Hypothesis 1(H_1): Stakeholder communication has a significant positive effect on project success. The results of the regression analysis show that stakeholder communication is a positive predictor of project success(β=.326, t =3.481, p < 0.001).Therefore, H1 is supported and the researcher can reject the null hypothesis and accept the alternative hypothesis that stakeholder communication has a positive effect on project performance.

Hypothesis 2 (H_2): Stakeholder participation has a positive significant effect on project success. Stakeholder participation doesn't significantly predict on the project success within this model (β=.079, t=.808 P=.421). As the p-value exceeds the threshold of 0.05, the null hypothesis is not rejected. Consequently, H_2 is not supported.

Hypothesis 3 (H_3) stakeholder influence has a significant positive effect on project success. Stakeholder influence was the strongest predictor of project success (β=.299. t= 3.380, P< .001). As a stakeholder influence increases, project success increases. So far as the findings are concrerned.H_3 is supported. Therefore, the researcher can reject the null hypothesis and accept the

alternative hypothesis that stakeholder influence has a positive effect on project success. Based on the unstandardized coefficients, in the table 5.8 the estimated multiple regression model is presented as follows.

Project Success=1.257+.326(Communication)+0.0079(Participation)+0.299(Influence)

CHAPTER FIVE

Discussion, Conclusion, and Recommendation

In this specific chapter, the key findings of this study reported in chapter four, are thoroughly discussed. It explicitly presents the interpretations, conclusions, future recommendations, and emanating from the findings.

5.1 Discussion of key findings

The results (Table 4.16) indicate that communication predicts project success significantly. This consolidates the argument that effective communication contributes to enhanced collaboration, reduced confusion, and improved team performance (PMI, 2021; Kezner,2017).

The positive coefficient (β=.326) indicates that for every increase in the unit of communication, there is a 0.326 unit increase in the project success. This is actually, in compliance with project management Institute (PMI, 2021) which contends that ineffective communication is one of the causes of project failure. Moreover, the standardized coefficient (β= .339) justifies the practical meaningfulness of communication as a predictor of project success. The communication variable, apart from statistically being significant, it is operationally important in the real-world project environments.

5.1.1 Influence and project success

The findings of this study indicated that influence was statistically strong and significant predictor of project success (β=.380, p<.01) presented in table 4.16. This implies that the higher influence which key stakeholders play shapes project outcomes tremendously. This finding is strongly corroborated by stakeholder theory (Freeman, 1984) which illustrates that projects function within a stakeholder network entailing intricate interests and actions affecting project outcomes. From an instrumental standpoint, the effective management of influential stakeholders, fosters cooperation, maximizes alignment of goals, reduces potential conflicts (Haar, 2024; Samuel et al., 2023). Furthermore, the finding is consistent with stakeholder salience model (Mitchell, Agle and Wood, 1997) which uses characteristic features such as power, legitimacy, and urgency to describe the relative importance of stakeholders. The significant finding of this study is that stakeholders were

influential enough for directing projects' priorities and facilitating decision-making processes. In addition, the findings align with the social network analysis perspective by conceptualizing influence as a relational process rooted into stakeholder networks (Olander & Landin, 2008).

Stakeholders who actually hold a focal position in the networks influence activities within projects through control of information and coordination mechanisms (Bourne & Walker,2006; Olander & Landin,2008). The kind of stakeholders enhances project efficiency by fostering communication and reducing uncertainty. The mixture of theoretical and empirical perspectives provides a comprehensive explanation for the findings. According to the findings of this study, influence is a critical driver of project success. It helps stakeholders ferment decisions, mobilize resources, and coordinate actions effectively. This actually reinforces the argument that project success is not only determined by technical performance of the project actors but also the ability of project players to explore complex stakeholder realities (Altonen & Kujala ,2016; Yang et al.,2021).

5.1.2 Participation and project success

Participation was not determined to be a statistically significant predictor of project success, P=0.421. In isolation, the stakeholder participation didn't have a substantial impact upon project success. Even though previous studies highlight participation is a critical success factor (Arnstein,1969 & Reed,2000). The present finding shows the sole role of participation is not sufficient enough as a warranty of success. This is actually backed by the research findings in that instead of the mere presence of participation its inclusiveness and influence on stakeholders on decision making process (Boostra,2019, Kujala,Lethimaki, &Freeman,2022).

