

TO STUDY THE CAUSES AND EFFECTS OF DELAYS IN CONSTRUCTION PROJECT

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Abstract – A construction project is basically a temporary endeavor with specified time & cost, initiated to create a unique product, service or result, tend to be limited edition. If we didn't use time properly, it also can be the one cause for failure of a project. So, in Construction Project cycle delay is one of the greatest common problems. When the real project work duration is more than planned project duration, it is referred to as project time delay. Construction delays are considered as time lag in completion of activities from its specified time as per contract. It can also be defined as late completion or late start of activities to the baseline schedule, directly affecting specified cost. The main aim of this review will be to study the causes of delays in construction projects. In this review, the basic causes of delays in construction projects are reviewed on basis of past literature review.

Key Words: Delays, Reasons, Effects, Causes, Construction Project.

1. INTRODUCTION

The construction industry in any country is of great importance. It makes quite sure that people have access to homes, roads, and other important structures that are essential for the survival of humanity. Hence construction management as a whole is as an important factor in any country, which requires a certain degree of emphasis and approach. Physical development is achieved totally through the construction industry, and it is truly the engine of the national economy. Nowadays there is increase in complexity of Infrastructure projects as well as the environment in which it is to be constructed and therefore this has a greater demand on construction managers to complete the projects on scheduled time with planned budgets and with utmost quality. In various projects, authorities like project managers and contractors face difficulties regarding shortage of equipments, poor quality as well as increase in price of materials, wastage of material, improper planning of project, shortage of labor class and also material, climate change, improper management, etc. As a result of these issues, it leads to time delays. Construction delays are often result of some mismanaged events and can arise as a risk for the projects, which if identified, analyzed and managed in a systematic process at inception, could be managed, minimized, shared, mitigated or accepted to give some good

results and minimize chances of further delay. Delay in construction project has a negative effect on clients, contractors, and consultants in terms of growth in adversarial relationships, mistrust, litigation, arbitration, and cash-flow problems. According to the point of view of contractors, delay results in a lot of financial loss as the project takes long time duration for its overall completion. Usually delay in the construction industry by many factors is linked with the performance of time, quality, and cost. The construction project is universally approved as successful when it finished on time, within budget, according to specifications and to stakeholder's satisfaction.

2. LITERATURE REVIEW

Construction delays in residential construction are often the result of miscommunication between contractors, subcontractors, and property owners. These types of misunderstandings and unrealistic expectations are usually avoided through the use of detailed critical path schedules, which specify the work, and timetable to be used, but most importantly, the logical sequence of events which must occur for a project to be completed. Delays in construction projects are frequently expensive, since there is usually a construction loan involved which charges interest, management staff dedicated to the project whose costs are time dependent, and ongoing inflation in wage and material prices.

Many of researches and studies have completed to explore the reasons why delay happens in construction projects; both nearby and globally research have been reviewed.

Dinesh Kumar R (2016) have studied on the Causes and Effects of Delays in Indian Construction Projects. This paper has the main aim to look out for the most significant factors causing delays in Indian construction projects. They carried out this process through literature review and questionnaire survey. After studying the literature review, they categorized different causes of delays into 8 different groups. Questionnaire was conducted with the three parties i.e. contractors, owners, consultants so as to shortlist the top 20 significant factors of delays in Indian construction industry and at last recommendations are given to avoid delays in construction project. They came to the conclusion that the major reason behind all these causes is lack of commitment and coordination within the project participants.

Dr. Jayeshkumar Pitroda and Desalegn Disasa Daba(2018) conducted a review work on main causes of delays in construction projects. In construction project context we can explain the delay of time as postponement of time to finish the project progress. This review work attempts to find and investigate the main factors perceived to affect delays in projects. On this review, the basic delay causes in construction project reviewed on the past literature review. The researcher achieves their aims to get the main cause of delay on building constructions by inviting the construction stakeholders specifically contractor, developers, designer, and client. The most conducted method to find the main cause of delays is Relative Important Index (RII) and Importance index based on the degree of severity and degree of frequency.

Shruthi Sivaprakasam, S.Dinesh, J. Jayashree(2017) studied the reviews on causes of delays in construction projects.

One of the major difficulty faced in the Construction Project is Delay. Time overrun beyond the specified date in contract are known as the Construction Delays. Causes of delay should be recognized and analyzed in order to minimize them. In this study, the past literature review are studied to know about the different causes of delay in projects. Along with identifying the causes of delay, the other important objective of this study is also to identify the effect of delays and also methods to minimize these delays. It also aims to study about the perspectives of the three major parties in construction industry i.e. owners, contractors and consultants.

