Sri Lanka Journal of Marketing
University of Kelaniya - Sri Lanka

SLJM Vol 11 Issue 2: July-December 2025
ISSN 2719 – 2598 (Online)

RESEARCH ARTICLE

Primary Stakeholder Engagement and Construction Project Success: Insights from the Sri Lankan Construction Industry

Hewagamage Kamani Priyadarshani Piyadasa[1*] **& Ravindra Hewa Kuruppuge**[1]
[1]*University of Peradeniya, Sri Lanka*
***Corresponding author:** kamani.bba@gmail.com

HOW TO CITE (APA 7TH)
Piyadasa, H. K. P., & Kuruppuge, R. H. (2025). Primary stakeholder engagement and construction project success: Insights from the Sri Lankan construction industry. *Sri Lanka Journal of Marketing, 11*(2), 72–106. https://doi.org/10.4038/sljmuok.v11i2.200
DOI: https://doi.org/10.4038/sljmuok.v11i2.200

Abstract

The construction industry plays a pivotal role in driving economic growth, employment creation, and infrastructure development worldwide, contributing approximately 6%–7% to Sri Lanka's GDP over the past decade. Beyond its economic importance, the effective engagement of primary stakeholders is critical to the successful implementation of construction projects. However, limited empirical research has examined primary stakeholder engagement from a stakeholder theory perspective, particularly in relation to its influence on project success within the Sri Lankan construction industry. This study seeks to address this gap by examining how specific stakeholder engagement indicators influence construction project success.

The study is guided by three core objectives: identifying key stakeholder engagement indicators, examining their impact on project outcomes, and exploring challenges associated with stakeholder engagement practices. The engagement indicators investigated include Stakeholder Relations (SR), Stakeholder Communication (SC), Stakeholder Learning (SL), and Stakeholder Integration (SI). Adopting a positivist research philosophy, the study employed a mixed-methods approach. The quantitative phase involved a survey of 92 senior professionals, with data analyzed using SPSS version 26 to assess correlations and regression relationships. The qualitative phase consisted of asynchronous interviews with six key stakeholders, focusing on technical and strategic engagement dimensions. Thematic analysis was used to identify recurring themes and insights.

Sri Lanka Journal of Marketing by Department of Marketing Management, University of Kelaniya is licensed under a Creative Commons Attribution 4.0 International License.

The findings reveal Stakeholder Communication (SC) as the most influential determinant of project success, while SR, SL, and SI also demonstrate significant effects. The study contributes to stakeholder theory by empirically linking specific engagement indicators to project success. Practically, it highlights the importance of transparent communication, trust-building, continuous learning, and strategic collaboration, offering actionable recommendations for project managers to strengthen governance and accountability in construction projects.

Keywords: *Project Success, Sri Lanka's Construction Industry, Stakeholder Communication, Stakeholder Integration, Stakeholder Learning, Stakeholder Relations*

1. INTRODUCTION

The construction industry is a cornerstone of economic development, contributing to infrastructure growth and employment generation in countries worldwide. Forecasts project that the global construction sector will experience substantial revenue expansion, with the market size expected to reach approximately USD 15.2 trillion by 2030, representing a 42% increase from its 2020 valuation of around USD 10.7 trillion (Oxford Economics, 2021). This growth is anticipated to be driven largely by both developed and emerging markets, with notable contributions from the Asia-Pacific region.

The construction sector, ranked as the fourth-largest industry in Sri Lanka, has consistently contributed around 6% to 7% of the country's GDP over the past decade, underscoring its significant role in the national economy. Between 2010 and 2023, the sector recorded an average contribution of 231,953 million LKR annually, peaking at 499,724 million LKR in the fourth quarter of 2017 and reaching its lowest point of 77,176 million LKR in the second quarter of 2010 (Central Bank of Sri Lanka, 2023). Projections from Trading Economics' global macro models and analysts estimate that the sector's GDP contribution will reach approximately 182,964 million LKR in 2024 and increase further to 190,282 million LKR in 2025. In recent years, the industry has experienced notable growth, driven by government-led initiatives, foreign investments, and urban expansion.

Mega infrastructure projects, including roads, bridges, ports, and commercial buildings, are reshaping the nation's landscape. However, the Covid-19 pandemic significantly impacted various sectors, including construction, leading to a period of decline. Despite these challenges, the industry is experiencing a gradual recovery, with numerous construction projects resuming operations and steadily gaining momentum (Abeysinghe & Jayathilaka, 2022).

In Sri Lanka, construction projects often experience delays, which significantly affect both industrial performance and the national economy (Yathupriyan & Widisinghe, 2022). Delays are particularly prevalent in government and semi-government projects, where high rates of schedule overruns are common. Construction delays refer to exceeding contract completion dates, resulting in increased complexity and cost (Sivarajah, 2021; Yathupriyan & Widisinghe, 2022). Project success is measured by the quality of the output, adherence to scheduled timelines, and staying within the estimated budget. Therefore, timely completion is a critical factor for achieving overall project success (Abeysinghe & Jayathilaka, 2022).

The construction industry predominantly operates through project-based frameworks, characterized by their uncertain and dynamic nature. As per the PMBOK Guide (Project Management Institute, 2021), a project is defined as a temporary endeavor initiated to deliver a distinctive product, service, or outcome. The construction sector is inherently multifaceted, encompassing a range of critical activities beyond the core construction work. Timely and cost-effective project completion heavily depends on the seamless coordination of these supporting activities. Effective project management is guided by frameworks like the "Triple Constraints" (TOC), developed by Eliyahu M. Goldratt. This framework underscores the need to balance scope, cost, and time to deliver a high-quality final product efficiently.

Efficient project management strategies should incorporate the integration of resource management, on-time delivery, and financial objectives that are aligned with the project scope (Akiner, 2014). However, in many developing countries, implementing these strategies is particularly challenging due to the complexity of multidisciplinary, team-oriented environments (Chen et al., 2005; Crawford et al., 2006). The success of construction projects depends heavily on the effective coordination of stakeholders. Inadequate coordination

among the stakeholders is one of the crucial factors that can result in project delays; budget overruns, and reduced project quality, ultimately impeding economic growth and national development (Ajayi & Chinda, 2022). Therefore, the significance of collaboration among primary stakeholders, such as clients, consultants, and contractors, is recognized as a critical element for project success (Ali et al., 2021).

Accordingly, most of the literature reveals a significant positive relationship between stakeholder involvement and project success. Furthermore, recognizing how to effectively utilize stakeholder engagement as a key tool is essential in ensuring project success and mitigating issues related to time delays and cost overruns (Molwus, 2014). However, a validated and reliable framework for primary stakeholder engagement is still lacking, particularly in complex projects like construction (Bal, 2014; Bal et al., 2013; Freeman et al., 2017). Given this gap, the purpose of this study is to generate empirically tested data to address the following problem statement:

" What are the critical indicators that hinder or facilitate primary stakeholder engagement, and how do they impact project performance and the successful completion of construction projects in Sri Lanka?"

This study is structured to address this gap by assessing and evaluating primary stakeholder engagement indicators based on empirical studies, including "Stakeholder Engagement: Clinical Research Cases" by Freeman et al. (2017) and "Investigating the Stakeholder Engagement Indicators towards Renewable Energy Projects' Success in Malaysia" by Azlan et al. (2020).

This study addresses three main research questions:

RQ1: What are the key indicators of effective primary stakeholder engagement in construction projects within the Sri Lankan context?

RQ2: What is the relationship between the primary stakeholder engagement indicators and the success of construction projects?

RQ3: What are the prevalent challenges encountered in the primary stakeholder engagement process in construction projects in Sri Lanka?

