Mitigating Relational Conflicts in Sustainable Construction Project Delivery: A Stakeholders' Perspective

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Abstract
Relational conflicts are a common challenge in sustainable construction projects. This often leads to delays, cost overruns, and strained stakeholder relationships. This study investigates strategies for mitigating such conflicts from a stakeholder perspective. An empirical survey of 150 construction professionals was conducted, and data were analysed using percentage, mean item score, standard deviation, and one-sample t-tests to determine the significance of different conflict management approaches. The results show that trust building, negotiation, and effective communication are the most highly ranked strategies, all with significant positive deviations from the neutral test value. Mediation, stakeholder collaboration, and arbitration were also significant, while litigation was viewed as less desirable due to its adversarial nature. Avoiding, smoothing, compromising, and confronting showed moderate adoption, whereas forcing and competing recorded no significant deviation. This reflects stakeholders' reluctance toward adversarial approaches. The findings underscore the importance of collaborative, trust-based methods in managing conflicts and highlight a shift from traditional confrontational practices. The study contributes to practice and policy by providing evidence-based insights that can inform project governance frameworks and strengthen stakeholder engagement in sustainable construction.

Keywords
Conflict management, project delivery, relational conflict, stakeholder collaboration, sustainable construction

1. Introduction

The construction industry is a critical sector for economic growth. However, it is also one of the most complex due to the involvement of multiple stakeholders with diverse roles, interests, and expectations. This complexity often leads to relational and organisational conflicts, which remain a persistent challenge in project delivery (Barough et al., 2012; Dodanwala et al., 2021). Conflicts in sustainable construction projects can manifest in different ways, such as misunderstandings, disputes over responsibilities, cultural differences, and poor communication among stakeholders. When unmanaged, such conflicts can lead to delays, cost overruns, and compromised project quality (Campbell & O'Leary, 2015; Behfar et al., 2008). Also, it can mean that the sustainability goals of efficiency, waste minimisation, and long-term value creation are jeopardised (Stevens et al., 2020). Despite the negative implications, some scholars (Dickey, 2018) suggest that conflict can drive creativity and innovation by encouraging diverse perspectives. Nevertheless, the disruptive effects often outweigh the benefits if effective conflict management strategies are not applied. Sustainable construction projects, particularly in developing nations, require seamless collaboration among contractors, consultants, clients, and regulatory authorities to achieve project objectives (Kabiri et al., 2014; Dodanwala et al., 2021). Hence, conflict management becomes a desirable and essential aspect of sustainable construction project delivery.

Conflict management has been defined in several ways. It is broadly understood as addressing differences in interests, perceptions, and preferences to enhance collaboration and optimise outcomes (Khaleda & Aleya, 2017; Maiti & Choi, 2021). In construction projects, where tasks are interdependent and time-pressured, conflict management requires proactive measures to prevent escalation and preserve working relationships (Adeyemi & Aigbavboa, 2021).

A useful lens to understand conflict management is the interest-based theory. This theory argues that disputes often arise from competing positions, but resolution is possible when parties' underlying interests are identified and addressed (Fisher et al., 2011). This theory frames conflict as a barrier and an opportunity for collaboration when managed constructively. Thus, effective strategies grounded in this perspective can improve efficiency, maintain stakeholder trust, and reduce project risks. It can improve performance outcomes (Stevens et al., 2020). Furthermore, although conflict management has been studied in different sectors, limited research (Otasowie et al., 2023) examines relational conflicts from a stakeholders' perspective in the South African construction industry. This creates a gap in understanding how conflict management can be practically applied in construction projects to support collaboration and project success in South Africa. Hence, this study addresses this gap by investigating the strategies that can be used to mitigate relational conflicts in sustainable construction project delivery in South Africa. It adopts a stakeholder-focused approach, recognising that conflicts are shaped by the perceptions and interactions of different actors within the project environment. The primary research objective is to examine and evaluate conflict management strategies that enhance collaboration, reduce disruptions, and improve sustainable project outcomes.

Lastly, the study contributes to both theory and practice. Theoretically, it advances knowledge on conflict management within sustainable construction project environments in developing countries. Practically, it provides insights that construction managers, policymakers, and practitioners can apply to strengthen stakeholder relationships, reduce costs associated with conflict, and enhance project delivery efficiency. The study also contributes to the global discourse on conflict management in sustainable construction, while addressing a pressing issue in a rapidly developing sector.

