Planning, Scheduling and Costing of G+3 Residential Building Using Microsoft Project

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***Abstract* - This study helps us to know the work or project has set time and budget, and also if it not finished by that time, the mission's entire cost will go up. Project management need be applied and project management need be maintained to deals with delays without hurting budget and expense. Because planning is the cornerstone of process and one of most crucial job duties, it may offer a rough idea of how long and also how much can project cost. The primary goal of the learning goals is to utilise Microsoft Project to effectively plan, schedule, and update a range of activities.**

Keywords: **MSP, Planning & Scheduling, Allocation, Graphs, Management, Resource**

I. INTRODUCTION

Construction projects now have to contend with lengthening completion times. There are number of issues that could be the cause of this, but the fundamental issue is inadequate planning. Although there have been number of approaches and systems developed for effective and prevalent project management, the challenge of completing the project on the time is still a significant undertaking in the construction business. In order to improve productivity and obtain work of higher caliber and more desirable type, it is essential to have a superior understanding of project at hand. Every year, a significant amount of time, money, and resources are lost as result of improper planning, scheduling, and tracking. Therefore, accurate planning and scheduling are crucial in the construction to minimize and prevent delays.

Characteristics of Project Management Software
In relation to the picking project management software, There are several numerous things to consider. Not every among the projects are might use among the components offered by the project management software. Maintaining the Integrity of the Specifications
Following are the main project management software's primary features:

Co-operation: The project management software ought to encourage the group of coordinated efforts Scheduling: Making plans is one of the principle highlights of that ought to be given through the project management tool .

Trouble Monitoring: Numerous problems may arise over the course of a project are associated with an endeavour that requires ongoing supervision and supervision Project Portfolio Management: Task collection management is among key viewpoints when an organization has been involved in several projects.

Project management processes

A project is a venture that has a start and finish. It produces an original good, service, or outcome. Building anything of enduring significance is a nonrepetitive once-only endeavour that must be accomplished in the face of enormous uncertainty.

The process for managing projects. It includes.

Start: By legally authorizing the task and giving the task director the information required to get started, the initial steps formally launch a fresh endeavor or project stage.

Planning: Giving the project manager the information required to get started, the initial steps officially launch a fresh endeavor or project stage.

Carry Out: Executing procedures is done cutting-edge to fulfill tasks outlined in the project plan of action and achieve project goals.
keeping an eye on and managing the project: keeping an eye on and managing means comparing the project's performance to the task management plan and accepting changes that include suggested corrective and preventative measures in addition fault correction
Closing: The undertaking is finished in the closure.
a small number of least neglected steps

II .METHODOLOGY

This project is carried out in two phases.
The primary phase involves data collecting, including the company's Bill of Quantities (BOQ) and productivity chart. The volume of each project-related activity is provided by the BOQ. A productivity chart aids in determining the sum of people and period wanted for respectively task to be finished.

The second step is utilizing the MS-Project software to generate a project plan and timetable. BOQ and a productivity chart are used to allocate the appropriate amount of personnel for respectively task. The project's progress has been tracked by comparing the scheduled dates with the actual dates.
Abbreviations and Acronyms

PLANNING AND SCHEDULING

PLANNING: The most significant component of management is planning. Planning entails making predictions about the future. A knowledge-based procedure that calls for the claim of reasoning skills, such as the capability to conceive, predict, and make.

PROJECT SCHEDULING: A "timetable" for a building undertaking may mean different things to the creators, builders, vendors, vendors and homeowners included in the process. The timetable might refer to the time limit for each task's delivery. The schedule may refer to the priorities that the contractors publish and against which periodic development incentives could be waged.

