
Investigating the Factors Influencing Disputes in Construction Industry.

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ABSTRACT

In construction industry, parties involved in construction projects have different perceptions for execution of projects. Because of this, various conflicts may arise. Unresolved conflicts may result in disputes. Mostly in construction projects, disputes turn into claims which causes cost overrun and time overrun. This paper aims to analyze main causes of disputes which prevent the successful completion of the project. In order to achieve this goal, questionnaire survey was conducted and from the responses, Relative Importance Index (RII) was calculated which gave main causes of disputes. Also, referring to claims from past case studies of construction litigation, major factors were determined. The finding of study indicate that possession of site was found to be one of the significant factor with RII 0.901. Similarly, other causes identified were 1) price escalation, 2) variation order, and 3) levy liquidity damages. Further, it is suggested that parties should consult techno-legal professionals and/or use adjudication before going for arbitration. The results of this study can help project managers to minimize disputes in construction projects and increase productivity.

Keywords

Causes of disputes, Relative Importance Index (RII), Case studies, Construction industry.

1.INTRODUCTION

Construction plays a significant role in industrial growth also, closely correlated to economic growth. For a while now, construction industry in India undergone various deviations and introspection also imposing new governmental rules and regulation to improve their productivity and performance. To achieve such a goal, participants from various professions are involved. The construction projects are complex and involve lengthy process of designing and executing which could face with so many uncertainties.

This involvement of multidisciplinary leads to conflict amid parties. If these conflicts remain unsolved it turns into disputes. Disputes are one of the major factors which causes hindrance to successful completion of construction projects. Thus, it is important to identified causes of disputes and effective dispute resolution method for completion of project without affection project life cycle cost.

According to Chung and Suen, if disputes are not handle properly they may cause time overrun, deteriorating team spirit, and mainly affects business relationships. Construction contracts when misinterpret, or scope changes while project execution, it will cause disputes which subsequently turn into claims. When one party feels that the contractual obligations or expectations are not fulfilled and they deserve compensation in terms of monetary and/or time they may asked in terms of claim. The compensation is usually in the form of the additional payments or an extension of time(Dr Rajiv Bhatt, december 2014).

From literature review, it found that, nowadays claims and disputes are keep increasing. According to Shin, during execution of project disputes are common hence managing disputes should be part of project management. It need to be resolved on project sites itself before turning into claims.

This paper aims to identify and measure the various causes of disputes in construction industry. There causes have been categorized according to their nature of occurrence which are validated with past case studies. From both questionnaire survey and past case studies, main causes of disputes were determined.

2.METHODOLOGY

A literature review has been undertaken to design questionnaire. This questionnaire survey was filled out by stakeholders such as owners, contractors, consultants and legal consultants. This questionnaire was divided into three sections. Section A includes personal information of respondent. Section B includes causes of disputes. Section C mention as disputes resolution methods.

Respondent gives his view for each cause of disputes which categorized on a five-point likert scale as shown in Table 1

Table 1 likert scale for importance index

Scale	Degree of Importance
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Relative Important Index and Weighted Average Method was adopted to determined major causes of disputes. RIIs are calculated for each cause as given in eq. below

$$\text{Relative Important Index} = \frac{\sum W}{A*N}$$

Where, Wi is the Weighting given to each factor by the respondent which ranges from 1 to 5,

A = highest weight (i.e 5 in this case), and N = total number of respondents.

This causes of disputes are categorized as owner related, contract related, design related, contractor related, external factors. Total of 8 cases were analyzed which compared with results of questionnaire survey to find out main causes of disputes and their probability of occurrences. Also, from questionnaire, disputes resolution method was determined which could be useful for future projects.

3.RESULTS AND DISCUSSION

The collected data from questionnaire survey was evaluated and relative important index was calculated. All main categories, their sub-categories and normalized relative importance values are given in table 2.

