

Causes of Disputes in Construction Projects

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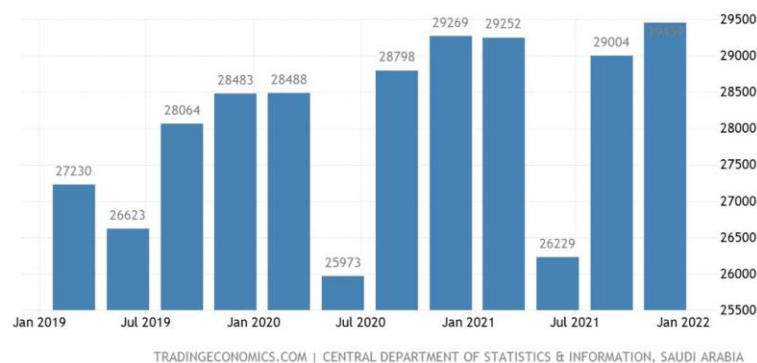
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Abstract: Disagreements between construction parties to reach an agreed upon solution are common and frequent in the construction industry across the globe. Construction disputes waste time and resources and result in delays to the completion of projects. Clauses are added in contracts to facilitate the cooperation to reach agreements instead of legal escalations in court. Sometimes, these clauses cause more harm than good because of the provision of conflicting terms that culminate in legal conflicts, which invariably bring undesirable results to the projects. As the construction projects offer opportunities to contributed firms, they also increase the risk of disputes through disagreement or ambiguity within mutually agreed contracts. The selected dispute resolution method plays a significant role that mitigates the risk of escalation. The dispute to the level that reaches the legal courts and impacts the construction projects performance. This review sheds light on the major construction projects and contract dispute causes and recommendations.

Keywords: Contracting, Dispute, Claim.

1. INTRODUCTION

The construction sector is one of the most promising and growing industries in the Kingdom of Saudi Arabia. Indeed, from 2019 to 2022 Saudi (Gross Domestic Product) GDP from construction shows continuous growth, while only in 2021 the GDP from construction was SAR114 billion (\$30.4 billion) (Central Department of Statics & Information, Saudi Arabia 2022).



<Fig. 1 shows the KSA GDP for Construction from (Tradingeconomics.com cited from CDS&I)>

With introduction of new industrial mega projects under oil, gas and minerals in addition to the governmental mega and giga infrastructure programs and projects, such projects in the Kingdom shall be effectively executed with minimum disputes that do not disturb the business and impact the execution process. The construction projects continuously associated with numerous contemporary claims could easily impact the construction executions (Assaf, Hassanain, Abdallah and Alshahrani 2018). The disputes arise among the construction project parties can reduce the efficiency and surpass the allocated costs of the project due to legal charges, attorneys, attributers, and mediators' assignments' fees. Occurrence of construction projects claims, and disputes continuously fail to quantify the impact of them on these projects' costs (Diekmann and Nelson, 1985). Insights on the types and causes of the claims and disputes in construction projects is a fundamental endeavor to eliminate their occurrence (Semple et al., 1994). According to (Shash and Habash, 2021) conflicts and disputes can have different perspectives from different construction parties. In recent decades there has been huge momentum to adopt the technological capabilities and programs, such as Building Information Modeling (BIM), which

helps emphasize the design quality and increase the interface planning among different construction parties design-wise. This expeditious evolving is not embraced with equivalent agreed upon standard legal contractual specifications and clauses. As a result, additional conflicts and disputes float to the surface and are identified with recommended avoidance practices.

Therefore, the purpose of this literature review is to put a spotlight on the main causes of the construction projects' conflicts, claims and disputes and suggest the contemporary practical resolution methods. In addition, this study will cover the causes of disputes in different countries including Saudi Arabia and will highlight the disputes associated with adopting the new technologies in the construction industry with suggested strategies to either mitigate these conflicts or avoid them altogether.

2. LITERATURE REVIEW AND BACKGROUND

A lot of research, cases studies and surveys were conducted in construction projects' contractual disputes and claims. Indeed, the dispute causes, natures, frequencies and resolution methods were studied thoroughly in the past decades to overcome them and to cover the evolving construction technologies contractually and legally to ensure each construction party's rights are preserved (Shash and Habash, 2021).

