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Win–Win Approach to Subcontracting in Building Construction: Sri Lankan Perspective

Imasha R. Pasqual[1,2,*], Lesly Ekanayake[3]

[1] Department of Civil Engineering, University of Moratuwa, Sri Lanka, irpasqual@gmail.com
[2] Department of Civil Engineering, Sri Lanka Institute of Information Technology, Sri Lanka, imasha.p@sliit.lk
[3] Department of Civil Engineering, University of Moratuwa, Sri Lanka, lesly@uom.lk

Corresponding author: Imasha R. Pasqual, Department of Civil Engineering, Sri Lanka Institute of Information Technology, Sri Lanka, imasha.p@sliit.lk

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Abstract

Subcontracting has long been studied due to subcontractors' critical role in construction. However, significant issues persist, especially in developing countries like Sri Lanka, impacting project performance. These issues between main contractors and subcontractors stem from a lack of mitigation methods incorporating relationship management into traditional practices. Furthermore, most prior mitigation strategies are not favorable to both parties. This research aims to develop a "win–win" approach to subcontracting, focusing on relationship and performance management, specifically applicable to building construction. A mixed-method research approach was employed, involving literature review, questionnaire survey, and semi-structured interviews. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically. Findings reveal that effectively managing critical factors that influence both subcontracting relationships and subcontractor performance can lead to mutually beneficial outcomes. The study identified critical factors affecting the subcontracting relationship as mutual trust, good communication, and a clear understanding of the work scope by the subcontractor, while for subcontractor performance, the critical factors include time and cost management capabilities of the subcontractor, the availability of finance and working capital for both parties, and issues such as material price increase and inflation rate when subcontractors supply materials. The findings emphasize that prioritizing mutual satisfaction throughout the subcontracting

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process is essential for implementation. Recommendations provided in this study aim to improve these critical factors, offering practical solutions to enhance project efficiency and individual performance. This research provides valuable insights for developing organizational policies or industry guidelines, particularly for the unique challenges being faced in developing countries.

Keywords

Developing Countries; Construction Project Management; Performance Management; Relationship Management; Subcontractor Partnership

Introduction

Subcontractors have emerged as pivotal stakeholders in the construction industry, with main contractors being increasingly reliant on their specialized expertise and resources. The complex and dynamic nature of modern construction projects renders it inefficient and economically impractical for general contractors to maintain a full-time workforce of skilled workers or possess the specialized equipment required for every task (De Graaf et al., 2023). As a result, subcontracting has become a strategic imperative to optimize resource allocation, reduce costs, and enhance operational flexibility (Mahmoudi and Javed, 2022).

The significance of subcontracting is particularly pronounced in contexts like Sri Lanka, where labor shortages pose substantial challenges to project timelines and budgets (Manoharan et al., 2020). Moreover, the inherent volatility of the construction sector necessitates strategic partnerships to mitigate risks associated with market fluctuations (Shishehgarkhaneh et al., 2024). Subcontractors have thus evolved into the most important resource available to main contractors, contributing significantly to project success over the past decade (Jin et al., 2013).

Given the increasing substantial role of subcontractors, many studies have examined the dynamics of the main contractor–subcontractor relationship in recent decades (Chiang, 2009; Tan et al., 2017). These studies have found numerous issues that continue to affect the subcontracting landscape in construction (Arditi and Chotibhongs, 2005; Martin and Benson, 2021). However, previous research has often proposed unilateral solutions that fail to adequately address the complex interplay of interests between the two parties.

Prior studies have established the critical influence of the main contractor–subcontractor relationship on overall project performance (Abeysekara and McLean, 2001; Choudhry et al., 2012; Inayat et al., 2015; Tan et al., 2017; Mudzvokorva et al., 2020). Consequently, comprehending and managing the factors that shape this relationship is essential for achieving project objectives. However, traditional performance management approaches have fallen short in fostering mutually beneficial subcontract relationships. This may explain why, despite extensive research on subcontract management since the early 1990s, significant grievances between the two parties persist in the construction industry to this date. Accordingly, recent research highlights the need for a balanced approach that integrates relationship management and performance management.

This study aims to address this gap by developing a win–win approach that prioritizes the interests of both main contractors and subcontractors. Drawing on a conceptual framework proposed in prior literature, the research investigates the critical factors influencing their relationship and performance to provide actionable insights for enhancing collaboration and project outcomes. In order to gain a more holistic understanding, a mixed-method research approach was employed for this study, encompassing a literature review, a questionnaire survey, and semi-structured interviews.

The findings of this study are expected to contribute to the advancement of construction management practices in developing countries like Sri Lanka, where the construction sector plays a vital role in economic growth (Lewis, 2008). By fostering stronger and more productive main contractor–subcontractor relationships, this research intends to enhance project delivery, reduce costs, and ultimately contribute to

strengthening the national economy of developing countries through improvement in the construction sector.

