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An Assessment of the Factor Causing Time Delay on Building Construction

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ABSTRACT: In today's global economy, the building industry is one of the fastest- growing sectors. Project managers place a high importance on quality. For a civil engineer, quality issues can be exceedingly frustrating. Owners and engineers are concerned about quality issues that have grown more widespread than expected in this environment. It is the primary purpose of this research to discover and examine the factors that determine the quality of construction. Time management, availability of resources, financial issues, labours, environmental conditions, materials and equipment used, lack of safety, co-ordination of participants, design, lack of communication, selection of contractor, inspection, codes and standards, execution, and top management support are the identified factors from the literature. In order to better understand why construction projects in Trichy were delayed during the Covid-19 pandemic, this study and investigation have been put together. After obtaining data from a survey of a wide spectrum of Trichy-based construction professionals, this study looked into the key causes of delays. Based on an importance index, this study found the most prevalent reasons of delays in building projects, and the primary conclusions from the data might assist the construction industry better understand not only the major causes of delays but also how to limit them through appropriate planning

I. INTRODUCTION

The term "delay in construction project" refers to delays or events that cause the construction schedule to be pushed back. Studies are looking into ways to manage delays, which are a major challenge in construction projects. Some of the reasons for construction delays fall under the responsibility of the owner, while others fall under the responsibility of the contractoIn India, a large number of construction projects have been postponed due to the following reasons:

Changes of shop drawing during construction projects.
Errors of shop drawing during construction projects.
Conflicts in work schedules of subcontractors.

Research conducted in main aimed to identify the most common causes of delays in construction projects by focusing on project participants such as clients, consultants, and contractors.

The causes of delay were identified as follows:

- Delay in material delivery.
- Material shortages on market or site.
- **Manpower**

Shortage of skilled labour.

Shortage of unskilled labour.

- **Equipment**

Breakdown of equipment.

Unskilled operators of equipment.

- **Financing**

Delay in payment.

Price variations in market.

- **Environmental**

Bad weather.

Inappropriate site conditions.

Changes

- **Poor design.**

Foundation conditions.

The necessary variations.

Errors in soil investigation.

The initiated variations of client.

II. LITERATURE REVIEW

Satinder Chopra concluded that the Activity ID and Activity Description both the most unused part can greatly enhance the quality of the schedule if used properly. It is the duty of the planning team to carefully decide the Activity ID structure in advance so, that schedule preparation flows smoothly without any conflicts. Further research on how other fields like Original duration, Remaining Duration, Tasks bars in the Gantt chart, Start and Finish dates can be presented to give maximum understanding to the user for efficient schedule development

V.Dhanalakshmi (2016): Study deals with the project monitoring process of the economical method of transporting a pipeline construction was completed in Ennore-Trichy-Madurai. Construction work and actual progress is a comparison between the planned progress of performed in this study using project management software Primavera P6.

Y.Umesh (2015) Proper planning and scheduling is very essential in projects for sinking and scheming delays of the project. Extensive amounts of time, money, resources are wasted each year in a construction industry due to improper planning and scheduling. With globalization the construction projects have become infinite and complex. Planning of such projects requires huge amount of documentation work, which can be reduced with the help of projectplanning software. These study are to plan, schedule, and track a residential project with help of primavera software, study the results generated, it is possible to propose which method is suitable for the chosen residential project.

B.S.K.Reddy (2015) they did resource optimization exercises on two on- going projects in Dubai, UAE. They individually levelled and then combined option with aggregated and then levelled clearly indicates reduction in demand of resources by 5.65% in later option, which could be best considered for economy. They concluded Resource levelling at project job site and forwarding demand leads a possible sharing of resources among projects.

E. Suresh Kumar (2015) Scheduling using Primavera Software is a development which involves estimation, sequencing the activities, resources allocation and timing. The construction scheduling is to complete the project in time and equal the resources with the allocated time. Scheduling using primavera Software gives good controlling.

Ismail Abdul Rahman study identified time management together with their effectiveness level in large construction projects. From the construction organization that deals with huge projects data was collected. Relative Importance Index calculation was employed to assess the level of effectiveness which is helpful for time management techniques and software adopted in the construction project.