Project details
1.CLIENT: NAME MR GIRIRAJ
2. AREA OF SITE: 30’ X 40’
3. BUILDUING TYPE: RESIDENTIAL
4.NUMBER OF FLOOR: GROUND FLOOR + 3 FLOORS.
5.FACING: WEST FACING
6.DETAILS: 2BHK IN GF, 1 ST AND 2 ND FLOOR WITH DUPLEX WHICH IS FOR 3BHK HOUSE

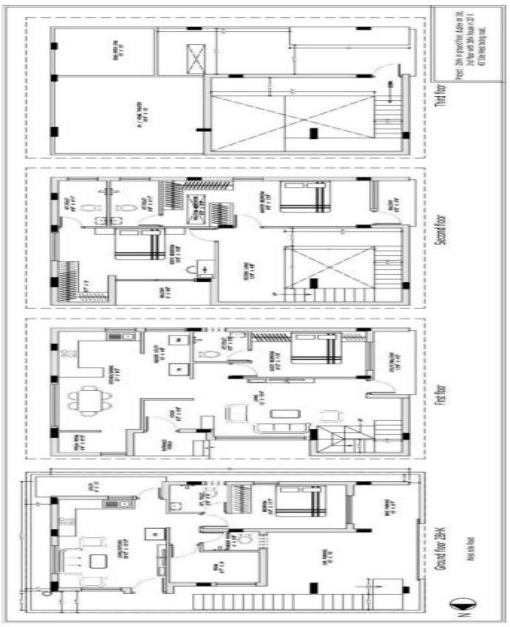


FIG 4.1-Plan of G+3 Residential Building

Figure.1 layout

Start a new project: The project mostly focuses on time. Frequently one may be aware of a project's anticipated start date, anticipated end date, or both. Still, while using Project, just one date—either the start date or the end date of the plan—should be specified

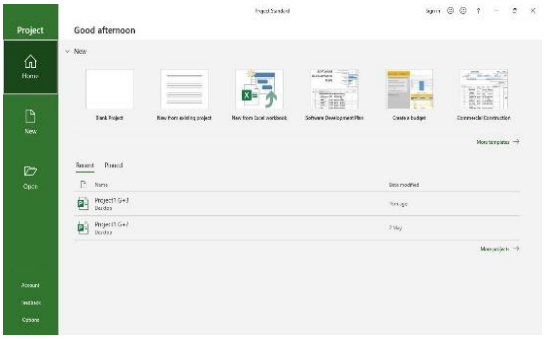


Fig4.2- Home Page of MS Project-2021.

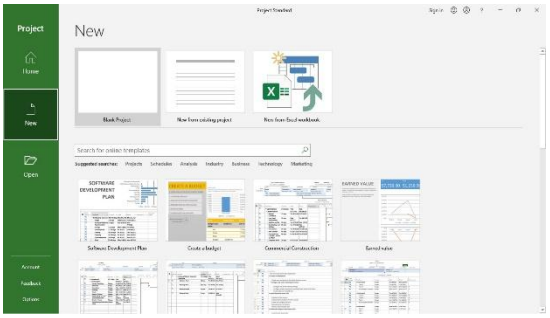


Fig4.3- Available templates of MS Project

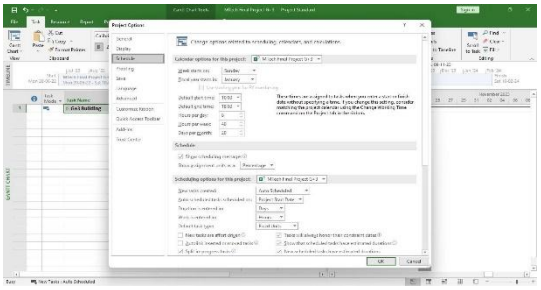


Fig4.5- Tab of Project Options.