The primary objective of this study is to identify key indicators of primary stakeholder engagement and evaluate their impact on the successful execution of construction projects in Sri Lanka. To achieve this, the study focuses on three specific objectives. First, it aims to identify and analyze the key indicators that influence primary stakeholder engagement in Sri Lankan construction projects. Second, it seeks to examine the relationship between the effectiveness of primary stakeholder engagement and project success, with a particular focus on time, cost, quality, and client satisfaction. Finally, the study intends to explore and assess the key challenges encountered in the primary stakeholder engagement process, highlighting potential barriers and areas for improvement within the Sri Lankan construction industry.

2. LITERATURE REVIEW

2.1. Construction Project Success

A project is a temporary endeavor to create a unique product or service (Project Management Institute, 2017). In project management practice, success is typically evaluated based on the golden triangle, which encompasses time, cost, and scope, or quality (Project Management Institute, 2021). Assessing the success or failure of a project is challenging because some criteria may be achieved while others are not, making it difficult to provide a clear-cut verdict (Cheong, 2017; Frefer et al., 2018). Lim and Mohamed (1999) differentiate project success into two distinct categories: macro and micro project success. The macro perspective evaluates the realization of the original project concept, deeming the project successful if this objective is met. Conversely, the micro viewpoint concentrates on assessing achievements at smaller component levels within the project. Standard project success involves completion within the scheduled timeframe, adherence to the allocated budget, fulfillment of specified technical criteria, and attainment of client satisfaction (Baker et al., 1983; Slevin & Pinto, 1986; Morris & Hough, 1987; Turner, 1993 as cited by Takim & Akintoye, 2002).

2.2. Construction Project Delay

Delay in construction projects is defined as the extension of the originally planned timeline required for project completion. It refers to any situation where the project exceeds its scheduled or expected duration (Hammadi & Nawab, 2016). Project delays can have significant consequences, including increased project costs, compromised quality, and extended timelines, all of which affect overall project success and profitability (Ajayi & Chinda, 2022). Additionally, Hassan et al. (2017) found that delays in construction projects lead to time and cost overruns, reduced contractor profits, financial losses for owners due to extended construction phases, strained relationships, legal disputes, and sometimes project abandonment. The success of a construction project is primarily reflected in its completion within the scheduled timeframe, making the mitigation of delays crucial for project success (Frefer et al., 2018; Silva et al., 2016). Careful consideration of delay factors can help reduce time lags and mitigate the magnitude of delays in construction projects.

2.3. Construction Project Stakeholders

Freeman (1984) defined a stakeholder as "any individual or group capable of influencing or being influenced by the accomplishment of the organization's objectives." In project management, stakeholders encompass individuals, groups, or organizations with the potential to impact, be influenced by, or perceive themselves as affected by a project's decisions, actions, or results. These stakeholders can exert both direct and indirect influence over a project, potentially leading to positive or negative outcomes in terms of project performance and results (Project Management Institute, 2021).

In the construction industry, stakeholders are typically classified as primary and secondary. Primary stakeholders, directly involved in the project, include the Client/Owner, Contractor, Consultant, and Project Manager (PM). Secondary stakeholders, with indirect connections, include investors, suppliers, employees, subcontractors, third-party entities, financial institutions, governmental authorities, advocacy groups, industry associations, and local communities (Malkat & Gyoo, 2012).

2.4. Stakeholder Engagement: Implementing Stakeholder Theory Concepts

The concept of stakeholders was first introduced to the management field by the Stanford Research Institute in 1963, defining stakeholders as any groups or individuals deemed essential for the survival of an organization (Freeman, 1984). Stakeholder theory has emerged as a prominent framework for understanding and interpreting business organizations, particularly in the realms of strategy and management (Freeman et al., 2017). According to stakeholder theory, the objective of a business entity is to facilitate collaboration among various stakeholders—such as employees and customers, suppliers and distributors, investors and communities—to create new employment opportunities, products, and services that meet the diverse needs (Freeman et al., 2010).

In project management, stakeholder theory emphasizes the importance of continuous engagement with stakeholders, using a Stakeholder Engagement framework to prevent project failures (Agyapong, 2017). This study is grounded in stakeholder theory, which serves as the foundational framework to help project managers understand how companies engage stakeholders, maximize value creation, and successfully execute construction projects.

2.5. Concepts of Stakeholder Engagement and Indicators

This study identifies key indicators representing the dimensions of the stakeholder engagement framework, adapted from Freeman et al. (2017). These indicators are assessed based on ten attributes identified through an empirical review (Azlan et al., 2020). The indicators are grouped into four categories: Stakeholder Relations, Stakeholder Communication, Stakeholder Learning, and Stakeholder Integration, as shown in Table 1, along with their associated measurement attributes.

Table 1
Stakeholder Engagement Indicators and Attributes

Indicators		Attributes	
Stakeholder Relations	SR	Understand the intentions and behaviors	UIB
		Build good relationships	BSR
Stakeholder Communication	SC	Effective communication	EC
		Continuous consultation	CC
Stakeholders Learning	SL	Implement strategies plan	ISP
		Analyze changes	AC
		Risk mitigation	RM
Stakeholder Integration	SI	Compromise conflicts	CO
		Understand project success	UPS
		Good project governance	GPG

(Source: Derived from Literary Sources)

Stakeholder Relations (SR)

The success or failure of a project is closely linked to the nature of the relationship between the stakeholders and the project team (Bal, 2014).According to the PMBOK Guide (Project Management Institute, 2017), Project Stakeholder Management includes the processes required to identify stakeholders, analyze their expectations, assess their influence on the project, and develop strategies to engage them effectively in project decisions and execution.

Through effective stakeholder relationship management, organizations can gain insights into stakeholders' needs and concerns, allowing them to develop proactive approaches for informing, involving, and inspiring stakeholders, ultimately building the necessary foundations for engaging with them (Mainardes et al., 2012).Researchers have explored stakeholder analysis and mapping to identify individuals with interests or concerns that should be engaged in the process (Mathur et al., 2007). Stakeholder maps and matrices are essential tools in project management for predicting, documenting, and visualizing potential conflicts and coalitions among stakeholders (Molwus, 2014).

These tools facilitate proactive decision-making and assist project teams in navigating the complex landscape of stakeholder relationships, thereby contributing to project success and stakeholder satisfaction (Molwus, 2014). Based on the reviewed literature, the following hypotheses are proposed:

H 1 - Stakeholder Relations have a significant impact on Construction Project Success.

Stakeholder Communication (SC)

According to the Project Management Institute (PMI), effective communication strategies are a cornerstone of successful project management, fostering a shared understanding among stakeholders and strengthening their commitment to project goals (Project Management Institute, 2021).

Communication refers to a procedure encompassing the interchange of information, knowledge, updates, insights, and directives amid two or more individuals (Radosavljevic & Bennett, 2012).Distinct information classifications, such as internal/external, sensitive/public, and general/detailed, play a crucial role in project communication. Understanding stakeholders' information requirements and these classifications forms the foundation for developing effective communication procedures and strategies (Project Management Institute, 2021).

Efficient communication is essential within the knowledge domains of project management standards (Project Management Institute, 2021). Construction projects are inherently complex and subject to changes stemming from factors such as scope alignment, functionality adjustments, team management, and stakeholder conflicts (Butt et al., 2016). Proactively preventing disputes through effective communication has a significant positive impact on project performance, saving time, reducing costs, and optimizing effort (Gamage, 2022). Therefore, implementing a swift and proactive communication strategy is critical to addressing these challenges and strengthening relationships among project teams (Gamil & Rahman, 2017).

Worku's (2018) study identified a positive correlation between stakeholder consultation and project performance. Continuous consultation, which involves regular engagement with stakeholders and gathering their feedback, is a crucial mechanism for understanding their needs and concerns. This approach supports more informed decision-making and enhances project outcomes (Azlan et al., 2020).

