

Review on Planning and Scheduling of Construction Project by Management Tool Primavera P6

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ABSTRACT

Modern construction system has shown great potential in the field of the conventional construction system. The advantage of using new construction techniques for any type of construction is that the process takes no longer. The modern method of construction is defined as a way of working more effectively to achieve more while using less. The description lends itself heavily to offsite or modular construction techniques the method of prefabricating parts of building offsite before transporting and assembling them at their final location. Unlike traditional methods of construction is defined as a way of working more effectively. Poor construction management will cause the delay. Delay in the contracted project can result in penalties and adversely affect the reputation of the company. It is essential to manage the work within time. If construction time increases, construction cost also increases. It is necessary proper planning and management for construction work. Primavera p6 is a management tool. In this study primavera software help in the planning and scheduling of the project. Primavera gives better quality of project management process and easily understanding results.

KEYWORDS: Scheduling, Planning, Primavera P6, Delay

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I. INTRODUCTION

Planning and scheduling are a part of modern construction techniques. They are an important role play in civil project management. Planning and scheduling are terms in a construction project which refers to attain the expected goals. Project scheduling is a technique to meet up the sequence of activities and the type of resources that will be assigned to complete those activities in the planned frame. The organization has schedules and available resources. It needs to be documented to plan those activities. Project scheduling is performed in four steps. First, define the tasks of the project. A project is a collection of activities and events, each activity has a start date and finish date. The next step is to define activities complete estimates of time and efforts. In this step calculation of duration concerning resources. The third step is a define activities order and the last step is assigning resources Planning and scheduling are necessary for a project to perform in a standard way and complete in planned time. Cause of planning and scheduling results we know about activities, their sequence, amount of resources before performing the task. For planning and scheduling many software available Primavera, MSP software, etc. This software helps to control and monitor the project.

II. LITERATURE REVIEW

In this chapter, literature review has been presented by going through various articles and websites. Information about heart diagnosing and its details are also available on some

websites; these are also referred to and listed in the reference section. Various related literature proceedings of various national and international conferences were reviewed.

[1] R. KALAVIVANNA (2020) has studied the planning and scheduling of G +3 residential building construction by using primavera software. The objective of the research paperwork is to schedule the residential building construction using primavera p6 and optimize the resources utilized in the project. The contract period of the project is 11 months. Construction start date 30 December 2019. In this paper, the result was observed that after planning and scheduling the time duration of the building completion was reduced by nearly 1 month.

[2] S. KUMAR M, MANISANKARS (2020) have studied delay analysis of highway construction by using primavera software. The project location is Thanjavur. The duration of the project was 24 months. Construction of the project was started on 06/09/2018. It is observed conclusion of research work is a delay of the construction project was easily analyzed by primavera software. The status of each activity was easily seen with help of Primavera software.

[3] PRANAV TAWALE, ANKIT MISHRA, KARAN JADHAV, SWAPNLI ONKAR (2020) have studied construction planning of high-rise building by using primavera software. The high-rise building is located at Waliv, Vasai in Maharashtra. Proper planning is a very important part of a

construction project to reduce delays of the projects. The warning mechanism must be present, which can alert the project owner of possible completion throughout the project. The advantage of planning and controlling the project are

- Fewer construction times.
- Estimated approx. costs and overruns.
- Keep a track of the project.

[4] ANKIT GUPTA, DR. SANJAY TIWARI (2020) have studied leveling resources for construction project G + 3 hospital by various software-based leveling tools. The objective of this paper was to calculate an optimum schedule for construction project resources. The studied work represents a comparison of resource leveling by leveling tool of Primavera and MS project. In this paper, the author applies a different type of leveling tool to examine the best leveling tool. Leveling tool available in both software. Activities can split to be leveled in MS-project unlike in Primavera.

[5] SUVARNA, YATEEN LOKESH, DR. S. P. MAHENDRA (2018) have studied planning, scheduling, and tracking of bridge construction by using Primavera software & the EVM technique. The location of the project is Sangapura. Construction started in January 2016. The duration of the project as per the baseline schedule is 867 days. Conclusion of literature proved to help measure constraints performance of a project in EVM and enable the analysis of the efficiency of various parameters related to the progress of the report.

Following steps of the methodology followed by authors:

- Implementation of Primavera P6 on a project.
- Calculation of critical path of the planned schedule.
- Calculation of earn value management.

[6] ANURAG MAHURE, AMIT KUMAR RANIT (2018) have studied project management of 200 trainee hostel building by using Primavera software. The project is located at the campus of Dr. Panjabrao, Deshmukh Prabodhini Amravati. The contract period of project construction was 24 months. Conclusion of work observes an implementation of planning and scheduling by using Primavera software the time duration was reduced by nearly 3 months.