2. Methods

This study adopted a quantitative research design to examine the strategies for mitigating relational conflicts among stakeholders in sustainable construction projects in South Africa. A quantitative approach was suitable because it enabled the collection of numerical data from a large sample, which could be analysed statistically (Ishtiaq, 2019). The study targeted registered construction professionals. This includes architects, quantity surveyors, engineers, construction managers, and project managers across the South African construction industry. The sampling frame was drawn from the official registers of four professional councils: the Engineering Council of South Africa (ECSA), the South African Council for Project and Construction Management Professions (SACPCMP), the South African Council for the Quantity Surveying Profession (SACQSP), and the South African Council for the Architectural Profession (SACAP). A simple random sampling technique was used to ensure equal chances of selection (Etikan & Bala, 2017). Using Yamane's (1967) formula, a sample size of 387 was calculated from a total population of 11,821 professionals. A total of 123 valid responses were obtained and analysed. Although the response rate was lower than expected, the sample was adequate for statistical analysis in social research. Data were collected through a structured, closed-ended questionnaire developed from a review of existing literature on strategies for mitigating conflicts. The instrument employed a five-point Likert scale to measure the level of agreement with statements on strategies for mitigating relational conflicts. This scale was appropriate because of its simplicity and suitability for construction management research (Alabi & Jelili, 2023). Data analysis was conducted using descriptive statistics. Percentages were used to summarise responses, while Mean Item Scores (MIS) helped identify the most significant mitigating factors. Standard deviation assessed the variability of responses, and a one-sample t-test was applied to test whether the mean values significantly differed from the hypothesised mean (Field, 2005). The reliability of the questionnaire was confirmed using Cronbach's alpha, which produced a value of 0.8. This exceeded the recommended threshold, confirming internal consistency (Hair et al., 2016). Ethical considerations were observed throughout the study. Participation was voluntary, respondents were informed of the study's purpose, and anonymity and confidentiality were assured. The data were used solely for academic purposes and aligned with ethical research standards for studies involving human participants.

3. Results

The respondents' background information strengthens the credibility of this study. Out of 150 participants, 42.2% held a bachelor's degree, 35.0% had an honours degree, 18.8% had a master's degree, and 4.0% had a doctoral degree. This shows that most respondents were academically qualified to assess the mitigation strategies of relational conflicts in sustainable construction (Bryman, 2016). Professionally, engineers accounted for the largest group (29.4%), followed by quantity surveyors (19.6%) and construction managers (18.6%). Project managers represented 14.7%, architects 9.0%, and construction supervisors 8.7%. These roles ensured that key construction stakeholders were represented. Furthermore, the participants had diverse experience levels. About 20.0% had less than 12 months of experience, 32.7% had 1–5 years, 26.0% had 6–10 years, 12.0% had 11–15 years, 5.3% had 16–20 years, and 4.0% had more than 20 years of experience. This balance indicates that the respondents combined both academic knowledge and practical exposure. Employment sectors were equally varied: 38.0% worked in contracting organisations, 32.7% in consultancy organisations, 28.7% in government, and 0.7% with suppliers. This diversity allowed the study to capture perspectives across different industry segments, each with distinct challenges and sustainability approaches. The respondents' qualifications, roles, and experience thus support the reliability and validity of the findings (Adekunle et al., 2023; Otasowie et al., 2024).

To assess the mitigating strategies of relational conflicts in sustainable construction projects, the mean, standard deviation, and one-sample t-test were used. These methods are widely accepted for evaluating perceptions in construction research (Field, 2005; Pallant, 2020). The mean values indicated the average rating of each strategy on a five-point Likert scale, while the standard deviation measured the level of agreement. Lower standard deviations showed greater consistency among responses. The one-sample t-test determined whether the observed mean differed significantly from the hypothesised mean of 3.5 at the 95% confidence level. This is consistent with statistical standards in social science and construction research (Hair, 2016). Strategies with a p-value of 0.05 or lower were considered statistically significant. Table 1 presents the strategies, mean ratings, and standard deviations. Where two or more strategies had the same mean, priority was ranked based on the lowest standard deviation (Bryman, 2006).

Table 1. One-Sample Statistics and Test of Strategies

Strategies	T	Df	Sig. (1-tailed)	Mean	SD	Mean Diff.	95% Confidence Interval of the Diff. Lower	Upper
Trust building	29.275	149	<.001	4.79	.538	1.287	1.20	1.37
Negotiation	25.372	149	<.001	4.77	.615	1.273	1.17	1.37
Effective communication	24.215	149	<.001	4.75	.634	1.253	1.15	1.36
Mediation	20.047	149	<.001	4.65	.705	1.153	1.04	1.27
Encouraging stakeholder collaboration	23.710	149	<.001	4.65	.592	1.147	1.05	1.24
Arbitration	18.182	149	<.001	4.63	.763	1.133	1.01	1.26
Litigation	16.732	149	<.001	4.57	.781	1.067	.94	1.19
Avoiding	11.548	149	<.001	4.54	1.103	1.040	.86	1.22
Smoothing	9.486	149	<.001	4.19	.895	.693	.55	.84
Confronting	7.760	149	<.001	3.97	.737	.467	.35	.59
Compromising	4.909	149	<.001	3.85	.865	.347	.21	.49
Forcing	.556	149	.289	3.55	1.027	.047	-.12	.21
Competing	.000	149	.500	3.50	1.085	.000	-.18	.18