However, excessive communication can result in information overload, omission of critical data, reduced comprehension, misinterpretation, and conflicts, while inadequate communication erodes trust among team members and hinders the sharing of innovative solutions (Sarhadi, 2016). Therefore, construction firms must continually evaluate communication strategies to address delays, budget overruns, and quality issues (Galuppo et al., 2014). A well-structured communication plan is crucial to mitigate these challenges (Newton, 2016). Considering the literature discussed above, the following hypotheses are proposed:

H 2 - Stakeholder Communication has a significant impact on Construction Project Success

Stakeholder Learning (SL)

Building team relationships through negotiation and the sharing of knowledge about each stakeholder's importance and experiences contributes to the growth and wisdom of project team members (Mainardes et al., 2012). Knowledge is a critical and essential resource for every organization (Suhana et al., 2020). It is defined as the process of acquiring or experiencing information, often facilitated by the active involvement and participation of individual employees (Rechberg & Syed, 2014).

Change is inevitable throughout a project's lifecycle, and the construction industry is highly diversified, involving various stakeholders such as developers, suppliers, consultants, and contractors. Multiple teams and experts collaborate in a dynamic and complex environment marked by high levels of risk and uncertainty to successfully complete construction projects (Gamage, 2022). Risk is typically defined as an uncertain event or condition, the outcome of which can result in either positive or negative outcomes impacting project objectives such as scope, quality, cost, and schedule, as well as for the specific objectives of individuals, groups, or the organization (Chapman & Ward, 2013; Project Management Institute, 2017). Clearly identifying project management roles and responsibilities for risk management is challenging due to a lack of knowledge, which can lead to negative consequences for project performance (Serpella et al., 2014). Hence, Knowledge Management (KM) is a strategic approach that leverages the organization's controls and monitoring systems to enhance efficiency, reduce costs, improve performance, and mitigate risks, ultimately contributing to its overall success

(Onyeagam et al., 2020). Effective project risk control facilitates the achievement of primary project objectives, such as timely delivery and satisfactory product quality (Chapman & Ward, 2013; Zou et al., 2006).Based on these collective findings, the following hypothesis is formulated:

H 3 - Stakeholders Learning has a significant impact on Construction Project Success

Stakeholder Integration (SI)

The central focus and fundamental principle of coordination, revolve around the organization itself, the interconnected relationships, interdependence, the exchange of information, and the shared goals among the parties involved (Hai et al., 2012).

Mainardes et al. (2012) emphasized stakeholder integration management and outlined a five-step process: identifying relevant stakeholders and their potential impacts on enterprise performance, specifying goals for each stakeholder relationship, creating opportunities for mutual benefit, monitoring inter-stakeholder relationships, and striving to harmonize or balance these relationships as much as possible. A lack of coordination and engagement can result in ineffective management, misunderstandings among stakeholders, inefficiencies in resource utilization, and duplication of efforts (El-Sayegh et al., 2020; Xue et al., 2005). Recognizing and assessing potential conflicts among stakeholders is crucial in the context of complex projects. Resolving these conflicts through appropriate legal mechanisms signifies effective stakeholder integration and can contribute to project success (El-Sawalhi & Hammad, 2015; Heravi, 2014).

Furthermore, performance is defined as an individual's contribution to the tasks required for completing a construction project. Therefore, it is crucial to continuously measure, evaluate, and prioritize the performance of each participant throughout the various project phases to assess the overall success of the project (Takim et al., 2002). Performance can be measured using various methods, including technical performance, commercial performance, and overall performance (Takim et al., 2002).

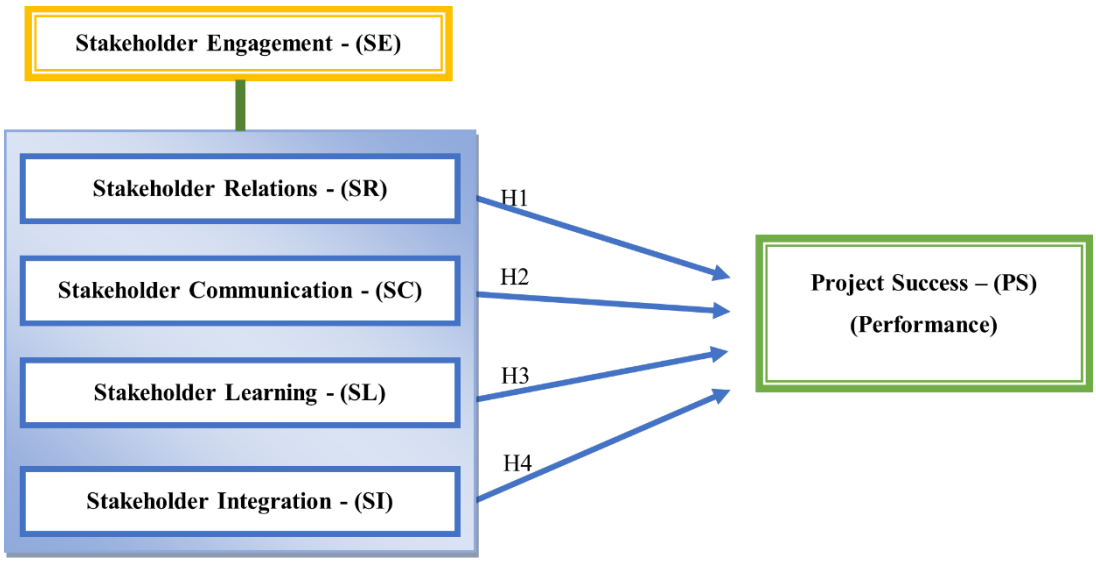
Additionally, the presence of formal or informal structures and processes for engaging stakeholders is a significant characteristic of the institutional context in stakeholder management. Conversely, the absence of established structures and governance models for effective stakeholder engagement, coupled with a lack of legitimized processes, can increase the complexity of engaging stakeholders and determining the acceptability of various stakeholder behaviors and influence strategies. Based on the literature discussed, the following hypothesis is developed:

H 4 - Stakeholder Integration has a significant impact on Construction Project Success.

2.6. Conceptual Framework

Figure 1 illustrates the conceptual framework derived from theoretical foundations (Freeman et al., 2017), representing the proposed relationships between the Primary Stakeholder Eengagement dimensions (considered as independent variables) , including Stakeholder Relations, Stakeholder Communication, Stakeholder Learning, and Stakeholder Integration and the Success of Construction Projects (identified as the outcome variable).

Figure 1
Conceptual Framework



(Source: Developed by the Researcher Based on Literature Review)

3. METHODOLOGY

Based on the objectives of the study and the availability of relevant information, a Mixed Methods Research Design was employed to achieve a more nuanced understanding of primary stakeholder engagement in Construction Projects. This design integrates both quantitative and qualitative research approaches, leveraging the strengths of each method (Creswell & Creswell, 2018).

The research focused on a Sri Lankan construction project, involving collaboration with primary local industry stakeholders such as the Client/Owner, Contractor, and Consultant. This study follows a Positivist research philosophy, which acknowledges that reality is socially constructed and varies based on human perception and context (Saunders et al., 2019). Positivism incorporates elements from both deductive reasoning and inductive strategies (Bryman, 2016). While deductive reasoning involves testing hypotheses based on existing theories, inductive reasoning entails deriving generalizations and theories from observed patterns and specific instances (Creswell & Creswell, 2018).

The quantitative component employs structured surveys and statistical analysis to quantify patterns and relationships between variables, while the qualitative component explores stakeholders' subjective experiences through in-depth asynchronous written-based interviews (Creswell & Creswell, 2018). This mixed-methods approach allows for a comprehensive analysis by integrating the depth of qualitative insights with the measurable trends identified through quantitative data.

