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Treating Disputes as Risks: A Transformative Approach

Ali Al-Khalifa*

Chief Executive Officer, Zones Development, Qatar Free Zone Authority, P.O. Box 258, Doha, Qatar
Email: ali.nasser.alkhalifa@gmail.com

Abstract

Traditional approaches to dispute resolution, such as arbitration and litigation, are often reactive, costly, and untimely. These methods often focus on contract variations, rather than addressing the root causes of disputes. In contrast, this study proactively addresses underlying issues. The purpose of this study is to analyse the effectiveness of treating potential disputes as risks to prevent conflicts in construction projects from evolving into disputes. This study highlights the negative impacts of disputes in construction projects, presents case studies in which potential disputes are treated as risks, and compares the outcomes with those of previous similar projects performed under the same scope and circumstances. By identifying potential disputes in the Risk Register and addressing them as risks or opportunities, disputes are integrated into a project's risk management framework. By identifying potential conflicts early in the project lifecycle, this proactive approach allows teams to manage conflicts before they escalate into formal disputes, thereby avoiding costly delays and budget overruns. Case studies from the Gulf Cooperation Council (GCC) region, including those recognised as 'Building Project of the Year' and 'Small Project of the Year' at the MEED Projects Awards 2024, illustrate the practical application and effectiveness of the proposed approach.

Keywords: building industry; construction projects; disputes; risk management.

1. Introduction

When different parties work together to achieve the common goal of completing a successful construction project, the project environment and characteristics can create different risks based on the individual goals of each party. In a construction project, the client's goal is to achieve the best possible functionality and quality for their investment, whereas the contractor aims for profits and client satisfaction [1]. This dynamic of construction projects can lead to disputes.

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* *Corresponding author.*

The Gulf Cooperation Council (GCC) construction sector has experienced rapid transformation as a result of large-scale projects such as Qatar's FIFA World Cup 2022 and Dubai's Expo 2020. These megaprojects, driven by national agendas such as the Qatar National Vision 2030, have introduced increased complexity and a higher frequency of disputes. In this environment, conflicts between stakeholders ranging from contractors to government entities lead to costly delays, budget overruns, and strained relationships, as shown in Figure 1 [2].

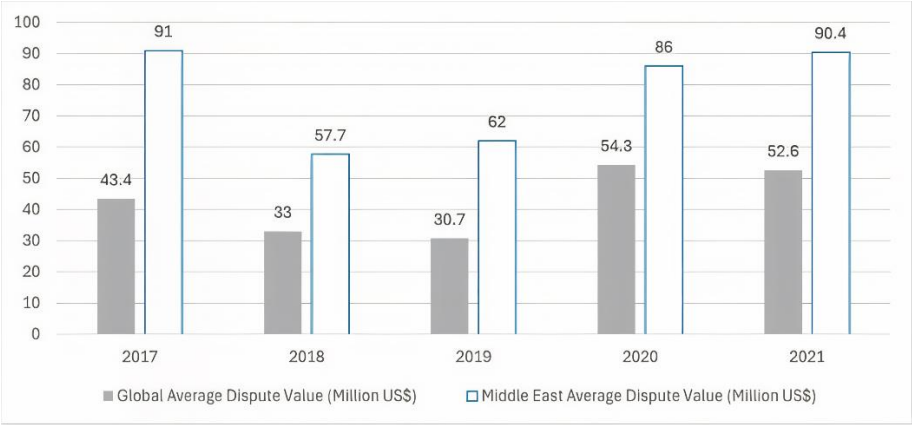

Figure 1: Average dispute values: global versus Middle East (millions of USD) [2]

Traditionally, the construction industry has relied on reactive dispute resolution methods such as arbitration and litigation, which are often implemented after a conflict has escalated. Although these methods provide formal mechanisms for resolving disputes, they are adversarial and frequently applied too late to prevent significant damage. They also focus on outcomes such as contract variations, which are often symptoms of deeper, unresolved disputes, rather than addressing the root causes of conflicts [3].

A critical shortcoming of the traditional approach is its emphasis on managing contract variations as the primary risk. Variations in scope, timeline, and cost are typically treated as the main risk factors in construction projects. However, variations often result from underlying disputes related to unclear contract terms, communication breakdowns, or misaligned expectations. By focusing on variations, the traditional approach overlooks the opportunity to address disagreements or conflicts at their source, allowing them to escalate into disputes [4].

This article argues for a fundamental shift in treating disputes, rather than variations, as operational risks. By identifying and managing potential disputes early in the project lifecycle, teams can prevent disagreements and conflicts from escalating into formal disputes and subsequent variations that disrupt the project. Instead, teams can focus on proactive disagreement and conflict management, addressing the root causes of disputes before they result in costly project delays or budget overruns [5].

The core premise of this study is that disputes, not only claims, should be integrated into a project's risk management framework. The early identification of potential conflict triggers such as contractual ambiguities or misaligned expectations allows project teams to develop mitigation strategies that prevent disputes from escalating. This proactive approach aligns with modern risk management practices found in frameworks such as the Project Management Body of Knowledge (PMBOK) [6] and ISO 31000 [7], which advocate risk-based

thinking throughout the project lifecycle.

This shift in focus is crucial in the context of large and complex GCC projects. By treating disputes as risks, project teams can address conflicts early, minimise delays, and foster better collaboration among stakeholders, significantly reducing the risk of disputes escalating into formal litigation or arbitration. The following sections explore practical applications of this approach and demonstrate its effectiveness in real-world projects.

2. The high cost of disputes

Disputes in the construction industry, particularly in the GCC, are not only frequent but also incur significant financial, reputational, and opportunity costs. According to the Arcadis Global Construction Disputes Report [2], the average value of construction disputes in the Middle East consistently exceeds 90 million USD, which is well above the global average. These data (Figure 1) underscore the magnitude of the problem, particularly in the context of the large-scale projects that are common in the region. Disputes often arise from delays, contractual ambiguities, miscommunications between stakeholders, or unrealistic project timelines, creating substantial risks for all parties involved [2].

