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# Predicting Project Performance and Techniques for Improving the Profitability in the Construction Industry in India

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**ABSTRACT:** Construction industry is world's largest and most challenging industry in India. Human resource has a strategic role in increasing productivity in construction industry. With the effective and optimum use of human resources can help in productivity growth. The construction projects are mostly labour based with basic use of hand tools and equipment's in which labour cost consists of about 30% to 50% of total project cost Indian construction industry is one of fastest growing sector globally. The construction sector gives second largest employment after agriculture. India shares about 8% of total GDP and also provides employment to around 35 million peoples directly or indirectly, in construction industry one of the biggest problems faced is of unskilled labour which implies in productivity loss and impacts on cost overrun and schedule daily. Labour productivity is one of important factor which affects physical progress of construction project.

**KEYWORD:** Construction Industry, Project Management, Construction Industry, and MS Project etc....

## 1. INTRODUCTION

The goal of this thesis is to create a holistic approach to evaluate project progress and predict its expected cost and time at completion during the execution of the works by incorporating a wide spectrum of project risks later author will find out the techniques for improving the profitability of construction industry in India.

### 1.1 Objective

1. To implement qualitative approach over conventional approach on different firms.
2. To apply standard project plan. (Planning-execution-control) PEC Approach.
3. To Improves quality of work and to save cost and maximize profitability.
4. To Ensures environmental friendliness and to enhance Brand value of the firm.
5. To quantify the impacts of the risks related to project performance in terms of cost and schedule.
6. To formulate a holistic assessment model.
7. To correlate the developed system to predict cost and time at project completion.

### 1.2 Scope of the Project Work

In this project weused a qualitative research method and applying PEC Approach means Qualitative Approach over Conventional Approach in different segments of construction activity mainly men, machinery and material in different situations and try to counter attack the problem or we can say improve the profitability of firms. This topic is mainly based on suburbs around Pune and belongs to small and medium construction projects in it

## II. METHODOLOGY



FIG -1: Methodology

In this project we use Resource Constrained Approach and MSP approach for project management and to reduce cost and increase business profitability in Indian Construction Industry for Small and medium firms this study is carried out as below phases.

### 2.1 Planning-Execution-Control Approach (PEC)-

Project Management in M S Project software is the planning, organizing, securing, and execution of the resources needed to complete a project on time and within budget. The main purpose of project management is to achieve all of the project goals while taking in to account the constraints of the project. Typical constraints associated with a project are time, scope, and budget. The secondary goal of project management is to streamline the project management process ensuring that resources are allocated correctly and all the processes are streamlined to make sure the project is completed on time and within the budget.

### 2.2 Cost Control-

Construction project management requires cost control. Your Controlling activities have helped you identify the tasks that have to be completed and assign corresponding work. Cost control starts with distributing the total cost to the tasks and establishing reporting procedures to track costs as your company incurs them. You can achieve close cost control with signature rules for purchase orders and payments. If you have to sign all purchase orders, you will know what costs the project is generating. If your signature is required for payments, you have control over booking costs to the project.

## III. DATA INTEGRATION AND DATA COLLECTION

Within the pursuit of efficient project performance, time manipulate is one of the most critical functions. It's far greater crucial in big scale and megaprojects; where various threat variables reason agenda delays. For this reason, there are various time management techniques and software programs used for venture planning and scheduling worldwide. Every of the strategies has special features and manner in presenting a list of dates on which sure items are to be



completed. Following sections give an explanation for all the associated strategies/techniques and to be had software program packages used for time management

**3.1 Time Management Techniques/Methods-**

Time control is one of the keys to effective mission control as weaknesses within the time manage will reason delays in undertaking of entirety. Consequently, time in creation initiatives need to be controlled from the beginning of the development technique until the venture is absolutely finished.

- Gantt Bar Chart
- Critical Path Networks/Method
- Milestone Date Programming Techniques

**IV. ANALYSIS RESULTS**

Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work

Fig.1 shows Resources Assignment.