In this research, non-probability-based convenience sampling was employed for the quantitative questionnaire survey, while nonprobability purposive sampling was utilized for conducting qualitative interviews (Creswell & Creswell, 2018).

In the quantitative phase, a non-probability-based convenience sampling technique was used, allowing the researcher to select participants based on their accessibility and willingness to participate. However, this approach may introduce potential biases by not adhering to random selection. While practical, this method may introduce biases due to the absence of random selection. The study targeted 100 high-ranking professionals or expatriates employed full-

time in construction projects.The sample size of 80 was determined to ensure a 95% confidence level with a 10% margin of error, representing 50% of the target population, based on the Krejcie and Morgan table (1970). A total of 100 questionnaires were distributed, yielding 92 responses, equating to a 92% response rate. However, 8 responses were excluded due to non-responses attributed to factors such as organizational policies restricting the sharing of confidential information with external parties.

In the qualitative phase, purposive sampling was employed to select six respondents excluded from the quantitative data collection phase. These participants were strategically chosen from upper and middle management levels, each possessing over ten years of substantial expertise in the construction industry. The sample included Clients, Contractors, and Consultants, ensuring the inclusion of primary stakeholders with relevant experience and knowledge. Details of the respondents are provided in Table 2.

Table 2
Profiles of Qualitative Interviewees

Method	Interviewee (Respondent)	Organization Characteristics	Role of Experienced	Primary Area of Expertise	Type of Construction Projects	Years of Experience
Asynchronous Written-Based Interviews	A	Government	Client	Project Director	Large-scale infrastructure projects	20 years
	B	Government	Client	Procurement Specialist	Large-scale infrastructure projects	15 years
	C	Government	Consultant	Senior Civil Engineer	Large-scale infrastructure projects	20 years
	D	Private Sector	Consultant	Senior Civil Engineer	Commercial and infrastructure projects	18 years
	E	Private Sector	Contractor	Senior Construction Manager	Large-scale infrastructure projects	15 years
	F	Private Sector	Contractor	Senior Civil Engineer	Commercial and infrastructure projects	25 years

3.1. Data Sources and Data Analysis Technique

Data for this research were obtained from two main sources: primary and secondary data. Primary data were collected through surveys, while secondary data were derived from relevant literature (Creswell & Creswell, 2018).

In the quantitative phase, primary data were collected using a structured 5-point Likert scale questionnaire tailored to elicit insights from professionals in the construction industry (Creswell & Creswell, 2018). The questionnaire was distributed electronically via Google Forms. For data analysis, the Statistical Package for the Social Sciences (SPSS, version 26) was used. According to Pallant (2016), statistical data analysis involves both parametric and non-parametric methods. Parametric tests, including t-tests, ANOVA, and linear regression, were applied, as the dataset adhered to a normal distribution. Additionally, correlation and multicollinearity analyses were performed to examine relationships and detect potential interdependencies among variables.

In the qualitative phase, Semi-structured, asynchronous written-based interviews (e-mail surveys) were adopted as the qualitative data collection method due to their flexibility and accessibility, allowing participants to respond at their convenience (Dahlin, 2021; Fritz & Vandermause, 2018; McCoyd & Kerson, 2011). This method aligns well with the research topic, which aims to explore individuals' experiences and perspectives on primary stakeholder engagement and construction project performance, without the influence of non-verbal communication, as emotional impact is not central to the study (Creswell & Creswell, 2018; Meho, 2006). Thematic Analysis was employed for a nuanced exploration of open-ended responses to uncover common themes and patterns within the collected data (Guest et al., 2012).Although software tools such as NVivo or ATLAS.ti were available, manual analysis was selected as the most suitable approach due to the small dataset.

4. DATA ANALYSIS AND RESULTS

4.1. Quantitative Data Analysis

The quantitative data analysis involved various statistical methods, including data validation, reliability assessment, and descriptive statistics such as frequencies, means, and percentages. Additionally, the analysis incorporated correlation analysis to examine relationships between variables and multicollinearity analysis to identify potential correlations among predictor variables in regression models.

Preliminary Analyses

Preliminary analyses provided foundational insights into the dataset, including descriptive statistics, graphical representations, data manipulation techniques, and the assessment of scale reliability.

Reliability and Validity Statistics

Table 3
Reliability Statistics

	Cronbach's Alpha	No. of Items	Significance (Sig)
Reliability Statistics	0.954	42	0.000

Table 4
Reliability Statistics by Indicators

Indicators	No of Items	Cronbach's Alpha
SR	8	0.678
SC	9	0.882
SL	10	0.880
SI	11	0.908
PS	4	0.784

The reliability analysis, a standard procedure for evaluating the consistency of questionnaires, utilized Cronbach's Alpha (α) as the predominant measure. As indicated in Table 3, the measurement instrument used in this study, the questionnaire comprising 42 items, demonstrated robust internal consistency with a Cronbach's Alpha of 0.954. This

exceptionally high alpha value, coupled with a significance level of 0.000, validates the instrument's reliability for measuring the intended constructs (Pallant, 2016). Additionally, all indicators met or exceeded the recommended threshold of 0.70 (Table 4), indicating reliable internal consistency across variables and validating their suitability for rigorous analysis.

Demographic Information

The demographic characteristics of the 92 respondents reveal key insights into their professional backgrounds and experience in the construction sector. A significant majority of respondents (81.5%) were male, with a notable portion (80.4%) being married. In terms of age, 41.3% were between 31 and 40 years old, followed by 29.3% in the 41-50 age range, and 20.7% in the 51-60 range. The respondents were well-educated, with 38% holding a Master's degree and 30.4% holding a Bachelor's degree. The majority of respondents (46.7%) worked as consultants, while 38% were contractors, and 15.2% were clients. Civil Engineering emerged as the dominant area of expertise (52.2%), followed by Quantity Surveying (20.7%) and Environmental & Safety Management (8.7%). Regarding years of experience, most respondents (33.7%) had 11-15 years of experience, with a significant proportion (30.4%) having 5-10 years of experience. The respondents were primarily involved in large-scale projects, with 64.1% working on road construction and 78.3% engaged in large construction projects (above LKR 100 M). This demographic profile highlights a highly experienced and educated group with diverse roles and expertise, particularly in large infrastructure and civil engineering projects.

Table 5
Demographic Characteristics of Respondents (N = 92)

No	Demographic Variables	Category	Respondents (N = 92)	
			Frequency	Percentage (%)
1	*Gender*	Male	75	81.5
		Female	17	18.5
2	Civil Status	Single	18	19.6
		Married	74	80.4
3	*Age Distribution*	20 - 30 years	8	8.7
		31 - 40 years	38	41.3
		41 - 50 years	27	29.3

		51 - 60 years	19	20.7
4	Educational Qualification	NDT	14	15.2
		HND	15	16.3
		Bachelor's Degree	28	30.4
		Master's Degree	35	38.0
5	Role of Experienced	Client	14	15.2
		Consultant	43	46.7
		Contractor	35	38.0
6	Primary Area of Expertise	Civil Engineering	48	52.2
		Architectering	2	2.2
		Micanical / Electric Engineering	2	2.2
		Procurement Specialist	2	2.2
		Surveying	5	5.4
		Quantity Surveying	19	20.7
		Administration Management	6	6.5
		Environmental & Safety Management	8	8.7
7	Years of Experience	05 - 10 years	28	30.4
		11 - 15 y ears	31	33.7
		16 - 25 years	25	27.2
		26 - 30 years	3	3.3
		31 - 35 years	3	3.3
		Above 35 years	2	2.2
8	Type of Construction Projects	Building Construction	12	13.0
		Road Construction	59	64.1
		Bridge Construction	7	7.6
		Water Supply / Drainage/Irrigation	5	5.4
		Railways	6	6.5
		Tunnels	3	3.3
9	Size of Construction Projects	Small (up to LKR 10 M)	2	2.2
		Medium (LKR 10 M - LKR 100 M)	18	19.6
		Large (above LKR 100 M)	72	78.3

Correlation Analysis

The correlation coefficients provide insight into the strength and direction of relationships between variables. The Pearson product-moment correlation coefficient was employed to assess the association between Primary Stakeholder Engagement (independent variables) and Construction Project Success (dependent variable).

