

# Analysis of Time And Cost Overrun of Construction Projects And Its Remedial Measures

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**Abstract-** *The Construction business is one of the key financial industry in India and is the fundamental propelling power in Indian national economy. In any case, it experiences various issues that influence time, cost and quality exhibitions. Effective administration of construction projects depends on three main considerations for example time, cost and quality. The effective finish of construction projects extends inside the predefined time has turned into the most significant and testing task for the Managers, Architects, Engineers and Contractors. The most effective method to accomplish this undertaking is an issue, which ought to be settled. The general goal of this study is to recognize the components responsible for overruns in time and cost of the construction project and recommend the appropriate arrangements. Lack of planning, improper execution and the management are the primary explanations behind time and cost overwhelms in construction extends in India. Since most of the reasons are notable and can be controlled if a legitimate plan is made.*

**Keywords-** (Cost overwhelms, Construction projects, Remedial measures, Time overruns)

## I. INTRODUCTION

The Construction business is one of the key financial industry in India and is the primary persuading power in Indian national economy. However, it experiences a few issues that influence time, cost and quality exhibitions. India is the tenth biggest nation in the World, but its record of actualizing real projects has been a long way from attractive. It has been watched all around every now and again that the majority of the activities in India finished with additional contribution of time, cash and assets. It's an uncommon scene in construction industry, that a task is finished well inside the evaluated spending plan and time and with wanted quality. Fruitful administration of construction projects depends on three main considerations for example time, cost and quality. Time and cost are the life savers of any and each task. The achievement or disappointment of any project depends to a great extent on these two factors separated from its quality.

They are essential, still they are disregarded.

Effective administration of construction projects depends on three central point for example time, cost and quality. The fruitful culmination of construction extends inside the predetermined program has turned into the most important and testing task for the Managers, Architects and Engineers. The most effective method to accomplish this undertaking is an issue, which ought to be comprehended. A basic investigation of time and cost over-keeps running of a task may improve the administration dynamism by and large and increment 'cost and time' cognizance. The general goal of the investigation is to distinguish the variables in charge of the over-keeps running of time and cost in a construction projects and recommend appropriate remedial measures. We will ponder the causes in charge of overruns of a construction project and propose the likely measures. The study will break down the distinctive parts of the time and cost overwhelms in construction project. The vast majority of the construction project are confronting this issue. The postponement in the project execution isn't just from the side of the contractual worker at the same time, it identifies with every one of the gatherings of the task. Time or Money utilized superfluously is obviously 'time' and 'cash' squandered. Thus, an effective control framework must be utilized to accomplish wanted outcomes. Compelling and important control must start at configuration organize and ought to be upheld up by legitimate and logical estimation and information study.

## II. OBJECTIVE OF THE STUDY

The general objective is to recognize the components in charge of the over-keeps running of time and cost in a construction project and recommend reasonable healing arrangements. The particular targets of the investigation are as per the following:

- Track slippages in the genuine time and cost plan by comparing with the planned baseline schedules and investigate the reasons behind it.
- Concentrate the pattern pursued by associations of good notoriety,

- Recommend healing measures regarding altering techniques, practices and methodology, hierarchical structure, contract understanding
- To discover the effect of over-keeps running on the partners.

### III. LIMITATIONS

The study is restricted to the accompanying regards

- The sample case studies for two projects were studied could differ for different projects.
- Reluctance from the project specialists to uncover the information

### IV. METHODOLOGY

The study required both essential and auxiliary information. The investigation can be comprehensively attempted as follows:

- Identify the tasks, which has experienced time and cost over-runs.
- Study all the accessible plans, gauges, calendars and work strategies in detail and gathered all the important information about the undertaking.
- Analyze the data obtained and comparing the estimated and actual schedules and budget to understand the causes and implications of overruns.
- Identify the reasons of Time and cost invades through a general review of feeling from Architects, Consultants and Contractors and propose the conceivable healing arrangements.
- Literature Study: Books, articles, specialized papers, reports, past proposition, inquire about papers and so on.

### V. FINDINGS OF THE STUDY

#### Cost Overrun-

It is the phenomenon in which the client has to spend more money for the completion of project than the originally estimated i.e. the project goes over the budget.

#### Schedule Overrun

It is the phenomenon in which the project gets delayed beyond its expected completion time due to certain difficulties i.e. more time is required to finish the project than initially planned.

Subsequent to doing the contextual investigation plainly the issue of time and cost invades isn't bound to a specific kind or size of task, neither has it had any impediments for the area or locale. Every one of them confronted pretty much comparable issues of time and cost invades. The thing that matters was just in the quantum of these invades. The reasons of these overwhelps were for the most part known and controllable. Still they are confronting these issues due to the accompanying reasons:

- Poor project appraisal and formulation
- Improper usage of plans
- No propelled move made by any of the parties included
- No advance clearances from the neighborhood authorities and different organizations
- No satisfactory measures were taken for the accessibility and legitimate progression of funds.
- Delays in basic leadership
- Loosely framed contracts
- Poor observing and control of exercises
- Insufficient utilization of present-day innovations accessible.

