

A Review Paper on Analysis of Construction Delays and Their Impact on Project Completion Time and Cost

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Abstract - The country's economic and social progress is significantly impacted by the construction industry. It is typical for most building projects to take longer than intended. Therefore, the purpose of this research is to identify the factors that can lead to construction project delays, ascertain the effects of these delays on project cost overruns, and provide strategies for preventing or reducing these delays. According to the report, building companies should ensure that there are adequate funds available throughout construction activities to prevent work stoppages and that they have qualified financial staff. It additionally suggests that timely payment progress be made and that proper financial oversight of the project is necessary. In the construction sector, delays in construction are common problems that negatively impact project success in terms of schedule, cost, and quality. A society can accomplish its objective of promoting both rural and urban growth by means of the construction sector. It is one of the industries that contributes greatly to an economy's growth.

The purpose of the current research is to supply a brief description of the main causes of cost overruns in construction projects. This will assist project participants in locating the sources of these issues, treating them, and reducing their adverse consequences. The goal of this research is to guide professionals in the field in implementing the required strategies to prevent delays in public sector construction initiatives.

Key Words: (Construction Delay; Sorts of Delay, Factors affecting Delay, Causes of Delay etc.)

1. INTRODUCTION

This study examines how delays in scheduling affect the rising amount of project costs in construction. Because of unforeseen activities throughout the project life cycle, there were longer delays and cost overruns. One of the most important issues with the construction process is delays. The original estimates of time and cost were exceeded due to delays. The only way to cut delays is to find and investigate their causes. In the construction industry, a delay is any period of time that continues past the contract's completion date or the project delivery date that the parties have settled upon.

Consequently, it appears that time delays and cost overruns are frequently encountered in building sectors due to poor scheduling, inaccurate project cost estimation, and outside events that hinder the project's execution, such as conflicts near the project area.

In defer project encounters postpones in development period where various holes happened between the real advancement on location work and booked work. Thus, projects are neglected to finish in development period according to agreement and this inability to accomplish designated time, planned cost and determined quality outcomes in different adverse consequences. During the time spent gathering project achievement models, changes to the first arrangement of an undertaking is unavoidable, subsequently this exploration studies and looks at the impacts of changes in project plan to the outcome of the venture.

Delay is the cycle where the development project dials back ceaselessly it altogether while concealment is the stoppage of the undertaking guided from the clients to the worker for hire. Cost overruns have been identified as the construction industry's primary issue by a number of studies. It impact in all stages inside project life cycle from first to end. Therefore, cost overruns are a serious problem in construction projects that necessitate serious attention from all project participants. Hence, it is important to look through about the reasons for cost overwhelm in development tasks to work on the expense execution.

2. LITERATURE REVIEW

1)Zayyanu Mohammed and Umar Bello (2022) studied about "Causes of Delay in Construction Projects: A Systematic Review". He concluded that, reasons for defers in developments project which were analyzed in light of six key arrangements: the time appropriation of the articles, where the articles were composed, article type, which diary distributors were taken on by the articles research techniques utilized and the subjects investigated in the articles. The discoveries showed that the landmass with most noteworthy articles on reasons for postpone in development projects is Asia. Greater part of the articles checked on were observational investigations and study strategy was for the most part

embraced with less of interview. Future examination ought to likewise zero in on basic examination and reasonable work and backing their exploration work with impressive hypothetical structure technique to have all over survey on reasons for defer in development projects.

2) **Raza Ali Khan and Muhammad Umer (2020) studied about "Impact of Delays on Cost of Construction Project- A Cross Sectional Study of Pakistani Construction Industry".** He said that, the postpone causes, for example, Plan changes by client or his representative during development, change orders, Inadequate task arranging and booking are most basic in creating setbacks. Revise because of blunders can be limited by recruiting able and experienced project worker and expert. Deficiency and late conveyances can be constrained by exact assessment of the amount and season of the conveyance of material.

3) **Muhammad Akram Akhund, et al(2017) studied about "Time Overrun in Construction Projects of Developing Countries".** He said that, the improvement of time overwhelms causes both specialized and project the executives related factors. This improvement may likewise work because of human perspectives, conduct, abilities and attitude. The issue of time overwhelm in development projects has been undeniable for a long time. Its effects are various to the point that it prompts delayed down the culmination of plans of any country.

4) **Abdullahi Ahmed Umar, et al(2020) studied about "Major Causes Assessment of Construction Delays".** He concluded that, it found that varieties and change orders, unfortunate site the board and oversight and inadequate preparation and planning were the main sources of postponement. The consequences of this study contrasted fundamentally from every one of the four prior Oman-put together investigations with respect to the topic. Preparing projects to work on the abilities of agents should be thought of and organizers should be considered liable for flawed or unreasonable planning.