This type of discrepancy between theory and findings can be explained by numerous factors. Participation could have been tokenistic where stakeholders were formally involved but lacked meaningful decision-making power to impact project outcomes (Arnstein,1999). Additionally, stakeholders might have lacked the required expertise knowledge thereby reducing the value of their involvement (Kujala et.al.,2022). Apart from participation, they may not have been well installed in the project structures and activities, resulting in weak stakeholder input and project decisions (Boonstra,2019).

Furthermore, the poor management of stakeholder participation primarily causes conflict and delays particularly when expectations are ambiguous (Yang et al., 2021). Generally speaking, the findings of this study reinforce the quality of participation is what matters more than quantity (Reed, 2008). Effective participation needs active engagement, shared decision-making, and alignment with project goals. Without these attributes, participation may remain symbolic and have limited impact on project success.

5.1.3 The overall model interpretations

The coefficient of determination (R^2= .456) shows that it can approximately explain 45.6% of the dispersion in project success. It provides a strong explanatory tendency. In social science research, R^2 values of this type are acceptable since human behavior and organizational outputs are impacted by the interactions of myriad factors (Cohen,1988; Field, 2018). Despite the strengths of explanatory power, 54.4% of the variance of the project success remains unexplained. This indicates the fact that additional variables are not entailed in this model. This can play a prominent role in determining project success. The outcomes generally highlight how the perplexed nature of project success is demanding a multidimensional construct (PMI, 2021).

Furthermore, the results of the ANOVA test showed that the overall regression model was statistically significant ($F = 23.742$, $p < .01$). This confirms that independent variables are reliably predictive of project success. This implies the relationship between predicting variables and dependent variables is unlikely to have taken place by chance (Field, 2018).

5.1.4 Conclusions

Based on the findings of this study, the researcher came up with the following conclusions regarding the determinants of project success. First, communication was identified as a key success factor. Effective communication among stakeholders produced a coordinated effort toward project goals, thereby reducing ambiguity and ensuring alignment with project goals (PMI, 2021). Similarly, Kezner (2017) emphasized integrating project activities and managing stakeholder expectations can be realized by effective communication.

Second, influence emerged as the most powerful construct compared to others. This suggests that project managers can influence and guide team members in projects towards achieving stated goals

and milestones. Complicated and dynamic environments like construction projects are significantly affected by leadership style (Muller & Turner, 2010).

Third, participation was found to have no statistically significant impact on project success. The participation was symbolic or tokenistic, where stakeholders influencing projects were more nominal than being realistic, according to Arnstein(1969) all forms of participation are not equally productive and tokenistic involvement may have little impact on the decision-making stages.

Finally, the study concludes that project success is affected by technical processes and human behavior. The findings indicate that soft factors such as effective leadership and communication quality play a significant role in determining project outcomes. The Project Management Institute (2021) emphasizes successful project outcomes incorporate leadership, communication, stakeholder engagement skills which balance interpersonal skills, and technical know-how.

In the context of public education infrastructure projects, letting a multiple of stakeholders involved is crucial. Since institutional constraints and social accountability requirements, project success should be viewed as a multi-dimensional construct, which integrates both technical and behavioral factors rather than relying on traditional performance indicators.

5.2 Implications of the study

5.2.1 Theoretical implications

The gains of this study contribute to the existing project management body of knowledge by verifying empirically the key stakeholder engagement factors that affect project success. More specifically, the results emphasize that stakeholder influence and communication were more significant predictors to project success than participation, thereby challenging the overarching traditional assumption that increased stakeholder participation leads to project success.

The findings demonstrate that central focus of the re-conceptualization of stakeholder engagement needs to be the quality of interactions, power dynamics and relational influences rather than focusing on involvement. This study manifests participation without influence may have unyielding practical impacts, though classical assumption theory perspectives emphasize participation as a pillar of effective project governance (Arnstein,1969; Reed, 2008).

These results are consistent with contemporary project management research findings, which highlight human behavior and competencies, including leadership skill, communication effectiveness, and influence dynamics as the success factors of project performance (Altonen and Kujala, 2026; 2016; Project Management 2021). Therefore, this study stretches the existing theoretical perspective by showing the vivid picture that influence and communication are more significant predictors of the success than participation alone in public sector infrastructure projects.

