



Developing A Construction Management Template For A Residential Building

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Abstract: In recent trends a wide range of building materials is available for the construction of civil engineering structures. The total cost of materials may be up to 60% or more of the total cost incurred in construction project dependent upon the type of project. Effective construction materials management is a key to success for a construction project. Construction waste is another serious problem in construction industry. A large and various types of construction waste with different characteristics are created at all the stages of construction. Delays have been frequently reported as the cause of several conflicts that affect the different parties involved in construction projects. Project Time Management (PTM) includes a number of planning and controlling processes that are recommended for complying with requirements related to project time. The performance of the construction industry and its contribution to the welfare of society in comparison to other industries such as the manufacturing industry has lately been the focus of many commissioned reports and academic research publications. The so-called —iron triangle of time, cost, quality have been the most important metrics of construction project performance, especially for the selection of appropriate procurement methods. The perceived inefficiencies emanate from, among other things, increasing construction costs, conflicts and client dissatisfaction, the fragmented nature of the industry, low competition, cost overruns and delays, and lack of quality improvement. There is observed disparity in increase in housing construction costs and an apparent lack of quality improvement of infrastructure transport projects. Surveys and interviews were used as a means to collect data concerning both supplier, structure in relation to housing construction costs and quality of construction projects. Other empirical data from a secondary source were also used.

Keywords: CM, CPM, PTM, RFI.

I. INTRODUCTION

Construction Project Management (CPM) refers to the planning, coordinating, scheduling and building of a project from conception to completion. It is the role of a project manager to ensure all stages of the construction plan run to schedule from start to finish. They drive the project from initial planning through to final sign-off by the client. When it comes to getting it right the first time, it comes down to the project manager's superior planning and organisation skills. Construction projects are result-oriented. You need to focus on many things at a time. Just one mistake can cost a deadline with financial penalties for late milestone deliveries. And, the demands continue to grow. Using construction project management template software is a way to keep everything together with instant access from the Cloud. Data automatically updates and sends warnings if the schedule is in danger of slipping. You can access up-to-date data from any device. A construction management template is a new tool which helps the project manager to keep the record of work/activity going on at a site and to check whether the activity is running on time or late, also cost can be compared with the estimates or budget prepared beforehand.

II. OBJECTIVE

Objectives of a construction management template are:

- To develop a template helping builders and contractors.
- To maintain a daily progress report.
- To abreast the productivity and compare it with the standards which would help the client to distinguish between a delayed project and on time project.



- To procure materials on time whenever needed.
- To judge whether the project is on time or delayed.
- To compare the cost incurred for an activity with the estimate prepared.

III.NEED OF STUDY

In the past years, the urban areas have been expanding through various construction projects and building redevelopments. Majority of these projects, especially the small scale ones, are often undertaken by ignorant contractors and even builders. They might not possess the required qualifications as a civil engineer but have experience in these fields. Many at times the small scale projects get constructed without proper project planning and methodical implementations.

Such ignorance of the managing party of the construction project sometimes results in inefficient completion of the project itself. The problems due to ineffective planning of construction are :

1. Untimely competition of the project and therefore late service given to the clients by the construction head or contractor.
2. Improper material designs and faulty construction methods adopted causes many problems in the constructions processes. Wastage of both material and time is faced.
3. Without proper documentation of the activities in the constructions, the project will not be able to recognize the possible defects in the works and thereby will not be able to confront and solve the matter.
4. If financial aspect of the project is not planned and checked then later there could be possibility of occurrence of a huge margin in the actual value of the project with the financial budget of the management.
5. If clearance for the project, from the authorities, are not planned and taken by the project managing party then later they can face legal issues.

As the increasing trends of construction projects completing after the deadline in India it has now become necessary for as the budding civil engineers to look after the same and minimize the delays caused at any construction site for the same we are now working out a template which will help the contractors or builders to complete a project on time. In recent trends we have seen that the deck slabs of bridges or metro projects have fallen down during the initial stages of construction leading to a catastrophe to happen. To avert this problem and manage time ,cost and quality of the final product we need to study the scopes of construction management.

IV. TEMPLATES USED

Even though the construction industry is moving toward mobile collaborative construction management solutions, there is still room for the project manager to take advantage of construction templates to accomplish basic tasks. Excel has many templates specific to the construction industry that can be used for the most basic functions of project management. These construction templates can then be used in conjunction with a mobile and collaborative project management solution to provide the best results.