Literature review

THE COMPLEXITIES OF SUBCONTRACTOR MANAGEMENT

The construction industry has a long history of employing subcontractors, but the nature of these relationships has evolved over time. Traditionally, subcontracting was characterized by adversarial dynamics, with main contractors holding significant power over subcontractors (Shimizu and Cardoso, 2002). One of the earliest studies by Hinze and Tracey (1994) found that subcontractors often felt that the main contractors did not have the best interests of the subcontractors in mind. However, another perspective emerges in a subsequent study by Kale and Arditi (2001), who revealed that the main contractors have a favorable view of maintaining high-quality relationships with subcontractors. While these contrasting views highlight the complexities of subcontracting, the challenges are particularly pronounced in developing countries like Sri Lanka, where the subcontracting environment remains largely informal. A study conducted by Chamara, et al. (2015) revealed a significant gap existing between the required level of performance and the current performance level of subcontractors. More recently, Deep, et al. (2023) discovered that relationships between main contractors and subcontractors still remain at arm's length. Accordingly, when proposing a "win–win" approach to subcontracting, it is pertinent to consider the complex nature of subcontract management.

THE EVOLUTION OF SUBCONTRACTOR MANAGEMENT

Research has extensively explored various aspects of subcontractor management to address prevalent industry challenges (Olsson, 1998; Loosemore and Andonakis, 2007; Enshassi et al., 2008; Piasny and Pasławski, 2015; Rodrigo and Perera, 2016; Assaad et al., 2020). Traditionally, a performance-based approach dominated subcontractor management strategies. However, a growing body of research has emphasized the importance of relationship management alongside performance metrics (Manu et al., 2015; Fagbenle et al., 2018). Thomas and Flynn (2011) were among the first to propose a dual-pronged approach, encompassing both work and people management, to manage subcontractors effectively.

The construction industry has increasingly recognized the value of relationship management, particularly considering its correlation with project performance (Meng, 2012). While performance metrics remain crucial, relationship-driven management fosters collaboration and productivity. Meng (2012) further suggested that performance management is frequently used at the operational level, while relationship management is helpful at a strategic level. This integrated approach surpasses traditional project management methodologies.

Strategic partnering has emerged as a complementary strategy to relationship management to enhance project outcomes (Meng, 2012). Partnering is defined as a strategic, long-term collaboration focused on cost reduction and efficiency (Harris et al., 2021). While early research suggested a general industry willingness to embrace partnering (Black et al., 2000), challenges such as differing perspectives and traditional, arm's length relationships have hindered its widespread implementation (Dainty et al., 2001; Greenwood, 2001). However, partnering has gained traction in the construction industry in recent years due to its perceived organizational advantages (Elsayegh and El-Adaway, 2021). Its effectiveness, nonetheless, remains dependent upon mutual trust and understanding. Despite these obstacles, the potential benefits of partnering make it a valuable component when developing a "win–win" approach to subcontracting.

RISK MANAGEMENT IN SUBCONTRACTING

Risk management has emerged as a critical component of effective subcontractor management due to the inherent uncertainties within construction projects. Research has examined the relationship between risk management and subcontractor performance, highlighting its potential to mitigate challenges and foster positive relationships (Perera et al., 2016; Lee et al., 2018). A balanced approach that considers the perspectives of both main contractors and subcontractors is essential for equitable risk allocation.

Lee, et al. (2018) proposed a win–win strategy for a sustainable relationship between the main contractor and the subcontractor based on the identified subcontracting risks related to the partnership and performance. The "win–win" strategy is a well-known negotiation philosophy in which all parties to an agreement or a deal stand to realize their fair share (<100%) of the benefits and/or profits. The x-axis of the proposed win–win strategy matrix was the partnership degree, while the y-axis was the subcontractor's performance in terms of cost, time, and quality of a project. It was portrayed from this matrix that to achieve a "win–win" outcome, both the partnership and the performance need to be positive. This proposed strategy matrix also illustrated three other possibilities in addition to the "win–win" quartile. When both the performance and partnership were weak, it produced the worst-case scenario where both parties lost. If only the performance were strong, then the relationship would be project-based and would not last beyond the specific project. If only the relationship were strong, then the project performance would suffer. Therefore, Lee, et al. (2018) stated that both parties must focus on the lacking factor to improve both project-based and relation-based scenarios. However, this study has one significant limitation. It investigated a win–win strategy solely based on the view of the subcontractor. Since the main contractor traditionally holds the position of power in subcontracting (Jin et al., 2013), and still continues to do so a decade later, validating the findings from the main contractors is important for this study to be more meaningful and reliable.

Therefore, this research study intends to develop this existing concept built on the foundation of risk management by integrating key concepts discussed in this literature review, such as relationship management and performance management, while prioritizing the mutual benefits of both parties.

Research methodology

SCOPE OF THE STUDY

Prior studies have employed diverse classification schemes for subcontractors (Shimizu and Cardoso, 2002; Tesha and Luvara, 2017). In this study, the term "subcontractor" is used to represent non-specialized civil subcontractors carrying out basic activities of a building project, such as formwork, masonry, and concrete work. No other distinctions, such as domestic, nominated, and named subcontractors, were made. As the findings of the study by Lee, et al. (2018) established the perceptions of the subcontractors for a "win–win" strategy in subcontracting, this study focused on the view of the main contractors to validate and further develop this concept for subcontracting.

In Sri Lanka, all contractors involved in construction are required to register with the Construction Industry Development Authority (CIDA), which grades them primarily on their financial capacity. Accordingly, Sri Lankan contractors with a high CIDA grading (C1 to CS2) for buildings were approached for the questionnaire on the basis that they were predominantly involved in building projects as main contractors. At the time of the study, 38 such organizations were eligible to participate. Since the representatives of the main contractor based in the head office and site may have varying opinions about subcontracting, this study tried to examine the opinions of both decision-makers at the head office and project managers at the site.

