

CRITICAL CAUSES OF DELAY IN CONSTRUCTION PROJECT IN JHANSI REGION

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Abstract -Delay happens generally in construction project. The issue of delay in projects is a reality that happens for the most part in construction industry. Delay are exceptional one in everything about biggest issues construction organizations are confronting now. It is constantly measured as costly to all stakeholders worried in the undertakings and frequently it will impact I conflict claims add up to departure and much troublesome for the plausibility and it moderates the construction of construction sectors. The fundamental intension of this study is the identify the elements of delay and their circumstances and end results on the construction project. Construction undertakings are vigorously influenced by causes for delay. Add up to 58 uncertainty elements were distinguished under 8 major group. An approach is proposed to do positioning of these causes by Importance file in light of level of severity and level of frequency. It is trusted that the discoveries of the paper will help the stakeholders to follow up on basic causes and further attempt to reduce delay of their tasks.

1.INTRODUCTION

The construction industry is one of the principle divisions that give critical fixings to the advancement of an economy. The construction industry is the device through which a general public accomplishes its objectives of urban and rural construction. However, it is turning out to be more complex due to the modernity of the construction procedure itself and the vast number of parties required in the construction procedure, i.e., clients, contractors, regulators, suppliers, users, subcontractors, designers and consultants.

Modern construction projects are described by new benchmarks, propelled advances, multiparty interest, and regular proprietor wanted changes. Combined with this state are inalienable instabilities and complexities in the physical, budgetary, and monetary environment in which most projects are performed. Such conditions have made finishing projects on timetable and on spending plan a troublesome errand to fulfil, frequently prompting claims on cost pay and time expansions. This in the end prompts delay in the fruition of the projects.

Delay is characterized as time additional consuming

either past finish date of the projects which is given to the contractor and given to the parties for conveyance of projects. Extend Delay is on over its arranged calendar and is considered as normal issue in construction projects. Delay in construction projects is considered as a typical issues bringing on a numerous negative consequence for the projects and on the taking an interest parties. Along these lines, it is crucial to distinguish the genuine causes for delay keeping in mind the end goal to minimize and dodge the delays and their relating costs.

To the proprietor of the projects delay implies loss of cash through absence of creation offices and rentable space. To the contractor delay implies higher overhead cost in view of longer time of projects, higher material cost, hardware and work cost increment. The construction procedure is subjected to different and undesirable elements which result from numerous sources. These sources incorporate accessibility of assets, natural condition, execution of different parties, inclusion of different parties and legally binding relations. It is every so often happening that tasks completed in the specified time period.

There are four fundamental approaches to sort delays:

1. Critical or Non-Critical
2. Excusable or Non-Excusable
3. Concurrent or Non-Concurrent
4. Compensable or Non-Compensable

2 OBJECTIVES

1. To study the sorts of delay.
2. To recognize the causes for delay.
3. To distinguish the effects of delay.
4. To assess the basic elements influencing the Delay.
5. To recognize the methodologies for tackling the issues with respect to delay.

6. To minimize the effects of delay in construction extend

3. LITERATURE REVIEW

A various of studies have been completed to decide the reasons for delays in construction projects.

Alwi and Keith (2003) [2] have recognized the fundamental reasons for deferrals in building construction extends in Indonesia. A point by point questionnaire review was finished concentrating on 89 respondents from contractors and 23 respondents from sub-contractors The respondents were requested to suspect the level from effect the 31 potential postpone causes on their activities. Major basic delay components were gathered into six major groups. The outcomes demonstrated that the large and small contractors for the most part concede to the significance positioning of the individual delay factors. In connection to the groups of the delay variable, in any case, result demonstrated that there is no understanding between the two groups of contractors. The results of this study is proficient administration groups was positioned the highest and the external groups were positioned the lowest by vast contractors. Though, the small contractors positioned the outline and documentation bunch as the most noteworthy and the execution aggregate as the least.

Ghulam Abbas Niazi and KassimGidado [5] (2012) held extensive survey to recognize the fundamental parts that cause construction delays in Afghanistan and their discoveries demonstrate that the fundamental basic variables that cause construction delays are: security, poor qualification, corruption of the contractor's specialized staff, portion delays by proprietor and poor site organization and supervision by contractor

Kasimu A. M (2013) [5] the study concentrates on particular causes for delay like deficient coordination and wasteful correspondence between included gatherings in construction projects. Poll review has been utilized as a device to do this study. The aftereffects of variables are dissected in view of mean esteem basis and standard deviation (SD). A few elements are inappropriate arranging of exercises, absence of powerful correspondence, outline blunders, deficiency of material supply like steel, cement and so on., moderate basic leadership, money related issues, lack of materials, income issues amid construction, site mischances, quality affirmation and control and political impact and financial condition. This study suggests in satisfactory arranging, coordination and compelling observing of the construction projects by an accomplished and qualify proficient will diminish the impact of deferrals.

Megha Desai (2013) [6] they have taken a shot at distinguishing proof and positioning of causes for

delay in residential construction projects in Indian setting. Absolutely 59 causes were distinguished under 9 major groups A questionnaire study was led and the causes for delays are positioned by two unique procedures Relative importance index and imperative list in light of level of severity and level of frequency. Comes about demonstrates to us that out of main 10 factors absolutely 5 factors are basic in positioning by both strategies. The outcome demonstrates a few elements are unique contract span is too short to complete, lack of labours, delay in material conveyance, low efficiency level of labours, delay in advance instalments by proprietor. Work related elements were the positioned first and outer elements are positioned last.