However, the impact of disputes goes beyond immediate financial implications. Traditional dispute resolution methods such as arbitration and litigation tend to react to conflicts after escalation, resulting in prolonged legal processes, stalled projects, and higher overall costs. Furthermore, these reactive approaches address only the surface-level symptoms of disputes such as contract variations or payment delays, without addressing their root causes. Consequently, the underlying issues that trigger disputes persist, leading to recurring problems in future projects [3]. Figure 2 presents the cost components associated with disputes. These costs can be categorised as financial, reputational, and opportunity costs.

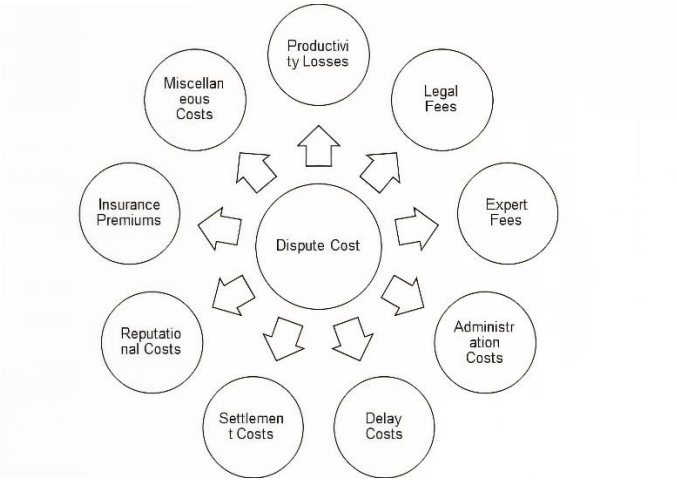

Figure 2: Components of dispute costs

2.1. Financial costs

Middle-Eastern disputes are both more frequent and costly compared with those in other regions. Cost overruns

occur frequently when contractors and clients are locked in prolonged negotiations or legal proceedings. Additionally, delays caused by disputes halt construction work, leading to increased costs as labour and materials sit idle. The ripple effect of delays can escalate financial strain, especially in complex projects, where each phase depends on the previous phase [4].

Treating disputes as operational risks allows for proactive management and reduces financial strain by preventing disputes from escalating into legal battles. For example, the early identification of potential delays or contract ambiguities enables teams to renegotiate terms or timelines before disputes occur. This approach avoids high arbitration fees, legal costs, and delayed project timelines [5].

2.2. Reputational costs

Disputes can also erode the reputation of the companies involved. In the GCC, where large-scale projects often involve high-profile government entities and international partners, reputational damage can have long-term consequences. Companies embroiled in disputes may find it difficult to secure future projects, as clients and investors become wary of their ability to manage conflicts. Disputes can also strain the relationships among contractors, subcontractors, and clients, making future collaborations difficult [3].

A proactive, risk-based approach prevents reputational damage by fostering collaboration. The early identification and resolution of conflicts prevents them from escalating into public disputes, preserves relationships, and secures future projects. By focusing on dispute resolution before conflicts become public, companies can maintain their reputations of professionalism and reliability [8].

2.3. Opportunity costs

Disputes can lead to significant opportunity costs, particularly in regions such as the GCC, where large-scale infrastructure projects are tied to national development goals. Delays caused by disputes often result in missed deadlines for key infrastructure projects that can have cascading effects on economic growth, public services, and housing development. The loss of these opportunities as a result of prolonged disputes can be particularly damaging when projects are meant to align with broader national goals such as Qatar's Vision 2030.

By treating disputes as risks, project teams can prevent costly delays and ensure that projects align with their strategic objectives. The early identification of potential disputes allows for rapid, collaborative problem solving that keeps projects on track and mitigates the substantial opportunity costs that can arise from delays [2].

3. Proactive risk management: A prudent solution

Traditional dispute resolution methods such as arbitration and litigation are inherently reactive and costly. In contrast, treating disputes as operational risks allows for early detection and mitigation, reducing the likelihood of escalation. By integrating dispute management into a project's risk framework, teams can anticipate and address issues early.

Proactive management benefits all aspects of a project. Regular risk assessments and open communication channels allow project managers to identify potential disputes and address them before escalating them into formal legal action. This proactive approach improves project outcomes by fostering collaboration and reducing the adversarial nature of traditional dispute resolution [5].

3.1. Limitations of traditional dispute management

The construction industry has long relied on traditional methods such as arbitration, litigation, and mediation to resolve disputes. These mechanisms provide formal frameworks for dispute resolution. However, their limitations are becoming increasingly apparent, particularly in the context of large-scale, high-stakes construction projects common in the GCC region. Despite their widespread use, traditional methods often fail to address the complex and recurring nature of disputes, leading to inefficiencies in project delivery and stakeholder relationships. This section addresses the limitations summarised in Table 1.

Table 1: Limitations of traditional dispute management

Aspect	Traditional Dispute Management	Risk-Based Dispute Management
Process	Reactive – Engages after a dispute occurs.	Proactive – Identifies and mitigates potential disputes early.
Methods	Arbitration, litigation, mediation.	Continuous risk monitoring, early interventions.
Time	Long – Legal processes often extend project timelines.	Short – Mitigates at disagreement/conflict stage, saving time.
Cost	High – Legal fees and delays increase project costs.	Lower – Prevents escalations and reduces legal expenses.
Relationship	Adversarial – Parties are often in conflict.	Collaborative – Focuses on mutual issue resolution.
Stakeholder Impact	Relationships damaged by adversarial processes.	Improved relationships through early communication.
Project Delays	Significant delays due to lengthy dispute resolution.	Minimises delays through proactive dispute prevention.

3.2. Delayed resolutions and prolonged project timelines

One of the most significant drawbacks of traditional dispute resolution mechanisms is the time required to achieve a resolution [9]. Arbitration and litigation can extend over months or even years based on the multifaceted nature of disputes in large construction projects. With multiple stakeholders ranging from contractors and subcontractors to international consultants and government bodies, disputes often involve complex legal and technical issues that require substantial time to resolve.

