

DEVELOPMENT OF A FRAMEWORK TO MANAGE DISPUTES IN CONSTRUCTION SECTOR OF PAKISTAN

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Abstract: The construction industry is vital for economic growth and infrastructure development in Pakistan, yet disputes within this sector hinder progress and jeopardize project success. This research aims to address this issue by comprehensively understanding the dynamics of construction disputes and developing an effective framework for their management. By analyzing literature, industry expert insights, and survey data. This research contributes valuable insights into dispute prevention, mitigation, and resolution, fostering cooperation and efficient conflict resolution in the Pakistani construction landscape.

Keywords: Dispute management Alternative Dispute Resolution (ADR)

1. Introduction

This paper endeavors to contribute to the understanding and resolution of construction disputes in Pakistan. By delving into the intricacies of dispute dynamics and factors influencing their emergence, this study seeks to identify viable solutions to mitigate and manage disputes more effectively. The construction sector plays a pivotal role in the growth of a country's GDP [1]. Hence, the importance of industry research becomes evident as a vital tool for sustaining the industry's vitality. This process involves examining and identifying challenges and issues unique to the sector, with the aim of unveiling underlying reasons and influential elements. The pursuit of solutions for these issues within the realm of practical construction remains ongoing.

Over the years many dispute resolutions have been found and each resolution has an unpredictable outcome. [2] took the liberty to introduce peaceful resolution methods in the construction industry to avoid court proceedings and arbitration when disputes occurred. Drawing on comprehensive literature review, insights from industry experts, and quantitative analysis of survey data, through this research, stakeholders within the construction sector, including contractors, clients, consultants, and policymakers, will gain valuable insights into the nature of disputes. By fostering a collaborative approach, enhancing communication channels, integrating technology, and navigating the legal complexities, the identified disputes can be mitigated with robust efforts and construction management. Furthermore, this research aims to empower

stakeholders within the construction sector with an in-depth understanding of the nature of disputes and the strategic approaches that can be employed to proactively prevent, judiciously mitigate, and efficiently resolve them. By nurturing a collaborative ethos, fortifying communication pathways, integrating state-of-the-art technology, and adeptly maneuvering through the intricate legal intricacies, the proposed framework aspires to create an environment conducive to seamless project execution, thereby enhancing both the efficiency and sustainability of the construction sector.

2. Literature Review

One of the most influential reasons that can affect the completion of construction projects is disputes [3] According to [4] dispute is defined as "a specific disagreement concerning a matter of fact, law or policy in which a claim or assertion of one party is met with refusal, counter – claim or denial by another". According to [5] dispute is "a disparity between the parties following the completion of the internal procedure. [6] (made the classification of disputes, according to them, disputes are classified into three groups that are contractual disputes, organizational disputes and technical disputes. Contract-related matters contribute substantially to conflicts in numerous projects. Disputes originating from within the organization are intricately linked to human conduct during project operations, encompassing interactions, personality dynamics, cultural disparities, and the diverse professional backgrounds of stakeholders

[7] investigated the causes of disputes in the construction sector of USA and identified them to be:

FACTORS AFFECTING CONSTRUCTION DISPUTES IN THE USA
Errors, omissions, and ambiguities in plans and specifications, or a lack of proper coordination thereof.
Responses, or lack thereof, to questions or problem resolutions presented by one party to another within the contract.
Inadequate management of responsibilities by clients, architects/engineers, contractors, subcontractors, or suppliers.
Failure to align with the contract's intent or industry standards during work execution.
Material differences in site conditions from those outlined in contract documents.
Unexpected subsurface conditions.
Discovery of existing building conditions differing from contract drawings, primarily in rehabilitation or renovation work.
Additional work or changes necessitating modified contracts.
Contract breaches by any party.
Work disruptions, delays, or acceleration leading to deviations from the initial schedule.
Financial weaknesses in clients, contractors, or subcontractors.

Table 1: Causes of disputes in the USA

Similarly [2] investigated the causes of disputes in the construction sector of Egypt and found them to be:

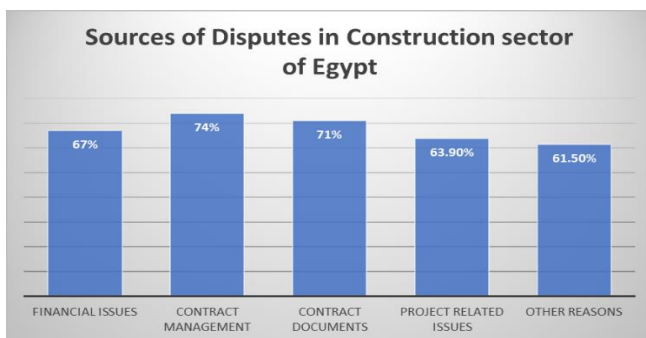


Table 2: Factors affecting construction disputes in Egypt.