5) **Ar. Meena. V and Ar. K. Suresh Babu(2015) studied that "Study on Time Delay Analysis for Construction Project Delay Analysis".** He said that, The significant reasons for defer which is found rehashing in pretty much every task are outside factors, monetary challenges, lack of work, deficient work efficiency, proprietor impedance and ill-advised arranging. Subsequent to dissecting the information obviously the commitment of Worker for hire in deferral of the development project is high then, at that point, trailed by client then expert side and others. Asset assignment is the fundamental models for doing plan wanting to apportion term for every movement remembered for the task so that defer in the development venture can be decreased.

3. FACTORS ADDING TO DEVELOPMENT POSTPONEMENT

As recently said, time, cash, quality, and wellbeing are the essential objectives of building projects. Tragically, the event of deferrals affects all venture partners, including proprietors, plan experts, clients of development experts, and others. Assuming that postponements happen, they risk the undertaking's goals and result in an expansion of time, which prompts more overheads and an expansion in the task's expense.

3.1 Plan and agreement related factors-

Configuration stage is a phase of a task where nitty gritty arrangement and drawings are ready. Due to this most investigates considered the plan stage as significant stage through the lifecycle of development project.

3.2 Arranging and timetable related factors -

Project need arranging includes all cycle in development project through all stages in lifecycle of venture in preconstruction and development stages. Arranging of undertaking have seven interaction, which are: characterizing project targets, distinguishing exercises, laying out priority connections, making time gauges, deciding task consummation time, contrasting venture plan goals and deciding asset prerequisites to meet targets.

3.3 Project the executives related factors -

Project the executives devices and procedures assume a significant part in the viable administration of a task . Through writing audit it is create the impression that project the executives mindful about progress of venture in development industry. Development project have immense works which required gigantic quantities of gear, materials and works. Every one of these need to oversee and control.

3.4 Materials and hardware related factors-

Development materials represent over portion of the last expense of house working while the expense of work represent not exactly third, and overheads and benefit represent the rest. Expansion of materials, gear and work expenses might change topographically inside the nation and agreements among subcontractors and providers might include different expansion security terms as concurred with the client.

3.5 Correspondence related factors -

Relational abilities is one of the abilities that the group associated with the development the board of the undertaking, should preferably have it. Development

projects have an enormous number of human sources which need great course of correspondence between all gatherings required inside it to keep away from any contentions that might impact in development project.

3.6 Larger part of normal variables of deferral are enrolled beneath-

1. Challenging for worker for hire to back an undertaking.
2. Absence of Coordination among partners.
3. Not recommended Booking and Orchestrating.
4. Ineptitude of Client to take choice.
5. Defer in Installment from Client.
6. Change in extent of work.
7. Low work efficiency.
8. Incompetent work.
9. Unfortunate agreement the board.
10. Absence of prepared people groups in project group.

4. FACTORS ADDING TO THE DEVELOPMENT COST OVERWHELM-

Monetary troubles looked by workers for hire, worker for hire's unfortunate site the executives and management, lacking worker for hire insight, deficiency of site laborers, wrong preparation and planning by project worker were the most serious variables, while changes in extent of undertaking and continuous plan changes were the most un-extreme elements.

4.1 Appraisal related factors-

Evaluation is described as a course of predicting and gauging the time, cost and various resources expected to accomplish the endeavour objective. Evaluation is a particular course of predicting the cost of executing activities to accomplish the put forth objectives of the improvement project inside a particular period of time. The cost and time of the improvement exercises should be evaluated to plan the resources of undertaking.

Business related factors- Building project is multidisciplinary which included numerous get-togethers as the errand owner and various specialists, labourers for recruit and suppliers, work supply and subcontractors, improvement can be considered as a strong industry which is persistently defying weaknesses, these weaknesses and the various accomplices in such endeavours make the organization of costs problematic which in this manner causes cost overpowers.

4.2 Monetary related factors-

Clients in some cases need more assets to finish their activities and as a rule, don't pay workers for hire on time as concurred in the agreement understanding .Lacking assets for project funding as one of variables impacted in cost overwhelm.

4.3 Development related factors-

Development projects go through a consistent pattern of creation, stockpiling, control, transmission, renewal, update and utilization of data. Development cycle can end up being a troublesome undertaking because of successive trading of data between significant group experts, for example, project chiefs, draftsmen, workers for hire, amount assessors and designers due to the geological areas among venture and expert group.

4.4 Outer related factors-

Development projects impacted by various outer variables which affecting in cost overwhelm as referenced by different specialists which summed up as: erratic weather patterns, postpone in woodland freedom , reserve limitations by government party, successive blustery climate because of weighty downpours and the subsequent floods, territory conditions and crisis works , deceitful practices , unsupportive government strategies , pay off and defilement , political flimsiness, land securing and resettlement , defer in backwoods leeway .

5. SORTS OF DEVELOPMENT DELAYS-

Delays are arranged into two unique sorts as per risk: understandable and unpardonable.