Table 6
Correlations Analysis

	PS	**SR**	**SC**	**SL**	**SI**
PS					
SR	0.683				
SC	0.697	0.739			
SL	0.667	0.65	0.829		
SI	0.476	0.645	0.783	0.780	
***. Correlation is significant at the 0.01 level (2-tailed).*					

As depicted in Table 6, Correlation Coefficients reveal strong and moderate positive associations between the independent variables and Project Success (PS). The Pearson correlation values range from 0.476 to 0.697**, all of which are highly significant at the 0.01 level (2-tailed) (Pallant, 2016). Specifically, Stakeholder Communication (SC) demonstrates the highest correlation with Project Success at 0.697**, followed by Stakeholder Relations (SR) at 0.683**. Stakeholders Learning (SL) also shows a strong correlation of 0.667** with Project Success. Meanwhile, Stakeholder Integration (SI) exhibits a slightly lower, yet still significant, correlation of 0.476** with Project Success.

These findings indicate that improvements in Stakeholder Relations, Stakeholder Communication, Stakeholders Learning, and Stakeholder Integration are all positively associated with enhanced Project Success. In other words, successful project outcomes tend to correlate with better engagement and interaction with primary stakeholders across these key areas. This suggests that effective stakeholder management plays a crucial role in the overall success of construction projects.

Multiple Regression Analysis

The multiple regression analysis examines the collective impact of four key stakeholder engagement indicators on construction project success (Pallant, 2016) and determines the equation describing their relationship.

Table 7
Coefficients Analysis

Indicators	Unstandardized Coefficients	T Value	Sig.
(Constant)	0.722	2.130	0.036
SR	0.430	3.878	0.000
SC	0.423	2.662	0.009
SL	0.366	3.044	0.003
SI	- 0.340	-3.234	0.002

The unstandardized coefficients (Beta) indicate the relative importance of each independent variable in explaining variability in Project Success. As shown in Table 7, positive associations are evident for Stakeholder Relations (SR) (0.430), Stakeholder Communication (SC) (0.423), and Stakeholder Learning (SL) (0.366) with Project Success. Conversely, Stakeholder Integration (SI) exhibits a negative coefficient (-0.340), indicating a negative association. All coefficients, except the constant term, have p-values below 0.05, confirming their statistical significance and validating their relevance (Pallant, 2016).

The regression equation for predicting Project Success (YSuccess) based on the stakeholder engagement indicators is as follows:

$$Y_{Success} = 0.722 + (0.430)\ X_{S.R} + (0.423)\ X_{S.C} + (0.366)\ X_{S.L} - (0.340)\ X_{S.I}$$

The Model Summary provides key statistics that assess the validity and reliability of the regression model.

Table 8
Model Summary

Model	R	R Square	Adjusted R Square	Sig. F Change	Durbin-Watson
1	0.782	0.612	0.594	0.000	2.258

As shown in Table 8, the R Square value is 0.612, which indicates that approximately 61.2% of the variance in Project Success (PS) is explained by the independent variables. The Adjusted R Square value of 0.594 accounts for the number of predictors in the model, suggesting that approximately 59.4% of the variance in Project Success is explained, adjusted for the number of variables. These values indicate that the regression model fits the data well,

demonstrating a significant linear relationship between the independent variables and Project Success.

In regression analysis, ANOVA assesses the overall significance of the model, determining if the independent variables significantly impact the dependent variable.

Table 9
ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.316	4	3.329	34.281	0.000[b]
Residual	8.448	87	0.097		
Total	21.764	91			

The ANOVA results provide statistical evidence that the independent variables collectively predict the dependent variable, Project Success. The F-ratio tests the null hypothesis that all regression coefficients are equal to zero, implying that the model has no explanatory power. The low p-value ($p < 0.0005$) confirms that the regression model is statistically significant (Pallant, 2016). The F-Statistic of 34.281 suggests that the independent variables have a strong predictive ability for Project Success. The degrees of freedom for the regression and residual terms are 4 and 87, respectively, indicating the number of parameters estimated and the remaining error degrees of freedom. The significant F-Statistic and associated p-value indicate that the regression model provides a good fit for the data.

These findings confirm that the regression model is a reliable and statistically significant tool for predicting the success of construction projects based on stakeholder engagement practices.

Hypothesis Testing

Hypothesis testing is a key procedure for drawing conclusions about population parameters from sample data, involving two competing hypotheses: the null hypothesis (H0) and the alternative hypothesis (H1) (Pallant, 2016). In this study, hypothesis testing evaluates the impact of stakeholder engagement indicators on construction project success.

Table 10
Summary of Hypotheses Testing

Path			Hypotheses	R Value	R Square	Significance
SR	→	***PS***	H1	0.683	0.466	0.000
SC	→	***PS***	H2	0.697	0.485	0.000
SL	→	***PS***	H3	0.667	0.445	0.000
SI	→	***PS***	H4	0.476	0.227	0.000

As shown in Table 10, the R Square (R^2) value represents the proportion of variance in Project Success explained by the independent variables. The p-value of less than 0.0005 ($p < 0.0005$) confirms the statistical significance of the results, emphasizing the strength of the relationships. The hypothesis testing reveals that all four stakeholder engagement indicators positively impact Project Success. With p-values below 0.0005, these relationships are statistically significant, leading to the rejection of the null hypothesis for all four dimensions. This confirms the significant role of stakeholder engagement in construction project success.

4.2. Qualitative Data Analysis

Qualitative data analysis is essential for deriving deepinsights from non-numerical data, providing a contextual understanding and rich detail, particularly when assessing the impact of primary stakeholder engagement on Sri Lankan construction projects. This analysis highlights how stakeholder engagement affects the successful completion of construction projects and identifies recurring challenges in the stakeholder engagement process in Sri Lanka.

Table 11 presents a summary of the thematic analysis of asynchronous written-based interview data. It highlights key themes, indicators, and respondents' insights regarding stakeholder engagement and its role in project success, alongside potential issues.