These prolonged processes disrupt project timelines because work is frequently delayed or even halted while a dispute is being resolved. Delays affect not only the current project but also future projects tied to the same

stakeholders. Although arbitration is often perceived as quicker than litigation, it can still lead to considerable delays in practice, particularly when there is no clear framework for early intervention or dispute prevention [10]. Consequently, project owners and contractors experience distress from extended timelines, making dispute resolution an increasingly harsh endeavour.

3.3. Exorbitant financial costs of legal proceedings

The financial burden of arbitration or litigation can be overwhelming [11]. Traditional methods are often fraught with hidden costs, including legal fees, arbitrator fees, and the expenses of expert witnesses required to testify regarding the technical aspects of construction projects. For large-scale projects, where multiple disputes may arise simultaneously, these costs can quickly spiral out of control.

Smaller contractors and subcontractors are often at a disadvantage as they lack the financial resources to engage in lengthy legal battles with larger, more financially equipped clients or project owners. This imbalance exacerbates adversarial relationships and leaves smaller stakeholders vulnerable to unfavourable outcomes [5]. Although some disputes may ultimately be resolved in favour of one party, the costs incurred during this process often outweigh the benefits.

3.4. Adversarial relationships and erosion of collaboration

One of the most damaging effects of traditional dispute resolution mechanisms is the adversarial tone set between stakeholders [12]. Arbitration and litigation foster an ‘us versus them’ mentality, as each party seeks to prove the other wrong. In construction, where long-term relationships are critical for ongoing project success, adversarial dynamics can severely damage future collaborations.

In an industry that thrives on partnerships and collaborative efforts, especially in regions such as the GCC, where public–private partnerships are desired, the adversarial nature of litigation and arbitration undermines future project success. Stakeholders become less willing to cooperate, and trust deteriorates over time, creating a hostile working environment even after disputes are resolved [10]. This adversarial relationship often perpetuates a cycle of conflict as unresolved tension from past projects bleeds into new collaborations.

3.5. A focus on resolution, not prevention

A key limitation of traditional dispute resolution methods is their reactive nature. These mechanisms only come into play after conflicts escalate, by which time project progress has already been significantly disrupted. Arbitration and litigation focus on resolving disputes once they have fully developed, rather than preventing them from escalating in the first place.

This approach ignores the root causes of conflicts, including miscommunication, ambiguous contract terms, or misaligned stakeholder expectations. Consequently, similar disputes are likely to recur in future projects. By focusing solely on addressing the symptoms of disputes, traditional methods fail to address the systemic issues that lead to conflicts [4].

3.6. Transitioning towards a risk-based approach

Considering the limitations outlined above, a new approach is necessary. We propose transitioning to a proactive, risk-based approach to dispute management.

Treating disputes as operational risks offers a solution for the time, cost, and relational damages caused by traditional methods. By identifying potential dispute triggers early in the project lifecycle and embedding dispute management into a broader risk-management framework, stakeholders can prevent disagreements and conflicts from escalating into disputes necessitating arbitration or litigation. This proactive approach not only saves time and reduces costs but also preserves relationships between project partners, fostering a more collaborative working environment [5].

In a risk-based approach, potential disputes are treated as risks to project success, much like any other operational, financial, or safety risks. By integrating this approach into existing project management frameworks such as ISO 31000 and the PMBOK, project teams can continuously monitor and manage disputes before they evolve into costly legal battles. This shift from reactive to proactive dispute management is vital for the construction industry, particularly in the high-stakes environment of the GCC, where timely project delivery and stakeholder collaboration are paramount.

The following sections further explore how this risk-based approach can be implemented in construction projects and how it addresses the root causes of disputes while avoiding the limitations of traditional methods.

4. A paradigm shift: Treating disputes as risks

Although existing methods provide formal frameworks for resolving conflicts, they remain reactive and adversarial, frequently addressing only the symptoms of disputes, rather than their underlying causes. In response to these limitations, a proactive shift is gaining traction, where disputes are treated as operational risks that must be managed from the outset. This paradigm shift reframes the entire approach to dispute management, moving from reactive damage control to a proactive strategy that focuses on the prevention, early identification, and resolution of conflict before escalation.

4.1. Modern risk management principles in construction

Risk management during construction is not a new concept. It has long been used to address a range of operational risks such as financial uncertainties, material shortages, and technical challenges. However, the application of these principles to dispute management is a relatively new approach. By embedding disputes in a project's overall risk management framework, construction teams can monitor and mitigate potential conflicts before disruptions occur. This approach aligns closely with recognised project management standards such as the PMBOK and ISO 31000, which emphasise risk-based thinking throughout the project lifecycle.

By integrating dispute management into these established frameworks, stakeholders can treat disputes in the same manner as they treat other project risks such as financial and safety risks. Early identification, regular risk

assessment, and continuous monitoring have become critical tools to prevent disputes from escalating into costly and time-consuming legal battles.

4.2. Key components of the risk-based approach

The paradigm shift described above involves a structured approach containing several key components, as illustrated in Figure 3.

Figure 3: Key components of risk assessment

4.2.1. Risk identification

The first step in treating disputes as operational risks is the early identification of potential conflict triggers. These triggers stem from various sources, including ambiguous contract terms, misaligned expectations between stakeholders, and communication breakdowns during the project. By recognising these early indicators, project teams can address them before they escalate into formal disputes.

For example, in a multi-stakeholder infrastructure project, the early identification of a potential conflict over design specifications enables the project team to address issues collaboratively. The team flags the ambiguity of the contract as a risk and engages in early renegotiation sessions to clarify the terms. This proactive step helps prevent delays and additional project costs. Identifying these risks early also helps prevent more severe disputes between contractors and clients [3].