RESEARCH APPROACH AND DESIGN OF STUDY

To achieve the objective of this study, the survey method has been predominantly adopted in this mixed-method research design. First, an extensive review of prior literature was carried out.

Figure 1 presents the key concept of the "win–win" approach to subcontracting, adapted from Lee, et al. (2018) to the context of the Sri Lankan construction industry. Certain terms and labels were modified to reflect local terminology. As aforementioned, the three scenarios outside the win–win quadrant of the matrix are neither sustainable nor beneficial for the project and both parties: the main contractor and subcontractor. This framework guided the development of the questionnaire and semi-structured interview guide, particularly in identifying and categorizing factors affecting relationship and subcontractor performance.

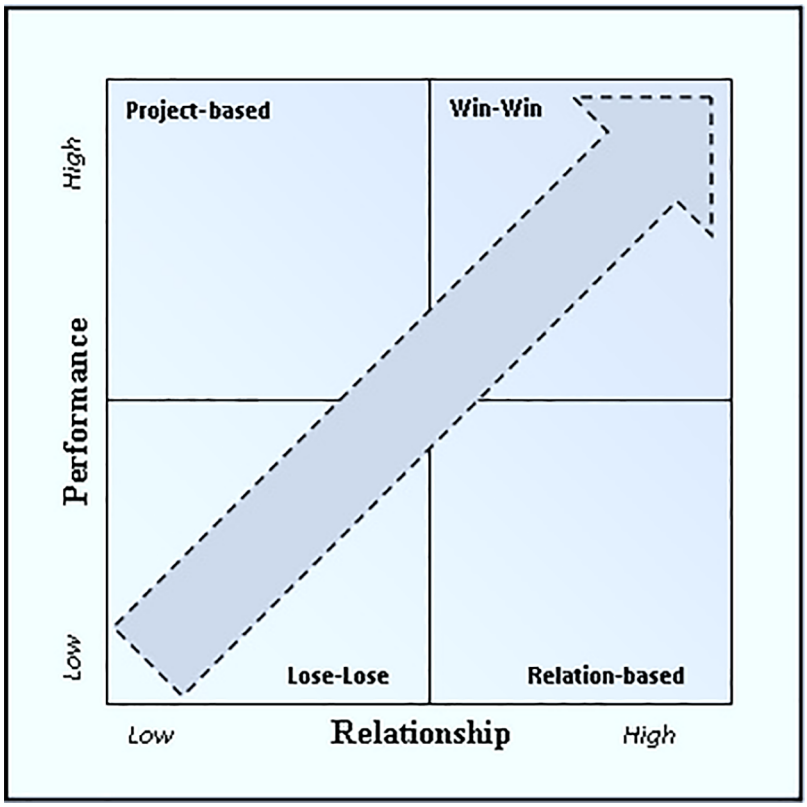

Figure 1. Key concept of the "win–win" approach to subcontracting

Thereafter, the preliminary questionnaire was designed by referring to the previous research relevant to this study (Perera et al., 2016; Lee et al., 2018). The questionnaire was then refined through a pilot study involving five industry experts representing diverse roles in project management, quantity surveying, and civil engineering. Their feedback led to the removal of factors deemed irrelevant to the Sri Lankan context, rewording of items to reflect local terminology, and explicit clarification of terms such as "win–win outcome", "bid shopping", and "subcontractor". To enhance comprehension, plain English was used, several items were combined to reduce respondent fatigue, and the questionnaire structure was reorganized for better flow. These refinements ensured clarity, contextual relevance, and practicality of the final questionnaire distributed in the study.

The finalized questionnaire was developed using Google Forms. It comprised four sections, including respondent demographics, the ranking of identified factors on a 5-point Likert scale separately for relationship and subcontractor performance, overall opinions on the win–win approach proposed in this study, and perceptions regarding its potential implementation in the industry. The questionnaire was

distributed online via email to 38 eligible organizations. To minimize potential bias, decision-makers representing diverse backgrounds from the head offices of participating organizations were invited to respond to the questionnaire at this stage. Each organization was encouraged to nominate at least two employees, aiming for a total of 76 responses. Follow-up reminders were sent to maximize participation. Due to its anonymous nature, it was not possible to determine which organizations had responded; however, the number of responses indicated that some organizations submitted multiple entries while others did not respond. Data collection was closed when a 58% response rate was achieved, exceeding the 35% benchmark that Baruch (1999) suggested for studies involving top management. The responses were organized in Excel and analyzed using the SPSS software.

The questionnaire was administered before the semi-structured interviews to identify and prioritize key factors through quantitative ranking, thereby providing a structured basis for the subsequent qualitative phase. The ranking of the identified factors informed the flow of the interviews, where the interview guide was organized according to the relative criticality of factors revealed from the quantitative analysis. According to Saunders, et al. (2009), semi-structured interviews provide opportunities to "probe" answers and, therefore, can add significance and depth to the data obtained from the questionnaire. The outline of the semi-structured interview had open-ended questions, as they encouraged interviewees to provide developmental answers. Moreover, according to Easterby-Smith, et al. (2021), open questions can assist in avoiding bias. Interviewees were shown the categorization of the identified factors into least critical, less critical, critical, more critical, and most critical categories by the questionnaire respondents separately for relationship and subcontractor performance. Then, they were encouraged to give their opinion regarding the categorization, how these factors can be improved at the site, and any other remarks they may have. The overall opinion of the interviewee regarding the proposed "win–win" approach to subcontracting was also explored, together with their opinion on the possibility of implementation and ways to improve the implementation process. Although a common outline was followed, the semi-structured format allowed flexibility for deeper exploration, and both English and Sinhala were used based on interviewee preference.

