

# To Study Effects Of Critical Clauses in Contract of Construction Projects To Avoid Delay in Projects

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**Abstract-** *These days the biggest problem which construction industry is greatly suffering is the “DELAY in Construction Projects”. Which further responsible for cost overrun of the construction projects. This research paper presents the work that is to be done to avoid delays and concern methodology to do the same. It also represents importance of the project.*

**Index Terms-** *Construction contracts, Cost overrun, Delays*

## I. INTRODUCTION

The Indian construction industry is an important factor for the national economy, contributing major part of the GDP. Share of the construction sector as part of Indian GDP has been reached up to 9% in financial year 2017-2018. Construction industry is the second largest employer after agricultural sector, employing more than 35 million people. The market size of construction industry is around 2,48,000 cr. which is nearly 37.6 billion US\$. By the year 2020 India's real estate market is expected to reach 180 billion US\$, and further till year 2025 it is expected to be 1 trillion US\$. BY the year 2030 India would be the third largest construction market globally as India's urban GDP is expected to reach 7.5 trillion US\$ by year 2030. As 100% foreign direct investment is permitted through the automatic route for township, cities expected investment in Indian construction industry is 650 billion US\$ in next 20 years. Following are some of the reasons due to which construction market is on the rise

1. Rapid urbanization increases demand of infrastructure.
2. Rising household income.
3. Rise in number of nuclear families.
4. Investment purpose.

Indian construction industry is contributing for prosperous economy and leading the nation towards the bright future hence it is important to take care of all the problems that are occurring in completion of each construction project and we must try to keep away the industry from these problems. The vast majority of civil engineering works are performed through contract system. A contract is simply an agreement which obliges the parties to do specified things. Most importantly, in the case of a construction contract, it requires the contractor to perform the works and requires the employer to pay for it. A contract system provides a self-contained statement of obligations between its involved parties. Several factors are responsible for time and cost overruns - some within the control of the enterprises and some beyond their control. Contracts are vital for the success of a project. It is important to think ahead and limit for exposure to difficult, costly and lengthy proceedings. This dissertation work of 'To Study Effect of Critical Clauses in contract of Construction Projects to avoid delay in projects' aims to identify key problems in certain critical areas of a construction contracts, which if not attended to properly have the potential to become major roadblocks in the progress of the project and also aims to suggest remedial solutions for them.

## II. RELEVANCE

These days the biggest problem which construction industry is greatly suffering is the “DELAY in Construction Projects”. Delay can be defined as “the time overrun or the extension of time taken to complete the project”. This delay is further responsible for many correlated problems which are disturbing efficiency of the projects and hence hampering productivity of entire construction industry. Following are the major effects caused due to delay in project

1. Time and cost overrun.
2. Reduction in profit.
3. Non-productive loss.
4. Reputation damage.
5. Disturbance in cash flow and economic insecurity in various sectors.
6. Dispute, Arbitration, litigation.
7. Abandonment of project.
8. Demolition of market value of company
9. Unemployment for labor.

As our country is one of the fastest developing country in the world there is huge demand for construction industry, as the population growth is increasing the demand is also increasing. As demand for buildings is coming up in vast speed, there is a need to take a look in their construction cost and time within which they are to be completed. Constructing building structures is a challenging task involving many risks, as well as such projects are mighty for the promoters and contractors. Completing these structures in time and economically is one of the major challenges. Main focus is given to achieve this by considering clauses in contracting, in the study. In most of the agreements, some clauses are disagreeable, which cannot be ruled out. In the construction industry, these disagreements on previously agreed matters could prove costly not just in monetary terms but also in terms of the social impact of these projects. In a fast developing country like India, where provision of infrastructure and construction activities in general, have not just a direct impact but also a huge ancillary function to perform, it is important for professionals in the construction industry and contract drafters in particular to be aware of how the construction agreements can help facilitate projects in the their objective achievement. This research paper presents the work that is to be done to avoid delays and concern methodology to do the same. It also represents importance of the project.

### III. SCOPE OF THE STUDY

The proposed work will help to understand the delay in construction projects due to identified clauses in construction contract of projects. This study also aims to identify the factors are majorly affecting the projects and leading towards delay, so that these

factors are to be included or given dense priority in construction contract of the project to avoid delay.