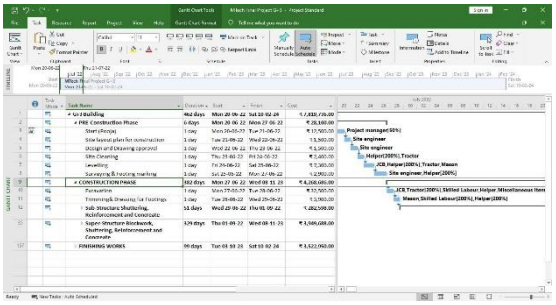


Fig5.2- Gantt chart

Fig 4.6- Standard Project-calendar

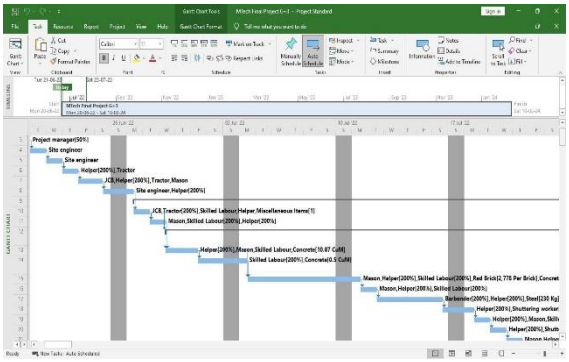


Fig 5.3-Time line-chart

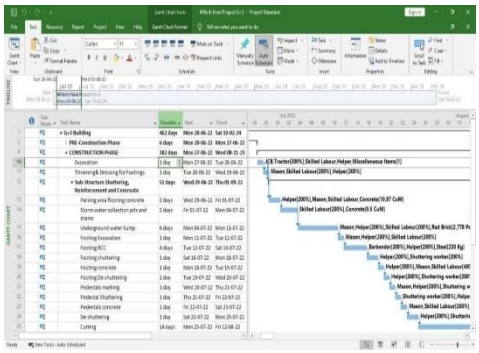


Fig4.7- Duration of the Task