4.2.2. Risk assessment

Once risks are identified, they must be assessed in terms of both their likelihood of occurrence and potential impact on a project. Risk assessment involves prioritising disputes based on the severity of the threat they pose to a project's success. High-risk areas such as contractual ambiguities or unclear stakeholder responsibilities should be prioritised for immediate attention.

For example, a major construction project in Saudi Arabia encountered scheduling conflicts that could have led to costly delays. The project team conducted a thorough risk assessment and identified this high-priority risk. By addressing the problem through contract realignment and scheduling adjustments early on, the team avoided significant downstream impacts [2].

4.2.3. Risk mitigation

Mitigation strategies must be developed to reduce the likelihood of disputes or minimise their impact if they

arise. Effective mitigation can take various forms, including improved communication protocols, regular stakeholder meetings, and clearer contract language. For example, adding contractual clauses that address potential areas of conflict such as timelines and responsibilities can prevent disputes from escalating.

In a case study involving a large infrastructure project in the GCC, risk mitigation efforts included the implementation of regular project reviews, which allowed stakeholders to raise concerns early. This enabled the project team to develop tailored responses to potential disputes before they became critical, thereby reducing the financial and reputational costs associated with formal dispute resolution [5].

4.2.4. Continuous monitoring and control

Disputes, like other operational risks, must be continuously monitored throughout a project's lifecycle. Continuous monitoring allows project teams to adjust their mitigation strategies as new or existing risks emerge. This ensures that disputes are managed dynamically and in real time, preventing them from escalating.

For example, during a complex, multiphase construction project, the project team continuously monitors the communication between contractors and subcontractors to ensure that emerging conflicts are addressed before they escalate. By embedding dispute management into the broader risk management process, the team is able to respond swiftly to potential issues, maintain smooth project progress, and avoid costly interruptions [4].

4.3. Bringing in project management standards earlier

By applying risk management frameworks such as those specified in the PMBOK and ISO 31000 to dispute management, teams can ensure that disputes are treated as critical project risks from the start. Both frameworks emphasise the importance of proactive risk identification, mitigation, and monitoring, making them ideal for managing disputes in complex projects. For example, the PMBOK provides a structured approach for integrating risk management into project execution, whereas ISO 31000 offers guidelines for risk management that can be adapted to the unique needs of construction projects. By leveraging these established frameworks, construction teams can adopt a systematic and standardised approach to manage disputes, ensuring that they are addressed in real time with the same rigour as other risks [2].

4.4. Connection with project risk management frameworks

To manage disputes as operational risks successfully, integrating well-established frameworks, such as the PMBOK and ISO 31000, is essential. These global standards provide structured approaches for identifying, assessing, and mitigating risks, ensuring that project teams adopt proactive and systematic methods for managing disputes throughout the project lifecycle.

By embedding dispute management within these frameworks, project teams can address potential conflicts earlier, thereby reducing the likelihood of costly delays, arbitration, or litigation. The following section details how the PMBOK and ISO 31000 can be practically applied to dispute resolution, with specific references to key clauses and principles within these standards.

5. The PMBOK: Risk management as a foundation for dispute prevention

As described in its 6th Edition, the PMBOK emphasises risk management as one of its core knowledge areas. Chapter 11: Project Risk Management outlines the processes involved in identifying, analysing, and responding to project risks [6]. These steps can be adapted directly to manage disputes as risks.

5.1. Risk identification – PMBOK Section 11.2

According to the PMBOK, risk identification is an iterative process that begins early in a project and continues throughout its lifecycle. In the context of dispute management, this process involves identifying potential triggers of conflict such as contract ambiguities, unclear stakeholder responsibilities, and misaligned expectations. Using tools such as the Risk Breakdown Structure, project managers can categorise dispute-related risks and ensure their integration into the overall risk register.

For example, contract terms related to payment schedules or deliverables may be flagged as high-risk areas during risk identification workshops. Identifying these points early allows project teams to clarify expectations or renegotiate terms, thereby preventing disputes from escalating later in the project.

5.2. Risk analysis and assessment – PMBOK Sections 11.3 and 11.4

After identifying risks, the PMBOK emphasises both qualitative and quantitative risk analyses. Qualitative Risk Analysis (PMBOK 11.3) prioritises risks based on their probabilities and impacts. When applied to disputes, qualitative analysis helps teams determine which conflicts pose the greatest threat to a project's success. For example, a dispute over the scope of work can be rated as having a high probability and impact, leading to early mitigation efforts.

Quantitative Risk Analysis (PMBOK 11.4), which involves a numerical analysis of risk probabilities and consequences, can be particularly useful for high-stakes disputes in which the financial impact is significant. For example, if a potential delay caused by a dispute could lead to significant cost overruns, then this phase would help quantify the risk and guide decision making.

5.3. Risk response planning – PMBOK Section 11.5

Risk response planning is crucial in addressing disputes. Section 11.5 of the PMBOK outlines strategies for risk mitigation, avoidance, transfer, and acceptance. The mitigation of disputes could involve refining the contract language, improving stakeholder communication protocols, or establishing early warning systems that flag emerging conflicts before they become formal disputes.

For example, contract clauses that specifically address dispute resolution mechanisms such as mediation or arbitration procedures can be incorporated into a risk response plan, ensuring that if a dispute arises, it is managed quickly and efficiently, avoiding lengthy and costly arbitration.

6. ISO 31000: Adapting a holistic risk framework for dispute management

ISO 31000 provides a comprehensive framework for risk management applicable across industries. Clause 5.3: Principles of Risk Management and Clause 6: The Risk Management Framework are particularly relevant for managing disputes in construction projects. These sections emphasise the need for risk management to be embedded into the organisation's processes and culture, ensuring that risks (including disputes) are treated systematically [7].

6.1. Risk identification – ISO 31000 Clause 6.4.2

ISO 31000 stresses the importance of a thorough and iterative risk identification process, similar to the PMBOK. Clause 6.4.2 outlines the importance of recognising and documenting risks in a manner that reflects the complexity of the project. In terms of dispute management, this approach would ensure that all potential disputes, whether they involve contracts, design specifications, or project schedules, are identified and integrated into the broader risk management process.

