

THE USE OF PRIMAVERA IN CONSTRUCTION PROJECT MANAGEMENT

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ABSTRACT

The purpose of this thesis is to investigate the use of Primavera, a project management software, in the context of a large-scale construction project. The study examines the benefits and challenges of using Primavera, as well as its impact on project performance and outcomes. A case study approach was used, with data collected through interviews, surveys, and project documentation. The results indicate that Primavera can be a valuable tool for project management, particularly for large and complex projects. The software allows for better planning, tracking, and control of project activities, as well as improved communication and collaboration among team members. However, the study also identifies several challenges associated with the use of Primavera, including the complexity of the software, the need for specialized training, and the potential for data errors and inaccuracies. Overall, the study suggests that the benefits of using Primavera outweigh the challenges, and that the software can significantly improve project outcomes.

Keywords: Primavera, Planning, Scheduling, Construction project management, Gantt chart, CPM (Critical path method), Monitoring, Resource levelling.

1. INTRODUCTION

Project management is a critical aspect of any organization, particularly in industries such as construction, engineering, and manufacturing. Effective project management requires careful planning, coordination, and control of project activities, as well as clear communication and collaboration among team members. To achieve these goals, many organizations have turned to project management software, such as Primavera, to help them manage their projects more efficiently and effectively. This thesis examines the use of Primavera in the context of a large-scale construction project, with the goal of understanding its benefits and challenges, and its impact on project performance and outcomes.

2. METHODOLOGY

To investigate the use of Primavera in the context of a large-scale construction project, a case study approach was used. Data was collected through interviews with project managers and team members, surveys of project stakeholders, and analysis of project documentation, including project plans, schedules, and performance data. The case study focused on a large construction project that involved multiple stakeholders and complex scheduling requirements.

Results:

The results of the case study indicate that the use of Primavera had several benefits for the project. Specifically, the software allowed for better planning and scheduling of project activities, which helped to ensure that resources were allocated effectively and that deadlines were met. Additionally, Primavera facilitated communication and collaboration among team members, which helped to reduce the risk of errors and delays. However, the study also identified several challenges associated with the use of Primavera, including the complexity of the software, the need for specialized training, and the potential for data errors and inaccuracies.

3. MODELING AND ANALYSIS

Creating EPS:

To create a schedule for project, first step is to collect data available from the project reports. Create the complete structure of the construction entity with its branches, which is executing the project using primavera P6. This is known as Enterprise project structure (EPS).

Creating new project:

The project is created under the chosen EPS scheme. Further its broken down into major project milestones, elements etc. The project is governed under respective divisions in EPS. That can be given planned start and finish dates. Global, resource or project calendar is assigned by the project.

Work breakdown structure:

WBS elements is defined as the hierarchical arrangements of all the activities involved in the construction project. It helps to clearly identify the deliverables, report and summarize project schedule and estimated cost data at different levels of detail. Each project has its own project WBS hierarchy structure with top level WBS element being equal to that of each EPS node of the project. Each WBS element contains more detailed in WBS levels, activities, or both resources constrains.

Defining activity:

The smallest subdivision of a project activities are the fundamental and key work elements of a project and form the top to lowest level of a WBS. The characteristics Activity like ID, activity name, start and finish dates, activity calendar, activity codes, activity type, constraints, expenses, predecessor and successor relationships, resources, roles etc .

Relationship between activity:

By assigning succeeding, preceding activities with significant relationship to the overall project activities , form a network, scheduling the activities should be connected to each other.

Finish to start (FS) relationship

Start to start (SS) relationship

Finish to finish (FF) relationship

Start to finish (SF) relationship

Creating a calendar:

The calendar can create and assign it to each activity. These calendars define the available work hours in each calendar days. Also specify national holidays, organizations, and project- specific work/non a workdays and resource vocation days.

Activity Duration:

When planning the work, the project duration is entered in the original duration field. The actual duration can only be entered for the project activities, which are completed.

Activity Dates:

The following types of project activity dates available in the primavera; actual start, planned start, actual finish, planned finish.

Creating baseline:

A complete copy of the original schedule is a simple baseline plan which provides a target against which a project's performance is tracked. Choose project. Maintain baseline. Then add and save a copy of current project as a new baseline B1. Then choose project baseline as B1 and assign primary baseline as B1. Daily updates to be made. firstly Start date and end date Choose the activity to be updated. Then in the activity details window, select status tab. Then tick mark started if the activity has been started and select the date. Tick mark finished if the activity has been finished and select the finish date.

Tracking of Project:

Project tracking is an important tool for understanding the delay in the project. Teaching can help to reduce the delay and effectively manage the cost. Primavera tool is highly effective in tracking the project, critical activities can be managed easily using tracking tool in Primavera. Actual Duration and baseline duration of project can be tracked closely to understand the deviation and manage to overcome the deviation and bring project on track.

4. RESULTS AND DISCUSSION

Emphasizing the importance of planning, monitoring, and controlling in the progress and on-time completion of a construction project, as well as the necessity and efficacy of project management software like Primavera P6, was the goal of this study. By reviewing the research and monitoring and control methodology, this goal was accomplished. The study served as a reference for comprehending the development of building work and identifying the unique issues that cropped up during the procedure. The findings of this study highlight the shortcomings of the current project management framework for managing projects. Finally, a new project management strategy that is effective and affordable is developed.

5. CONCLUSION

Overall, the case study suggests that the use of Primavera can significantly improve project outcomes, particularly in the context of large-scale and complex projects. However, the software also presents several challenges, and

organizations must be prepared to invest in training and support to ensure that the software is used effectively. Further research is needed to explore the use of Primavera in other industries and contexts, and to identify best practices for using the software to achieve optimal project outcomes.

6. REFERENCES

- [1] S. Rajlumar, P. RamPramothe, J. Sankaranarayanan, R. Kalaivannam (2020) "planning and Scheduling of G+3 building construction using primavera p6" IRJET | Volume 7 | Issue: 07 | Aug. 2020, P – ISSN: 2395 – 0072.
- [2] Ankit Gupta, Dr. Sanjay Tiwari (2020) "Levelling resources of a construction project by various software-based leveling tool" IJRASET | Volume 8 | Issue: 09 | Sept. 2020 | ISSN: 2321-9653.
- [3] Anurag Mahure, Amit Kumar Ranit (2018) "Project management using primavera P6" IJSTE - International Journal of Science Technology & Engineering | Volume 7 | Issue 04 | April 2018, ISSN: 2278-181.
- [4] Akshay R. Kohil (2017), "Enterprise project management using primavera P6" IJSTE - International Journal of Science Technology & Engineering | Volume 4 | Issue 12 | December 2017, p – ISSN: 2395 -0072.