PRIMAVERA STEPS

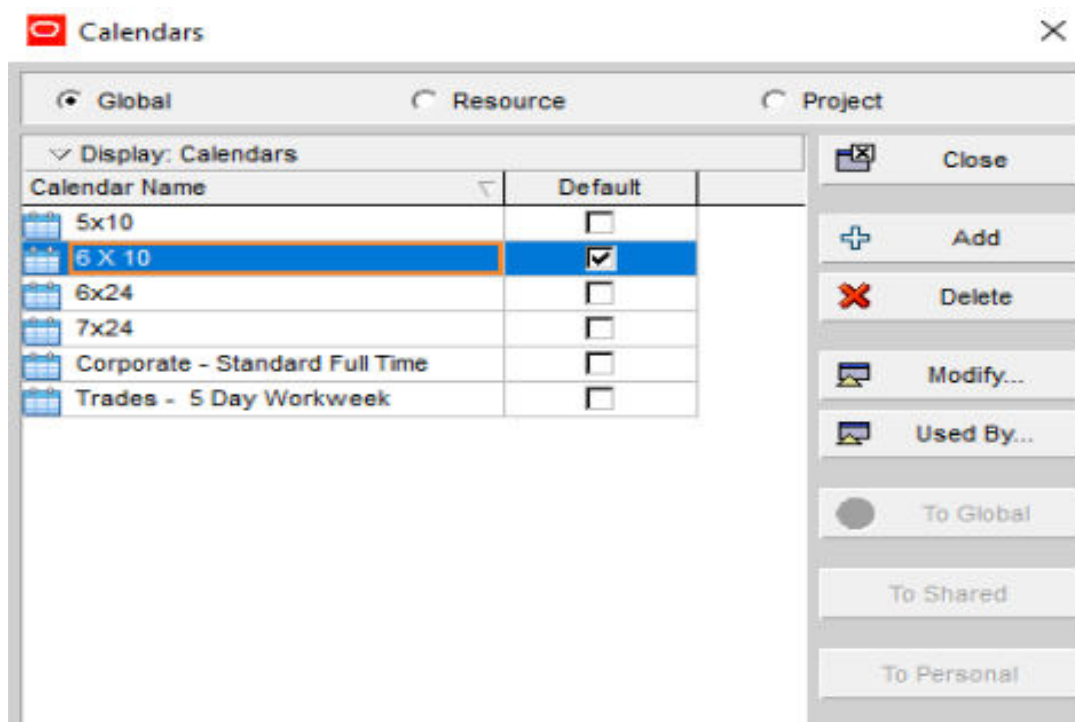
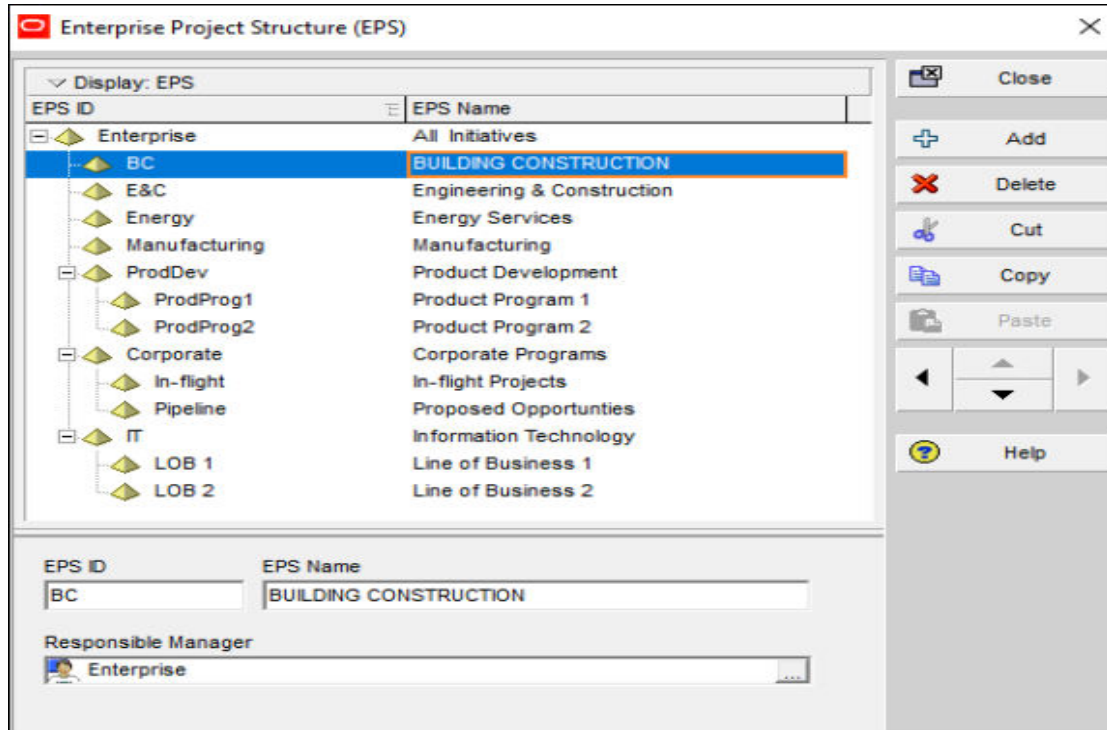
Creating EPS