K. L. Ravisankar [7] (2014) shown 50 factors for deferral in Indian construction industry. Postpone parts are amassed into seventeen gatherings. He showed that the most critical causes are: Shortage of unskilled and skilled labour, Design changes by proprietor or his specialist amid construction, cost fluctuation, Rework due to mistakes. These are all the principle five postpone factors which impact construction project.

4. RESEARCH METHODOLOGY

The information gathered to decide the most influential factors on project management of the project is done through a survey by explorative questionnaires to the respondent required in daily activities of construction firms in Jhansi area of India.

The research methodology for study contains two phases. The first phase included a literature search and interviews. The writing audit was led through books, meeting procedures, articles, web and worldwide project administration diaries. As the result of this stage, 58 causes for delays for mechanical construction tasks were recognized. These causes were sort in 8 fundamental groups as: Owner, Contractor, Consultant, Design, Material, Equipment, Labour and External elements relying upon their tendency and method of event.

The second stage incorporates arrangement of survey in light of various approach utilized for offering positioning to causes for delay of modern construction projects. In this method Importance Index (IMPI) is figured as a part of frequency and severity.

5. DATA ANALYSIS

I. Importance Index Technique: In this method, for every reason for delay the Importance Index is computed as an element of frequency and

severity lists. Here, both frequency of event and severity were classified on a fourpoint scale with the qualities 4 to 1. Frequency of event is sorted as usual, frequently, at times and once in a while (on 4 to 1-point scale). So also, level of severity was classified as extreme, great, moderate and little (on 4 to 1 point scale).

II. Frequency Index: To rank the causes of delay based on frequency of occurrence as identified by the members, the following equation is utilized:

$$\text{Frequency Index (F.I) (\%)} = \sum a (n/N) \times 100/4$$

Where, a is the constant expressing weighting given to each response (ranges from 1 for rarely up to 4 for always), n is the frequency of the responses, and N is total number of responses.

III. Severity Index:A formula is used to rank causes of delay based on severity as indicated by the members, the following equation is utilized:

$$\text{Severity Index (S.I) (\%)} = \sum a (n/N) * 100/4$$

Where, a is the constant expressing weighting given to each response (ranges from 1 for little up to 4 for severe), n is the frequency of the responses, and N is the total number of responses.

IV. Importance Index:The significance list of every cause is computed as a component of both frequency and severity files as takes after:

$$\text{Importance Index (IMPI) (\%)} = [\text{F.I. (\%)} * \text{S.I. (\%)}] / 100$$

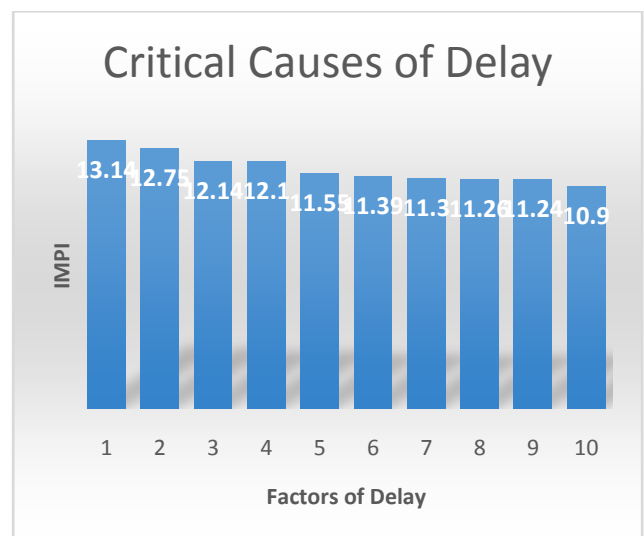
6. RESULTS

Top 10 causes of delay ranked by Importance Index Technique (IMPI)

Table-1: Critical Causes of Delay by IMPI Method

NO.	FACTORS	IMPI
1	Delay in material delivery	13.14
2	Price Fluctuation	12.75
3	Thefts on site	12.14
4	Poor quality of construction Material	12.1
5	Late in ordering of material	11.55
6	Un reliable sub-contractor	11.39
7	Low productivity level of labours	11.3
8	Unfavourable weather condition	11.26
9	Changes in material types and specifications during construction	11.24
10	Delay in providing services from utilities	10.9

Chart-1 Critical Causes Of Delay



7. CONCLUSIONS

Delay can be maintained a strategic distance from or minimized when they are plainly distinguished. The point of this report is to discover the reasons for delay happening in Jhansi district. Since delay are considered as the significant issue in development industry. The paper addresses the most noteworthy variables and groups to reasons for delays.

As indicated by the components distinguished above, after focuses can be recommended in order to minimize and control delays:

1. Advance plan of material ought to be made.
2. Project locales ought to be appropriately protect to counteracts robberies on destinations.
3. Material ought to be appropriately checked before utilizing on development site.
4. Skilled work ought to be utilized.
5. Advance strategy of utilities ought be done.

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