

# LITERATURE REVIEW ON SOLVING CLAIMS AND DISPUTES IN CONSTRUCTION INDUSTRY USING CLAIM FACTOR AND SEVERITY INDEX

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**Abstract** - The occurrence of disputes in construction industry results in damaging the relationship between the parties hence delaying the project, cost over runs, legal issues etc. To avoid these type of disputes, conflict, and claims a proper management should be used. This project aims to analyse the main causes of disputes which occur in the construction industry and how to solve this type of disputes and if the dispute is resolved than how claim should be given to an affected party. In this project we will solve the disputes using claim factor method.

**Key Words:** claims, disputes, claim factor, severity factor.

construction, so as to minimize and control the root causes by finding it. Finding the root cause will help us to classify the claims and give out the solution. After classification of claims a severity index will be allotted and according to affected amount a penalty amount will be applied.

## Aim:

The aim of this project is how to execute and manage a construction project without any dispute and claim from any party. And if dispute occurs than how to resolve it.

## Objectives:

- To find out root cause of disputes.
- To find and categorize type of disputes.
- Whom to approach
- How to resolve the issue.

## Problem statement:

The complex characteristics of construction projects, improper contractual terms, breach of contract, human behavior, construction defects and various external factors have created necessity for predicting the project disputes and the need to improve management system, techniques, and guidelines for dispute management. There is a lack of an accepted method of dispute management among professionals in the construction industry. This study is to shed some light on the view and attitude of the typical construction contractors in the India towards construction risks. It is mainly concerned with the allocation of risks, risk importance and their effects on the project as well as the

## 1.INTRODUCTION

Dispute means there is a disagreement or argument between two parties during a project. This may cause project delay, cost overrun, closure of site if not settled soon in a proper manner. The increase of conflicts, claims and disputes in construction projects has emerged specialists in claims management and dispute resolution board. However, different approaches and terminology used in contract documentation suggest the need to clarify the related concepts, and to study the critical impacts on projects and the implications for the industry itself.. There is a severe lack of an accepted method of dispute management among professionals in the construction industry. This study is done to have some light on the view and attitude of the typical construction contractors in the India towards construction risks. A preliminary study in this project suggested a further need to identify the common sources of disputes in

improvements of the understanding by local contractors of risks related to the construction industry.

## 2. METHODOLOGY:

### Use of severity index factor.

In this project claim factors will be used to find out the major root causes of disputes, and using severity index factor we can find out the affected amount and penalty to be paid to settle down the issue. Dispute can be solved by the parties themselves using severity index factor.

### Overview to claims and disputes:

#### Causes of claims and disputes

1. Owner related
2. Contractor related
3. Design related
4. Contract related
5. Human behaviour related
6. Project related
7. External factors
8. Bond claims
9. Construction defect claims
10. Breach of contract claim
11. Construction delay claim
12. Failure to disclose claim.

### Questionnaire survey:

A questionnaire survey was done visiting various sites, and reason for disputes and how the claim was given were asked.

## 3. LITERATURE REVIEW

### 3.1 “Conflicts, claims and disputes in construction”, written by

Mohan M kumarswamy. In this paper he has stated that it is necessary and useful to differentiate destructive from constructive conflict and avoidable from necessary claims; and also to minimize disputes arising from unresolved conflict and claims in construction projects. This paper analyses such needs and proposes means of meeting them through an appropriate classification of construction claims and an identification of the proximate and root causes of the significant claims.

### 3.2 “An analysis of causes of disputes in the construction industry using analytical network process”, by Emre Cakmaka, Pinar Irlayici Cakmak.

This paper aims to analyze the main causes of disputes which occur in the construction industry. In order to reach this aim, a literature review was undertaken to identify the common construction disputes. The disputes derived from a cross-section of the literature, were classified into main categories and the main causes of construction disputes were determined. Finally, an analysis was carried out using the analytical network process (ANP) approach to determine their relative importance.

### 3.3 “Prediction of outcome of construction dispute claims using multilayer perceptron neural network model”, by N.B. Chaphalkar, K.C. Iyer, Smita K. Patil

The occurrence of disputes in Indian construction contracts results in damaging the relationship between the parties apart from the time and cost overruns. However, if the parties to a dispute can predict the outcome of the dispute with some certainty, they are more likely to settle the matter out of court resulting in the avoidance of expenses and aggravation associated with. Dispute resolution process is mainly based upon the facts about the case like conditions of the contracts actual situations on site; documents presented during arbitral proceedings, etc., which are termed as ‘intrinsic factors’ in this research. These facts and evidences being intrinsic to the cases have been explored by researchers to develop dispute resolution mechanisms. A three-layer multilayer perception neural network was appropriate in building this which has been trained, validated, and tested. The tool so developed would result in dispute avoidance, to some extent, and would reduce the pressure on the Indian judiciary.