Similarly, [8] investigated the causes of dispute in

construction sector of Indonesia and found them to be:

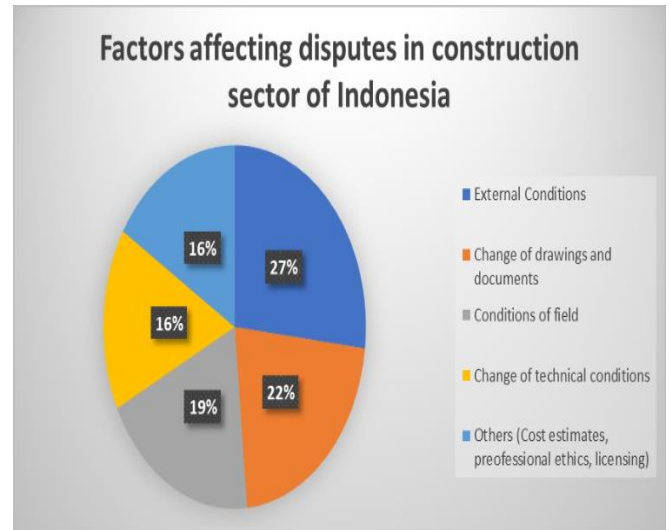


Table 3: Factors affecting construction disputes in Egypt.

3. Methodology

To In order to identify the factors contributing to disputes within the construction industry of Pakistan, a meticulously crafted methodology was employed, as visually depicted in Figure 2, providing an overview of the research process undertaken in this paper. To lay a strong foundation for this research, an exhaustive review of various academic sources was conducted, including conference proceedings, books, articles, and scientific databases. This extensive review aimed to uncover and compile a comprehensive list of influential factors that lead to disputes within the construction sector of Pakistan.

To validate and refine the information gathered during the literature review, unstructured interviews were conducted with experts from the construction sector. These interviews provided valuable insights and real-world perspectives, further enriching the understanding of the identified influential factors.

Following this initial phase, a structured questionnaire was meticulously designed. This questionnaire included a list of the causes of disputes within the construction sector of Pakistan, which had been identified through the preceding research phases. The questionnaire served as a means to collect the perspectives and opinions of practitioners actively engaged in the construction industry. Respondents were tasked with rating each listed factor on a five-point Likert scale, which encompassed responses ranging from "Strongly Disagree" to "Strongly Agree."

Data analysis was performed using the statistical software SPSS version 24. The objective was to discern the most

significant factors contributing to disputes in the construction sector. A total of 120 questionnaires were distributed among practitioners in the field, and after careful scrutiny, 110 of these were deemed valid for analysis.

Respondents were instructed to utilize the following scale for each listed reason in the questionnaire:

X1 = Strongly Disagree

X2 = Disagree

X3 = Neutral

X4 = Agree

X5 = Strongly Agree

The significance of each factor was assessed using the Average Index (AI) method [9], which relies on the frequency of each rating as calculated through SPSS. The AI value for each factor was determined using a formula adopted from a relevant source, contributing to the robustness and validity of the analysis process.

$$AI = \frac{\sum 1(X_1+2X_2+3X_3+4X_4+5X_5)}{\sum (X_1+X_2+X_3+X_4+X_5)} \quad (\text{eq. 1})$$

The following figures elaborates the research methodology.