For example, regular stakeholder meetings can be used as forums to identify emerging risks related to communication breakdowns and project deliverables. By embedding these risks in the project's risk register, teams can track disputes in a manner similar to other operational risks.

6.2. Risk assessment and treatment – ISO 31000 Clauses 6.4.3 and 6.4.4

ISO 31000 emphasises the need for both risk assessment and treatment. Clause 6.4.3 details how organisations should evaluate the significance of identified risks in terms of both likelihood and consequence. By applying this principle to dispute management, project teams can assess the probability of a dispute occurring and its potential impact on the project, ensuring that high-priority disputes receive early interventions.

Clause 6.4.4 outlines the need for risk treatment, including selecting appropriate strategies to manage identified risks. For disputes, this process could involve revising contractual terms, establishing clear communication channels between stakeholders, or developing escalation pathways for conflict resolution. ISO 31000 provides flexibility in how risks are treated, ensuring that responses are tailored to a project's specific needs and stakeholder dynamics.

6.3. Risk monitoring and review – ISO 31000 Clause 6.5

ISO 31000's Clause 6.5 highlights the importance of continuously monitoring and reviewing risk. This principle aligns well with dispute management because disputes can evolve over time as project conditions change. By regularly reviewing dispute risks, project managers can ensure that evolving conflicts are managed proactively, thereby minimising their potential impact on the project.

For example, in a multiphase construction project, new disputes may arise as contractors and subcontractors work through different stages of the project. By continuously monitoring these risks, project managers can

address conflicts early, avoid delays, and maintain smooth progress [5].

6.4. Practical application of the PMBOK and ISO 31000 to dispute management

By leveraging both the PMBOK and ISO 31000, project teams can integrate dispute management into their overall risk management strategies, ensuring that disputes are addressed proactively, rather than reactively. These frameworks provide structured processes for identifying, assessing, and treating dispute-related risks, ensuring that conflicts are managed before escalation.

For example, by using the PMBOK's risk register and ISO 31000's continuous monitoring principles, project teams can track disputes alongside other risks, ensuring that they are addressed with the same level of rigour. Incorporating dispute risks into regular project reviews allows teams to revisit mitigation strategies and adjust them as required, ensuring that disputes are resolved before they become critical.

By applying these internationally recognised standards, construction teams can ensure smoother project execution, better collaboration among stakeholders, and advanced dispute prevention processes.

7. Cultural shift and practical training

A successful shift from reactive dispute resolution to a proactive, risk-based approach requires more than mere process changes. It demands a fundamental cultural shift within organisations. The construction industry, particularly in the GCC region, traditionally operates in a manner that views disputes as inevitable and adversarial. Shifting this perspective to one that treats disputes as operational risks involves changing the perceptions of all stakeholders. Along with this cultural change, practical training is essential to equip teams with the tools and skills necessary to manage disputes proactively. Figure 4 illustrates the key components of this process.

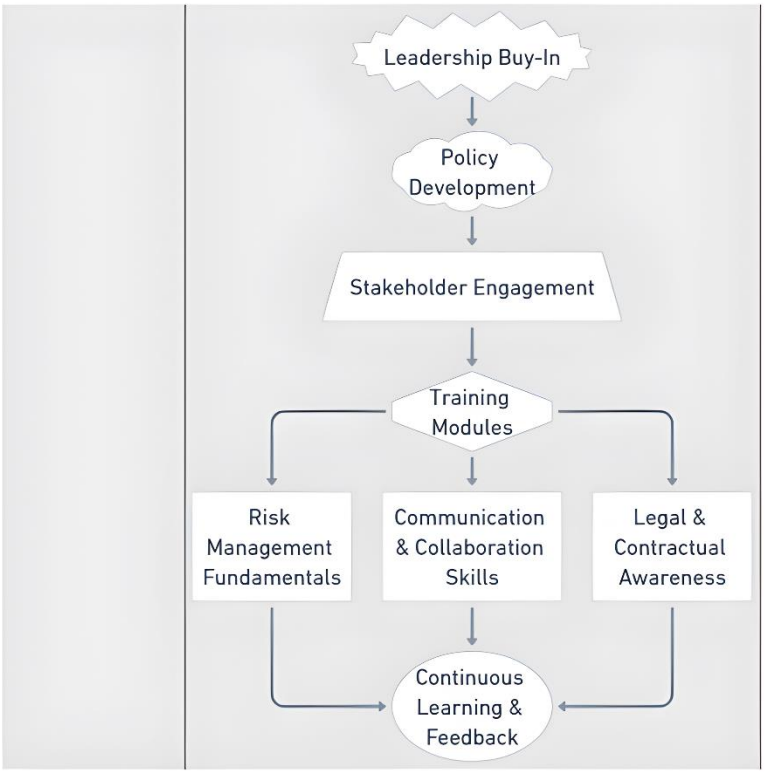

Figure 4: Key aspects: cultural shift and practical training

7.1. Embedding a risk-based perspective

The first and most critical step towards the desired cultural shift is embedding a risk-based perspective within organisations. Stakeholders must move away from viewing disputes as external, uncontrollable events, and begin to see them as risks that can be identified, managed, and mitigated early in the project lifecycle. This change in perspective requires clear communication from leadership, who must champion the risk-based approach and make dispute management a core part of project risk management.

Leaders must also emphasise the importance of collaboration over confrontation. Traditionally, disputes in construction are seen as win-lose scenarios, where one party's success comes at the cost of another party. The new approach encourages all parties to collaborate to resolve disagreements and conflicts before they escalate into disputes, focusing on shared project success, rather than individual gains. This shift in perspective helps foster trust between stakeholders, which is particularly important in the large, multiphase projects common in the GCC.