### **3.4 “Arbitration and conciliation (amendment) act, 2015-key changes and circumstances leading to the amendments”, By Ms. Zabeen Motorwala.**

The President of India promulgated the Arbitration and Conciliation (Amendment) Ordinance, 2015 on October 23, 2015 with a view to amend the Arbitration and Conciliation Act, 1996 (“Act of 1996”) in order to make arbitration in India user friendly, cost effective and a preferred method of dispute resolution along with facilitating speedy disposal of cases<sup>1</sup>. The Arbitration and Conciliation (Amendment) Bill, 2015 was passed in the Lok Sabha and Rajya Sabha on December 17, 2015 and December 23, 2015 after which it received the President’s assent on December 31, 2015 and came to be known as the Arbitration and Conciliation (Amendment) Act, 2015 (“Act of 2015”). The Act is deemed to come into force from October 23, 2015 which is the day the ordinance was originally promulgated. The Act was notified in the official gazette of India on January 1, 2016 and will not have retrospective effect unless otherwise agreed upon to by the parties to the arbitration.

### **3.5 “Expert system for claim management in construction projects” by David Ardit and Bhupendra K Patel.**

In this paper he examined that construction owners and contractors involved in contract claims and disputes have been exploring and actively using alternate dispute resolution methods in the last ten to fifteen years. They have been experimenting with methods that are faster, more economical, impartial, convenient and private. The development of arbitration, followed later by mediation and the most recent yet untested method of ‘turbo-mediation’ is a clear indication of this desire. As a response to this need, this paper explores the possibility of developing a knowledge system for claim management. It proposes to use forensic scheduling concepts in developing an expert system that can prevent and resolve time-related construction disputes. A theoretical framework

for the development of such an expert system is presented.

### **3.6 “An expert system to manage dispute resolution in construction projects in Egypt”,**

written by A.A. Elziny, M.A. Mohamadien, H.M. Ibrahim, M.K. Abdel Fattah. This paper highlights a comprehensive review of the available literature on analysis of disputes. The objective of this paper was to provide an expert system can evaluate the overall dispute settlement procedures at company’s projects. A questionnaire has been used to study dispute sources and resolution methods. Four case study applications have been provided to check the validity of the proposed system. Results confirmed that the most important source of disputes was contract management 74.04%, the second was contract documents 71.49%, the third was financial issues 67.80%, the fourth was project related issues 63.92%, and the lowest one was other sources (such as force majeure) 61.58%. Finally, the expert program facilitates dispute resolution by using alternative dispute resolution methods instead of going direct to arbitration or litigation.

### **3.7 “Causes of Conflicts and Disputes in Construction Projects” by, Anita Rauzana.**

In the implementation of the project, all parties involved expect the project can be completed in accordance with the expected goals. The expected goals, among others, order to the project was completed on time, not exceeding set budget and quality is met. Constraints in the implementation of the project will occur if the project objectives are not achieved properly. In the implementation of the project many conflicts or disputes between the elements involved in the implementation of the project. The purpose of this study was to identify the factors of conflict on the construction project.

### **3.8 “A conceptual model for claim management in construction: an AI approach”,**

by N. Raid, D. Ardit and J. Mohammad. Delays are the major cause of construction disputes. Among the several dispute resolution methods, mediation has been an

effective solution. The one problem which can be attributed to all dispute resolution methods is the lack of a preventive approach and the lack of a systematic and comprehensive technical evaluation of the entire problem. Given the magnitude of the problem there seem to be distinct advantages in developing a Knowledge-Based Expert System (KBES) for time-based claim management. The domain of knowledge of the KBES presented in this paper will be directed towards analyzing disputes that arise due to different types of delays (excusable/compensable, excusable/non-compensable, non-excusable independent, concurrent, serial and determining the responsibility of each party. It will utilize a procedure called 'Time Impact Analysis' and involves the use of network-based scheduling tools to identify, quantify, and explain the cause of a schedule variance. The various modules that make up the KBES for an integrated claim management process have been clearly identified. Specific methods have been developed to perform time impact analysis and to apportion damages in different delay.

### **3.9 Understanding time delay disputes in construction contracts,**

by K.C. Iyer, N.B. Chaphalkar, G.A. Joshi.

This paper states that Most of the construction projects are executed through contracts which are generally not easy to comprehend even by professionals. With advancement in technology and mammoth requirement of infrastructure in developing countries like India, there has been increase in size and complexities in the nature of projects. This gives rise to further ambiguities in the prevailing contract forms eventually making contract forms more complex and difficult and causing adversarial impacts such as increase in number and frequency of claims and disputes besides time and cost overruns. To overcome the worsening scenario, it is essential to develop a system that can assist the contract administrators to understand and evaluate worth of their claims prior to taking it to litigation. An attempt has been made to devise a rule-based expert system to achieve this objective with a limited scope of disputes arising out of Time Delay and Extension in Indian Construction Contracts.

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