Managers generally prefer to be interviewed rather than complete a questionnaire, especially when the interview topic is relevant and interesting to their current work (Saunders et al., 2009). Moreover, fewer participants are considered satisfactory when testing the applicability of an existing theory in order to develop it to better suit the testing surroundings through interviews (Saunders et al., 2009). Accordingly, the same 38 organizations were contacted to request interviews with their project managers. From the organizations that responded, five project managers were selected to represent the population, taking into account logistical considerations and time constraints. The interviews were audio-recorded and transcribed verbatim. The qualitative data were then analyzed using thematic analysis, a widely accepted method for identifying, coding, and categorizing patterns and themes within qualitative data (Braun and Clarke, 2006). Transcripts were manually reviewed, coded, and sorted to identify recurring themes and insights related to the research objectives. While the analysis was performed manually, it followed a systematic approach consistent with qualitative research standards. For transparency, coding was cross-checked and organized in Microsoft Excel, facilitating the grouping of responses under thematic categories.

Accordingly, both quantitative and qualitative data were collected and analyzed separately in this research study.

Results and discussion

DEMOGRAPHICS

The demographic profiles of the questionnaire respondents and the interviewees of semi-structured interviews are presented in Table 1. This information helped understand the characteristics of study

Table 1. Characteristics of the study participants

Question	Response	Percentage
Questionnaire respondents		
CIDA grading (for buildings) of the affiliated organization	CS2	50
	CS1	5
	C1	45
Work experience in building construction (years)	<5	14
	5–10	27
	>10	59
Experience as a subcontractor in building construction	Yes	59
	No	41
Educational background	Civil engineering	39
	Quantity surveying	18
	Project management	18
	Accounting/finance	11
	Architecture	7
	Construction law	7
Current designation	Chairman/director	13
	Contract manager	7
	Construction manager	34
	Finance manager	10
	Chief quantity surveyor	14
	Design manager	7
	General manager	14
Interview participants		
CIDA grading (for buildings) of the affiliated organization	CS2	60
	C1	40
Total experience (years)	<10	40
	10–20	20
	>20	40

Table 1. continued

Question	Response	Percentage
Work experience in Sri Lanka (years)	<10	40
	10–20	40
	>20	20
Experience as a subcontractor in building construction	Yes	100
Educational background	Civil engineering	100

Note: CIDA, Construction Industry Development Authority.

participants and how they may have impacted the findings while also indicating diverse backgrounds representative of the broader population of industry professionals.

QUESTIONNAIRE FINDINGS

First, a reliability analysis was conducted to find the internal consistency of factors included in the questionnaire by calculating Cronbach's alpha (Cronbach, 1951) as shown in Table 2. Since the values of both questionnaire sections exceeded 0.7, the factors chosen for the survey were internally consistent (Nunnally and Bernstein, 1978).

Table 2. Reliability analysis of the questionnaire

Section of questionnaire	No. of factors	Cronbach's alpha	Internal consistency
What factors critically affect the *relationship* between main contractors and subcontractors?	15	0.909	Excellent
What factors critically affect the *performance* of the subcontractors?	15	0.863	Good

Thereafter, the relative importance index was calculated following the methodology adapted from Gündüz and Özdemir (2013). The factors were then categorized into five sections using quintile-based classification, as illustrated in Figures 2 and 3.

Notably, the questionnaire respondents perceived the performance factors as more critical than the relationship factors. This quintile categorization of the 15 factors, as seen in Table 3, formed the basis for the outline of the semi-structured interview.

All questionnaire respondents unanimously agreed that the management of factors affecting the relationship between the main contractor and subcontractor, as well as the performance of the subcontractor, would result in a "win–win" outcome, which validates the basis of this research study.

In the concluding remarks, questionnaire respondents stated that, according to their experience, it is possible to implement this approach in the building construction industry of Sri Lanka. However, two respondents noted that implementation is difficult because of the prevalent attitude in the industry and poor understanding among the main contractors and subcontractors. These statements were examined in detail during the semi-structured interviews to obtain a better understanding.