5.2.2 Practical implications

The outcomes of this study have paramount importance for project managers, practitioners, and organizational leaders. There is a clear demand for utilizing effective communication tools and systems since communication was found to be a significant determinant of project success (PMI;2021). Organizations ought to empower the leadership skill and stakeholder influence management as influence appeared the strongest predicting factor of the lead project success. Therefore, project managers should be well-equipped with decision-making power and leadership skills to effectively guide project activities and manage stakeholder dynamics. (Yukl,2013).

The findings suggest the stakeholder participation should be restructured in a way to ensure meaningful project engagement rather than mere participation of individual stakeholders. More emphasis should be given on active involvement, shared decision-making, and integration of inputs into project implementation (Reed, 2008). This will transform symbolic participation involving critical elements.

5.2.3 Policy Implications

The findings gave valuable insights for policymakers and regulatory bodies, particularly vis-à-vis the planning and implementation of public-school infrastructure projects in the context of the Addis Ababa City Administration. These projects involve a large number of stakeholders, including educational authorities, contractors, school leaders, parent-teacher association members, design and construction bureau officers, and the local community. The involvement of aforementioned stakeholders is deemed to be essential for effective governance and stakeholder management, which are critical for the project's success. Thus, policymakers should craft and enforce well-structured and institutionalized stakeholder engagement policy frameworks going

beyond just formalized participation in the parent-teacher-student associations. In many public-school projects participation bound to be consultation where significant influences are sidelined.

Policymakers should make sure that school administrators and community representatives have tangible decision-making power in areas like project planning, budgeting, and monitoring. This will definitely reduce conflicts, enhance accountability, plus transparency, and maximize ownership and identity among stakeholders.

Second, policymakers should encourage accountability mechanisms for leadership within public school infrastructure projects in Addis Ababa. Given the strong effect of influence identified in this study, the role of project leaders such as education bureau officials, school principals, design and construction bureau officials, and project managers is critical. Policies should clear out transparent leadership practices, clear cut lines of responsibility, and performance monitoring systems. This is quite helpful to ensure whether effective decisions are made and resources are utilized efficiently (Aaltnonen and Kujala, 2016). In the realm of Addis Ababa City, this is highly important due to the large scale and complexity of urban school expansion of infrastructure projects.

Third, regulatory implications ought to emphasize communication performance measures within monitoring and evaluation systems. In many public-school infrastructure projects, delays and inefficiencies stem from poor communication among stakeholders such as contractors, government bodies, and school communities. Policymakers should demand continuous reporting, stakeholder meetings, and feedback mechanisms to assess information exchange, coordination, and responsiveness throughout the project cycle (PMI, 2021). Overall, these implications emphasize the need for a shift in policy formulation from participation-oriented policies to influence and communication-driven governance models within public school infrastructure development. In the context of Addis Ababa City this shift remarks the complexity public school infrastructure projects. Furthermore, the shift contributes to improved project delivery, sustainability, and stakeholders' satisfaction.

5.3 Recommendations

Based on the empirical findings of this study, the following actionable and context-specific recommendations are proposed to improve the delivery of public school infrastructure projects within Lemikura Sub-City, Addis Ababa.

To mitigate communication gaps, the Addis Ababa Education Bureau and Lemikura Sub-City infrastructure coordinators must institutionalize structured, formal communication mechanisms across all active project lifecycles. It is highly recommended that project management teams enforce mandatory bi-weekly progress reporting, implement centralized feedback channels, and host regular, mandatory stakeholder review meetings. Because public school infrastructure projects of this scale inherently demand the simultaneous involvement of a diverse network—including contractors, sub-city education officials, school administrations, and local community representatives—a formalized informational foundation is paramount. Streamlining these communication pathways will directly minimize operational conflicts, eliminate technical misunderstandings, and maintain strict alignment across all project sites, ranging from boundary fencing installations to multi-story classroom blocks (Project Management Institute, 2021).

To optimize administrative efficiency, the sub-city construction monitoring directorate should systematically clarify and consolidate the decision-making authority distributed among local project managers, school principals, and sub-city educational officials. The sub-city administration should design and deploy institutionalized training packages focusing heavily on core leadership competencies, emotional intelligence, and strategic stakeholder relationship management. Furthermore, a transparent and decentralized accountability matrix must be established. Empowering site-level project leaders with the clear administrative agency to make swift field decisions will remove bureaucratic bottlenecks and ensure timely project execution and resource optimization (Yukl, 2013).

