



Full Length Review Article

TO STUDY DELAYS IN COMPLETION OF RESIDENTIAL PROJECT

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ABSTRACT

Delays to projects is one of the most important concerns of the construction industry. The delays to the projects affect the economies throughout the world. Delay to projects means the slowdown of development in all other related fields. Identifying whether the delay is critical or not helps in taking appropriate decisions at the correct time. Delays may be non excusable which are contractor caused for which the client and the consultants should have project management tools to effectively manage the delays, client caused delays are the delays due to the client. The reasons for delays are due to an unreasonable project scope, inadequate early planning and the absence of risk management systems. The contractor contributes to delay due to lack of resources and labor productivity. Over estimates, incorrect task assessment, lack of task clarity, design or approval delays results in delay of project completion. Delays results in cost risk, time risk and quality risk. Delay could be defined as the time over run either beyond completion date specified in a contract or beyond the date that parties agree upon for a delivery of a project.

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INTRODUCTION

Construction industry in India is experiencing very widespread delays. Due to a dramatic shift in the capacity and volume of the Indian construction sector over the past decades, the need of a systematic analysis of the reasons of delays and has developed a clear understanding among the industry professionals are highly crucial. Delays have a negative effect on the project in terms of performance, time and cost. Thus, it is essential to identify the types of delays that normally occur in a project. The mitigation of delays can be achieved by adopting the process of knowledge management and project learning which gives insight into the various problems and their solutions. In fact the lessons learnt feedback from projects is a real eye opener and helpful for others to avoid similar issues. Prevention of delays by adopting innovative and teamwork helps in planning and analyzing the requirements in detail which will allow the mapping of resources and identifying the risks. The works can then be estimated, allocated and modularized for execution.

The issues that can lead to delays need to be escalated, identified and resolved on a priority to ensure that they do not become a reason for delay. Delays are frequently reported as the cause of several conflicts that affect the different parties involved in construction projects. Delays in construction can cause a number of changes in a project such as late completion, lost productivity, acceleration, increased costs and contract termination. The party experiencing damages and the parties responsible for them in order to recover time and cost. However, in general delay situations are complex in nature. A delay in an activity may result in the same amount of project delay. . A delay may occur simultaneously with other delays and all of them may impact the project completion date. Delays have a negative effect on the project in terms of performance time and cost.

Objectives of the Study

- To find out the causes and effects of delays in construction industry.
- To identify the factors causing delays in residential projects.

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- To formulate and give recommendations to overcome the delays.

Literature Review

In 2006, Assaf and Al-Hejji evaluated 73 different causes of delay during the research work. They conducted survey of different types of construction projects in Saudi Arabia to identify the different causes of delay and their importance with the help of project parties involved in construction projects like owner, consultant and contractor. According to their research the most common cause of delay identified through all three parties was "change order" (Chan and Kumaraswamy, 1997). In 1997, Chan and kumaraswamy evaluated five common factors of delays that affects during construction projects like unforeseen site condition, slow decision making, poor risk management and supervision, client-initiated variations and necessary variations of works [Alwi Sugiharto and Hampson Keith, 2003]. In 2000, Al-momoni identified causes of delay in 130 public projects in Jordan. From the research the main causes of delays were design, user change, weather, site conditions, economic condition, late deliveries and increase in quality (Sadi A. Assaf and Sadiq Al-Hejji, 2006). In 2002, Aibinu and Jagboro did research on the effect of construction delays on project delivery in Nigerian construction industry. The six effects of delay identified like time over-run, cost over-run, dispute, arbitration, total abandonment and litigation (Aibinu and Jagboro, 2002). In 2003, Sugiharto Alwi and Keith Hampson conducted survey to determine most important causes of delays within building projects in Indonesia. From literature they evaluated causes of delay related to people, professional management, design, documentation, material, execution and external causes of delay. With the help of questionnaires, survey was conducted between large contractors and small contractors on projects that had completed within the last five years. The interviewees included project manager, site managers, supervisor, foremen, labors. Data collected was analyzed using importance index and ranking was done by spearman's rank correlation.

In 2012, Doloi H did research to analyze factors affecting delays in Indian construction projects. He selected set of 45 attributes. Their research first identified the key factors impacting delay in Indian construction industry and then established the relationship between the critical attributes for developing prediction models for assessing the impacts of these factors on delay. A questionnaire and personal interviews have formed the basis of their research. Factor analysis and regression modeling were used to examine the significance of the delay factors. From the factor analysis, most critical factors of construction delay were identified as lack of commitment followed by inefficient site management and poor site coordination ranked third.

Types of Delays

Critical delays and Non critical delays

- Delays that affect the project completion are considered as critical delays and delays that do not affect project completion are called as non critical delays.

Non Excusable (Contractor Caused) Delays & Excusable Delays

- An excusable delay is a delay that is due to an unforeseeable event beyond the contractor's control.

Compensable (Owner Caused) Delay & Non-Compensable Delays

- A compensable delay is a delay where the contractor is entitled to a time extension and to additional compensation and non compensable delays are is an excusable delay may have occurred; the contractor is not entitled to any added compensation resulting from the excusable delay. These types of delays depend upon the terms of contract.

Concurrent delay & Non concurrent delay

- In these situations neither party is responsible to the other for any costs associated with the delay. These delays are abnormal weather, labor strikes, acts of God, acts of war, etc

Causes of Delays

- Delay in progress payments by owner.
- Delay to furnish and deliver the site.
- Change orders by owner during construction.
- Poor communication and coordination.
- Slowness in decision making process.
- Delay in approving shop drawing and sample material.
- Difficulties in financing project by contractor.
- Rework due to errors during construction.
- Ineffective planning and scheduling of project.
- Improper construction methods implementation.
- Delays in site mobilization.
- Inadequate contractor's work.
- Poor qualification of the contractor's technical staff.
- Delay in material delivery.
- Late procurement of materials.
- Equipment breakdowns.
- Shortage of equipment.
- Shortage of labors.
- Accident during construction.
- Lack of high technology mechanical equipment.

Effects of Delays

- Time overruns.
- Cost overruns.
- Dispute
- Arbitration
- Litigation
- Total abandonment.

Minimization of Delays

Delays can be minimized by following ways

- Conducting frequent progress meeting.
- Using up to date technology utilization.
- Using proper and modern construction equipment.

- Using appropriate construction methods.
- Effective strategic planning.
- Compressing construction durations.
- Proper emphasis on past experience.
- Proper project planning and scheduling.
- Accurate initial cost estimates.
- Site management and supervision.

Conclusion

A construction delay occurs mostly during the construction phase. Low technical and managerial skills of contractors are the problems that are faced by contractors which might cause construction delays. Therefore contractor needs to give awareness on labors work their coordination, quality of work, proper planning and its execution, conducting regular and frequent meeting programs, trainings should be given to the workers and make them knowledgeable and skilled labors. Implementation and use of new modern techniques and use of project management tool helps us to minimizes the delays and get our project completed without and time overruns and cost overruns.

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