Taking all things together, lack of foresight, execution and the management are the fundamental purposes behind time and cost invades in both the projects. Since the vast majority of the reasons are notable and can be controlled if a legitimate game plan is made. The reasons of these overruns were mostly known and controllable. Still they are facing these problems because of the following reasons:

Administrative and construction delays. –

- Delay due to change of scope of work.
- Changed site condition.
- Delay due to long visiting cycle of respective approving authorities.

Design related delay factors-

- Complexity of project design
- Unclear and inadequate details in drawings

Consultant related delays-

- Delay in approving subcontractors.
- Delay in approving revisions and corrections of the drawing.
- Delay in approving work or quality from respective authorities, Viz. Architect, Quality Personal from client or consultant.

- Refusal to Permit Night Shift concreting by Supervision Consultant
  - Reluctance of consultant to work in extra days.
- Delay due to nature-

- Slowed down work in summer season
- Complete stoppage of works during sand storm.
- Frequent sand storms leading to stoppage of cranes.
- Accumulation of the water at podium level and basement level. Dewatering of such water.

#### Financial delays-

- Quality stops and rework of the unsatisfied or below substandard work leads to late passing of bills which in turns delays the works.
- Certification.

#### Delays due to Materials –

- Delay in approval of materials has delayed the procurement of materials,
- Changes in material types and specifications during construction
- Late delivery of materials

#### Labor Related Delay Factors-

- Slow mobilization of labor due to delay in Sub contractor finalizations.

#### External related delay factors-

- Accidents during construction
- Changes in government regulations and laws
- Delay in obtaining permits from municipality
- Loss of time by traffic control and restriction at job site.

## RECOMMENDATIONS TO MINIMIZE TIME AND COST OVERRUNS

Since the time and cost invade control is incredibly tremendous and complex subject which requires inside and out investigations and it additionally requires a sound information of other particular subjects like Financial administration, Risks Management, Legal Frameworks for construction, Project, Management and others, it ends up hard to recommend any answer for limit overwhelms. Be that as it may, the foregoing analysis of the explanations behind time and cost overwhelms

certainly gives a few insights for the therapeutic advances. These can be specified as pursues:

### ❖ Better detailing and Appraisal of Projects

A speculation choice on a task ought to be embraced simply after full examination, gathering of information, investigation and crystallization of the idea. Since in numerous projects, this investigation might be costly and may require readiness of the point by point project report, the quick stage decision to be utilized to take out those undertaking thoughts which are at first sight not suitable and on which costs for nitty gritty examination may not be acquired. For this reason, appropriate databank for task investigation containing information about other comparable projects (past and present) ought to be created. Assessment investigations of finished undertakings ought to likewise help in building up this bank information. When the last project choice after the sound examination is taken, no huge change in task idea, area, innovation and degree ought to regularly be allowed.

### ❖ Sound execution arranging

Sound execution arranging is a pre-imperative for powerful usage. Reasonable, asset based (asset necessities coordinated with accessibility constraints) implementable plans can be detailed by utilizing strategies, for example, PERT/CPM and assessing action times, linkages and asset prerequisites practically through an interdisciplinary gathering process where encounters of numerous people is pooled together. Here likewise an information bank on comparative projects (over a wide span of time) would be helpful. Where to secure specialists don't have adequate experience or information, advisors can be utilized for this undertaking. For the most part, a slack of around 10-15 percent ought to be kept for possible later use and an interior system for shorter length might be drawn up which might be utilized by the actualizing staff. On the other hand, the 10-15% stock might be verifiably incorporated into the time length of the last a couple of exercises. This 'save' is a way to meet the possibility of unforeseeable postponements. Great PC programming bundles are accessible for task arranging with PERT/CPM, gear booking, labor arranging, cost improvement and control, observing and so forth which could be viably utilized. With sound execution arranging after legitimate task definition, the greater part of the fight is won.

### ❖ Advance Action

Indeed, even after the administration endorsement of the project, there might be numerous clearances required from different government offices, so as to spare time, there might

be one or more 'Empowered Committees', comprising of the secretaries or senior authorities from concerned services, which may give a portion of the fundamental clearances.

Some significant projects, for which such boards of trustees were comprised, were fruitful in limiting time and cost over-runs.

