

SCHEDULING AND RESCHEDULING RESOURCE MANAGEMENT IN RESIDENTIAL BUILDING USING MSP

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ABSTRACT

Effective Project Management is the key to achieve success in any project in construction industry management plays a significant role to achieve the compelling outcomes. It helps in the productive use of man, material and machines. Scheduling is a type of planning which describe that, where and what work to be carried out. Cost is the main constraint in any project. Earned value analysis gives the idea about the cash flow occurs in the project and it is exceptionally useful in knowing the status of the project i.e. works ahead or behind the objectives. Compare to manual methods, software are very helpful, very accurate which may defeat issue related with the project. For the present examination Microsoft Project is used which accommodating in both Scheduling and Earned Value Analysis.

In order to achieve success of any construction project, cost and scheduling estimation and risk assessment plays a major role for cost effective project management. These three factors can sufficiently improve the performance of the project. By using Microsoft project as management software. Construction project can scheduling better and tracking the project at any stage of execution by using MSP one can also know the progress of the project.

In this present study, made an attempt to reduce the duration of the construction work using MSP. From the analysis it is concluded that, the time duration from ground floor to first floor is reduced to 16.66% and from second floor is rescheduled due to the delay in the work.

Keywords: Construction, Management, Scheduling, Reschedule, Microsoft Project.

I. INTRODUCTION

Construction industry is a vein of any developing country. Major problems faced are the duration, estimated cost, resource and risk amidst the execution of the project. These problems arise because of inadequate project growth, poor planning lack of controlling and supervision to the project. In the initial stages the design cost plays the major criteria in a project, because of the availability of limited information during the beginning phase of a project. Due to lack of knowledge and experience influences the increase in the project cost. To overcome all these difficulties effective project management technique is required.

In order to achieve success of any construction project, cost and schedule estimation and risk assessment plays a major role for cost effective project management. These three factors can sufficiently improve the performance of the project. By using Microsoft project as management software. Construction project can be scheduled better and tracking the project at any stage of execution. By using MSP one can also know the progress of the project.

II. METHODOLOGY

2.0 PROBLEM DEFINITION

In order to achieve success of any construction project, cost and scheduling estimation and risk assessment plays a major role for cost effective project management. By using Microsoft project as management software. Construction project can schedule better and tracking the project at any stage of execution by using MSP one can also know the progress of the project.

In this chapter includes the site details, scheduling, rescheduling and estimation, techniques, time and cost along with the quality control techniques adopted for project are explained with different steps.

2.1 OBJECTIVES OF THE STUDY

The study helps us to know about how effective the project management can lead the project towards the desired goals. Some of the objectives related to MSP software.

- ❖ To utilize labour force efficiently
- ❖ To minimize the delay existing in the project by addition of alternative means like scheduling the activities concerned.
- ❖ To know the resource allocation criteria for the described activity of the project.
- ❖ To check the progress of the project i.e. by setting a baseline.
- ❖ To evaluate the total cost of the project according to the scheduled manner i.e. through Earned Value Analysis.

2.2 SCHEDULING USING MSP

MSP 2013 is used for scheduling Residential building G+5.

2.2.1 CONSTITUENTS OF MICROSOFT PROJECT 2013

Marvey Mills is the founder of the software. Basically it is management software in the earlier versions using PERT for the scheduling. Recent versions are associated with the CPM technique for its scheduling. It is an effective tool for scheduling, by using this software, schedule, allocation of resources and also comparison of actual with the planned duration can be done.

2.2.2 DEVELOPMENT OF SCHEDULE

A scheduling is done by following steps the old similar data's are collected from the old project; from the site all the details are collected such as site condition, drawings, details of labour allocation, site survey details etc. By these details the activities are listed then the relationship between each task is defined.

The available resources are allotted for every activity as per the working days & hours the project calendar is fixed. Gantt chart defines the graphical representation of the activity and shows the clear difference between every activity.

By diminishing the working hour, the over allotted assets are leveled, or the number of labours is expanded according to the necessity.

2.2.3 DEVELOPMENT OF RESCHEDULE

Construction work need an efficient way to record development and reschedule incomplete task in the project. MSP provides way to update & reschedule project.

Project was on hold for a few months & then it started up again. Due to this reschedule of all the incomplete work needs to be done. So that it starts now that the project is back on track.

2.2.3.1 RESCHEDULED WORK

1. To reschedule specific tasks, select those tasks.
2. Click on the project tab to open the Update Project dialog box.
3. Select reschedule the uncompleted work to start after & in the date box, enter or select the dates as per the schedule.
4. Select one in below mentioned
 - Click Selected Tasks to reschedule work just for the selected tasks.
5. Click Entre to reschedule entire project

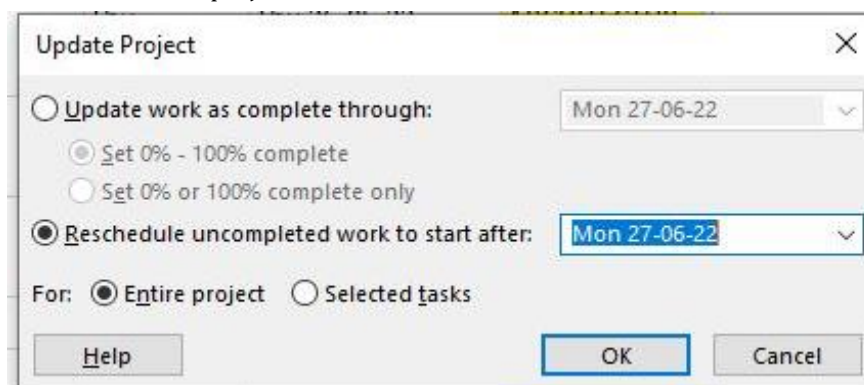


Figure 1: Rescheduling of Project.