5.1 Gannt Chat Reports

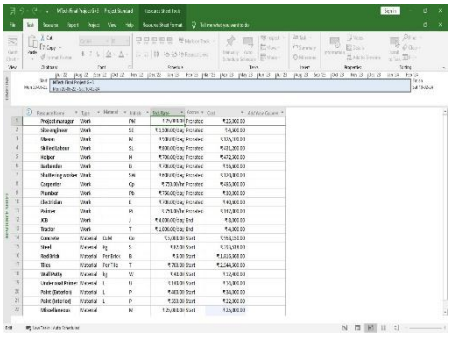


Fig4.9- Resource Sheet

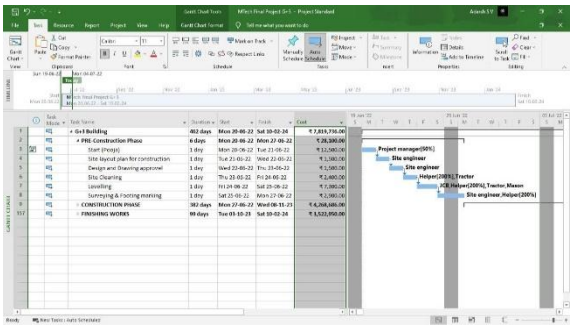
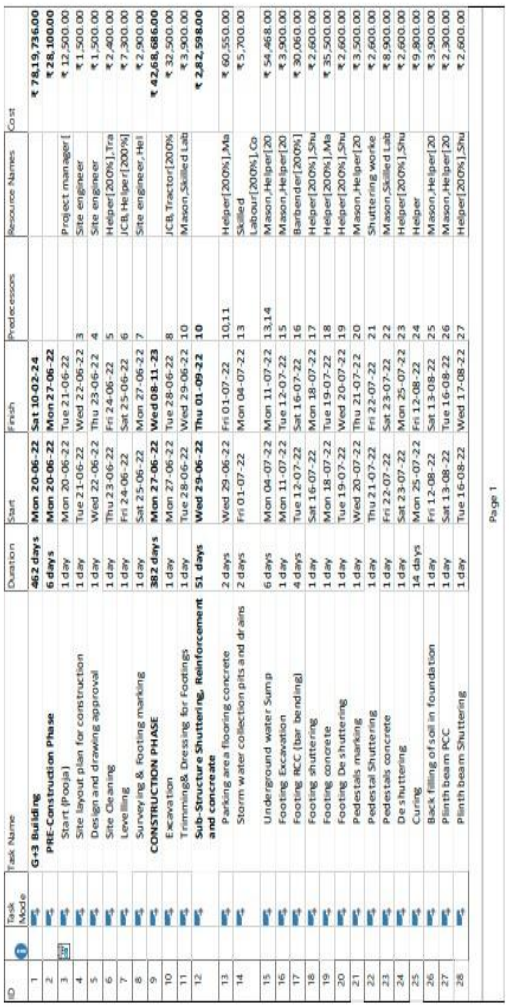
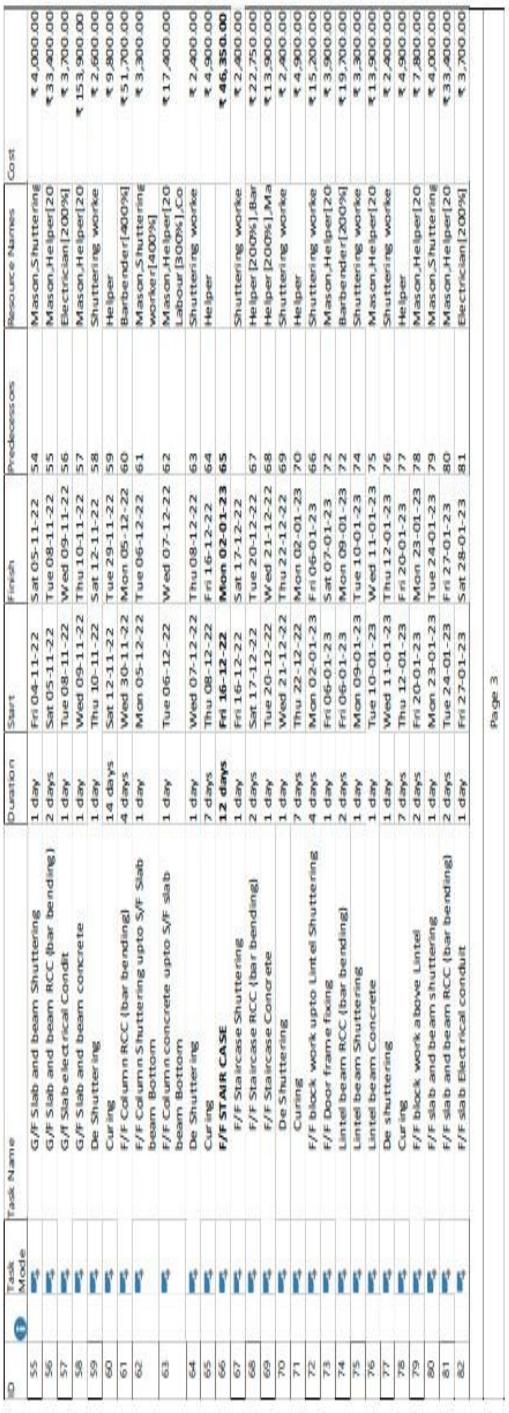