#### ❖ **Confirmation of Funds Resources**

When project is endorsed for speculation and 'proceed' is given, assets ought to be resolved to meet the prerequisites (both for the task and for the between connected exercises/activities of different offices on which it is needy) as decided from the program of work anticipated by asset based system. There ought not be piecemeal or specially appointed based system. It might be prudent to decide year-wise necessity of assets for all projects under usage for the entire arrangement time frame, which might be refreshed at every yearly arrangement. So also, year-wise prerequisites for key materials like concrete; steel can likewise be worked out ahead of time which ought to be submitted by the particular assigning offices, till the finishing of the undertaking

#### ❖ **Better contract management, punishments and motivating forces.**

Since in lion's share of tasks, execution is through contracts, their appropriate administration is a key to limit time and cost over-runs. The agreement arranging (both for works and hardware supplies) must be linked closely to resource-based implementation planning of the projects. Temporary workers and providers ought to will undoubtedly give their asset and time plans coordinated with undertaking plans (in view of PERT/CPM) and tail them. Each contract's dates ought to be according to the point by point organize. There ought to be close construction and association. Existing punishments and motivating forces should be extensively improved with the goal that contractual workers are likewise inspired by on-time execution. Where delays are anticipated, project specialists ought to have the capacity to off-load contracts (in part or completely) to different gatherings (either inside the nation or abroad) well in time. Target cost contracts with motivating forces for reserve funds ought to be urged to limit time over-runs. Where advisors are utilized for arranging, granting and following up the agreements, the adequacy of experts in contract the executives ought to be legitimately assessed. 'Expeditors' from project specialists or experts can be useful in watching progress, facilitating conveyances and giving preemptive guidance's, as they will be positioned at or visiting the providers' shops. Contractual workers ought to be considered as accomplices in undertaking

execution and help ought to be given in taking care of their certified issues, as generally project execution will be help up.

#### ❖ **Monitoring.**

A straightforward and powerful checking framework is basic to distinguish and foresee the deviations from the execution plan, examination the basic issue regions and propose a restorative activity. The expectation is significant from the perspective of forestalling or conquering the issues before they happen or finding a way to limit their effect on project time and cost. A decent information bank on the execution of exercises of this and other comparable projects (at various times) could incredibly help in the checking procedure. Over-observing ought to be kept away from as it prompts pointless administrative work, tying up of project labor assets and review of checking as an end instead of as intends to accomplish the closures. Construction of 'Undertaking Monitoring', as a calling, ought to be supported. The target of outside organizations, which are observing the execution, ought to likewise be to give assistance in taking care of issues rather than discovering issues. Joint 'Observing gatherings' can be built up, which may comprise of agents of the project just as between connected organizations and the gatherings concerned. The gatherings could screen and survey the advancement of the total framework - the project and the between connected exercises/ projects. For critical thinking and activity, the essential organization is the task specialist.

#### ❖ **Management Techniques, Systems, Incentives.**

Mechanical designing and the board systems, for example, technique think about, esteem building, and so forth., can help in diminishing the time span of exercises and surrendering pointless things/exercises. Over-determination can be maintained a strategic distance from so the expenses can be diminished. The project association ought to be unmistakable, separate from the activity side, total with all capacities, under the charge of one skilled undertaking pioneer and with all obligations plainly characterized. There ought to be full assignment to the project head and his group and down the line. The frameworks and techniques ought to be unmistakably set down and manualized. All things considered, the execution of an undertaking is a gathering or collaboration. It is the viability of this collaboration, which will decide the accomplishment of the undertaking. In the undertakings which were fruitful in gathering their time cost focuses on, the center task supervisory group, beginning from the top individual, had full duty and made it a mission or an objective to finish the project inside its time plan/cost, whatever might be issues and they accomplished this. This soul ought to likewise be caught up with motivators (as remunerations, advancements,

acknowledgment and so on.) for the individuals who accomplish time and cost targets and discipline for the individuals who flop seriously, and this linkage between execution and impetuses/discipline ought to be obviously unmistakable. The center task group ought to be legitimately picked and set ideally amid the detailing stage and from that point it should remain till the finishing of the project. Changes in the group, especially, the task head, ought to be made just in outstanding cases

## VI. CONCLUSION

The above study uncovers that even though there are a lot of the board strategies to control time and cost overwhelm in construction projects, the majority of the activities are confronting the issue. Numerous projects are experiencing a direct result of defer the piece of the customer to supply of a portion of the material which as a major aspect of the legally binding understanding they need to supply to the temporary worker or postponement in settling Running Account bills. These issues together with different issues, for example, delay in getting clearances and different issues recorded above makes it progressively hard to finish the project on schedule and inside arranged spending plan. Another trouble looked by the construction business is the low profitability of assets, particularly hardware efficiency. And still, at the end of the day, the utilization and execution of better project the executives and the board procedures can improve the circumstance and can prompt accomplishment of more construction and advancement to the economy.

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