

PLANNING MONITORING AND TRACKING OF CONSTRUCTION PROJECTS USING MICROSOFT PROJECT SOFTWARE

Mukta Chougule¹, Ram Patil², Sagar Devkar³, Sharad Rajput⁴, Manasing Rabade⁵

^{1,2,3,4} UG Student of civil department D.Y. Patil technical campus Talsande

⁵ Assistant Professor D.Y. Patil technical campus Talsande

Abstract – The construction project management requires systematic planning, continuous monitoring, and accurate tracking to ensure timely and cost-effective completion. With the growing complexity of infrastructure projects such as G+32 high-rise buildings, traditional management techniques are often inadequate. This review paper examines the role of Microsoft Project software as a modern tool for efficient construction management. It analyzes its application in scheduling, resource allocation, progress monitoring, and performance tracking. The study is based on a review of existing literature and practical methodologies. The findings indicate that Microsoft Project significantly enhances project control, minimizes delays, and improves decision-making efficiency in construction projects

Key Words: Construction Management, Microsoft Project, Scheduling, Monitoring, Tracking, Gantt Chart, Critical Path Method

1. INTRODUCTION

This Construction projects involve multiple activities, resources, and stakeholders, making their management complex. Proper planning and monitoring ensure timely completion within budget and quality standards. Traditional project management methods often fail due to lack of real-time tracking and coordination.

Microsoft Project is a widely used project management software that helps engineers and managers in:

- Creating project schedules
- Allocating resources
- Monitoring progress
- Tracking project performance

This paper reviews the role of Microsoft Project in improving construction project management.

2. Literature Review

The Several researchers have studied the application of project management software in construction:

- 1) Studies show that software-based planning improves project efficiency compared to manual methods.
- 2) Researchers found that Microsoft Project helps in identifying critical activities using Critical Path Method (CPM).

3) Some studies highlight improved resource utilization and cost control through proper scheduling.

4) It has been observed that real-time monitoring reduces delays and enhances productivity.

5) However, certain research points out the need for trained personnel to effectively use the software

3. Objectives of the study

- 1) To understand the role of Microsoft Project in construction planning
- 2) To analyze its application in monitoring and tracking
- 3) To identify benefits and limitations
- 4) To review its effectiveness in real-world construction projects.

4. Methodology

This paper is based on a review of:

- 1) Research papers
- 2) Case studies
- 3) Books and journals related to construction management

The analysis focuses on comparing traditional methods with software-based project management.

5. Planning using Microsoft Project

Planning is the first step in project management. Microsoft Project helps in:

5.1 Work Breakdown Structure (WBS)

- *Divides project into smaller tasks
- * Helps in better organization

5.2 Scheduling

- *Assigns start and finish dates
- *Defines task dependencies

5.3 Gantt Chart

- *Visual representation of project schedule

*Helps in understanding project timeline

5.4 Resource Allocation

- *Assigns labor, materials, and equipment
- *Avoids resource overloading

6. Monitoring of Construction Project

Monitoring ensures that project work is progressing as planned.

6.1 Progress Tracking

- *Tracks completed vs pending tasks
- *Updates project status regularly

6.2 Cost Monitoring

- *Compares actual cost with planned cost
- *Helps in budget control

6.3 Performance Analysis

- *Uses indicators like schedule variance
- *Helps in identifying delays

7. Tracking Using Microsoft Project

Tracking involves continuous observation and control of project activities.

7.1 Baseline Comparison

- *Compares actual progress with original plan
- *Identifies deviations

7.2 Critical Path Analysis

- *Highlights important tasks affecting project duration
- *Helps in prioritizing activities

7.3 Reporting

- *Generates reports for decision-making
- *Improves communication among stakeholders

8. CONCLUSIONS

Planning, monitoring, and tracking are critical for successful construction project execution. Microsoft Project software provides a structured and efficient approach to managing these activities. It improves productivity, ensures timely completion, and enhances overall project performance. With proper training and implementation, it can significantly benefit the construction industry.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to all those who supported and guided me in the completion of this review paper on "Planning, Monitoring and Tracking of Construction Projects Using Microsoft Project Software."

I am especially thankful to my faculty members for their valuable guidance, constructive suggestions, and continuous encouragement throughout the preparation of this paper. Their insights helped me to understand the subject in a better and more practical manner.

REFERENCES

1. K. K. Chitkara, Construction Project Management: Planning, Scheduling and Controlling, New Delhi: Tata McGraw-Hill, 2014.
2. K. K. Verma, Project Management, New Delhi: S. Chand Publishing, 2012.
3. Microsoft Project Documentation, Microsoft Corporation. Available: <https://learn.microsoft.com>
4. J. K. Pinto, Project Management: Achieving Competitive Advantage, 4th ed., Pearson Education, 2016.
5. P. K. Joy, "Application of Project Management Software in Construction Industry," International Journal of Engineering Research and Technology (IJERT), vol. 6, no. 5, pp. 45–50, 2017.

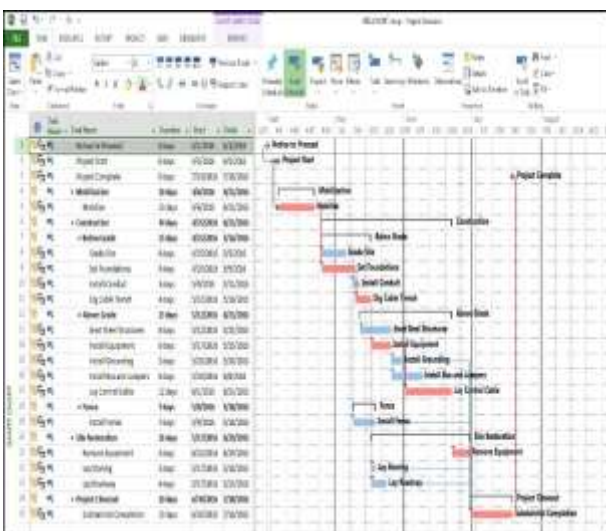


Fig -1: Gantt Chart