Postpones that influence project finish date as settled on agreement are considered as basic deferrals, while postpones that don't influence project fruition date are known as non-basic deferrals. An understandable deferral is past the project worker control i.e delay because of unforeseeable movement past the workers for hire or the sub-workers for hire control. Non-reasonable deferrals (NEDs) are inside worker for hire control.

Getting a compensable deferral for a sensible postponement may be conceivable. The worker for hire is qualified for additional downtime and cash if the defer meets the measures for pay. In case of a non-compensable postponement, the worker for hire isn't qualified for installment. At the point when a similar kind of delay happens over and over, either all alone or related to different elements influencing the endeavor's general activity plan, it is alluded to as concurrent deferral. Getting a compensable deferral for a sensible postponement may be conceivable. The project worker is qualified for additional downtime and cash if the postpone meets the

measures for pay. In case of a non-compensable postponement, the worker for hire isn't qualified for installment. Concurrent deferral is the term used to portray the repetitive event of a similar kind of delay, either exclusively or at the same time.

- 1) Unforgivable postponements (Non-Passable deferrals)- Worker for hire or its providers are liable for reprehensible postponement and they are qualified for speed up their work done in assessed time are to pay to the proprietor.
- 2) Excusable delays: The two types of excused delays that are discussed below are: Non-compensable postponements: It is a defer which isn't brought about by the proprietor and the worker for hire rather it is acted by outsider. Natural disasters, unhealthful weather, and widespread wrongdoing are examples.
- 3) Compensable delays are those that are the result of the owner's or the owner's agents' actions rather than the actions of a third party. An illustration of non consummation of drawings in the expected time by the designer of the proprietor and it prompts the augmentation of the timetable and it forces conservative damages to the proprietor by the project worker.
- 4) These kind of deferral is because of issues, for example, breakdown of hardware, ill-advised booking or ill-advised administration, efficiency which are not as expected assessed, inappropriate undertaking arranging, the executives of site which are ineffectively taken care of and unfortunate oversight, erratic subcontractors or providers and issues overall staffing.

6. RESEARCH ON THE CAUSES OF DELAYS

The consequence of the exploration likewise shows that, it is clear that expansion in project cost (cost overwhelm); surrender of undertakings, postpone in installment, extra installment for workers for hire and defer in fulfillment plan (time invade) are the main five impacts, which happens because of changes in project plan. A situation known as a delay occurs when the actual work does not complete within the agreed-upon estimated time frame.

The outcome shown the five most critical reason for development delay are

- (1) Income and monetary challenges by workers for hire.
- (2) Project worker's unfortunate site the board.
- (3) Lack of contractor expertise.
- (4) Deficiency of site laborers.
- (5) Ineffectual preparation and booking by project workers.

Development project delays host an ominous impact on gatherings like the designer, worker for hire and specialist, to an agreement which prompts struggle in a relationship, not ready to trust, prosecution, mediation, income issues, and having tension or undesirable inclination towards one another. In this way, it is essential to characterize the real reasons for postpone to limit and keep away from any undesirable defers in development projects from here on out.

7. IDEA ON DEFEATING PROJECT DELAYS

Any development venture's not entirely set in stone by how well it meets its objectives with regards to cost, quality, and length. Postpone in the development's time and thus cost overwhelm is a fundamental issue that any development venture can confront whether in created nations or in the emerging nations, some of the time it can't be stayed away from yet at same time, it tends to be relieved for additional misfortunes and limited.

The development organizations ought to ensure the accessibility of enough financial plans during the development exercises to stay away from the stoppage of the work and ought to have the learned faculty in finance. To continue construction projects, construction companies should employ construction professionals, and each task must be evaluated.

Effective site management and supervision, appropriate site investigation, effective communication, regular progress meetings, effective planning and scheduling, effective site management and supervision, establishment of a design system, skilled, high-quality labor, timely material delivery, effective communication, and efficient financial management and control are all essential.

8. CONCLUSIONS

As a general rule, the review's discoveries propose that postponements adversely affect development associations, bringing about lower pay and a higher undertaking's last expense. According to the findings of the study, time delays have a negative impact on construction project cost overruns on average, resulting in lower revenue and a higher project final cost.

The longer a project takes, the more the contractor's poor scheduling and planning will effect it, and their inexperience will make it harder for them to make decisions, which will cause problems with finance and rework. In addition, the specialist's poorly considered designs, the delay in reevaluating the decision, and the lack of cooperation with the hired worker all contribute to the project's timeline overload.

The study came to the conclusion that any changes made to the project plan do affect the project's success because

they are public projects. Some of these effects are negative, so proper and thorough planning is necessary during the project's beginning and planning phases.

There are technical and project management-related factors at play as time overruns worsen. This improvement may likewise work because of human perspectives, conduct, abilities and attitude.

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