International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 07 Issue: 07 | July 2020 www.irjet.net p-ISSN: 2395-0072

INVESTIGATION OF "DELAYS OCCURING IN CONSTRUCTION OF COMMERCIAL BUILDING AS WELL AS ROAD CONSTRUCTION"

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ABSTRACT – *Delays of construction project is define as, late completion of the project as compare to the planned schedule. Construction delays are often resulting of miscommunication between contractor, subcontractor, owners and suppliers. In construction delays could be minimized only when there causes are identified .The Aim of this study is to identified different causes of construction delay, effect of delay and methods for minimizing construction delay. A questionnaire survey is to be done to find out the main causes of delay through the contractor .The Aim of this project therefore, is to investigate the current level of application of project management and the obstacles that have been prevented due to it is introduction in the Indian construction industry*

***Key Words*: Delay, Effect, Methods, Miscommunication, Questionnaire Survey**

1. INTRODUCTION

"Delays in construction projects" is a universal phenomenon.

In construction of commercial building and road construction delay could be defined as the time overrun either beyond completion date specified in a contract or beyond the date that the parties agreed upon for delivery of a project. They are almost always accompanied by cost and time overrun. The delay analysis involves not only calculation of delay time but also identification of causes

Construction project delays have an adverse effect on parties, namely:

I. Developer
II. Contractor
III. Consultant

If the work is delayed beyond the time specified in the contract, they may suffer hardship, expense or loss of revenue. Hence it is essential to define the actual causes of delay in order to minimize and avoid the delays in any construction projects.

2. OBJECTIVE of the study

1. To analyze the reasons and factors of project delay
2. To classify and evaluate delays, claims and related issues.
3. To understand, compare and specify their issues.

3. METHODOLOGY

Methodology is divided into two phases:

I. Literature study
II. Analysis and implementation

The first phase include review conducted through various research papers, books, internet and international project journals.
The second phase includes analysis of data and its implementation.

STEPS:

STEP 1: Quantitative Data and Interview Data

STEP 2: Data Collection

STEP 3: Conclusion and Recommendation

STEP4: Data Analysis

4. METHODS for Analyzing Delay

A. Globle impact method

B. Net impact method

C. As planes vs as built method

D. Impact as planned method

E. Collaps as built method

5. CAUSES of delay

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A. Labour productivity.
B. Availability of resources.
C. Third the uniqueness of the project.
D. Speed of decision making.
E. Poor or unrealistic scheduling.
F. Poor communication.
G .Lack of information party dependencies.
H. Lack of finance.
I. Site conditions

6. STEPS IN PROJECT SCHEDULING

The completion date required for phase of the work. Mean the schedule values the contractors submit against which monthly progress payments will be made.

The process of sequencing and phasing individual activities required to complete the project. A graphical presentation, which shows the phasing rate of construction activities with the starting and completion dates.

1. Time estimate for each activity
2. Time estimate for overall project
3. Quantity estimate
4. Utilise float time to cover critical activities
5. Make a overall project schedule

7. MINIMIZATION OF DELAYS

A. Detailed site investigations.
B. Careful monitoring and regular meetings.
C. Effective site management
D. Collaborative working and effective coordination.
E. Careful scheduling.
F. Full commitment to the project by all parties

8. QUESTIONNAIRE SURVEY

VISIT NO. 01

1. NAME OF FIRM: **M/S Sheeyash Construction**

2. PROJECT NAME: Commercial Building

3. PROJECT LOCATION: CBD Belapur

4. PROJECT DURATION: 2 Year

5. DELAY DURATION: 4Months

6. **MAJOR DELAY CUASES:**

A. Too short contract duration

B. Shortage of construction material in market

C. Mistake in design documents

VISIT NO .02

1. NAME OF FIRM: **Apurva Builders and Developers**

2. PROJECT NAME: CNS Commercial Cubic Sheltor

3. PROJECT LOCATION: Kharghar

4. PROJECT DURATION: 4 Years

5. DELAY DURATION: 2 Years

MAJOR DELAY CAUSES:

A. Legal Disputes b/w parties

B. Delay in payment by owner

C. Difficulties in fancing the project

D. Sortage of Equipments

VISIT NO. 03

1. NAME OF FIRM: **NANDRAJ CONSTRUTION**

2. PROJECT NAME: Commercial Building

3. PROJECT LOCATION: Lalbaug, mumbai

4. PROJECT DURATION: 18 Months

5. DELAY DURATION: 18 Months

6. **MAJOR DELAY CAUSES:**

A. Levelling of Land

B. Problems during excavation

C. Weather condition

D. Accident on site

E. Traffic Issue

VISIT NO. 04

1. NAME OF FIRM: **VIRAJ SOHAM CONSTRUCTION, Kandivali west**

2. PROJECT NAME: The time square

3. PROJECT LOCATION: Knadivli west

4. PROJECT DURATION: 2 Years

5. DELAY DURATION: **None**

6. **REASONS for NO DELAY:**

A. Effective planning and scheduling

B. Processing own Eqipments

C. Continuity of construction project

D. On time payment

9. RESULT

A. Questionnaire survey was done for almost 30 civil, including some civil contractor.

B. Some significant and common reasons of delay in construction of commercial builing were found.

C. Also engineers it was observed that well-Equipped construction company can minimize delay to almost zero by efficient planning and scheduling

10. CONCLUSIONS

Contribution of various parties to delay in construction are as following

A. Delay according **Consultant** is 6%
B. Delay according **Owner** and **Consultant** is 12%
C. Delay according **Government** is 24%
D. Delay from **Owner** is 24%
E. As well as delay from **Contractor** is 44%

REFERENCES

• Nitin B Vidhate, "A methodology for identifying the different causes of delay in building construction projects," international journal of pure and applied research in engineering and technology; Volume 3 (9): 211-218, May 2015.

• Nuhu Braimah," Approaches to Delay Claims Assessment Employed in the UK Construction Industry," Buildings;Volume 3: 598-620, September 2013.

• Kuei-Mei Huang, Jyh-Bin Yang, Chang-Hung Lee, and Ruei-Yu Ku," Case study of delay impact analysis of lost productivity in construction projects.

• Ashwini Arun Salunkhe and Rahul S. Patil," Statistical Methods for Construction Delay Analysis," IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE);Volume 9 (2): 58-62, October 2013.

• Enas Fathi Taher and R.K. Pandey," Study of Delay in Project Planning and Design Stage of Civil Engineering Projects," International Journal of Engineering and Advanced Technology (IJEAT);Volume 2 (3): 456-461, February 2013.

• Jorvekar Shreyas Praaprao and Sushma Shekhar Kulkarni," Time Impact Analysis on Construction Projects," International Journal of Scientific Engineering and Research (IJSER);Volume 3 (5): 141-146, May 2015.

• Mr. Salim S. Mulla and Prof. Ashish P.Waghmare," A Study of Factors Caused for Time & Cost Overruns in Construction Project & their Remedial Measures," International Journal of Engineering Research and Applications;Volume 5 (1): 48-53, January 2015.

• Sandip Pawar and P. M. Attarde," Time and Cost Planning in Construction Project," International Journal of Science and Research (IJSR);Volume 4 (8): 422-425,August 2015.

• Mr. Satish A. Pitake and Prof. Dhananjay S. Patil," Visualization of Construction Progress by 4D Modeling Application," International Journal of Engineering Trends and Technology (IJETT);Volume 4 (7): 3000-3005, July 2013.

• Megha Desai and Rajiv Bhatt," Critical Causes of Delay in Residential Construction Projects: Case Study of Central Gujarat Region of India," International Journal of Engineering Trends and Technology (IJETT);Volume4 (4): 762-768,April 2013.

• Desai Megha and Dr. Bhatt Rajiv," A Methodology for Ranking of Causes of Delay for Residential Construction Projects in Indian Context," International Journal of Emerging Technology and Advanced Engineering;Volume 3 (3): 396-404, March 2013