

# Resource, Scheduling & Planning of Residential Building using Primavera

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**Abstract**— In Project Management, proper arrangement and setting up is very essential element. Planning is a base for each and every work in management field. It serves as base for monitoring, executing, closing and controlling, when quality time is spent on planning, it will automatically minimize the time spent on execution. Planning manages chalking out a future strategy and selecting ahead of time the most suitable course of activities for accomplishment of selected objectives. Planning ensures a head of time-what to do, when to do and how to do. It gives an idea about where we are and where we need to be. It is a bridge between present and future course of action. Thus, planning is nothing but think before it is executed. Planning is a systematic/orderly thinking about way and needs to reach the determined goal/ destination. Planning is an activity in critical thinking. It helps in avoiding confusion, delay of work, unwanted risk, wastages etc.

This paper deals with the planning, scheduling and tracking of a residential building (G+11). This paper also ensures a comparison between the baseline duration and cost to actual duration of project using project management software tool Primavera P6.

## I. INTRODUCTION

Though technology is developing rapidly and vast day by day, the basic and fundamental needs which are required by human have not changed. In today's world scenario, the construction industry has a great demand and thus it has become a fundamental part of a country's framework and mechanical growth and development. As the tall building is rising throughout the world day by day with the advance construction technology and computer skilled knowledge such as applying various software, but still fail in efficient and effective project management. It is an art and mission of preparing, organizing and directing human effort to control the forces and use the materials of nature for the requirement of human growth in the project management.

Planning is something advance thinking, what to do, how to do, where to do, the approximate resource required and number of days to complete particular task in construction project. This project ensures a case study on a residential building, where analysis has been done using primavera software p6. By using primavera software an efficient and effective planning and scheduling helps to effective control and monitor the progress of work by surveying and reconstructing under a few changes so that the work runs hand in hand with the estimated time and budget. The main intension of planning is to ensure all activities and resource are managed and the project is delivered both "on time" and "within budget".

Primavera P6 Enterprise Project Portfolio Management software, is the most powerful, easy to use software solution for globally prioritizing, planning, managing and executing projects, programs & portfolios.

## II. OVERVIEW

A nation's infrastructure and industrial growth of the construction industry is an integral component. The second largest industry in India is the construction industry, and the growth of this industry has been differential across the nation. The rural regions are trying to increase their tools for economic development, land use and environment planning to make the cope for the urban region and the time available to achieve this goal of the development is shrinking. Then here arises the need for effective project management in the field. They must be taken care of many issues are being faced by construction industry. During execution due to inadequate project formulation and due to poor planning for implementation, lack of proper contract management and planning, lack of proper management they include time and cost overruns. The average cost of a project increases by 30 percentage compared to the budgeted cost that has been estimated by management. Proper skillful management is compulsory for the timely completion of the project within estimated budgeted cost and with allocated resources that shows about vision.

Projects must have a good planning, adequate organizational machinery and sufficient flow of resources. These cannot be achieved automatically hence project planning is essential.

### III. OBJECTIVE

- The objectives of this study are:
- Find the construction sequence for a residential building construction.
- Calculate the practical durations required to carry out the activities.
- Identify the scheduling technique.
- Develop scheduling using Primavera project planner's software.

### IV. PROGRESS OF WORK

#### 4.1 Planning:

The fundamental key function of management is planning. It involves charge out a future line of action, and decides in advance the generally suitable course of action for achievement of goal which is pre-determined. It is advance thinking of task with four "W" & one "H" -what to do, when to do, where and how to do. Planning bridges and plasters the gap from where we are and where we need to be. Future course of action is a perfect plan and is an exercise in dilemma solves and resolution making. It deals with purpose course of actions to accomplish considered necessary goals. If a plan is perfect then the way for accomplishment of expected goals are ready to serve admirable for the world's healthy use, systematic thinking about the ways of planning is necessary, because it helps in proper utilization of human and non-human resource. Once a plan does justice for determined goal then, the society can avoid the side effects from the plan like uncertainties, wastages, confusions and risks of project. In order to avoid all this chaos, it's better to plan perfectly before the establishment of an unbiased goal.

#### 4.2 Scheduling:

Scheduling is nothing but reflection of plan, that is determining the timing of task or activities in project when and which task will perform. In simple ways the planning deals with 3-basic words what, how, and who on the other hand scheduling deals with why and when. It is also defined as comprehensive plan of tasks in development work with respect to time. It is also a better communication tool between all the stakeholders or people involved in project. It gives us over all snapshot of project with progress detail. It is very difficult to explain unskilled people about project like what is going on and what is expected to take place in future without schedule details Since work environment becomes more complex day by day. It will be more pressure to deliver the suitable results within time and budget. Therefore by using advanced scheduling technique in primavera helps to ensure work flows, providing importance to achievements, Can have well planned management meeting with number of stakeholder, provide idea to use resource in optimal way, Can ensure proper management with documentation and control.

#### 4.3 Tracking:

Tracking is the one major phase in project management. It is a process of collecting all information regarding each task of the project and entering and analyzing the information collected to actual project which gives performance of project that is comparing actual duration with planned duration. Before the starting point of work the first thing to focus on project planning, when work progress gets starts the next and foremost phase in project management is tracking. Tracking mean collecting and reporting the details of project such as what is work done and by whom it is done, when it is done, how much cost it is required to complete. And these details are called actual project details. This actual detail is compared with planned details. This is useful in identifying the difference between planned and actual. It helps us to know: To understand project progress, To take suitable action against work, To provide documental information to stakeholder.

#### 4.4 Importance:

The important and basic fundamental functions of construction project management is planning and scheduling because activities involved in constructions helps engineers to complete the task in time and within the financial plan. The essential and demanding

activity in the management and processing of construction projects is “construction planning”. This deals with the activities involved in construction, technology options and the estimating of the quantity and quality resources required and durations for that particular tasks and identifies any interactions to particular task. In a construction industry plan forms basic for the entire developing budget and the schedule for work. These things are the main criteria in construction project, in case if a project runs over cost then the project ends with financial crisis which directly get affected on activity and indirectly on planned project. And in case with schedule it delays the project leads to extension of project again having impact on completion of project in time. Therefore, the planner should focus on predecessor of an activity like what should come next. The continuation of undertaking task precedence (resulting in critical path scheduling procedure) is stress by traditional scheduling process. Ultimately most multifarious or complex projects involve reflection of cost and scheduling over time, so that planning, monitoring, or guiding and documentation maintenance must consider both parameters cost and schedule. The assimilation of schedule and information of financial plan is a major concern in a construction industry.

## V. CONCLUSION

Our project is based on primavera p6 which is a software used world-wide now a days. It has an ability to control the complex projects in very simpler and convenient manner. One can easily do any updating work at any level of the stage. We are working on the topic “resource, scheduling and planning of residential building G+11 using primavera” From the study we can conclude that the work we did on it till now was much easier to implement in it and its results were visible simultaneously.

- Steps involved till now:
- Created new enterprise project structure (EPS).
- Created sub divisions of (EPS).
- Created new project to the EPS hierarchy.
- Created organizational (OBS) required.
- Generation of calendar.
- Assigning the holidays and work hours to the calendar.
- Creating work breakdown structure (WBS).
- Assigning activities in WBS.
- Defining the successor and predecessor to each activity.
- Assigning the expected duration of each work activity.

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