III. MODELING AND ANALYSIS

Construction of MATRU Apartment Residential Building project using Microsoft project 2013 results includes scheduling, rescheduling, estimation and resource management by achieving success of the project. The constraints, delay during work and execution of the project are all mentioned in the baseline of MSP.



Figure 2: Scheduling of Different Task by MSP.

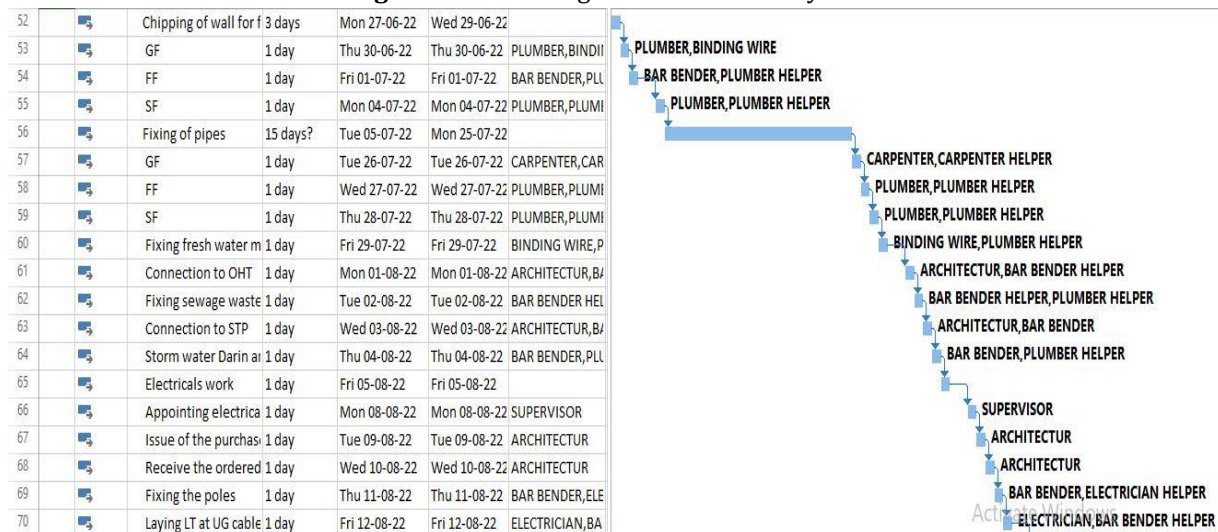


Figure 3: Rescheduling of Different Task by MSP.

IV. RESULTS AND DISCUSSION

Table 1. Comparison of Duration in Days of Conventional and MSP Method

Sl.No	Type Of Construction	Duration in Days
1	Conventional Type	198
2	MSP	165

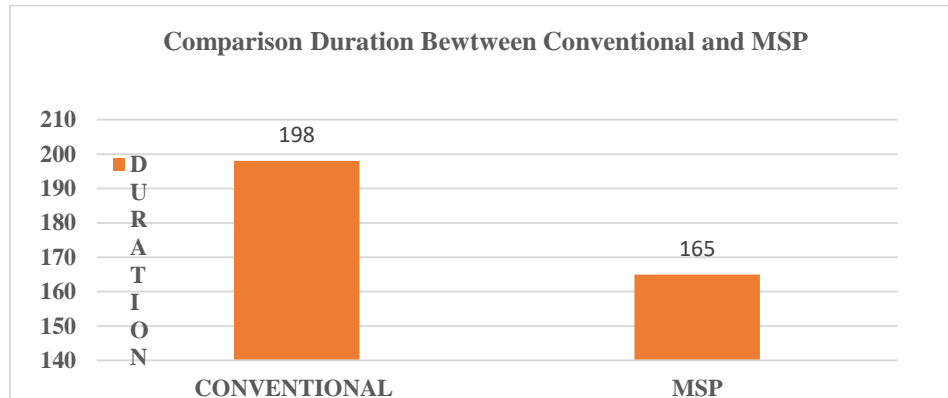


Figure 4: Comparison of duration b/n conventional and MSP.

- In the project all the task were carried out parallely to reduce the duration using MSP.
- A considerable amount of reduction in duration by the application of MSP execution. The duration has reduced by 16.66% for ground floor to first floor.
- Rescheduling work for second floor is done due to delay in the project.

V. CONCLUSION

Construction of residential building by traditional way leads to be inefficient and more time with many complexity and massive error which actual execution of the Project. In the traditional way of planning there is provision of sub dividing of the main task. In future which leads hurdle of over allocation of resources, improper judgment of resources for particular activities etc. Using Microsoft Project is the solution in the Project Management to overcome the obstacles faced in the traditional way of planning and management of residential building.

- Efficient usage of manpower was done.
- If the delay occurred then the activities are rescheduled, updated and checked for solutions.
- Minimized the over allocated resources, i.e., it is levelled by the given procedures as per the needs of software.
- Checking for a progress of the project through baseline was considered and it served its purpose.
- In this study, it is concluded that time duration from ground floor to first floor is reduced to 16.66% and from second floor is rescheduled due to the delay in the work.

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