Table 11
Qualitative Data Thematic Analysis Summary

Indicators	Attributes	Validation Comments Contribution to Project Success	Potential Issues
Stakeholder Relations - (SR)	Understand the intentions and behaviors	- Stakeholder analysis: interests, power dynamics, motivations (A, C, D) - Active listening, observing non-verbal cues (B, F)	- Misalignment of interests/conflicts (A, B) - Miscommunication or lack of feedback (C) - Lack of empathy/cultural sensitivity (F)
	Build good relationships	- Trust-building: regular communication, feedback, transparency (A, E, F) - Proactive engagement, decision-making participation (B, D, F) - Empathy, understanding diverse perspectives (F)	- Conflicts from lack of transparency (A) - Poor engagement due to unstructured communication (B, C) - Weak focus on trust-building/stakeholder satisfaction (D)
Stakeholder Communication - (SC)	Effective communication	- Clear and consistent communication channels (A, E) - Use of technology platforms for efficient communication (A, F)	- Miscommunication due to unclear protocols (A) - Delayed feedback or slow response time (D, F)
	Continuous consultation	- Transparency, accountability, and collaboration (B, D) - Regular stakeholder meetings, progress updates, and feedback mechanisms (A, F)	- Risk of breakdown in trust due to inconsistent (A, B,C) - Updates or lack of engagement (D, E)
Stakeholders Learning – (SL)	Implement strategies plan	- Builds awareness of sustainable methods (A, B, C). - Encourages collaboration (A, D, F).	- Misalignment of interests (A, B). - Resistance to change (C).
	Analyze changes	- Enhances understanding of project dynamics (C, D, E). - Supports risk identification (B, F).	- Oversight of critical changes (C). - Difficulty with regulations.
	Risk mitigation	- Promotes accountability and continuous improvement (C, E, F). - Encourages knowledge-sharing (B, D).	- Inadequate analysis tools may limit effectiveness (F,D). - Insufficient training (C).
Stakeholder Integration – (SI)	Compromise conflicts	- Open dialogue, mediation, and negotiation (A, B, C). - Emphasis on collaboration and respect (A, D, E).	- Unresolved conflicts lead to project delays (C). - Lack of trust among stakeholders (D).
	Understand project success	- Assesses alignment with stakeholder expectations (A, D). - Considers social and environmental impacts (B, F).	- Misalignment of objectives (D). - Inadequate stakeholder involvement (C).

	Good project governance	- Establishes clear roles and decision-making processes (A, D). - Promotes transparency and accountability (B, E).	- Resistance to governance structures (B). - Poor communication and misunderstandings (C).

(Source: Derived from Asynchronous Written-Based Interviews (E-mail survey) Data)

Hypothesis Validation Through Respondent Insights

The thematic analysis provides evidence supporting the four hypotheses:

H1 Hypothesis: *Stakeholder Relations has a significant impact on Construction Project Success*.

Respondent E emphasized that "Stakeholder relations are instrumental in driving the success of construction projects by fostering trust, accountability, and collaboration among project stakeholders."

H2 Hypothesis: *Stakeholder Communication has a significant impact on Construction Project Success*.

Respondent D noted that, "Regular communication checkpoints and milestone reviews provide opportunities for stakeholders to track progress and provide input, fostering collaboration and alignment." Additionally, Respondent D highlighted that, "Sustaining ongoing consultation with stakeholders requires a holistic approach that prioritizes engagement, transparency, and responsiveness."

H3 Hypothesis: *Stakeholder Learning has a significant impact on Construction Project Success*.

Respondent D contributed that, "Fostering interdisciplinary collaboration, stakeholder engagement, and participatory decision-making allows organizations to leverage stakeholders' diverse expertise and perspectives to enhance project outcomes and minimize environmental and social risks." Similarly, **Respondent B** discussed knowledge management practices, which encompass strategies aimed at capturing, sharing, and leveraging project-related insights.

H4 Hypothesis: *Stakeholder Integration significantly influences Construction Project Success*.

Respondent E highlighted that, "By fostering transparent communication, soliciting stakeholder feedback, and incorporating stakeholder input into decision-making, project teams can strengthen stakeholder relationships, enhance project outcomes, and drive success."

Respondent F mentioned that, "Good project governance in stakeholder integration involves establishing effective mechanisms for engagement, collaboration, and decision-making, with clear roles and responsibilities throughout the project lifecycle."

This qualitative analysis further validates the role of stakeholder engagement in construction project success, aligning with the hypotheses and demonstrating that effective stakeholder relations, communication, learning, and integration contribute positively to project outcomes.

5. DISCUSSIONS OF FINDINGS

This study encompassed three objectives, and the findings indicate that all three objectives were successfully achieved. The primary objective was to identify the key stakeholder engagement indicators contributing to construction Project Success (PS). In the literature, ten crucial attributes of primary stakeholder engagement were identified as effective communication, continuous consultation, understanding intentions and behaviors, implementation of strategic plans, building good relationships, analyzing changes, risk mitigation, conflict resolution through compromise, understanding project success, and ensuring good project governance. The identified indicators were consolidated into four categories: Stakeholder Relations (SR), Stakeholder Communication (SC) , Stakeholder Learning (SL) and Stakeholder Integration (SI). The framework, adapted from Freeman et al. (2017), which formed the constructs of stakeholder engagement indicators, as depicted in Figure 1. This framework integrates the identified stakeholder engagement indicators with construction project performance, providing a cohesive structure to assess how effective stakeholder interactions contribute to the overall success of construction projects. Qualitative data analysis plays a crucial role in uncovering deep insights from non-numerical data.

Derived from asynchronous interview data, it highlights respondents' diverse and valuable perspectives related to the identified indicators and attributes.

The second objective of this study was to explore the relationship between the effectiveness of primary stakeholder engagement and Project Success in the context of time, cost, quality, and client satisfaction in Sri Lankan construction projects. As shown in Table 6, the Correlation Coefficients indicate strong and moderate positive associations between the independent variables and Project Success (PS). All correlations are statistically significant at the 0.01 level (2-tailed), underscoring the interconnectedness of stakeholder engagement indicators and their impact on project success.

Specifically, PS exhibits a significant positive correlation with:

Stakeholder Relations (SR) : $r = 0.683$, $p < 0.01$

Stakeholder Communication (SC) : $r = 0.697$, $p < 0.01$

Stakeholders Learning (SL) : $r = 0.667$, $p < 0.01$

Stakeholder Integration (SI) : $r = 0.476$, $p < 0.01$

These findings suggest that improvements in stakeholder relations, communication, learning, and integration can contribute to enhanced project success, highlighting the importance of effective stakeholder engagement strategies in construction projects.

Furthermore, the results of the stepwise multiple regression analysis highlight the influence of each indicator on construction Project Success. Stakeholder Communication (SC) emerges as the most influential factor, with a SCt β-value of 0.697. The significance level of 0.000 at a 95% confidence interval and an R-squared value of 48% reinforce the importance of focusing on stakeholder communication in ensuring successful construction projects. This aligns with prior research emphasizing the significance of effective communication and continuous consultation in successful project implementation (Azlan et al., 2020). According to Heravi (2014), inefficient communication among parties involved in construction projects is one of the most significant factors affecting project quality. Moreover, challenges arising

from unreasonable and misdirected stakeholder perspectives regarding the project and its anticipated outcomes, stemming from inadequate communication and interaction among key stakeholders, can lead to quality issues. Effective communication among different stakeholders has been a focal point for project leaders, as noted by Bal (2014). Furthermore, he mentioned that well-organized relationships play a crucial role in enhancing construction projects by optimizing key success factors including time, cost, and quality. Construction projects are often regarded as national agendas, situations may arise where diverse expectations and various interpretations of project requirements lead to controversy, confusion, and conflicts among stakeholders regarding their primary objectives. An essential strategy to address this issue is to engage in continuous consultation with relevant primary stakeholders to understand their needs, requirements, and expectations effectively (Azlan et al., 2020; Bal, 2014; Heravi, 2014).

Secondly, the study confirmed a significant positive relationship between primary stakeholder relations and the success of construction projects. This relationship is evidenced by an estimated SCt β-value of 0.683 and an R^2 value of 46% at a 95% significance level. The findings suggest that construction projects stand a better chance of successful development and implementation when efforts are directed towards strengthening stakeholder relationships. The importance of fostering strong relationships among primary stakeholders has been extensively highlighted in prior studies. For example, Bal (2014), Heravi (2014), and Molwus (2014) emphasize the need to understand the intentions and behaviors of internal stakeholders and to maintain positive, collaborative relationships among all primary stakeholders. Strengthening these relationships has been shown to contribute to economic, social, and environmental benefits within construction projects (Bal et al., 2013).