However, this cultural shift takes time, requiring sustained effort from leadership and the active participation of all project stakeholders. To facilitate this shift, organisations must establish internal policies that promote transparency, communication, and early intervention in disputes. Furthermore, embedding this new perspective into the organisational culture creates feedback mechanisms that allow project managers and stakeholders to share lessons learned from successful dispute management.

7.2. The role of practical training

To ensure that the cultural shift is successful, organisations must provide practical training that equips project managers and their teams with the skills required to manage disputes as risks. Training programmes should focus on both the technical aspects of risk management and soft skills required to foster collaboration and early dispute resolution. A well-structured training programme provides project teams with the tools they need to identify disputes early, assess their potential impacts, and implement mitigation strategies.

7.2.1. Modules on risk management for dispute prevention

The first component of training should focus on risk management fundamentals that are specifically tailored to dispute prevention. This module should align with established frameworks such as the PMBOK and ISO 31000, and teach project managers how to integrate disputes into the risk register, conduct qualitative and quantitative risk assessments, and develop mitigation strategies. This module provides practical scenario-based learning in which project teams can apply risk identification and assessment techniques to real-world examples of potential disputes.

Key topics to cover include the following:

- Identifying early warning signs of disputes such as ambiguous contract language or stakeholder misalignment.
- Conducting risk assessments focused on disputes using tools such as risk matrices and qualitative assessments.
- Developing tailored mitigation strategies, including clarifying contractual obligations and improving communication protocols among stakeholders.

7.2.2. Communication and collaboration skills

Although technical skills are essential, proactively managing disputes requires a strong focus on soft skills, particularly communication and collaboration. A cultural shift towards early dispute resolution depends on open and transparent communication among all project stakeholders. Training programmes should include modules that help project managers and teams develop these skills and foster an environment in which disputes can be discussed and resolved early.

Key training areas include the following:

- Active listening and negotiation skills: Project managers must learn to facilitate discussions between parties in a manner that encourages collaboration, rather than confrontation.
- Conflict resolution techniques: Practical exercises in mediation and negotiation, where project teams can practice resolving disagreements/conflicts and preventing the escalation of formal disputes.
- Building trust between stakeholders: Techniques to improve stakeholder relationships, ensuring that all parties feel comfortable raising concerns and addressing potential disputes before escalating.

7.2.3. Legal and contractual awareness

Another critical component of dispute management is understanding legal and contractual landscapes. Project managers require a strong understanding of how contract clauses trigger or prevent disputes. This module covers common sources of contract-related disputes and provides guidance on how to navigate these risks.

Key topics include the following:

- Understanding dispute resolution clauses in contracts and how to use them effectively.
- Identifying areas of contract ambiguity that could lead to disputes.
- Strategies for revisiting and renegotiating contract terms to prevent disputes, especially during key project milestones.

7.3. Sustained learning and continuous improvement

Training should not be a one-time exercise. Rather, it should be part of an organisation's ongoing commitment to continuous improvement. Project teams should be encouraged to participate in refresher courses, as well as workshops and seminars on dispute management and risk mitigation. These sessions provide opportunities to share best practices, review lessons learned from previous projects, and stay up to date with the latest developments in dispute management frameworks such as the PMBOK and ISO 31000.

Additionally, organisations should establish feedback loops that allow project managers and teams to evaluate the effectiveness of their dispute management strategies. Post-project reviews and 'lessons learned' can be used to assess whether dispute management techniques are successful and identify areas for improvement. This culture of sustained learning and continuous improvement will help organisations remain agile and responsive to disputes, fostering a proactive approach that becomes part of the organisation's DNA.

7.4. Addressing core challenges through proactive dispute risk management

The shift toward treating disputes as operational risks directly addresses some of the most pressing challenges in construction project management, particularly in the GCC. In the previous discussion, we highlighted how traditional dispute resolution methods, although necessary, often act too late, resulting in time delays, budget overruns, and strained relationships. These issues can be mitigated pre-emptively by embedding dispute management into existing risk frameworks.

The core of this approach is the early identification of potential conflicts, as discussed in earlier sections. Issues such as ambiguous contract terms, misaligned expectations, and communication breakdowns can be identified before escalating to formal disputes. This risk-based approach allows project managers to prioritise these risks, implement mitigation strategies, and monitor them continuously, thereby creating a smoother project flow and minimising disruptions [3].

A major advantage of this approach is its impact on time and cost management. When disputes are proactively

managed as risks, teams can prevent delays and financial losses that typically arise from formal disputes. This approach has proven to be particularly effective in complex and large-scale construction projects in the GCC, where multiple contractors and stakeholders are involved, and the cost of disputes can significantly affect project outcomes [2].

Organisations can move away from reactive adversarial dispute resolution methods by consolidating the lessons learned from modern risk management practices, adopting a collaborative and preventive approach that addresses core issues early, ensuring that projects remain on track and stakeholders remain aligned.

8. Case study – implementing disputes as risks

The principles discussed in this paper were applied to three projects, which were considered as case studies. For fair comparison, all three projects had the same size, very similar construction costs and durations, were executed by similar contractors, and were for the same client. For these case studies, potential disputes were added to the project risk register and treated as risks.

8.1. Risk identification and registration

Risk identification is a responsibility of all stakeholders working on projects. Potential disputes can be identified by the client's team, contractor's team, or any member of the project team directly or indirectly involved in the project and affected by risks.

As soon as a risk is added to the project risk register, it will be assigned a degree of severity and frequency. The frequency of a claim is the number of times the risk is expected to occur over the project's lifetime and the severity is the cost associated with a claim. Accordingly, all potential disputes resulting from variations, claims, or disagreements are added to the project risk register for assessment and processing.

8.2. Potential disputes encountered

A study based on the Kuwait construction industry by Al-Sabah and Refaat [13] identified two major risk categories: country and project. According to their study, country risks include stability, economic, regulatory, community, and environmental risks.

In the case studies, the six risk categories shown in Figure 5 were considered.