SD: Standard deviation; DF: Degree of Freedom; T: T-test Value

4. Discussion

The findings indicate a clear preference among stakeholders for relationship-oriented conflict management strategies in sustainable construction projects. Trust building, negotiation, and effective communication emerged as central to collaborative practice. Their prominence reflects a broader shift in project delivery, where sustainable outcomes depend on collaboration, transparency, and long-term relationship management rather than adversarial tactics. Trust strengthens stakeholder commitment and reduces adversarial behaviour. It makes it a foundation for sustainable collaboration (Dukes, 2022). Negotiation and communication further complement this by enabling balanced decision-making and preventing the escalation of disputes. This corroborates Alaloul et al. (2018) that sustainable projects require mechanisms to reconcile diverse stakeholder priorities. Furthermore, the strong support for mediation and stakeholder collaboration suggests that stakeholders value structured processes that ensure shared ownership of outcomes. Mediation provides neutral facilitation, while collaboration encourages joint problem-solving. These strategies can generate more durable resolutions in complex project environments (Lee et al., 2018; Ahad et al., 2020). Their adoption highlights the need for frameworks integrating third-party facilitation with collaborative governance mechanisms in sustainable project delivery.

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In addition, although arbitration and litigation remain relevant, their secondary role reinforces the preference for preventive and cooperative mechanisms. Arbitration is recognised as less adversarial than litigation, but both approaches are typically invoked when other strategies fail. This finding underscores a gradual departure from legalistic solutions and reflects the industry's recognition of such methods' costs and adversarial consequences (Alaloul et al., 2018). Similarly, avoidance and smoothing appear to be used as temporary measures. This is often chosen to maintain fragile relationships or de-escalate minor disputes. However, these strategies risk postponing deeper issues, which may later resurface. Furthermore, the lower support for confronting and compromising further reveals stakeholder caution toward strategies that may strain relationships or require significant concessions. Sustainable construction projects demand long-term collaboration, and stakeholders may be reluctant to adopt methods perceived as transactional or confrontational. Also, rejecting forcing and competing strategies indicates a decisive move away from win–lose approaches. This echoes arguments by Dobrynin et al. (2025) that modern sustainable project delivery prioritises collaboration and consensus over dominance and control.

Hence, the findings point to a hierarchy of preferred conflict management strategies, where proactive and collaborative approaches dominate, while adversarial methods are increasingly marginalised. This reflects a paradigm shift in sustainable construction from dispute resolution toward conflict prevention and relationship building. The implication for practice is that project managers should invest in structured communication systems, transparent governance frameworks, and training in collaborative conflict management. For theory, the findings enrich ongoing debates on the role of relational governance in sustainability-focused projects, providing empirical support for the shift away from traditional adversarial models.

5. Conclusions

This study examines conflict management strategies that enhance collaboration, reduce disruptions, and improve sustainable project outcomes. The findings of this study reveal that stakeholders in sustainable construction projects strongly prefer collaborative and relationship-oriented strategies over adversarial methods for mitigating relational conflicts. Trust building, negotiation, and effective communication emerged as the most dominant approaches. This reflects the growing emphasis on driving transparency, collaboration, and shared understanding in project environments. These strategies prevent dispute escalation and support long-term partnerships essential in achieving sustainable project outcomes. Furthermore, mediation, stakeholder collaboration, and arbitration were also positively ranked. This highlights the importance of structured, but collaborative, mechanisms for conflict management. Litigation, although significant, remains a less desirable strategy due to its cost and adversarial nature. Strategies such as avoiding, smoothing, confronting, and compromising were moderately adopted. This indicates their relevance in specific circumstances but limited effectiveness as long-term solutions. Forcing and competing showed no significant deviation from neutrality. This underscores a clear rejection of confrontational, win-lose approaches in sustainable construction delivery. Hence, these results significantly affect practice, policy, and research. Practically, project managers should prioritise building trust, open communication, and negotiation when developing conflict management strategies. Policymakers and industry bodies can support this shift by promoting collaborative dispute resolution mechanisms and integrating them into project governance frameworks. For research, the findings highlight the need to explore further how relational strategies can be systematically integrated into sustainable project management models, particularly in situations where adversarial practices remain prevalent. Lastly, the study demonstrates that proactive, collaborative, and trust-based conflict management strategies best support sustainable construction delivery. This drives not only smoother project execution but also better stakeholder relationships for future collaboration.

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