In the Kingdom of Saudi Arabia's Eastern Province, which tends to have more industrial specialized construction projects due to the abundance of the petroleum existence, (Assaf, Hassanain, Abdallah and Alshahrani, 2018) their research and questionnaires covered a total of more than 250 professionals located in the Eastern Province that concluded the key causes of disputes are:

- Change or variance in orders that are initiated from the project owner
- Quantities changing due to project owner's new requirements
- Contractors causing delays
- Design errors and negligence
- Conflict among the bidding package drawings and specifications

While in Saudi Arabia's Central Region, specifically the capital Riyadh, mega infrastructure is under construction in different sectors i.e., commercial districts, renovation of wide historical areas, mega transportation projects and new housing projects. In their research, Shash and Habash, 2021 distributed a questionnaire to a total number of 183 construction professionals in the Central Province of Saudi Arabia, which concluded the main causes for disputes in this region were the following:

- Poorly-written contracts
- Ambiguity in the contractual specifications and contract documents
- Conflict among the contract documents
- Unreasonable project milestone schedules

In addition, Mahamid, 2014) distributed 120 questionnaires to construction professionals to quantify both types of disputes; micro which is the directed causes of disputes, and macro - broader claim causes in the residential building projects in the Kingdom of Saudi Arabia. The principal causes of claims were:

Micros (direct causes of claims);

- Owner caused due payment delay
- Exceedingly tight-fisted project milestones
- Change and variation orders
- Inadequate quality of the work

Macros (indirect causes):

- Lack of contractor know-how
- Inadequate communication among construction team
- Improper contractor planning

In the United Arab Emirates, (Zaneldin, 2006) studied a total of 124 claims from different types of projects in two emirates in the UAE (Abu Dhabi and Dubai) as both emirates held a total of 78% of total national investments in 2006 when the study was conducted. His study identified the main causes of disputes and proposed recommendations to eliminate and mitigate them accordingly.

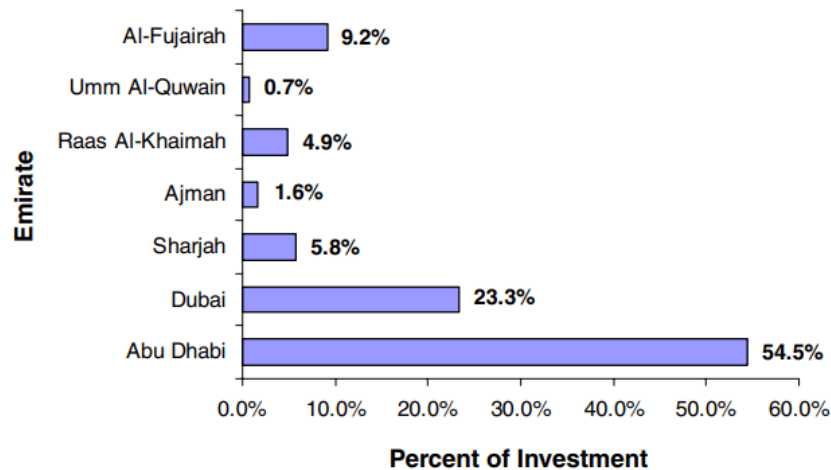


Fig. 1. Percent of investments in all emirates in UAE.

<Fig. 2 UAE investment in each emirate by percentage from (Zaneldin, 2006)>

The following are the principal causes of claims in the UAE:

- Change or variation orders
- Owners causing delays
- Owners verbally change orders
- Payment delays

In Australia, ((Panuwatwanich, Gutierrez and Walker 2013)) studied the escalated cases of disputes to the court from the recorded database. The study found that there where a total of five dispute causes.

- Payment related issues
- Damage and associated payments
- Timing related issues i.e., failure to obtain approvals on time
- Change of orders associated with either addition of deletion
- Negligence of either execution or no execution/compliance or noncompliance to the required actions related to health and safety

In South Korea, (Acharya, Lee and Im 2006) the authors obtained responses from 124 construction professionals including owners, consultants and contractors to highlight the main causes of the disagreements in the Korean construction projects' claims and conflicts. The following are the main found causes:

- Differing site condition
- Public interruption
- Variance in change order assessment
- Design error
- Excessive contract quantities
- Duplications among the contractual specifications

The above-mentioned scanned regional and relevant examples from Saudi Arabia, the UAE and other countries who highlighted a plethora number of claims, disputes and conflict causes among the construction projects parties. This paper was built upon a number of significant studies papers those were reviewed thoroughly elaborate the major disputes and claims causes. In addition, this paper will shed light on some contemporary construction projects' suggestions to resolve, mitigate or even avoid these causes and their associated potential disputes. On top of these recommendations, is the BIM.