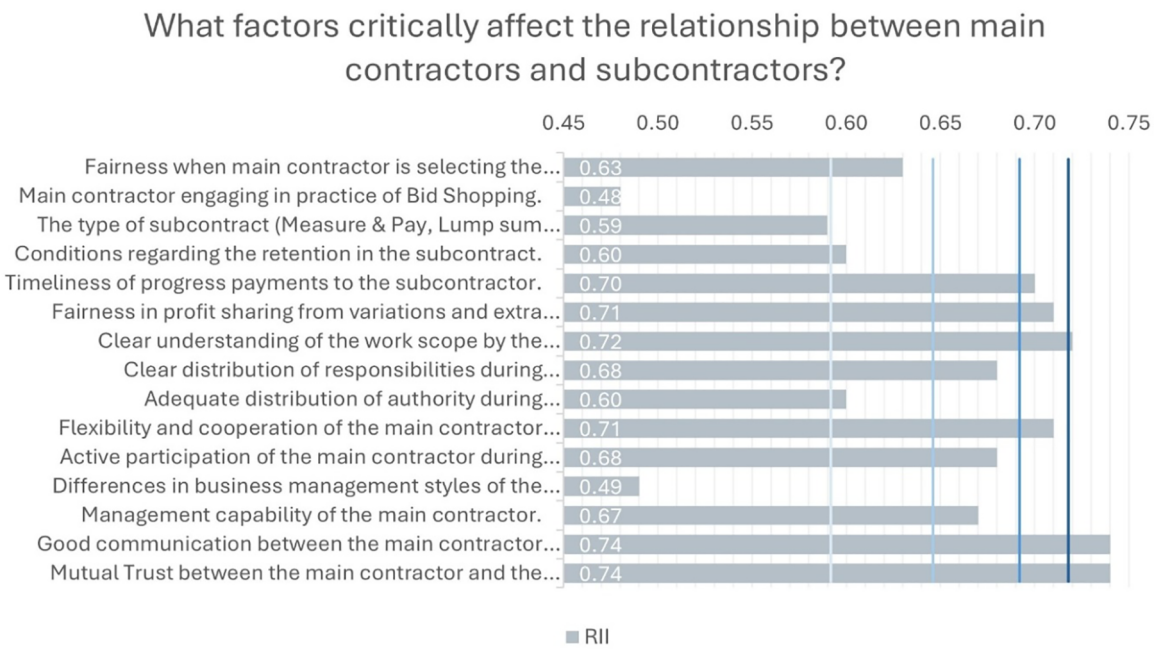

Figure 2. Relative importance index of factors critical for the subcontracting relationship

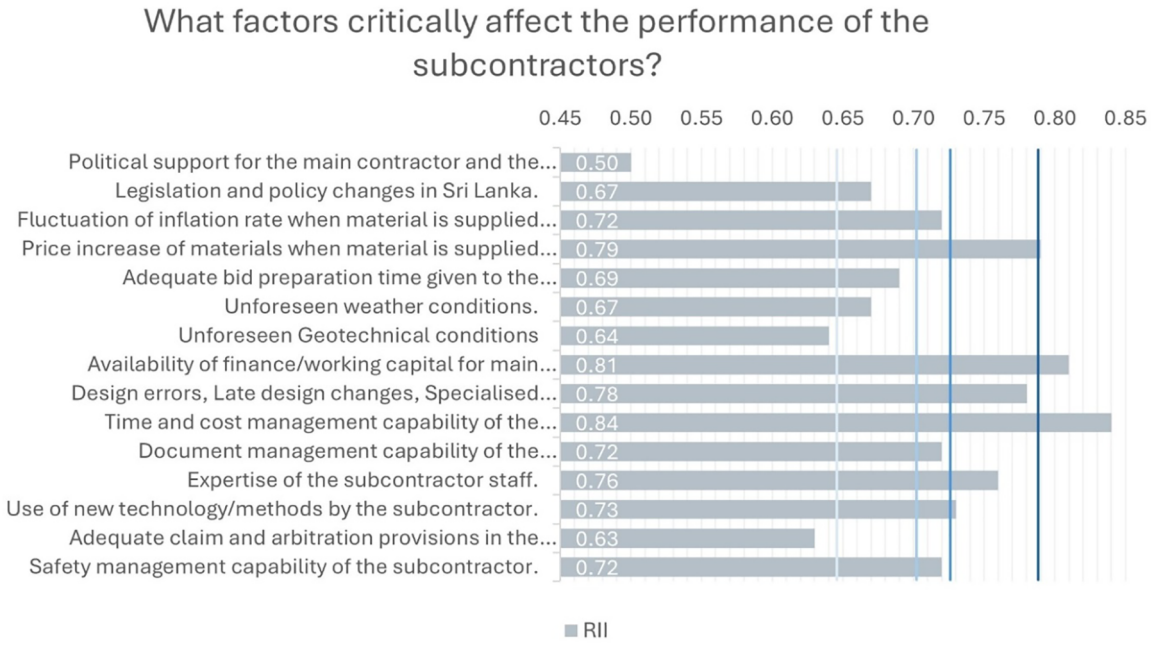

Figure 3. Relative importance index of factors critical for the performance of the subcontractor

SEMI-STRUCTURED INTERVIEW FINDINGS

According to the comments made by the interviewees, the criticality of the factors was revised, as seen in Figures 4 and 5. Some factors deemed less than critical were excluded, while factors closely associated were combined after the interview findings.

The subsequent sections of the semi-structured interviews included an in-depth exploration of these factors, along with recommendations from experienced project managers in the Sri Lankan construction

Table 3. Categorization as per questionnaire respondents

	Factor	RII	Rank	Categorization
	What factors critically affect the *relationship* between main contractors and subcontractors?			
1	Fairness when the main contractor is selecting the subcontractor	0.63	6	Less critical
2	Main contractor engaging in the practice of bid shopping	0.48	1	Least critical
3	The type of subcontract (measure and pay, lump sum, etc.) and payment conditions	0.59	3	Least critical
4	Conditions regarding the retention in the subcontract	0.60	5	Less critical
5	Timeliness of progress payments to the subcontractor	0.70	10	More critical
6	Fairness in profit sharing from variations and extra work	0.71	12	More critical
7	Clear understanding of the work scope by the subcontractor	0.72	13	Most critical
8	Clear distribution of responsibilities during subcontracting	0.68	9	Critical
9	Adequate distribution of authority during subcontracting	0.60	5	Less critical
10	Flexibility and cooperation of the main contractor during subcontracting	0.71	12	More critical
11	Active participation of the main contractor during subcontracting	0.68	9	Critical
12	Differences in business management styles between the main contractor and the subcontractor	0.49	2	Least critical
13	Management capability of the main contractor	0.67	7	Critical
14	Good communication between the main contractor and the subcontractor	0.74	15	Most critical
15	Mutual trust between the main contractor and the subcontractor	0.74	15	Most critical
	What factors critically affect the *performance* of the subcontractors?			
1	Political support for the main contractor and the project	0.50	1	Least critical
2	Legislation and policy changes in Sri Lanka	0.67	5	Less critical
3	Fluctuation of the inflation rate when the material is supplied by the subcontractor	0.72	8	Critical
4	Price increase of materials when the material is supplied by the subcontractor	0.79	13	Most critical
5	Adequate bid preparation time given to the subcontractor	0.69	6	Less critical
6	Unforeseen weather conditions	0.67	5	Less critical
7	Unforeseen geotechnical conditions	0.64	3	Least critical