Fig 5.1- Cost columns in the Microsoft Project





ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost
55		G/F Slab and beam Shuttering	1 day	Fri 04-11-22	Sat 05-11-22	54	Mason,Shuttering	₹ 4,000.00
56		G/F Slab and beam RCC (bar bending)	2 days	Sat 05-11-22	Tue 08-11-22	55	Mason,Helper[20	₹ 33,400.00
57		G/F Slab electrical Condit	1 day	Tue 08-11-22	Wed 09-11-22	56	Electrician[200%]	₹ 3,700.00
58		G/F Slab and beam concrete	1 day	Wed 09-11-22	Thu 10-11-22	57	Mason,Helper[20	₹ 153,900.00
59		De Shutter ing	1 day	Thu 10-11-22	Sat 12-11-22	58	Shuttering worke	₹ 2,600.00
60		Cur ing	14 days	Sat 12-11-22	Tue 29-11-22	59	Helper	₹ 9,800.00
61		F/F Column RCC (bar bending)	4 days	Wed 30-11-22	Mon 05-12-22	60	Barbender[400%]	₹ 51,700.00
62		F/F Column Shuttering upto S/F Slab beam Bottom	1 day	Mon 05-12-22	Tue 06-12-22	61	Mason,Shuttering worker[400%]	₹ 3,300.00
63		F/F Column concrete upto S/F slab beam Bottom	1 day	Tue 06-12-22	Wed 07-12-22	62	Mason,Helper[20 Labour[300%],Co	₹ 17,400.00
64		De Shutter ing	1 day	Wed 07-12-22	Thu 08-12-22	63	Shuttering worke	₹ 2,400.00
65		Cur ing	7 days	Thu 08-12-22	Fri 16-12-22	64	Helper	₹ 4,900.00
66		F/F STAIR CASE	12 days	Fri 16-12-22	Mon 02-01-23	65		₹ 46,350.00
67		F/F Staircase Shuttering	1 day	Fri 16-12-22	Sat 17-12-22		Shuttering worke	₹ 2,400.00
68		F/F Staircase RCC (bar bending)	2 days	Sat 17-12-22	Tue 20-12-22	67	Helper [200%],Bar	₹ 22,750.00
69		F/F Staircase Concrete	1 day	Tue 20-12-22	Wed 21-12-22	68	Helper [200%],Ma	₹ 13,900.00
70		De Shuttering	1 day	Wed 21-12-22	Thu 22-12-22	69	Shuttering worke	₹ 2,400.00
71		Curing	7 days	Thu 22-12-22	Mon 02-01-23	70	Helper	₹ 4,900.00
72		F/F block work upto Lintel Shuttering	4 days	Mon 02-01-23	Fri 06-01-23	66	Shuttering worke	₹ 15,200.00
73		F/F Door frame fixing	1 day	Fri 06-01-23	Sat 07-01-23	72	Mason,Helper[20	₹ 3,900.00
74		Lintel beam RCC (bar bending)	2 days	Fri 06-01-23	Mon 09-01-23	72	Shuttering worke	₹ 19,700.00
75		Lintel beam Shuttering	1 day	Mon 09-01-23	Tue 10-01-23	74	Mason,Helper[20	₹ 3,300.00
76		Lintel beam Concrete	1 day	Tue 10-01-23	Wed 11-01-23	75	Shuttering worke	₹ 13,900.00
77		De shuttering	1 day	Wed 11-01-23	Thu 12-01-23	76	Helper	₹ 2,400.00
78		Curing	7 days	Thu 12-01-23	Fri 20-01-23	77	Mason,Helper[20	₹ 7,800.00
79		F/F block work above Lintel	2 days	Fri 20-01-23	Mon 23-01-23	78	Mason,Helper[20	₹ 4,000.00
80		F/F slab and beam shuttering	1 day	Mon 23-01-23	Tue 24-01-23	79	Mason,Shuttering	₹ 33,400.00
81		F/F slab and beam RCC (bar bending)	2 days	Tue 24-01-23	Fri 27-01-23	80	Mason,Helper[20	₹ 3,700.00
82		F/F slab Electrical conduit	1 day	Fri 27-01-23	Sat 28-01-23	81	Electrician[200%]	

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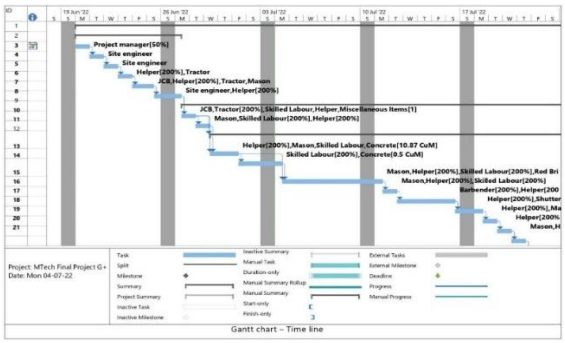
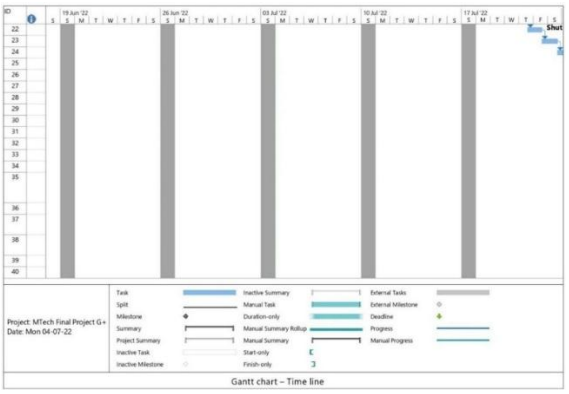
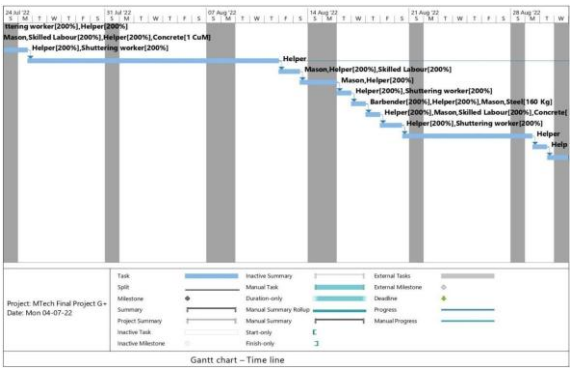
5.2 Time line report