3. DATA COLLECTION AND RESEARCH METHOD

3.1 Data Collection

This literature review was built upon a full spectrum of conceptual qualitative studies to explore the causes of the disputes and claims in the construction projects and contracts followed by recommendations to avoid them, or even overcome them once they occur. The main database websites where the studies were collected from are Elsevier (ScienceDirect) and Research Gate (ResearchGate) and the journals these studies were published in are listed as: International Journal of Project Management (IJPM), American Society of Civil Engineers (ASCE), Journal of Construction Engineering and Management (JCEM), Journal of Engineering, Project and Production Management (JEPPM), Built Environment Project and Asset Management (BEAAM) and Journal of King Saud University (JKSU).

3.2 Data Analysis

The writers initially searched for 30 relevant publications of construction claims and disputes. This practice selected paper to differentiate among them as empirical and conceptual groups, then followed by quantitative and qualitative subgroups. The authors also broke down the titles into three subcategories:

- 1) Disputes causes
- 2) Disputes resolution recommendations
- 3) BIM insights

4. RESULTS AND DISCUSSION

4.1 Disputes and claims causes

This section highlights the causes of the disputes in construction projects and with contract parties. The disputes were collected and refined from the reference studies, based on the severity and frequency.

4.1.1 Delaying Payments to the Contractors

As such, a complex factor can lead the contract to delay the payment of the subcontractors that might have already completed their work and become eligible for payment. Such a cause severely impacts the cashflows of the involved construction parties. (Mahamid, 2016)

4.1.2 Change and variation order

Changes are associated with considerable potential of disputes, where in the UAE it is the most frequent cause of disputes (Zaneldin, 2006) while it is a third and fourth highest cause of the disputes in Saudi Arabia and Australia, respectively. (Mahamid, 2016) and (Panuwatwanich, Gutierrez and Walker 2013)

4.1.3 Discrepancies among project documents

Poorly prepared with certain level of ambiguity within bidding or tendering packages can lead to vital disputes especially when the drawing conflicts with contractual specifications or even when different specifications conflict in meaning. (Assaf, Hassanain, Abdallah and Alshahrani, 2018)

4.1.4 Unrealistic project schedule milestones

Unrealistic projects milestones stipulated by the owner can go beyond the logic of the critical path and the reasonable acceleration and crashing strategies, which may lead the contractors to reduce the quality or omit essential requirements which will not be acceptable and lead to conflicts. (Shash and Habash, 2021)

4.1.5 Changes in site condition

Unexpected rough underground soil conditions introduce interfaces with other public projects or loss of electrical, other utilities, or spacing reservation to other urgent clients Governmental projects can also lead to execution site confusion and additional time and cost impact to the contractor. (Acharya, Lee and Im, 2006)

4.1.6 Design mistakes

It is expected to have the engineering package with minor errors and omitted details — these must be corrected immediately. To some extent, the error in design packages could lead to a dead end at execution and thus the contractor compensated through additional financial aids (Assaf, Hassanain, Abdallah and Alshahrani, 2018).

4.1.7 Delays caused by construction parties

When it comes to delaying a milestone or the project as a whole, it will have major cost impact on all construction parties due to direct, indirect and overheads regardless of which party causes the delay i.e., contractor or the owner, the delay is always associated with a certain level of dispute potential. (Panuwatwanich, Gutierrez and Walker, 2013) and (Zaneldin, 2006).

4.1.8 Underestimating or errors in cost estimation

In highly competitive regions, the contractors tend to lower their tendering prices. The urgency to complete the tendering packages leads to completing the pricing with deficiencies. To recover from these mistakes, the unit prices of change orders becomes a clash among the owners and contractors and could be escalated to disputes. (Zaneldin, 2006), (Shash and Habash, 2021) and (Assaf, Hassanain, Abdallah and Alshahrani, 2018).