Table 3. continued

	Factor	RII	Rank	Categorization
8	Availability of finance/working capital for the main contractor and subcontractor	0.81	14	Most critical
9	Design errors, late design changes, specialized design, etc., in the project	0.78	12	More critical
10	Time and cost management capability of the subcontractor	0.84	15	Most critical
11	Document management capability of the subcontractor	0.72	8	Critical
12	Expertise of the subcontractor staff	0.76	11	More critical
13	Use of new technology/methods by the subcontractor	0.73	10	More critical
14	Adequate claim and arbitration provisions in the subcontract	0.63	2	Least critical
15	Safety management capability of the subcontractor	0.72	8	Critical

Note: RII, relative importance index.

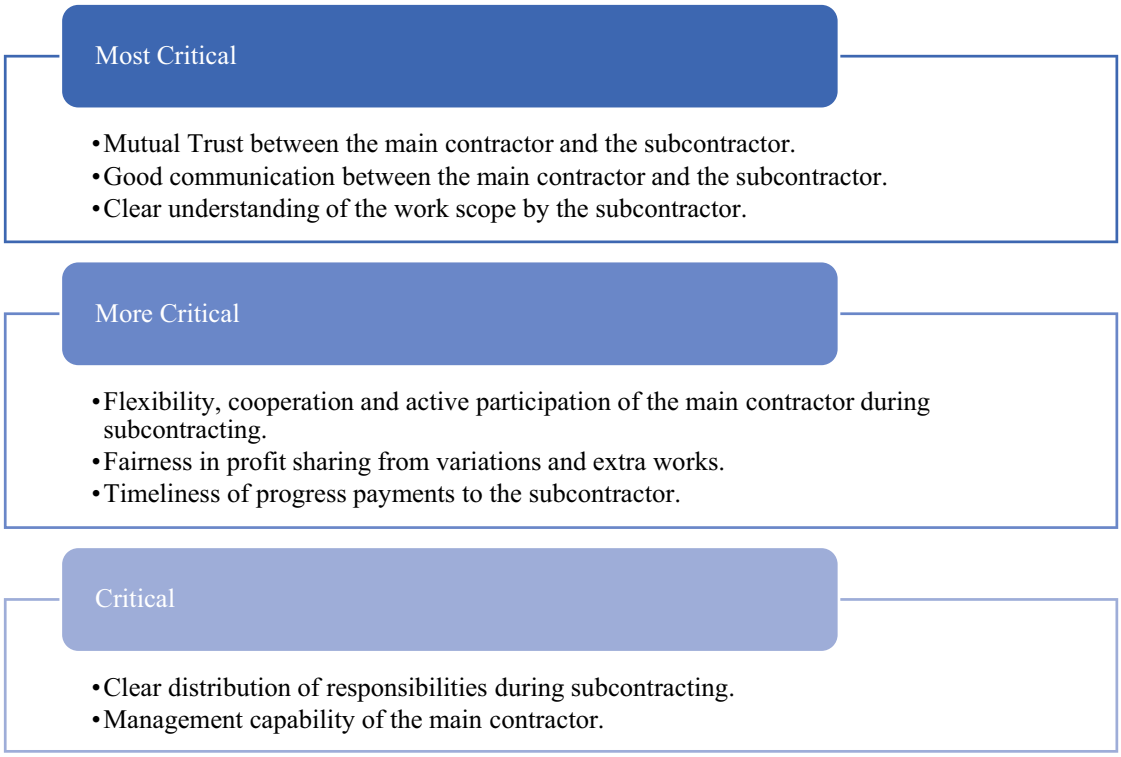

Figure 4. Critical factors for the subcontracting relationship

industry on how they could be effectively managed at project sites. The recommendations obtained are summarized in Tables 4 and 5.

