A Study on Softwares Used in Project Planning and Management in Construction Projects in India

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ABSTRACT
Planning and scheduling is very important role in construction projects because of the increasing difficulties in this field. Construction Planning is the necessary warning to Scheduling and determining general sequence, defining labour tasks, construction methods and assigning responsibilities, inappropriate planning can lead to major delays in the project work. For the planning and scheduling work huge amount of paperwork, which makes the management very burdensome. These problems can be solved using a project management software which helps to give a planned approach to planning. Nowadays use of project management (PM) software as a tool for managing and organizing work has gained its importance in construction industry and continues to grow at a faster pace in all other industries also. In this study, an attempt is done to compare the project management software such as MS project, Primavera and BIM and their feasibility is studied.

Keywords: CPM, PRIMAVERA P6, MS PROJECT, EPS, Gantt chart, BIM

I. INTRODUCTION
In Project management software process involves estimation, sequencing the activities, resources allocation and timing. For construction schedule completing project in time and equal the resources with the allocated time. Different civil software like MS project and Primavera are widely used for planning and scheduling. Planning of big projects requires huge amount of paperwork, which can be reduced with the help of primavera and MS project software. The comparison is made to know the efficiency of each software. MSP and Primavera is the modern tool of Project Management that aid to beat the obstacles faced remaining to conventional way of Planning and organization. The optimal and resourceful organization of activities which helps to give the dream to complete the project in planned duration.

Project management software as a tool for managing and organizing work has grown and continues to grow at a rapid pace in all industries. In the construction PM software usage is important. As heavy users of PM software, professionals in the construction industry and other industries have a strong interest in improving the tools and techniques available for better project planning. Multiple studies demonstrated that construction professionals continue to be very interested in developing better methods for project planning and control. Few studies have considered the application of these tools in PM software. These studies demonstrated the rise in the
level of interest in effective and efficient methods for project planning and control. In this paper, patterns of PM software usage in the construction industry will be identified, addressing current usage.

I.1 MSP:

MSP is a project management software product, introduced & developed Microsoft. It assist a project manager in developing a planning, assigning resources to tasks, tracking progress, managing the budget, and analysing workloads. Project creates budgets based on assignment work and resource rates. Resources are assigned to tasks and work estimated. Program calculates the cost, equal to the work times the rate. Resource defines (people, equipment and materials) can be shared between projects using a shared resource pool. Each resource can have its own calendar, which defines days and shifts a resource is available. Resource rates are used to calculate resource assignment costs which are rolled up and summarized at the resource level. Each resource can be a signed to multiple tasks in multiple plans and each task can be assigned multiple resources. Schedules task work based on the resource availability as defined in the resource calendars. All resources can be defined in label without limit. Hence it cannot determine how many finished products can be produced with a given amount of raw materials. This makes MSP unsuitable for solving problems of available materials.

I.2 PRIMAVERA P6:

Primavera was launched in 1983 by Primavera Systems which was acquired by Oracle Corporation in 2008. Primavera is an enterprise project portfolio management software. It includes project management, scheduling, risk analysis, opportunity management, resource management, control capabilities, and integrates with other enterprise software such as Oracle and SAP’s ERP systems. This software is designed for project, program, and portfolio management. It is a powerful, easy to use solution for planning, managing and executing projects. Primavera has a huge performance and simply cannot be beat. Installing local software on PC cut’s out the lag of web-based products and screen refreshes. It makes P6 professional tool for scheduling projects.

I.3 BIM Design 5

BIM is launched by Autodesk for designing and modelling. It is a process supported by various tools, technologies and contracts involving the generation and management of digital representations of physical and functional characteristics of places. BIM files containing proprietary data which can be extracted to support decision-making regarding a built asset. BIM software is used by individuals, businesses and government agencies who plan, design, construct, operate and maintain buildings and diverse physical infrastructures, such as water, refuse, electricity, gas, communication utilities, roads, railways, bridges, ports and tunnels.