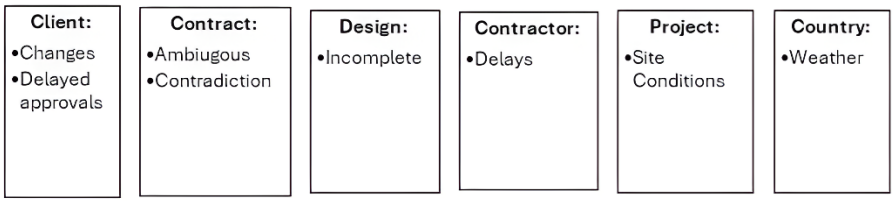

Figure 5: Risk categories

8.2.1. Changes

Changes during construction are common and typically dictated by clients. Changes can be caused by various factors, including meeting new requirements, unexpected site conditions, design modifications, material availability issues, code changes, and construction errors. Although changes can disrupt project timelines and budgets, they are often necessary to ensure project success. Effective change management is crucial for minimising the impact of changes. Changes proposed by clients can trigger disputes, especially if they are reluctant to cover the additional costs [14]. Therefore, changes during construction were considered as risks and added to the project risk register.

8.2.2. Delayed approvals

Delayed approval by the client, which occurred during the lifecycles of the case study projects, is a risk affecting project progress through several channels. First, it can significantly affect project timelines, causing delays and increasing costs. Second, it can create uncertainty among contractors and their subcontractors, hindering planning and resource allocation. This uncertainty can lead to disagreements regarding project timelines, payment schedules, and contract variation. Additionally, delayed approval can affect project quality, as contractors may rush to complete work within shortened timelines. These combined factors can escalate tension and lead to legal disputes between clients and contractors. Accordingly, all delayed approvals were tracked and added to the project risk register.

8.2.3. Ambiguities and contradictions in contracts

Ambiguities and contradictions in contracts can lead to disputes because they create confusion and uncertainty regarding party rights and obligations. When the terms of a contract are unclear or inconsistent, it becomes difficult to interpret party intentions and enforce agreements, which can lead to disagreements regarding payment terms, project timelines, and quality standards. When such ambiguities are identified, they are added to the project risk register project. During the preparation of mitigation plans, parties discuss these matters with good intentions to reach a favourable resolution before the situation worsens.

8.2.4. Incomplete design

All three projects included in the case study were successfully designed and constructed. However, there was disagreement regarding the consideration of an item as part of the design development or client requirements. It is difficult to draw a clear distinction between these types of items. However, transparency, efficient communication, and good working intentions make it easier to reach an agreement during the preparation of a mitigation plan for such items.

8.2.5. Delays by contractor

The contractor encountered delays in the case study projects for several reasons, including changing the steel structure subcontractor, delays in the delivery of long-lead items, and last-minute changes by the client. As these

items represent risks affecting project duration, which can cause penalties to the contractor or loss of opportunity to the client, they were added to the project risk register.

8.2.6. Site condition

Cavities can be encountered in the ground in Qatar and are not always detected by geotechnical investigations conducted prior to a project being awarded. If encountered, such cavities must be filled with concrete as per Qatar's construction specifications, which is a cost to the contractor. Encountering a cavity in the ground is considered a risk that affects the construction cost and needs to be added to the project risk register for a mitigation plan.

8.2.7. Weather

The weather in Qatar is very hot during the summer. Accordingly, by law, work cannot be performed in outdoor workplaces between 10:00 am and 03:30 pm from the 1st of June to the 15th of September. This restriction can lead to disputes for several reasons. First, it can disrupt the work-life balance of employees, leading to dissatisfaction and reduced productivity. Second, it can affect the logistics and operations of businesses, particularly those that rely on specific working hours. Third, there may be disagreements between employers and employees regarding compensation, overtime payments, and working conditions. These factors can create tension and lead to disputes. Additionally, although it seldom rains in Qatar, rainy days can cause flooding and work stoppage. Accordingly, such events were recorded and added to the project risk register to formulate a mitigation plan to overcome delays arising from weather conditions.

8.3. Risk analysis and mitigation

First, a stakeholder analysis was conducted to identify all stakeholders involved in the projects, including internal team members, clients, suppliers, and other relevant parties. 'Risk champions', who are identified among the three main parties (client, contractor, and consultant), are responsible for collecting risks related to potential disputes and adding them to the project risk register. A communication channel was established to ensure that any potential dispute noticed by any project member could be captured by the risk chain and registered in the project risk register.

Regular risk analysis meetings were held to capture new potential disputes, update the status and severity of existing risks, and propose mitigation plans for new risks. Uniquely, while developing mitigation plans, all project team members thought collaboratively to formulate a plan that could minimise the impact on the project. Achieving a win-win situation was the primary target of all project members.

An important point is that when working together on a dispute recorded in the project risk register, it is common practice to be calm, as anger expressed by participants is counterproductive. Anderson [15] demonstrated that the expression of anger lowers the resolution rate in negotiations, and that this effect occurs in part because expressing anger generates an angry response from the other party.

8.4. Escalation process

As a result of several factors, including complexity or a lack of authority, the project team did not manage to resolve a number of the identified risks. These items were escalated to the top management of the two main stakeholders, namely the client and contractor, for discussion and a final decision. This occurred twice during the lifecycle of the projects included in the case study, and the items were resolved in the manner detailed below.

To achieve a clear understanding of the situation, each of the two presiding officers for the client and contractor requested their team to prepare a presentation demonstrating their understanding of the situation and presenting a proposal to resolve the situation. In a joint meeting, each team presented their respective cases to the top managers of the two main stakeholders, and then left. The two top officials then discussed the subject in good faith and reached a binding agreement for both parties. Such meetings must be documented, as contractual actions are performed based on the contents of these meetings.

8.5. Success factors

Certain factors contributed in the successful implementation of treating disputes as risks in the case study projects, including the following:

- Working in good faith.
- Early identification of potential disputes and early resolution.
- Working collaboratively towards the best interest of the project.
- Win-win perspective focusing on creating solutions that benefit both parties.
- Teamwork involving collaboration with the entire project team to develop alternative solutions as part of the mitigation plan.
- Establishing trust and a positive relationship with the other party.
- Utilising effective communication.
- Flexibility and being open to compromise and suggesting creative solutions.
- Maintaining ethical behaviour such as honesty and integrity throughout the risk assessment process.