Abhijit Warudkar, Leena Mali(2016) studied the causes of delay in Pune city. Construction delay is a time exceeds either after the contract date or after the date that the components involved have agreed upon for the delivery of the project. In both cases, a delay is usually a costly situation or the period of amount of time during which something is delayed. This paper has intended to identify the causes of delays, the effects of delays and methods of minimizing construction delays. This paper study has carried out based on literature review and a questionnaire survey. The eighty-three questionnaire has been made on the basis of pilot study, which has been distributed on various construction site. Interview has been taken on each construction sites, also took photos of any ongoing activity on that site and then ranked on their importance index by the data collection in Pune city. For major factor analysis has used to reduce all factors divided into nine groups: project, clients, consultants, contractors, designer, equipment, labour, external and material. The result of this paper should help construction practitioners, policy makers and researchers in construction field.

Md Aftab Uddin, Dr. Syed Khursheed Ahmad, Mohd (2017) studied the types and causes in construction projects. The main objective of this research is to seek solution of problems which make obstacles in completion of the project.

To satisfy this objective, various actions are carried out like conducting survey using questionnaire at different sites, find the causes of delays in construction projects, etc. Considering the methodology, they have fabricated efforts to minimize delays generally faced by all persons. The main aspect of this research is to accelerate the reduction in delays in the upcoming days. As per the study we got to know that one should always schedule and manage construction industries with a very high quality management technique to avoid day by day arising problems at site.

3. CONCLUSION

Different researchers from different area studied the causes and factors of delay in a construction project. So, based on different literature study many delay causes were identified. Construction contracts tend to provide for three categories of delay which are as follows:

1. DELAYS RESULTING FROM NEUTRAL CAUSES.

Neutral events are those which are not the result of either party which might entitle the contractor to an extension of time. Typically these includes factors like adverse weather conditions, civil commotion or terrorism, specified peril such as flood, national strikes, change in statutory requirements, war or an epidemic. One of the factors which also results in delay is in receiving permission that the contractor has taken reasonable steps to avoid. This cause does not necessarily entitle the contractors to claim loss and expenses.

2. DELAYS THAT ARE THE FAULT OF THE CLIENT.

When the work progress is materially affected by matters for which the client is responsible, then the contractor would not be entitled to claim loss and expenses incurred. Such factors for which client is responsible can be that the client is instructing variations in the works, poor coordination and communication, client's failure to supply the materials or goods, lack of motivations for contractor to finish ahead of schedule, interruption of work, slow document approval, consultant team failure to provide proper information, delay on part of nominated sub-contractor, causing delay in handing over the possession of site to the contractor. All these above factors enables the contractor to claim an extension of time for the completion of the project.

3. DELAYS THAT ARE THE FAULT OF THE CONTRACTOR

These delays are also referred as culpable delay or contractor delay. The factors which cause this delay are poor experience of the contractor, late approving design documents, delay in site arrangement, problems in funding by contractor, revise due to mistakes during work, ineffective site supervision, delay in procurement of materials, unskilled project crew, slow decision-making, conflict between labor and client, ineffective scheduling, poor methods of construction, lack of labour, shortage of

equipment, improper equipment, frequent equipment breakdowns, delay in payment of executed work for a contractor by the owner, unskilled sub-contractors, ineffective economic control on site. When a delay occurs which impacts on the completion date of project caused by the contractor, the contractor will be liable to pay liquidated and ascertained damages to the client.

REFERENCES

- [1] Dinesh Kumar R, "Causes and Effects of Delays in Indian Construction Projects", IRJET, Volume 3, Issue 4, April 16, ISSN: 2395 -0056.
- [2] Dr. Jayeshkumar Pitroda, Desalegn Disasa Daba, "A Critical Literature Review on Main Cause of Delay in Construction Projects", IRJET, Volume: 05 Issue: 01, Jan-2018, ISSN: 2395-0056.
- [3] Shruthi Sivaprakasam, S.Dinesh, J. Jayashree, "A Review on Causes of Delay in Construction Projects", IJSRD, Volume 5, Issue 02, 2017, ISSN (online): 2321-0613.
- [4] Leena Mali, Abhijit Warudkar, "Analysis on Causes of Delay in Construction Industry in Pune City", IJIRSET, Volume 5, Issue 8, August 2016, ISSN: 2319-8753.
- [5] Md Aftab Uddin, Dr. Syed Khursheed Ahmad, Mohd Danish, "Types and causes in construction delays", IRJET, Volume 4, Issue 7, July-2017, ISSN: 2395-0056.