

## STUDY ON DELAY CONSTRUCTION PROJECT IN INDIA

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### ABSTRACT

The Indian construction project has experienced significant delays. The construction industry is large, volatile and requires high investment. Delays occur in almost all construction projects, and the importance of these delays varies widely from project to project. During construction, the delay may be defined as exceeding the completion date specified in the contract or exceeding the date on which the parties agreed to the delivery of the project. Delay means loss of revenue due to lack of production facilities and rental space, as well as dependency on current facilities. Project delays are directly related to the total construction costs. The delay can only be minimized if the cause is identified. The purpose of this paper is to examine ways to minimize the cause of build delays, delays, and build delays. Project delays include several factors such as missing funds, changes in the drawings, lack of effective communication and inadequate project management.

**KEYWORDS:** causes of delays, effects of delays, construction project, project management.

### INTRODUCTION

The construction industry is one of the most important economic sectors that play an important role in economic development. However, many projects had significant delays that exceeded the initial time and cost estimates. Construction delay is applied in terms of time, cost, quality, and safety as the success of the project.

The construction industry is large, volatile and requires high investment. Road construction is an important element of the construction industry for the economies of developing countries. This means that much of the national budget for infrastructure development is linked to road construction projects. The main reasons for the cost increase in the road construction project in the Kurdish region were inflation and pressure from local governments. On the other hand, there are delays in payment, financial processes and difficulties of contractors and customers, contract changes, economic problems, material procurement, drafting changes, staff shortages, equipment deficiencies, lack of oversight, design flaws, inappropriate site customization. Labor disputes and strikes were the main causes of the delay in planning road construction projects.

In construction, the delay can be defined as either timeout over the date beyond which it has been agreed for the delivery of the project stakeholder through the set at contract end date. It is a project that overcomes the planned schedule and is regarded as a common problem of construction projects. It means production and rentable area attributable to the owner of the delay or loss of income due to lack of existing plant function. In some cases, it means that the delay is due to high overhead costs associated with long working hours, high material costs due to inflation and labor costs for contractors. Timely completion of a project is an indicator of efficiency, but the construction process is subject to many variables and unpredictable factors arising from many sources. These sources include involvement of parties' performance, resource availability, environmental conditions, and contractual relationships with other parties.

### OBJECTIVE OF STUDY

There are many ways to complete the project on the current site in a timely manner, but delays are unavoidable and ultimately affect the efficiency of the project. There has probably been a lot of research to minimize the delayed discovery and the negative impact of project delays. Nevertheless, there are many projects that delay planning and suffer heavy losses.

Construction is constantly changing the challenging and dynamic industry. This research aims to identify the main causes of the delay. To reach the goal, it is identified as follows:

- Identify delay sources from construction projects.
- Investigation of the effects of delays in construction projects.
- Analysis of the live project data collection regarding the activity delay.
- Discuss and make suggestions to minimize the impact of construction delays

## METHODOLOGY

1. The first step is to gather general information including direct data and direct data to identify important topics from the document.
2. The second phase of conducting questionnaires and interviews includes a list of important elements that cause delay in construction. In the second phase, these elements are used to conduct expert interviews to determine the most important factors.
3. The third step is a suggestion for researchers or practitioners.
4. The fourth step relates to factor identification and data collection, and later analysis of the data.

## LITERATURE REVIEW

**Doloi H. et al. (2012)** conducted research to analyze the factors affecting the construction delay project in India. They chose a set of 45 attributes. Their study initially identified critical factors that influence the delay in the Indian construction industry and established relationships between key attributes to develop predictive models to assess the impact of these factors on the delay. I did it. Questionnaires and personal interviews form the basis of their research. We investigated the importance of delay factors using factor analysis and regression modeling. From the factor analysis, the main elements of the construction delay were the lack of commitment, the subsequent inefficient site management and the poor site coordination in third place.

**Ghulam Abbas Niazai and Kassim Gidado (2013)** reported that contracts under 12 months contributed to the delay. They concluded that there were two reasons for the delay between all parties of "security" and "corruption". Inadequacy of security is the most difficult task for implementation of construction project. It led to project delay and increased cost. Corruption has a serious impact on construction delay, which poses a serious threat to the improvement of the construction industry.

**J. Raj Bharath & Prof Siddesh K Pai (2013)** recently said that the traditional Bandra-worli ocean link shows sufficiently the state of the project delivery system in the country. It was planned as an Rs 300 crore project to be completed by 2004, but in reality it cost 1600 rupees with a delay of 5 years. Ruth apolot, henry alinaitwe and dantindiwensi (2013) conducted a case study and construction industry lobbyists have the biggest impact on cost and time overrun, so we recommend minimizing the change in workload. We switched from contract type to design build type and improved customer cash flow to reduce payment delays.

**Anu V. Thomas and J. Sudhakumar (2014)** reported that the results of the questionnaire survey resulted in delays in productivity due to productivity decline to identify factors affecting the labor productivity of project managers, site engineers, inspectors and craftsmen in Kerala Said. There are timely acquisitions of materials on the site, delayed delivery of materials by suppliers' blows and blows by political parties, frequent revision of drawings and designs productivity. Nitin Chaphalkar and KC Iyer (2014) says that when inappropriate handling is done, the parties' time and funds are in conflict, and conflicts may create stakeholder concerns at the construction stage leading the project for a long stay.