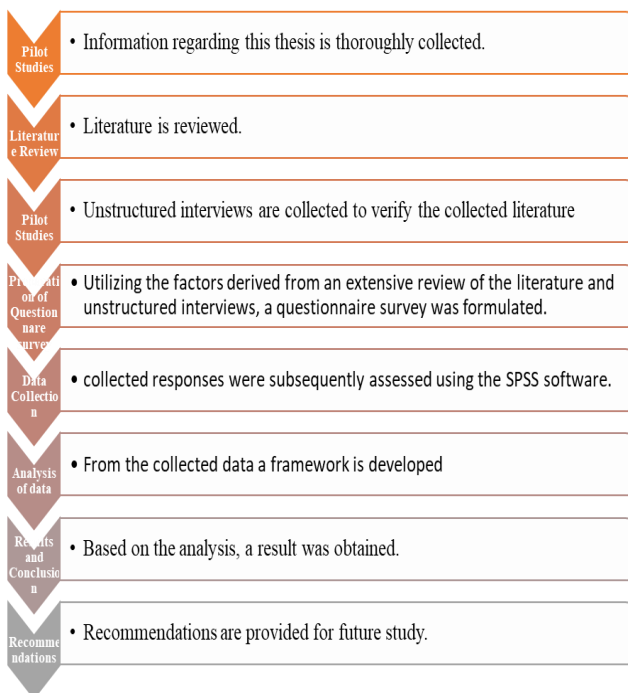


Figure 2: Research Methodology

4. Results and Discussion

The study conducted a thorough literature review to identify 28 factors causes disputes in the construction industry of Pakistan. Following this, unstructured were conducted with construction industry experts who had work experience of more than 5 years. These 28 factors were identified and narrowed down to 15 factors. The following tables show the responses.

Table 4: Result of unstructured interviews

Sr. No.	Factors causing disputes	Yes	No
1.	Variations Initiated by the owner	13	-
2.	Change of Scope	6	7
3.	Acceleration	6	7
4.	Unrealistic Expectations	4	9
5.	Payment Delays	9	4
6.	Delays in work progress	11	2
7.	Time extensions	8	5
8.	Financial failures of the contractor	8	5
9.	Technical inadequacy of the contractor	9	4
10.	Tendering	13	-
11.	Quality of work	12	1
12.	Design Errors	12	1
13.	Availability of information	6	7
14.	Inadequate/incomplete specifications	9	4
15.	Risk allocation	6	7
16.	Ambiguities in contract documents	7	6
17.	Different interpretations of the contract provisions	7	6
18.	Ethnic/Culture problems	12	1
19.	Lack of communication	8	5
20.	Lack of team spirit	5	8
21.	Site conditions	12	1
22.	Unforeseen Changes	6	7
23.	Weather	6	7
24.	Fragmented structure of the sector	6	7
25.	Legal and economic factors	11	2
26.	Less Salary / Job Security	9	4
27.	Working Overtime	10	3
28.	Unsuitability of Storage Location	6	7

A questionnaire was developed consisting of three parts. The first part gathered information about the respondents, while the second part consisted of the 15 factors that were found to be the causes of disputes in the construction industry of Pakistan. Ranked on a Likert's scale from 1-5, where 1 indicated "Strongly Disagree" and 5 indicated "Strongly Agree". A total of 120 questionnaires were distributed to industry experts, of which 110 were considered valid for analysis. The responses were analyzed using SPSS. The obtained results show ranking of causes of disputes in the construction sector of Pakistan.

The results show that the top most cause of dispute in construction sector of Pakistan is "payment delays", the second most influential dispute was found to be "Delays in work progress". Similarly other disputes that were found were also according to their mean values as analyzed through SPSS.

Table 5: Ranking of different causes of disputes

S. No.	Factors	Mean	S.D	Rank
1.	Payment Delays	4.43	.807	1 st
2.	Technical inadequacy of the Contractor	4.37	.849	2 nd
3.	Time Extensions	4.12	.954	3 rd
4.	Delays in work Progress	4.12	.918	4 th
5.	Financial failures of the contractor	3.95	.960	5 th
6.	Design Errors	3.74	.667	6 th
7.	Illegal tendering	3.73	1.13	7 th
8.	Quality of works	3.09	1.25	8 th
9.	Variations initiated by the owner	2.97	1.01	9 th
10.	Ethnic/Culture problems	2.93	1.25	10 th
11.	Legal and Economic Factors	2.60	1.30	11 th
12.	Job Security	2.46	1.34	12 th
13.	Incomplete specifications	2.29	1.21	13 th
14.	Lack of communications	2.18	1.20	14 th
15.	Harsh site conditions	2.17	.982	15 th

5. Conclusion

In conclusion, this thesis embarked on a journey to address a pressing concern within the construction sector of Pakistan - the management of disputes. The construction industry, being a cornerstone of economic development, has encountered a myriad of challenges due to unresolved

disputes that hinder project progress, disrupt stakeholder relationships, and erode industry credibility. This research sought to devise a tailored framework that not only acknowledges the unique intricacies of the Pakistani construction landscape but also draws from global best practices to offer a comprehensive solution for dispute management.

Through an extensive exploration of literature, industry expert insights, and empirical data analysis, this study has illuminated the multifaceted nature of disputes in the construction sector. From owner-related conflicts to design discrepancies, contractor challenges, and human behavior complexities, the spectrum of disputes is wide-ranging and demands a holistic approach to resolution. The existing lack of a standardized framework has perpetuated the persistence of disputes, undermining the sector's potential for growth and excellence.

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