Apart from the aforementioned critical factors, project managers highlighted additional considerations for successful subcontracting in building construction projects in Sri Lanka. The importance of selecting

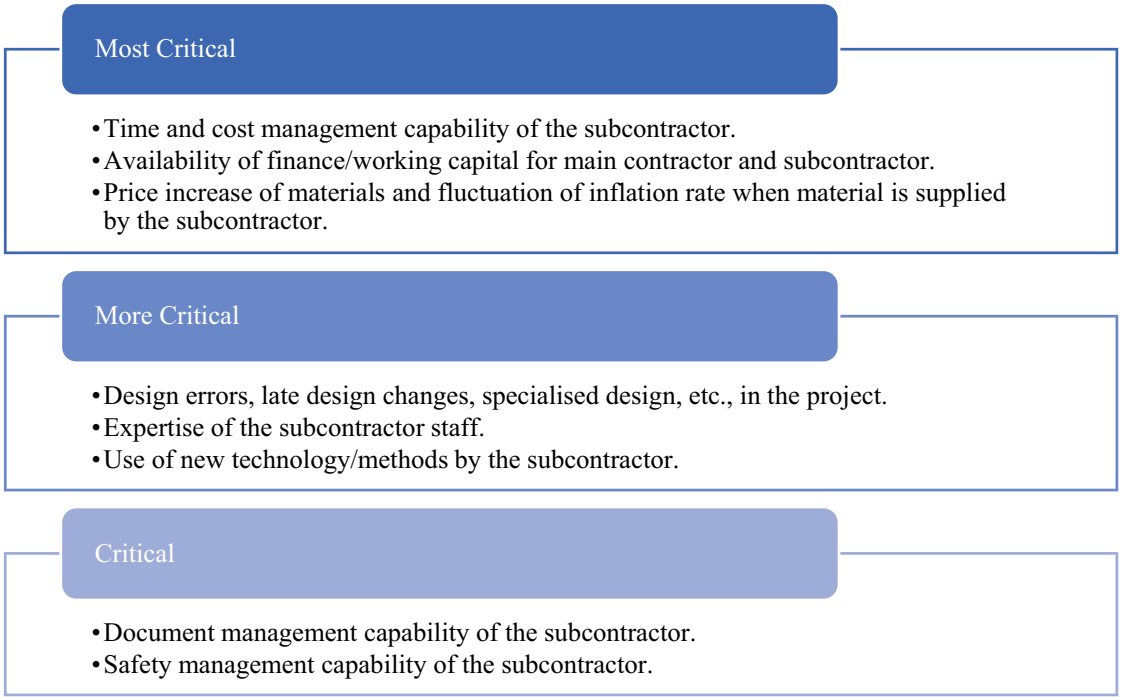

Figure 5. Critical factors for the performance of the subcontractor

Table 4. Recommendations for managing critical factors affecting the relationship

Factor	Recommendations
Most critical factors	
Mutual trust between the main contractor and the subcontractor.	• Paying the subcontractor on time as agreed. • Taking a humane approach regarding the financial issues of the subcontractor. • Initiating and building a sustainable relationship with the subcontractor.
Good communication between the main contractor and the subcontractor.	• Scheduling regular face-to-face briefings for the subcontractor. • Encouraging the subcontractor to communicate any concerns they may have. • Being cautious when communicating technical information. • Intercepting direct communication between the client and the subcontractor.
Clear understanding of the work scope by the subcontractor.	• Clearly defining the scope and requirements (especially regarding safety, quality, site cleaning, etc.). • Including the scope clearly in the contract, especially when the scope is complex. • Explaining the scope verbally in detail to the subcontractor from the beginning.

Table 4. continued

Factor	Recommendations
More critical factors	
Flexibility, cooperation, and active participation of the main contractor during subcontracting.	• Scheduling regular progress review meetings to discuss ongoing issues and to set targets. • Monitoring a weekly program through daily meetings. • Assigning one supervisor to closely monitor and aid the subcontractor. • Providing material, labor, or equipment in a flexible manner if the subcontractor is struggling to meet the targets. • Implementing a site policy to manage the subcontracting relationship, similar to a QA/QC policy.
Fairness in profit sharing from variations and extra work.	• Discussing conditions regarding variations and extra work at the beginning. • Including the agreed conditions in the contract. • Considering the cost related to the subcontractor when the main contractor is submitting rates to the client. • Assuring a fair return from variations and extra work for the subcontractor. • Both parties being reasonable about the profit from variations and extra work.
Timeliness of progress payments to the subcontractor.	• Refraining from using back-to-back payment conditions to delay payments to the subcontractor. • Taking all possible measures, such as providing material, to relieve the subcontractor if payments to the subcontractor are delayed.
Critical factors	
Clear distribution of responsibilities during subcontracting.	• Explaining the responsibilities verbally at the beginning. • Including a precise distribution of responsibilities in the contract. • Using daily meetings to closely monitor until they fully understand their responsibilities. • Giving the subcontractor the required rights to execute the responsibilities.
Management capability of the main contractor.	• Planning for the whole project and giving directions to subcontractors to stay ahead of the program. • Establishing a system to manage the subcontractors. • Training the staff of the main contractor on managing subcontractors.

a suitable subcontractor cannot be overstressed, as it is the first step in building a good relationship between the main contractor and the subcontractor. Once the relationship is initiated, top priority should be given to financial aspects when building a sustainable relationship, as it is a motivating factor for the subcontractors. Timely payments and fair compensation for idle time are crucial for fostering positive subcontractor relationships. While unforeseen circumstances can impact project timelines, subcontractors should not be expected to bear the financial burden disproportionately. Main contractors must prioritize the financial well-being of subcontractors, recognizing their limited capacity to absorb additional costs. This