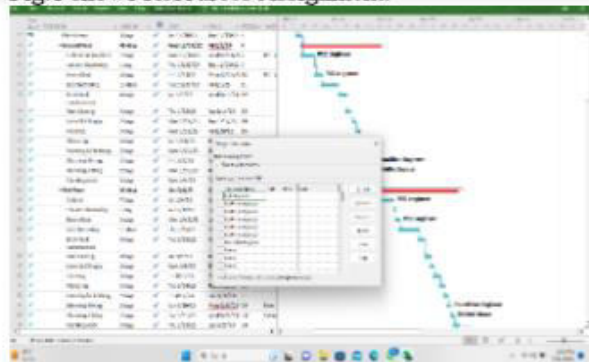


Fig. 2 shows Flow Chart in MSP

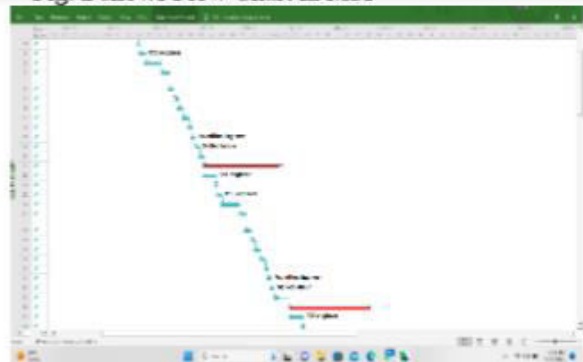


Fig. 3 shows Earned Value in MS Project



Fig. 4 shows Schedule Entry in MS Project

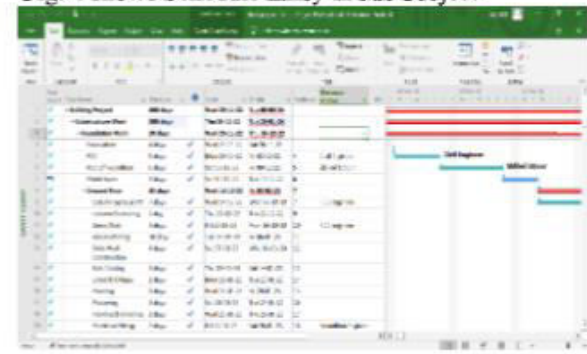
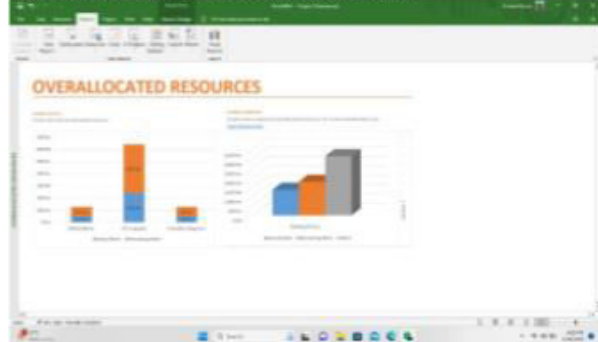


Fig. 5 shows Cost Overruns



Fig. 6 shows Overallocated Resources



## V. CONCLUSIONS

It is seen that some methods are more efficient in the context of increasing productivity. In this project we compare case study with qualitative (PEC APPROACH) and traditional approach for G+7 residential building located at Wagholi Pune. There is a need for exploring more efficient strategies for improving the productivity as well as profitability of the small and medium construction firms. It has been noted that increasing the profitability by such above methods have reduced cost and time but haven't create an effective baseline in the field of construction industry. It will also useful for small and medium construction firms in India.

## VI. ACKNOWLEDGEMENT

I am feeling very humble in expressing my gratitude. It will be unfair to bind the precious help and support which I got from many people in a few words. But words are the only media for expressing one's feelings and my feeling of gratitude is absolutely beyond these words. It would be my pride to take this opportunity to say thanks.

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