4.1.9 Variation in the quantities

Subsurface situation differences, as well as other unforeseen deviations that impact the quantities and the materials take-off (MTOs), can be a great cause for construction disparities. (Acharya, Lee and Im, 2006).

4.1.10 Lack of organization and quality

When contractors are continuously inadequate in organization or achieve the deliverables poorly, this can push owners to make a claim (Zaneldin, 2006).

4.2 Disputes and claims resolving recommendations

In this section of the research, different strategies and recommendations were studied and addressed to overcome the disputes and reduce their impact on the construction projects.

4.2.1 Lessons learned collection

All involved construction parties, including the individual, should study and learn from previous relevant conflicts and avoid their causes in the current and future experience. (Acharya, Lee and Im, 2006).

4.2.2 Mitigating and avoiding the disputes

Contractors are to negotiate with owners or vice versa to come to an agreement. In addition, owners and contractors should isolate the disputed scope of work and resume the undisputed area of work. Under some conditions, avoiding disputes over completion of other scopes of the project and preserving the long-term relationship of construction parties can be an efficient approach (Shash and Habash, 2021).

4.2.3 Contract conversion

Sometimes, consider converting the whole contract from a lump sum to a unit price or vice versa. This can be utilized as a privilege to overcome the plethora of binding clauses that are not workable for both owner and contractor (Shash and Habash, 2021).

4.2.4 Embrace the contract clauses and specifications

Specification and clauses — upon the common causes of payment, materials delivery, quality requirement, etc. — should be identified by construction parties and embraced through contractual language (Panuwatwanich, Gutierrez and Walker, 2013).

4.2.5 Allow time extension at the design and bidding period

Owner's design and bidding team should be allowed to have a time extension in exchange for better design quality and bidding package. Such practice will allow the design team to overcome errors or at least minimize the vital mistakes that lead to disputes at execution and construction phases (Zaneldin, 2006) and (Assaf, Hassanain, Abdallah and Alshahrani, 2018).

4.2.6 Expedite release of due payments

Owners to encourage their cost team to facilitate and accelerate releasing the due payments to the contractor as the majority of the contractors rely on this progression payment to fund the following stages and activity. With such a delay, contractors will be in a position where progress is interrupted and their financial status will be impacted, too.

4.2.7 Consult mediators and arbitrator

Prior to legal court escalation, an additional mitigation measure is to consult subject matter experts in the claim and disputes resolutions. In the industry, they are known as legal sector mediators and arbitrators. (Shash and Habash, 2021).

4.2.8 Take advantage of technology

Developing technologies that improve teamwork and information distribution can aid in decreasing disagreements. Take structure information modelling (BIM), this tool generates 3-D or 4-D replicas that permit the parties to foresee the finalized project to better comprehend the three-dimensional contacts among building mechanisms (Rachid et al., 2018).

4.3 Insight on BIM contributions in disputes

Globally, plenty of efforts to overcome the construction projects disputes have been made to eliminate the associated waste of money and effort accordingly. As the issues of conflicts are evolving, contemporary approaches can be made to increase the communication, design quality, better interface management, relatively more accurate materials take-off and quantities, etc. (Gibbs, DJ, Emmitt, S, Lord, W & Ruikar, K, 2015). With these promises being addressed, the standard contracts are still not at the speed to meet the BIM evolution momentum. (Abu Jamil and Fathi, 2018).

Therefore, the BIM has a decent potential to contribute in reducing the dispute causes and their frequencies accordingly, once the contracts are developed in a sophisticated way to accommodate the gaps, and avoid BIM changing from a solution into an issue.

5. CONCLUSION

This study reviewed more than 20 relevant studies that shed light on the construction projects' claims and disputes causes, frequencies, and resolution recommendations in local, regional, and relevant global environments. The effort of the writers of this study was to refine the disputes causes and study them in depth and link it to relevant resolution recommendations to reduce or even eliminate these disputes which are associated with unfavorable cost, schedule and impacts relationships between owners and contractors. This study and research can be utilized to gather the relevant fundamental information about the relevant causes of disputes in KSA, UAE or any other Gulf and Middle Eastern countries.

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