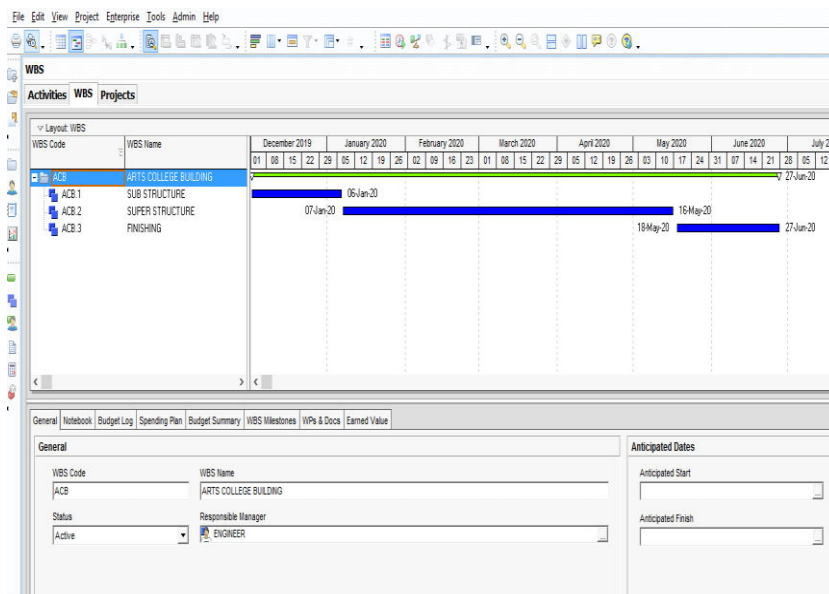
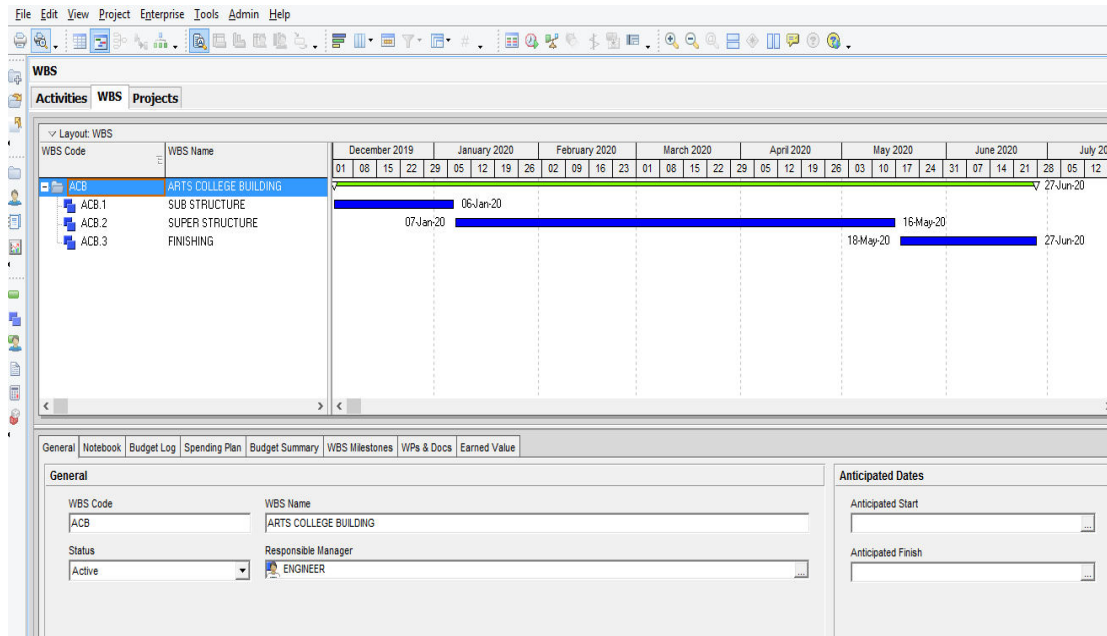
The EPS is a hierarchy used to organize projects, and to associate Organizational level security with that project structure.

When you create the enterprises project structure, you must identify an OBS element, or person responsible for each node and project within EPS.

A default root node displays in the top left position in the hierarchy. All project listed below it are the part of same structure. You can also define multi root nodes to separate various component of you of your enterprises. For example, you might want to exclude inactive or what-if project from the main enterprises. To define root node, click the left arrow key to move an EPS element to top left position in the hierarchy, and then add the hierarchy of project below this node.

Firstly, we had created the EPS of our project i.e. Enterprise Project





III. CONCLUSION

Identifying the root causes of delays in construction projects can help eliminate many of them. Consequently, the purpose of this study was to identify the main causes of construction delays in Chennai during the covid-19 Pandemic. To accomplish this, a literature review and a survey were conducted.

Additional management issues have been brought to light as a result of the covid-19 pandemic. When it comes to working practises, construction companies can't afford to ignore the impact that this is having. Worker safety may

necessitate redesigning programmes to reduce the amount of on-site labour, increasing the use of pre-cast materials, or providing more on-site amenities for workers' well-being.

Case studies in construction projects can be used to identify other factors that may be causing delays and to identify what procedures could be used to minimise the factors causing delays on construction projects in Kuwait during covid-19 and beyond. To attain this, the planning and scheduling helps to understand the progress of a construction project. The methodology to implement construction management of a building can be explained with respect to planning, scheduling and resource allocation. Primavera serves as an effective tool for generating Gantt chart for planning and scheduling a real time

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