Table 5. Recommendations for managing critical factors affecting the performance

Factor	Recommendations
Most critical factors	
Time and cost management capability of the subcontractor.	• Monitoring financial and physical progress through regular progress review meetings. • Stepping in with instructions if the subcontractor is not meeting the targets. • Assisting financially if the reasons for lapses of the subcontractor are tied to financial issues. • Arranging training for subcontractors to improve technical aspects that are helpful for time and cost management.
Availability of finance/ working capital for the main contractor and subcontractor.	• Establishing a system with the cooperation of relevant authorities to provide a source of finance for subcontractors through banks or micro loan schemes.
Price increase of materials and fluctuation of the inflation rate when material is supplied by the subcontractor.	• Giving the subcontractor compensation received by the client through a price adjustment. • If price adjustment is not included in the main contract, keeping an allowance when submitting rates to the client to compensate the subcontractor in case of a price increase. • Reasonably compensating the subcontractor in the event of an unforeseen price increase.
More critical factors	
Design errors, late design changes, specialized design, etc., in the project.	• Compensating the subcontractor for idling due to design issues by including a minimum standing fee in the contract. • Assigning alternative work during idling times. • Claiming for time and cost from the client and giving a fair share of compensation to the subcontractor.
Expertise of subcontractor staff.	• Focusing on improving the leadership skills of the subcontractor in addition to expertise. • Closely supervising subcontractor staff initially to improve their expertise.
Use of new technology/methods by the subcontractor.	• Introducing new technology to subcontractors, especially time-saving methodologies. • Being cautious of the cost aspect of the new methods introduced. • Paying attention to knowledge transfer.
Critical factors	
Document management capability of the subcontractor.	• Explaining the importance of document management to the subcontractors. • Introducing simple formats for weather charts, daily records, etc., that are suitable and relevant to the level of the subcontractor. • Assigning one capable supervisor from the subcontractor staff for record-keeping. • Training and guiding the assigned supervisor to manage documents. • Providing the subcontractor with an office space and stationery at the site.

Table 5. continued

Factor	Recommendations
Safety management capability of the subcontractor.	• Explain safety requirements to the subcontractor at the beginning. • Including a safety allowance in the subcontractor rates. • Regularly conveying the importance of safety at toolbox meetings. • Arranging for monthly safety training. • Implementing motivation methods like a zero-accident bonus and reward system for exemplary laborers. • Encouraging good housekeeping, cleanliness, good behavior, etc. • Enforcing penalties if motivation methods are not effective.

includes avoiding practices that shift costs to subcontractors, such as delaying payment claims, to maintain a cordial relationship with the client. A win–win approach necessitates mutual understanding and respect, with main contractors recognizing that their relationships with both the client and the subcontractor are equally important. Implementing regular rate adjustments for subcontractors can help mitigate the impact of inflation and encourage lasting relationships in developing countries like Sri Lanka. It is also critical to never assume that subcontractors have the same practices and the same level of knowledge as the main contractor. Many issues can be avoided throughout the project by clearly explaining what is expected from the subcontractor.

In developing countries, due attention must also be given to the contract between the main contractor and subcontractor. It can be observed that many subcontractors are not employed under a formal contract in Sri Lanka, although having a detailed contract is helpful to both parties. It may encourage the subcontractor to formalize the subcontracting relationship if a system is established by the relevant government institutions, departments in universities, and construction associations to provide free legal consultations for the subcontractor when drawing up contracts.

Furthermore, similar to the questionnaire respondents, interviewees also agreed that it is possible to implement a "win–win" approach to subcontracting to building construction projects in Sri Lanka if some challenges are overcome. They stated that the way main contractors treat the subcontractors in the industry is changing, primarily due to the high demand for subcontractors. Therefore, main contractors are trying to retain the subcontractors by building sustainable relationships. They also noted that it is important that the subcontractor reciprocates and makes an effort to maintain the relationship with the main contractor. Thus, the approach developed in this research study can be implemented step by step in the industry.

Conclusions

The findings of this study underscore the equally critical role of effective relationship management and performance management in achieving a win–win scenario for both main contractors and subcontractors in developing countries like Sri Lanka. The identified critical factors and the recommendations in the study contribute to the existing body of knowledge and can act as a catalyst to change the subcontracting landscape of developing countries like Sri Lanka.

By fostering strong, collaborative relationships, both main contractors and subcontractors can reap substantial benefits. This proposed approach not only enhances project efficiency but also drives individual performance improvement. Thus, it can be used not only as a framework for planning but also as an assessment tool for subcontracting. It can also be further developed as a policy to be adapted for subcontracting by an organization or as guidance for the relevant authorities to formalize subcontracting.

Main contractors must recognize the importance of subcontractor development as a catalyst for long-term success. Conversely, subcontractors must demonstrate reliability and a shared commitment to project success. This win–win dynamic is predicated on trust and respect. When taking any measures to manage any factor that affects the relationship or the performance of subcontractors, both the main contractor and the subcontractor must consider the other party's satisfaction. This is the core principle of the proposed "win–win" approach to subcontracting. As discovered in this study, implementing this approach requires an attitude change and a cultural shift toward a collaborative relationship throughout the industry. While survey responses suggest that performance is still considered more important than relationships, it is also crucial to reiterate that this "win–win" approach necessitates equal emphasis on both parameters.

Since this study focused only on building projects in Sri Lanka, further studies are required to test the applicability of this approach to other sectors of construction. It is also important to conduct additional studies to gather the opinions of different types of subcontractors in construction regarding this approach. In addition, it would also be beneficial to conduct in-depth research on how to manage each identified critical factor in accordance with the proposed "win–win" approach and follow up with case studies that implement the recommendations given in this research study. Addressing these limitations in future studies would greatly benefit in further developing the practicality of the "win–win" approach proposed in this study for construction in developing countries like Sri Lanka.

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