Construction timeline template

An Excel template is a great place for the project manager to begin to get his primary planning documented in an organized way. Excel has a template that allows the project manager to chronologically record all activities and durations to create a schedule. A scheduling template is important for the project manager because it gives the PM a starting point for planning and scheduling. From there, the PM can determine the earliest nish date of the project, and have a timeline in place to guide the project. The project manager can take the durations and chronology laid out in the template and enter it into a project management software that will check for any inaccuracies that may have been overlooked.

Estimation Template

Excel also has a template for estimation, which will help the project manager to create estimates for costs on the project. This estimation template will aid the project manager in preliminary budgeting and resource allocation. Having accurate estimates is key to having an accurate budget.

Budget

Once the project manager feels as though he has accurate estimations, he can establish the budget. Not only does the budgeting template allow you to set and adjust your project budgets, it also serves as a great benchmark to check your spending on a project at any given point.



Documentation tracker

Construction projects require a lot of back-and-forth communication and therefore a lot of documentation. For the subcontractor, documentation is money, and without the proper tools to keep your documents organized, the subcontractor will struggle to get fairly compensated. If the subcontractor does not have the capability to digitally send, receive, and track all documents and communication, then a documentation tracker will prove useful. This documentation tracker template allows the project manager to keep track of all documents sent and received. This will not only ensure that the subcontractor gets paid, but will also expedite all processes. There are also separate templates to log change orders and Request For Information (RFI's) in order to keep a record of back-and-forth communication.

Daily and weekly reports

Construction projects often require the workers to submit daily reports and the management team to conduct weekly inspections, which create the need for inspection reports. These reports are easy to lose in the mix of documents; however, both of these can be documented using Excel's reporting templates. By using the same template for all similar reports, reports will be easier to write and interpret.

RFI form template

The RFI is an integral part of construction communication and must be submitted in a concise and logical manner. If the project manager does not have a project management system that has the capability to send out RFI's, then he can take advantage of the RFI form template in Excel. This Excel template allows for a standardized and organized way of requesting information.

Payroll form

If the project manager does not use mobile timecards, then a payroll template will be useful for the PM to keep worker's wages organized and standardized. Accounting can then easily understand the payroll information and manually enter it in a uniformed way.

Time & Materials Invoice

Having a template for a time and materials invoice is useful to the project manager when unexpected situations arise that cause the subcontractor to have to expend extra time and materials. Good documentation of this is imperative for the subcontractor and the project manager to get paid.

Deadline templates

Timelines are one of the most important things in construction project management. With more than 100 things to manage over the course of a few days, it is hard to stay on top unless you record it straight away. Use a template to track timelines with a visual view for all who have access. It can become one source of truth for all stakeholders working on the job. This gives everyone ownership of timelines to encourage greater collaboration.

Punch list templates

Use punch list templates to help you assess whether all parts of the contract are met. Using a template can bring all that scattered information you may have on spreadsheets and in emails, together in one place. You can share this between the right people to get an accurate result.

Close-out checklist templates

Using a template for close-out checklists makes sure all obligations are met. These track:

- contract timelines and close outs
- warranties and guarantees
- certificates issued in accordance with legislated regulations
- results of required tests completed.

V. DATA COLLECTION METHOD

For collecting the data, observation was made which are as follows:

Working of labors

- Technique of construction and precautions used
- Progress in a particular time period(1 week)
- The other technique of collecting the data can be by taking interviews. Engineers, laborers, contractor, people residing in vicinity can be interviewed.
- Management of manpower and their assigned jobs.



- Legal issues (administrative approvals) faced by contractors.
- Materials involved and the ideas of designing them.
- Period to be allowed for working to avoid disturbances.

Diaries, logs, and daily field reports can be used to keep track of the daily activities at a job site. The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g.” Avoid the stilted expression “one of us (R. B. G.) thanks ...”. Instead, try “R. B. G. thanks...”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

VI. CONCLUSION

Construction projects by nature can be difficult to manage. They involve many stakeholders, hundreds of details and lots of documentation. If a detail is missed it could delay the project and end up costing the owner and contractor in time and money or even result in legal action. That is why staying organized throughout the process is essential to the success of the project. With the Template’s powerful collaboration features you can store all project information in one place for everyone to view, access, and make changes in real time. This template would help the contractors and builders to understand the principles of construction management. It will also help in reducing the time completion of the project along with the management of cost of materials and manpower. The losses will be less when proper procurement of materials is done. Through proper planning and documentation, contractors will be able to track the progress of the construction on daily basis.

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