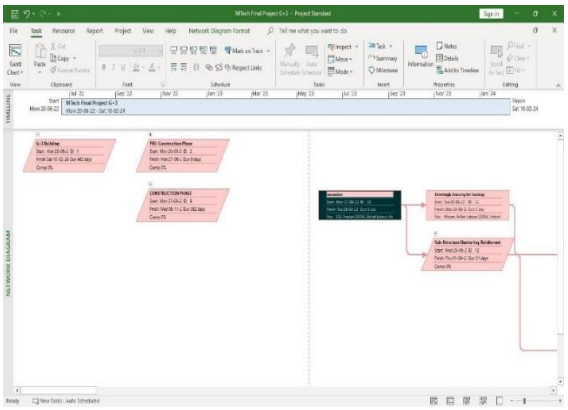


Fig5.4- Network Diagram

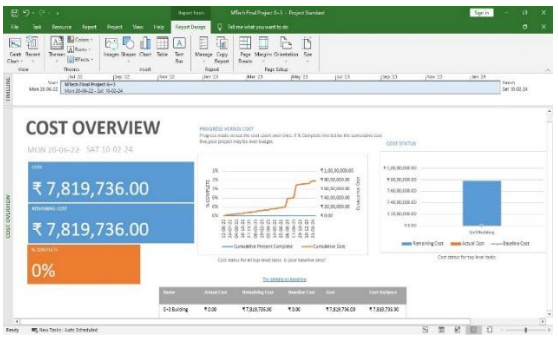


Fig5.7- Cost overview report

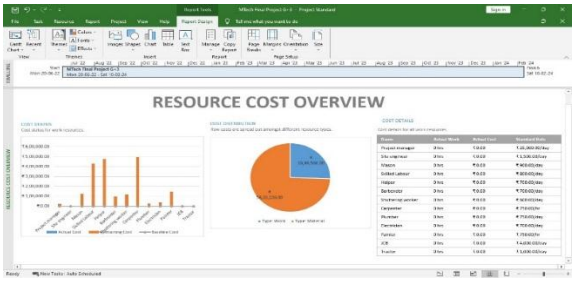


Fig5.8 - Resource cost overview report

CONCLUSION

The demand for construction missions is rising as result of India's quick expansion. In India, several projects are performing poorly. Cost time, and the reputation of businesses are all significantly impacted, which has led to a strong push for a better scheduling, and planning techniques.

In order to choose best scheduling strategies that might deliver short projects duration management schedulings procedures for development of the projects using MS Project softwarse, the findings listed below were reached.

- Project managers may handle entire project more efficiently using the project management tool Microsoft.
- Calendar sheets will help in setting weekly and also monthly goals for the contractors who are essential to the success of project.
- The network architecture and Gantt chart make it straightforward to understand the project's activity sequencing.
- Overall project length observed is 487 days with adequate activity sequence, planned interaction between the tasks, and assigned resources.
- Overall costs of G+3 residential building project after all the resource’s and material’s has been allocated are 78, 19,737 Rupees.
- To develop several kinds of project reports, we use the MS Project.

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