[7] MOHAMMAD AFZAL S. SIDDIQUI, ABHIJIT N. BHIRUD (2018) have studied, project management in Pune metro Maharashtra. The author tried to demonstrate the planning for a stretch of 10 K. M. of the metro bridge from Pimpri Chinchwad to Range hills. The conclusion of this paperwork was the estimation in a period of the Pune metro project by using Primavera software. The estimated duration of the Pune metro duration by the author was not considering a major cause of delay. The future scope of studies is updating and monitoring the schedule work.

[8] Vishal Annappa Nimbale, PROF. BALASAHEB JAMADAR (2017) have studied planning, scheduling & allocation of resource of a multi-storied building by using Primavera software. The location of the project is Pune Maharashtra. Literature explained the importance of Oracle software Primavera in the construction field and applies it to the management of a multi-story structure. He finds out the estimated finishing period for the project and plans it along with resource allocation and helps us to understand the concept of Primavera in a precise manner giving an example of works done in Primavera P6. He concludes that the main objective of his study was to know the role of planning and management of the project within the duration

accomplishment of any construction project. His project was fulfilled with the help of literature references and unique methodologies in control and monitoring using project management application.

[9] BHAJANTHRITHIRUMALESHA, BASAVARAJ (2017) have studied resource optimization in the construction of residential apartments using Primavera P6. The residential apartment building with two blocks located at Navalgunda, Karnataka. The name of the site is the Karnataka police quarters building. The objective of the authors was how to find the over-allocated resources and how to balance them.

This study concludes the following result:

- Over allocated resources are eliminated from the activities.
- Optimization of resources can be done without changing the project duration.

[10] PUNEET SINGH (2016) has done a comparative analysis of construction techniques onto different projects by using Primavera software P6. A questionnaire was formulated and personal interviews were conducted with the senior engineers and managers of both the projects by the author. The survey was conducted through direct interactions to get realistic and explained responses. The responses were recorded and analyzed statistically and the following major problems were identified that were responsible for the late completion of the project. Name of projects given below

- National bank, New Delhi
- Project B C/o Punjab C/o Shaheed Sukhdev College, New Delhi

[11] P. ESAKI THAANA (2016) has used Primavera software for planning of road construction. Time supervision system is focused to complete a key role in a construction company, which is accountable to finish the project in budget value within a certain duration. Poor task management and fund performance are major problems faced by construction organizations. The objective of this research is to prepare the planning and management for road work construction at VOC PORT TRUST, Tuticorin. Primavera P6 software helped for monitoring and controlling the road project work.

[12] T. SHIVA NAGARAJU (2016) has studied the schedule and resource optimization of Kochi metro station using Primavera software. The objective of the research paperwork is to schedule the project and proper allocation of resources for construction. The average cost of the projects goes up by 30 percent of the estimated cost due to lack of planning and scheduling. Observations show that skillful management is the key for a project to complete within an allotted time frame in an estimated budget and with the allocated resources. Providing good planning, proper organization, and a sufficient flow of resources to projects can automatically achieve the desired result. The result of the study shows the drawback of the actual project management system.

[13] B. S. K REDDY (2015) says that resource plays an important role in any construction project. The performance of any construction project directly depends upon resource management. For resource optimization and leveling author chooses Primavera P6 software in an ongoing construction project in Dubai in UAE. The main objective of this paper is to minimize under allocation of resources. After using Primavera software author concluded that there is a 5.65% resource reduction.

[14] T. SUBRAMANI A. SARKUNAM, Jayalakshmi (2014) have studied comparison in time performing of the conventional method of construction for residential and industrial building system method by total construction duration. Schedule work was developed using oracle software primavera. The positive change includes creating a healthy working environment among those involved directly in the construction industry. The major players in the engineer's town planners, contractor and supplier or manufacture have to play their duty in enhancing their working system, management, and administration to enable the modernization in the company.

[15] ANDREW FERNANS TOM, SACHIN PAUL (2013) have work explained project planning and controlling is the process of collecting information concerning project performance. The study deals with the monitoring process of a four-storeyed (G+3) factory building in Cochin Kerala. A comparison between the planned progress of construction work and actual progress is performed in this study using primavera software.

The methodology followed by the authors are

- Earn value supervision
- Cost performance supervision
- Work performance supervision

III. CONCLUSION

From the various studies, we can conclude planning and controlling is essential for every construction project for better performance. Project management helps in forecasting the project. Primavera software is a planning tool to help manage project activity and know about the status of a project. The main aim of project planning is to overcome the delay of the project. In the conventional method, project organizations don't know the best path for project completion. The study of the literature review proves application of the primavera tool is best over the conventional method of construction. It was found that most of the authors have used primavera software in the planning of high-rise buildings, road construction, bridge construction, metro construction, hospital building, hostel building, etc.

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