### IV. OBJECTIVES

1. To study and enlist the various clauses in contract that affects construction projects adversely.
2. To analyze the effectiveness of the enlisted clauses over contract of construction projects through questionnaire survey on minimum 25 construction site having construction cost more than 10 Cr.
3. To identify the adverse factors which influence greatly the critical clauses in a construction contract?
4. To study the effect of these clauses over delay in project and project cost.
5. To provide suggestive measures to avoid such delay in construction projects.

### V. METHODOLOGY

1. Collection of preliminary information through literature review.
2. Collection of data by questionnaire survey amongst the practitioners of construction project.
3. Identifying the clauses affecting construction project.
4. Carrying out feasibility study of identified clauses by taking case studies.
5. To give suggestive measures to avoid delay in construction projects.
6. To find out results and conclusion from the data analyzed.

### VI. LITERATURE REVIEW

Title-“Investigation of Federation Internationale des Ingenieurs Conseils Clauses (FIDIC) Dealing with Construction Project Performance” (2007)

Author- Abdullah Murtaja

Construction contract types and general conditions clauses have a major influence on the likelihood and degree of project success. In Palestine, the FIDIC contract is widely used in the construction projects.

The main aim of this study is to investigate the impact of selected FIDIC clauses on the construction project performance to disclose its impacts on six measures of project performance: cost, schedule, quality, safety, and owner and contractor satisfaction. This study aims to identify contractual clauses that tied to project performance and elicit the contract parties' views on FIDIC contract articles to ensure that the contract is satisfactory for its users. In addition, this study aims to evaluate the most important clauses for both of contractors, owners and consultants regarding fundamental views when developing successful contracting relationships.

Title- "Analysis Top Crucial Factors of Contract Clauses and Quality in Construction Projects Using RII Method" (2017)

Author- Harsh J. Modi, Mr. Vyam B. Pathak, Ms. Neetu B. Yadav

The construction industry facing the problem of quality issues which are affecting the overall success of project. Firstly, in order to control the quality issues it is necessary to analyze the crucial reasons of various factors of quality issues by knowing the opinions from the persons that have been involved in construction industry. The main purpose of this study is to identify the crucial factors of contract clause which are affecting quality in construction projects might prove to be beneficial to stakeholders of construction industry thus by providing best remedies of those crucial factors. The remedies will help in controlling quality to some extent ultimately contributing to success of project. In this research work a questionnaire based approach has been adopted. The Scope of this research work is limited to residential and commercial construction projects. This research work focus on most crucial factors of contract clauses and quality. RII method is opted to analyze the data.

Title-"Final and binding power clauses in Indian construction contracts" (2000).

Author- K. Chandrashekhar lyre , Kalidindi N. Satyanarayanab

Most Indian construction contracts while specifying the role and responsibilities of parties in the contracts, also specify certain extraordinary powers to a

particular person whose decisions are final and binding to both the parties. These decisions are administrative in nature and they are neither open to arbitration nor to any court of law. They are meant to prevent disputes and are taken in the overall interests of the project. However. In practice. the disputes arise due to varied interpretations of certain technical terms in a contract. Unclear domain of "final and binding power" (FBP), or owner's intentions in giving decisions under FBP and thereby preventing contractors from referring the matter to an arbitrator. Based on a legal case study. Primary guidelines are formulated to evaluate the applicability and acceptability of decisions under FBP. These guidelines are presented as a decision diagram in this paper.

Title- "Analysis of Technical Flaws in the Existing Contract System and Proposing Effective Module to Reduce Flaws Including Quality Practices in Construction Projects" (2016).

Author- Sangamita Nag, Dr.V.Tamilarasu, S.Abdul Rahuma.

This paper examines the issues or flaws in the contracting system. The flaws may be arise either by contractor mistake or the client mistake. But in this paper it overviews all the possible flaws which leads to inefficiency in contract system and postponing completion time of a project. After analyzing the flaws in the contract system appropriate recommendations are proposed to reduce flaws and even proposing flawless model in contract system. Most importantly, in the case of a construction contract, it requires the contractor to build the works and requires the employer to pay for them. The analysis have identified several factors responsible for excess time and cost overruns some within the control of the management and some beyond their control. This paper aims to identify key problems in certain critical areas of a construction project.