The study further highlights that building effective stakeholder relationships facilitates the exchange of valuable information related to construction market conditions and fosters collaborative practices (Heravi, 2014). Additionally, the findings underscore the importance of stakeholder mapping and the identification of genuine stakeholder intentions as essential strategies for building strong relationships in the construction sector (Bal, 2014; Bal et al., 2013).

The findings reveal a significant positive correlation between primary stakeholders learning and construction project success in the third aspect, , with an estimated SCt β-value of 0.667 and an R^2 value of 44% at a 95% significance level. This outcome is consistent with the opinions of survey participants, the majority of whom emphasized that effective knowledge management practices contribute to organizational excellence, performance improvement, and innovation in construction projects. These practices also play a crucial role in advancing sustainability goals and mitigating risks associated with construction activities. Knowledge is universally recognized as a critical and indispensable resource for organizations. However, a significant challenge arises from the difficulty in clearly delineating primary , potentially harming project performance (Bal, 2014; Bal et al., 2013). Primary stakeholder knowledge management techniques play a pivotal role in enhancing decision-making processes in construction, particularly when navigating changes (Heravi, 2014; Molwus, 2014).The effective utilization of primary stakeholder knowledge, derived from previous project experiences, helps minimize errors and mistakes, thereby facilitating the development of effective strategies and improving the overall efficiency of construction projects (Bal, 2014; Bal et al., 2013).

Finally, the results of this study indicate a significant relationship between stakeholder integration and construction project success, supported by the SCt β-value of 0.476 and an R^2 value of 22% at a 95% significance level. The findings confirmed that integrating stakeholder engagement will create value and benefits for the project's stakeholders and help achieve project objectives (Bal, 2014; Heravi, 2014). Respondents agree that by considering stakeholder integration, stakeholders will be able to compromise conflicts, better understand project success, and ensure good project governance objectives (Bal, 2014; Molwus, 2014). It is suggested that conflicts can be resolved through proper mechanisms such as facilitation, negotiation, mediation, and arbitration. These dispute resolution approaches are instrumental in addressing differences among stakeholders before and after they reach the stage of a dispute (Heravi, 2014). Clearly defining the project mission and objectives is crucial for effectively managing the coordination of primary stakeholders and for evaluating its overall performance (Molwus, 2014). Therefore, engaging all stakeholders and understanding their perspectives is

crucial for achieving project success and ensuring good project governance (Azlan et al., 2020).

The third objective sought to uncover common challenges in the primary stakeholder engagement process within Sri Lankan construction projects.Through asynchronous interview and analysis, the study uncovers prevalent issues such as communication barriers, lack of trust, power imbalances, cultural considerations, and technology integration challenges. Moreover, it highlights the importance of transparent communication, proactive conflict resolution strategies, and stakeholder integration practices for fostering effective collaboration and ensuring successful project outcomes. Overall, the combined quantitative analysis and qualitative inquiry provide valuable insights that can inform primary stakeholder engagement strategies and contribute to the enhancement of construction practices in Sri Lanka.

A project is deemed successful when it accomplishes its objectives and fulfills or exceeds the expectations of primary stakeholders. Primary stakeholders play a pivotal role in construction projects, influencing decisions at every phase of the project life cycle, particularly in determining objectives, project design, and expectations at each stage. The significance of primary stakeholders in construction projects cannot be overlooked, highlighting the necessity for effective management to actively involve them in planning and implementing decisions and other relevant aspects of the project.

6. CONCLUSION AND IMPLICATIONS

This research explores stakeholder engagement within the framework of construction projects in Sri Lanka, providing insights into how stakeholder engagement indicators contribute to the success of these projects.

By examining the correlations and standardized coefficients between ‘Stakeholder Relations (SR), Stakeholder Communication (SC), Stakeholders Learning (SL), Stakeholder Integration (SI), and Project Success (PS)’, as well as through hypothesis testing, valuable insights have been gleaned regarding the factors that significantly influence project outcomes.The findings, derived from empirically testing the conceptual framework, reveal a significant positive

relationship between independent and dependent variables. In summary, the hypothesis of this study suggests that stakeholder relations, communication, learning, and integration play a positively significant role in the success of construction projects.

Apart from that, this research offers theoretical insights and several critical implications for the construction industry in Sri Lanka, particularly regarding stakeholder engagement practices.

6.1. Implications for Theory and Practice

This study acknowledges several key contributions to theoretical perspectives. Firstly, it enhances the theoretical understanding of stakeholder theory as proposed by Freeman et al. (2010) by empirically validating an expanded conceptual model comprising indicators and critical factors of stakeholder engagement. In contrast to previous literature, where stakeholder engagement was considered as stakeholders' management attributes, this study identifies critical success factors. Furthermore, it contributes to stakeholder engagement and management literature by presenting a measurement model that can be replicated in further research. Freeman et al. (2017) emphasized stakeholder engagement as a practical approach within stakeholder theory, and the purpose of this study is to provide examples and best practices on how companies should engage with stakeholders. Furthermore, given the global emphasis on construction and sustainable development, the stakeholder engagement framework explored in this study has the potential to generate insights that help bridge knowledge gaps between the field of project management and the distinctive nature of construction projects.

The methodological approach adopted in this research presents several significant implications for future studies on stakeholder engagement, particularly in the construction industry. By integrating Positivism and addressing a research gap through the use of a mixed-methods approach (Creswell & Creswell, 2018), this study transcends the limitations of singular methodologies. Additionally, the integration of “Asynchronous Written-Based Interviews (E-mail survey)” for conducting qualitative, in-depth interviews highlights the unique value of this method. It was found that Asynchronous Written-Based Interviews (E-mail survey) offer unprecedented opportunities for qualitative research (Dahlin, 2021; Meho,

2006), providing access to a vast pool of potential research participants who might otherwise be inaccessible.

The practical implications of Primary Stakeholder Engagement extend beyond theoretical frameworks, offering actionable insights for enhancing stakeholder relationships and driving success in construction projects. The findings from this study provide valuable guidance for project managers, stakeholders, and policymakers in Sri Lanka.

Enhancing Stakeholder Communication Strategies

Previous research has highlighted the role of communication in stakeholder management, but lacks empirical evidence linking communication effectiveness to project success. This study confirms that Stakeholder Communication (SC) is the most influential factor in project outcomes. Construction project managers should establish transparent and continuous communication channels using digital platforms like project management software, Building Information Modeling (BIM), and real-time collaboration tools to bridge communication gaps and reduce decision-making delays.

Strengthening Relationships to Build Trust and Collaboration

While prior studies emphasized the importance of stakeholder relationships, they provided limited practical strategies. This research highlights the pivotal role of Stakeholder Relations (SR) in project success. Project managers should adopt collaborative practices such as regular stakeholder workshops, open dialogue, and feedback sessions to foster trust, improve information sharing, and promote joint problem-solving, ultimately ensuring smoother project execution and reduced risks.

Promoting Continuous Stakeholder Learning and Knowledge Sharing

Although previous studies acknowledged the value of knowledge management, strategies for promoting Stakeholder Learning (SL) were underexplored. This study emphasizes that continuous learning and knowledge sharing enhance project performance and risk mitigation. Organizations should implement structured learning programs, formal training, post-project

evaluations, and knowledge-sharing forums to leverage stakeholders' insights, build resilience, and drive innovation.

Integrating Stakeholder Interests into Project Governance

Prior research did not fully explore the integration of stakeholder interests into governance frameworks, despite recognizing its importance. This study confirms that Stakeholder Integration (SI) significantly impacts project success. Project managers should incorporate stakeholder perspectives into governance structures, decision-making processes, and strategic objectives. Stakeholder mapping and early involvement in planning help align interests and improve governance and accountability.

By applying these practical implications, organizations can enhance stakeholder engagement processes, leading to more successful construction projects in Sri Lanka. The study provides both tactical and strategic insights, supporting sustainability-driven project performance.