The empirical evidence underscores an urgent need to overhaul localized community engagement pathways, shifting from tokenistic involvement to active collaboration. It is recommended that the Lemikura Sub-City education office systematically restructure and revitalize the Parent-Teacher-Student Associations (PTSAs), transitioning them from passive

consultative bodies into legally recognized partners in school infrastructure development. This structural integration requires embedding PTSA representatives directly into the core phases of project planning, ongoing field monitoring, and final evaluation. Meaningfully embracing community input ensures that the final facilities align with the actual educational needs of the locality, while simultaneously fostering long-term local ownership and institutional accountability for the school infrastructure assets (Reed, 2008).

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Appendix

ADDIS ABABA UNIVERSITY

COMMERCE COLLEGE

DEPARTMENT OF PROJECT MANAGEMENT

QUESTIONNAIRE

Dear Sir/Madam

I am researching The Effect of Stakeholder Engagement on the Success of Public-School Infrastructure Projects in Addis Ababa: The Case of Lemi Kura Sub-City Administration. This research is conducted in partial fulfillment of the requirements for the Master's degree in Project Management. For the successful accomplishment of the research, the genuine response of the stakeholders involved in school infrastructure projects in Lemi Kura will have a pivotal role and will be used as a valuable and primary input for the study. So, you are kindly and humbly requested to take a few moments of your busy schedule and genuinely fill this questionnaire.

The information will be used only for academic purposes, and your response will be treated with strict confidentiality and anonymity.

To indicate your response, please put a mark in the appropriate box, and I thank you in advance for taking the time to complete the questionnaire.

With Best Regards,

Mieraf Ketema

(Student, MA in Project Management)

Instructions: -

I. Writing your name is not necessary.

II. In all cases where answer options are available, please make a tick mark (or) in the appropriate box where the choice is suitable for you.

Section I: Respondents' Profile

1. **Name of Organization_____**
2. **Gender: - Male [ ] Female [ ]**
3. **Age: - 25-30 [ ] 31-35 [ ] 36-40 [ ] above 40 [ ]**
4. **Educational Background: -**

   Diploma [ ] BSC /BA[ ] MBA/ MSC [ ] PhD [ ]
5. **Work Experience: -**

   1- 5 years [ ] 6-10 years [ ] 11-15 years [ ] above 15 [ ]
6. **Position: -**

   Project Manager [ ] Contractor [ ] Government Official [ ]

   Project Staff [ ] School Administrator [ ]

   Parent Teacher Student Association Member [ ] Other_____

Section II: Stakeholder Engagement Practices

Rate the following items in terms of the level of agreement by putting a tick in the space provided under Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree.

Section A: Communication

Item	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
C1. Project information was communicated clearly to all relevant stakeholders.					
C2. Communication among stakeholders was timely throughout the project lifecycle.					
C3. The channels used for communication (meetings, reports, etc.) were effective.					
C4. Stakeholders received adequate feedback on issues raised during the project.					
C5. Misunderstandings due to poor communication were minimal during the project.					

Section B: Participation

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
P1. Stakeholders were actively involved in project planning activities.					
P2. Stakeholders were given opportunities to participate in key decision-making.					
P3. Stakeholder inputs were considered during project implementation.					
P4. Regular meetings allowed stakeholders to express their views and concerns.					
P5. Stakeholders felt encouraged to participate in project-related discussions.					

Section C: Collaboration

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
CL1. Stakeholders worked cooperatively to achieve project objectives.					
CL2. There was effective teamwork among different stakeholder groups.					
CL3. Project problems were addressed through joint discussion and collaboration.					
CL4. Stakeholders supported one another to resolve project challenges.					
CL5. A strong sense of partnership existed among stakeholders during the project.					

Section D: Influence

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I1. Stakeholders had a meaningful influence on key project decisions.					
I2. Stakeholder recommendations were reflected in project actions.					
I3. Decision-makers respected the opinions of different stakeholders.					
I4. Stakeholders had sufficient authority to affect project outcomes.					
I5. Power and influence were fairly distributed among key stakeholders.					

Section E: Project Success (Project Performance)

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PP1. The project was completed within the planned timeframe.					
PP2. The project was completed within the approved budget.					
PP3. The quality of construction met the required standards.					
PP4. The project achieved its intended objectives.					
PP5. Overall, I am satisfied with the performance of the school construction project.					

Thank you for taking the time to complete this questionnaire. If you have any queries, please do not hesitate to contact Mieraf Ketema by telephoning 0913239962 or emailing mireboqona@gmail.com.

Please return the completed questionnaire by _____ provided to MIERAF KETEMA.