Title-A Litigator's Perspective on Drafting Contracts that Keep You Out of Court" (2011)

Author- THOMAS H. VIDAL

Rational businesspeople generally want to avoid the courtroom. Litigation, as I regularly remind my clients, is time- consuming, expensive, and risky.

Because I primarily serve my clients in resolving disputes through litigation, which occur “ex post” (after the fact) rather than addressing potential issues “ex ante” (before the event), I do not get many opportunities to share contract-drafting tips that could help my clients avoid having to visit me. I offer this article to help businesspeople and their deal lawyers to draft contracts that do not end up on my desk. This article is the first in a series of five articles that will cover the major concepts of contract drafting. This article addresses the anatomy of a contract, the importance of “boilerplate” provisions, and discusses risk allocation provisions, such as representations and warranties. Future articles will address (1) covenants, rights, and declarations; (2) assignments and delegations, conditions, and discretionary authority; (3) term, termination, defining the contract, and interpretative provisions; and (4) drafting guidelines.

#### DATA COLLECTION THROUGH QUESTIONNAIRE SURVEY

For collecting the data for this dissertation, the personal interviews and desk study discussions were carried out and a survey through questionnaire was done. The questionnaire technique is adopted for the following reasons.

1. The questionnaire is believed to give more honest and frank opinions as the respondents are not required to state their names. If interviews are conducted by the author then respondents and particularly contractors and consultants might not express their opinions frankly on the issues related to their clients.
2. The causes of construction cost variation are too many to be covered in 30 minutes interview and the respondents might not have longer time to spend on longer interviews.
3. The questionnaire is designed carefully to obtain the required data from the respondent that serves to achieve the dissertation objectives. The English language is chosen for the questionnaire as it suits all the respondents. The subject knowledge and experience together with the findings of the literature were used to form the questionnaire. The main data required for this dissertation is divided into two main categories. The first category is the information about

the respondent’s characteristics and their involvement in the building projects. The second one concerns respondent’s opinions on the reasons for delay of the project faced. The first and second category of the questions is designed based on the respondent’s knowledge and the familiarity of the construction industry and the involvement. The questionnaire is kept as short as possible, but comprehensive enough, so that it could be completed within 20 to 30 minutes.

#### FACTORIZATION OF CLAUSES IN QUESTIONNAIRE

Clauses responsible for delay are factorized in following category in questionnaire survey to make it easy to understand

1. Causes of delay due to owner related issues
2. Causes of delay due to contractor related issues.
3. Causes of delay due to consultant related issues
4. Causes of delay due to external factors.
5. Causes of delay due to project related specific factors.

#### RESPONSE SIGNIFICANCE

Occurrences of specific conditions on site are given significance by following manner

- 0 = Never
- 1 = Very rarely
- 2 = Rarely
- 3 = Sometimes
- 4 = Always

For example, the reason due to which the given construction project is delayed always gets 4 no of response.

#### ANALYSIS OF QUESTIONNAIRE SURVEY AND RESULT

After conducting questionnaire survey the clauses in contract responsible for delay are further classified according to their purpose as:

1. Financial factors.
2. Resource Factors.
3. Management factors.
4. Legal factors

5. Climatic factors.
6. Social factors.
7. Risk and safety factors.

Causes of delays are classified under this factors for calculation purpose. Calculations are done by using RII method.

## VII. RESULT

After completing calculation following are the factors that have highest RII that are selected as of prime importance. These factors are majorly responsible for delay in construction projects these days. The delay causing factors are

1. Lengthy permission process for projects through municipal or concern authorities.
2. Social and cultural factors of society.
3. Shortage of construction materials.
4. Personal conflicts among labors.
5. Unavailability of utilities on site.
6. Complications and changes in government laws.
7. Currency fluctuation in the country.

## VIII. CONCLUSION

To avoid delay in construction projects and further the cost overrun of the projects these factors should be considered carefully in construction contract. Initial preparations of projects have to be done by keeping these factors in mind. Every construction project is different in each aspect. These are the factors that are affecting in overall situation. There is no single firm solution is given for entire industry but awareness and alert can be given to avoid delays. If these factors are taken into consideration at the very early stage of project then it will be helpful in accordance to complete the project in time. Minimization of delay in each project will lead this industry towards the prosperity and hence the nation.

To achieve all these prime consideration of these factors in construction contract is must.

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