8.6. Pros and cons

By implementing the concept of treating disputes as risks, the following positive results were obtained:

- Improved project outcomes. A collaborative approach can lead to innovative and effective solutions that enhance project quality and efficiency.
- Stronger relationships. Open communication and shared responsibility foster stronger relationships among project stakeholders, leading to increased cooperation and trust.
- Reduced costs. Proactive risk management can prevent costly disputes and delays, thereby saving time and money.

- Shared ownership. A sense of shared ownership and responsibility is created by involving all parties in the risk management process, increasing the likelihood of successful implementation.
- Increased project success. A collaborative approach can lead to better decision making, risk mitigation, and overall project success.

However, the implementation of this concept also encountered the following challenges:

- Dependence on cooperation. The success of the proposed approach relies heavily on the willingness of all parties to cooperate and compromise, which may not always be possible.
- Risk of overconfidence. A collaborative approach may lead to a false sense of security and potential underestimation of the impact of certain risks.

8.7. Comparison with other similar projects

After the three case study projects were completed, the outcomes were compared with those of similar projects that had the same scope and were completed by other similar contractors for the same client. These results can be summarised as follows:

- Dispute management. While the three projects included in this case study were completed without any disputes, the projects considered for comparison involved many disputes that reached litigation.
- Claims and financial liabilities. All three projects included in the case study were completed without any claims, while one project considered for comparison included a claim that reached approximately 100% of the contract value.
- Project completion and contractor engagement. All three projects in the case study were completed by the initiating contractor ahead of the scheduled completion date, whereas in a project considered for comparison, the original contractor left the project and the client had to appoint another contractor to complete the work.

8.8. Lessons learned

The following are the key lessons learned from treating potential disputes as risks and collaborating on mitigation plans for construction projects:

- Early identification and proactive management. Identifying potential disputes early in the project lifecycle is crucial. Proactive risk management strategies can help prevent escalating disputes.
- Strong communication and collaboration. Open and transparent communication among project stakeholders is essential for effective collaboration and dispute resolution.
- Shared ownership of risks. All parties should be involved in identifying, assessing, and mitigating risks. Shared ownership fosters a sense of responsibility and accountability.
- Flexible and adaptable approaches. Construction projects are dynamic and subject to changes. Risk management plans should be flexible and adaptable to accommodate unforeseen circumstances.
- Continuous monitoring and evaluation. Regular monitoring and evaluation of risk mitigation processes

are necessary to ensure their effectiveness.

- Learning from experience. The lessons learned from past projects can be used to improve future risk management practices.
- Building trust and relationships. Establishing strong relationships based on trust and mutual respect is crucial for effective collaboration and resolution of disputes.
- Clear contractual agreement. Well-drafted contracts with clear terms and conditions can help mitigate disputes.
- Culture of collaboration. Adopting a culture of collaboration and open communication can prevent disputes and promote a positive project environment.

Treating disputes as risks is an innovative approach that, if implemented correctly, can have a positive impact on construction projects, leading to a significant reduction in the likelihood of disputes and the enhancement of overall project success.

9. Conclusion

The shift from reactive dispute resolution to treating disputes as operational risks represents a transformative approach to construction project management, particularly in the GCC region. By embedding disputes into a risk management framework, teams can prevent costly delays, maintain budget discipline, and foster collaboration among stakeholders. This proactive approach ensures that conflicts are addressed before they escalate, aligning with modern risk management principles such as those outlined in the PMBOK and ISO 31000.

The real-world impact of this approach is evident in the accolades received for the case study projects. The projects included in the case studies were honoured with top awards at the MEED Projects Awards 2024 for ‘Building Project of the Year’ and ‘Small Project of the Year’. Additionally, one of the projects has also been shortlisted for multiple categories at the Big 5 Global Impact Awards 2024, including ‘Sustainable Construction Project of the Year’ and ‘Impact Leadership Team of the Year’. These distinctions reflect both the innovative strategies employed and tangible success in delivering high-impact projects.

However, the proposed approach still has some limitations. Although the risk-based approach addresses many core issues, its effectiveness is contingent on the willingness of all project stakeholders to adopt this approach. Highly fragmented projects involving international stakeholders can resist cultural and procedural shifts, particularly if established dispute resolution mechanisms such as arbitration are deeply ingrained in the industry. Additionally, this approach requires ongoing training and monitoring, which may increase short-term costs and create challenges for smaller organisations with fewer resources.

Another limitation is the complexity of quantifying the effectiveness of dispute prevention measures. Although the proposed approach aims to mitigate disputes before they arise, it can be difficult to measure the success of preventing an event that never materialises. Further research is required to establish clear metrics and benchmarks that quantify the long-term benefits of dispute risk management, particularly in large-scale projects.

Several areas should be explored in future research. First, more detailed case studies are required to illustrate the practical application of this approach in different contexts, particularly in large multi-stakeholder projects in the GCC. These case studies can provide concrete examples of how disputes have been successfully mitigated and offer lessons for improving the proposed approach. Additionally, future studies could focus on how technological advancements such as AI-driven risk assessment tools can enhance the early identification of dispute risks, thereby improving project outcomes.

Finally, expanding the scope of the proposed approach to include more collaborative forms of project governance such as integrated project delivery and building information modelling could lead to further enhancements. These innovations offer the opportunity to embed dispute risk management into collaborative and data-driven project environments, making it possible to anticipate and mitigate risks with greater precision.

Although a risk-based approach to dispute management offers considerable promise, its success hinges on continuous refinement, stakeholder buy-in, and openness to innovation. By addressing these challenges and embracing future research opportunities, the construction industry can take significant steps towards more efficient and less contentious project delivery.

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