6.2. Limitations and Future Research Directions

In the process of carrying out this research, various constraints were encountered. Firstly, the study's sample size may have been limited, potentially impacting the generalizability of the findings to the broader population of construction projects in Sri Lanka. Future research could consider expanding the sample size and scope to ensure greater representativeness. Additionally, the measurement of primary stakeholder engagement indicators and project success may have relied on subjective or single-item measures, potentially overlooking multidimensional aspects of these constructs. Future research could employ validated scales and multiple measures to capture the complexity of stakeholder engagement and project success more comprehensively. These limitations provide opportunities for future researchers to explore this extensive field of stakeholders and fill the gaps left by this study.

REFERENCES

Abeysinghe, N., & Jayathilaka, R. (2022). Factors influencing the timely completion of construction projects in Sri Lanka. *PLoS ONE, 17*(12), 64–83. https://doi.org/10.1371/journal.pone.0278318

Agyapong, L. K. (2017). *A quantitative study to determine the relationship between stakeholder management attributes and project success* (Doctoral dissertation).

Ajayi, B. O., & Chinda, T. (2022). Impact of construction delay-controlling parameters on project schedule: A DEMATEL–system dynamics modeling approach. *Frontiers in Built Environment*. https://doi.org/10.3389/fbuil.2022.799314

Akiner, I. (2014). Critical viewpoints on the management of conflict in multinational construction projects. *Organization, Technology and Management in Construction: An International Journal, 6*, 1038–1046.

Ali, A., Hussain, S., Ali, Z., Hussain, Z., & Murtaza, S. H. (2021). Analyzing the impact of coordination factors on construction project success in Pakistan using partial least squares structural equation modeling. *North American Academic Research Journal, 4*(1), 64–83. https://doi.org/10.5281/zenodo.4443028

Azlan, Z. S., Waris, M., & Tamyez, P. F. M. (2020). Investigating stakeholder engagement indicators towards renewable energy project success in Malaysia. *Horizon Journal of Humanities and Social Sciences Research*, 103–120.

Babbie, E. R. (2016). *The basics of social research* (7th ed.). Cengage Learning.

Bal, M. (2014). *Stakeholder engagement and sustainability-related project performance in construction* (Doctoral dissertation, Liverpool John Moores University).

Bal, M., Bryde, D., Fearon, D., & Ochieng, E. (2013). Stakeholder engagement: Achieving sustainability in the construction sector. *Sustainability, 5*(2), 695–710. https://doi.org/10.3390/su5020695

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

Butt, A., Naaranoja, M., & Savolainen, J. (2016). Project change stakeholder communication. *International Journal of Project Management, 34*, 1579–1595.

Central Bank of Sri Lanka. (2023). *Annual report 2022*. Central Bank of Sri Lanka.

Chapman, C., & Ward, S. (2013). *Project risk management: Processes, techniques and insights* (2nd ed.). John Wiley & Sons.

Chen, M., Cheng, S., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital, 6*(2), 159–176.

Cheong, Y. Y. (2017). Critical success factors for Malaysian construction projects: An investigative review. *Faculty of Built Environment, Universiti Teknologi Malaysia*, 93–104.

Crawford, L. H., Morris, P., Thomas, J., & Winter, M. (2006). Practitioner development: From trained technicians to reflective practitioners. *International Journal of Project Management, 24*, 722–733. https://doi.org/10.1016/j.ijproman.2006.09.010

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Dahlin, E. (2021). Email interviews: A guide to research design and implementation. *International Journal of Qualitative Methods, 20*. https://doi.org/10.1177/16094069211025453

El-Sawalhi, N. I., & Hammad, S. (2015). Factors affecting stakeholder management in construction projects in the Gaza Strip. *International Journal of Construction Management, 15*(2), 157–169.

El-Sayegh, S., Ahmad, I., Aljanabi, M., Herzallah, R., Metry, S., & El-Ashwal, O. (2020). Construction disputes in the UAE: Causes and resolution methods. *Buildings, 10*, Article 171. https://doi.org/10.3390/buildings10100171

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B., & de Colle, S. (2010). *Stakeholder theory: The state of the art*. Cambridge University Press.

Freeman, R. E., Kujala, J., & Sachs, S. (2017). *Stakeholder engagement: Clinical research cases*. Springer.

Frefer, A. A., Mahmoud, M., Haleema, H., & Almamlook, R. (2018). Overview success criteria and critical success factors in project management. *Industrial Engineering & Management, 7*, Article 244.

Fritz, R. L., & Vandermause, R. (2018). Data collection via in-depth email interviewing: Lessons from the field. *Qualitative Research in Nursing & Health*.

Galuppo, L., Gorli, M., Scaratti, G., & Kaneklin, C. (2014). Building social sustainability: Multi-stakeholder processes and conflict management. *Social Responsibility Journal, 10*, 685–701.

Gamage, A. N. K. K. (2022). Importance of effective communication to minimize disputes in construction projects. *Scholars Journal of Engineering and Technology*, 128–140.

Gamil, Y., & Rahman, I. A. (2017). Identification of causes and effects of poor communication in the construction industry: A theoretical review. *Emerging Science Journal, 1*(4), 239–247.

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. SAGE Publications.

Hai, T. K., Yusof, A. M., Ismail, S., & Wei, L. (2012). A conceptual study of key barriers in construction project coordination. *Journal of Organizational Management Studies*, 2012, Article 795679. https://doi.org/10.5171/2012.795679

Hammadi, S. A., & Nawab, M. S. (2016). Study of delay factors in construction projects. *IARJSET*. https://doi.org/10.17148/IARJSET.2016.3420

Hassan, A., Hamza, F., Nikhil, M., & Sufyan, S. (2017). A study on construction delays in residential structures. *International Refereed Journal of Engineering Science, 6*, 42–47.

Heravi, A. H. (2014). *Improving construction management: An investigation into the influence of effective stakeholder involvement on project quality outcomes* (Doctoral dissertation, Queensland University of Technology).

Lim, C. S., & Mohamed, M. Z. (1999). Criteria of project success: An exploratory re-examination. *International Journal of Project Management, 17*, 243–248.

Mainardes, E. W., Alves, H., & Raposo, M. (2012). A model for stakeholder classification and stakeholder relationships. *Management Decision, 50*(10), 1861–1879.

Molwus, J. J. (2014). *Stakeholder management in construction projects: A life cycle-based framework* (Doctoral dissertation, Heriot-Watt University).

Oxford Economics. (2021). *Global construction 2030: Market size forecast and growth outlook*. https://www.oxfordeconomics.com

Pallant, J. (2016). *SPSS survival manual* (6th ed.). McGraw-Hill Education.

Project Management Institute. (2017). *A guide to the project management body of knowledge* (6th ed.). PMI.

Project Management Institute. (2021). *The standard for project management and a guide to the project management body of knowledge* (7th ed.). PMI.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.

Silva, G. A. S. K., Warnakulasuriya, B. N. F., & Arachchige, B. J. H. (2016). Criteria for construction project success: A literature review. *Proceedings of the 13th International Conference on Business Management*, 697–717.

Sivarajah, T. (2021). Construction project delays in Sri Lanka. *Journal of Research Technology & Engineering, 2*(4), 25–29.

Trading Economics. (2023). *Sri Lanka GDP from construction*. https://tradingeconomics.com/sri-lanka/gdp-from-construction

Worku, M. (2018). *Relationship between stakeholder engagement and project performance: The case of Ethiopian Road Authority* (Master's thesis, Addis Ababa University).

Yathupriyan, A., & Widisinghe, S. (2022). Study on time overrun related to construction projects in Sri Lanka. *Advances in Technology, 2*(2), 124–130.