II. LITERATURE REVIEW

T. Subramani (2015) says that the Primavera P6 software and advantages of Primavera P6 software, he says that Primavera P6 is a software which is not only used by project planners but also involved in project, i.e. managers, engineers, schedulers can use Primavera software, focusing on the advantages and comparison of construction estimate methods application in usefulness project. Primavera allows users to generate project templets, which can used for future project also. Primavera can also be used to group and view multiple project at the same time. B.S.K REDDY (2015) says that resource plays important role in any construction project. It performance of any construction project directly depends upon resource management. The purpose of
resource optimization and levelling author choose primavera p6 software in ongoing construction project in Dubai at UAE. The main objective of this paper is to minimize under allocation of resources. Author concluded that there is 5.65% resource reduction by using Primavera Castor (2008) Says and compares MSP & primavera, open workbench for resource levelling in two real time project and the result shows primavera gives most the critically unlimited number of criteria as priority rules. The process and activity of planning, organizing exciting and controlling resources, procedures, to achieve complete goals in scientific or daily problems that help to overcome the problems. It helps for the optimum and effective organization of activities to complete the project in planned duration and within the market.

T.Subramani (2014) compared time performance of the conventional method of construction for high-rise residential and commercial projects method by originate level measures of industry norms for overall construction period using scheduling simulation modelling. The positive changes include creating a healthy working environment among those involved directly in the construction industry. Improved Customer satisfaction whenever you get a project done on time and under budget. It helps easily plan and manage project activities, optimizes management of all resources and gives clear visibility of project allows quick and easy forecasting of WBS's, activities or projects.

Unmesh. Y. Polekar (2015) says that improper resource management and huge amount wastage due to improper resource management. This improper management of resources also causes increase in time duration. Using Primavera software, we can organize our project and recognize potential problems. Primavera software is used for making project management easier, especially in difficulties. Some of the study shared in flow charts which are globally practised. As seen in the integration diagram below, project managers are enabled to perform detailed project planning and scheduling by integrating Oracle Fusion Projects with Primavera software.

**Figure-1 Oracle Fusion Project Integration with Primavera P6**

**Table-1-Comparison between MSP and Primavera software**

<table>
<thead>
<tr>
<th>SL.No</th>
<th>Primavera Software</th>
<th>MS-Project Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It supports unlimited baselines.</td>
<td>MS-Project supports 11 baselines.</td>
</tr>
<tr>
<td>2</td>
<td>Multiple users to work on a single project and the specific features to be used.</td>
<td>Multiple User Access doesn't allow multiple users to work on a single project</td>
</tr>
<tr>
<td>3</td>
<td>Allows issue and disk recording.</td>
<td>Lacks the feature of project issues and risk tracking.</td>
</tr>
<tr>
<td>4</td>
<td>P6 supports unique ID feature and is helpful in projects using activity ID systems.</td>
<td>Does not support unique ID feature and the activity ID is dependent on the position of the activity.</td>
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</tbody>
</table>
Planning and scheduling improves future conditions in implementing the project. Primavera and Msp Software provides user friendly options while performing any task. The cost of individual work breaks down can be known along with the duration. Thus decisions can be made sensibly by the management. In multiple projects resource levelling is very important to maintain proper resource allocation. For multiple projects under a single company such analysis should be done to check out for over allocation. Construction of building using Traditional way proves to be uneconomical and consumes more time with many complexity and enormous error which actual execution of the Project. Traditional way of planning doesn’t sub divide the main task which future gets the hurdle of over allocation of resources, improper judgment of resources for particular activities etc. 

MSP and Primavera is the modern tool of Project Management that overcomes the obstacles faced owing to traditional way of Planning and Management. It helps for the optimum and effective organization of activities which helps to give the vision to complete the project in planned duration and within the Economy.

**III. CONCLUSION**

**IV. REFERENCES**