Table 2: Relative importance of disputes causes

Main Categories	Causes of disputes	Relative important index
Owner related	variations orders	.8857
	late issuing of design/drawings	.8514
	unconfirmed oral instruction	.4381
	late payment	.5476
	delay in handover of site	.901
Contract related	ambiguous specifications in the contract documents	0.8571
	impractical specifications in the construction contract	0.6523
	site condition differs materially	.7524
	extra items	.6190
Design related	drawings provide insufficient details	.7524
	Variation due to design error	.6014
Contractor related	extension of time	.428
	levy liquidity damages	.667
	poor communication	.5714
	poor work quality	.6476
External factors	price escalation	.8
	change in Govt laws	.6571
	inclement weather	.6
	political Situation	.2667

As it is shown in Table 2, it is stated that, “owner related factors” has the highest relative important value i.e. this are the common causes in construction industry. The sub categorized causes and their relative important values are: delay in handover of site (.901), variation order (.8856), late issuing of design/drawings (.851).

Also, some past case studies and their reasons for claims are mention below:

Case 1: Four laning of Km 70.00 to Km 85.00 of Agra-Gwalior Section of NH-3 in the State of Madhya Pradesh

Table 3. Reasons for claims

Client	National Highway Authority of India (NHAI)
Contractor	Prakash- Mahavir (JV)
Claim No	Claims by Claimant
1.	Clearing and grubbing of land as per Technical specifications
2.	Providing bituminous macadam but paid for wet mix macadam
3.	Provide channel kerb instead of kerb
4.	Delay damages

In above table, claims by claimant are mention for which claims were awarded by Arbitral Tribunal as per clauses of contract and presented documents. These claims are cause under 1) not paid for extra quantity of work, 2) variation due to design error, 3) incomplete description of items in the Bill of Quantities(BOQ), 4) liquidity damages respectively.

Case 2:Four lanning of 24 Km to 41 km of Agra- Dholpur Section of National Highway No.3 in the state of U.P/ Rajasthan.

Table 4. Reasons for claims

Client	National Highway Authority of India (NHAI)
Contractor	M/S PNC Infratech Ltd.
Claim no	Claims by claimant
1	Compensation for the losses are a) delay in appointment of engineer b) failure to hand over possession of site c) delay due to site conditions d) delay in issue of variation orders e) delay in payments

Similarly, total 8 case studies were evaluated which shows that variation order, liquidity damages, price escalation and extra items are major causes of claims.

Disputes arises from unsolved conflicts and if this disputes further increased, it causes loss to parties which turn into potential claims. Its impacts were so significant that it tends to decelerate the implementation of Construction project. The major claims which cause hindrance to projects are:

- J Delay in Handover of site are the major and common cause of claims. Due to delay in possession of site cause increase in total duration of project which indirectly affect the project life cycle cost.
- J Contract is an agreement enforceable by law. Hence ambiguous contract documents cause disputes during working project. Also, contractor or owner, if not follow or misinterpret any clauses given in contract documents then it turns into claims.
- J One of the major claim is that client and contractor have poor communication. Client/Engineer lately issued drawing and other important specification which cause delay in implementation of project.
- J Safety measures are an important issue on site which is usually neglected by contractor. But this is also reason for increase in project delay.
- J Price escalation during ongoing project increase construction cost which add up into liquidity damages. Hence levy liquidity damages should duly mention into clauses of contract documents.

4.CONCLUSION

In this paper, the various causes of the disputes in construction projects were analyzed with the help of questionnaire survey.This questionnaire survey is then validated with past case studies from which main factors of construction disputes were identified. The relative important index of major causes found to be 1) Handover of site (.901) 2) Price escalation (.80) 3) Variation order (.886) and extra items. These conflicts arise on site which should be mitigate before it turns into disputes and claims hence provision should be made on site itself. In project management, disputes resolution experts should be included or use others methods like negotiation, adjudication before going for arbitration or litigation. The results of this study can help project managers to minimize disputes in construction projects and increase productivity.

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