**Prakash Rao and Joseph Camron Culas (2014)** concludes that poor project planning and planning, delays in on-site transfers and delays in the work of subcontractors are the three most critical factors that the contractor causes, which has an impact on project performance, followed by delays on delivery and delivery. Factors that occurred too late when changing and approving design documents. The survey found that 51% of the delays were caused by customers, followed by 36% of contractors and 13% of consultants. Research from ARC File Solutions (2015) shows that file management issues are the main cause of delays and timeouts on construction projects.

## TYPES OF DELAYS

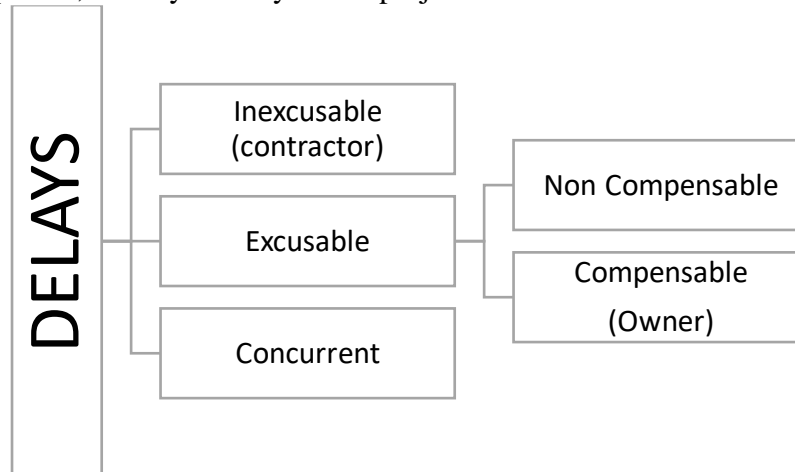
**Noncritical delays**, delay that affects completion time is considered a critical delay and has no effect on the completion time of the project mentioned in the contract.

**Excusable delay** is an unexpected activity that goes beyond the control of the contractor. Nobody is responsible for this kind of delay.

**Non-excusable delays (NED)**, under the control of the Contractor, any delay is the responsibility of the Contractor and Customer may be entitled to remuneration.

**Compensable delay & Non-Compensable delay**, excusable delay can only be a compensable delay. It is to be compensated that the contractor is entitled to additional time and compensation. Without delay, the contractor is not entitled to delay for reasons.

If the same delay is repeated, the key activity of the project is referred to as a simultaneous delay.



**Figure 1: Types of Delays**

## CAUSES AND EFFECTS OF DELAYS

The literature review found that there were delays of 8 different participants (contractors, owners, consultants, and others) in the construction industry in India, with 8 delays.

Here are 8 different reasons given:

1. The first owner
2. Contractor
3. Consultant
4. Designer
5. Worker
6. material
7. Equipment
8. External factors

The 8 Effects of Delays are given below:

1. Time overrun.
2. The contractor's profit has been greatly reduced due to cost overruns.
3. Non-productivity losses of the owners due to long-term stay during the construction phase.
4. Do not trust the contractor, damaging the reputation of the company.
5. Do not trust the owner to delay the payment that led to the contractor's cash flow.
6. Project participants are in dispute, arbitration or litigation.
7. Exit the project.
8. It is difficult to improve the market value of the contractor's business.

Causes can be elaborated into many specific factors that leads to delay such as:

**Table 1: Delays causing factors**

• Inadequate Fund	• Variations
• Inadequate planning	• Labour Disputes
• Inadequate tools and equipment	• Unexpected ground conditions
• Delay in delivery of materials	• Community issues
• Design Changes due to project execution	• Unclear or Inadequate instructions to operators
• Sub contractor incompetency	• Temporary work stoppage due to adverse weather
• Delay in response to decision making	• Delay in inspection and Testing of completed work
• Incompleteness of technical documentation	• Political instability
• Accidents	• Poor supervision
• Obtaining Building Permits	• Lack of Skill
• Labors	• Tools/ Equipment breakdown
• Use of wrong construction method	• Delay due to unclear instructions
• Inaccurate drawings	• Unfriendly working atmosphere or weather conditions
• Unbalanced distribution of resources	• Injury
• Correctional Work to improve bad work	• Wages

## CONCLUSION

1. Field investigations are under way to investigate delays in construction projects in India. According to the research, there are many factors that affect the completion time of the project, and its impact has a great impact on the projects that affect the project construction. These include payment of contractor delays, delays in information, poor project management, compensation issues, design changes, weather effects, labor strikes and more.
2. The impact of these delays is cost overruns, overtime, disputes and negative social impacts. Hopefully the results of this article will help stakeholders address important causes and further reduce project delays.
3. In general, the number of time delays and cost increases (spills) increases with the total project cost.
4. Claims for losses and reimbursements due to delays and fluctuations in claims during the extension period have a significant impact on cost overruns.

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