

# CONSTRUCTION PLANNING AND MANAGEMENT OF RESIDENTIAL BUILDING

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## ABSTRACT:

The major objectives of a construction project management are still time, cost and quality but the management processes and procedures are different because of today's economy and technology. With that, the construction industry is keeping up with times by improving construction project services, to make everyone's life easier and improve the procurement systems in such a way that it suites; client's objective, construction constraints and the shortfall of old systems.

Most people have risen compliant about the new modern procurement systems. The most criticism of these being that, projects are failing even before the implementation of the current construction procurement systems, so, why waste resources by absorbing these kind of systems in projects which seem to be expensive and worsening the current situation of delays and cost overruns.

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## INTRODUCTION:

The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process. Construction projects have a specific set of objectives and constraints such as a required time frame for completion. While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments.

Generally, project management is distinguished from the general management of corporations by the mission-oriented nature of a project. A project organization will generally be terminated when the mission is accomplished. Project management is the art of directing and coordinating human and material resources throughout the life of a

project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participation satisfaction. By contrast, the general management of business and industrial corporations assumes a broader outlook with greater continuity of operations. Nevertheless, there are sufficient similarities as well as differences between the two so that modern management techniques developed for general management may be adapted for project management.

## PROJECT:

A project in business and science is typically defined as a collaborative enterprise, frequently involving research or design, that is carefully planned to achieve a particular aim. Projects can be further defined as temporary rather than permanent social system that are constituted by teams within or across organizations to accomplish particular tasks under time constraints.

## PROJECT MANAGEMENT:

In project management a project consists of a temporary endeavor undertaken to create a unique product, service or result. Another definition is a management environment that is created for the purpose of delivering one or more business products according to a specified business case.

Project objectives define target status at the end of the project, reaching of which is considered necessary for the achievement of planned benefits. They can be formulated as smart criteria Specific, Measurable (or at least evaluable) achievement, Achievable (recently Agreed-to or Acceptable are used regularly as well), Realistic (given the current state of organizational resources) and Time terminated (bounded). The evaluation (measurement) occurs at the project closure.

However a continuous guard on the project progress should be kept by monitoring and evaluating. It is also worth noting that SMART is best applied for incremental type innovation projects. For radical type projects it does not apply as well. Goals for such projects tend to be broad, qualitative, stretch/unrealistic and success driven.

## Project Triangle:

The project management triangle is used by managers to analyze or understand the difficulties that may arise due to implementing and executing a project. All projects irrespective of their size will have many constraints. Although there are many such project constraints, these should not be barriers for successful project execution and for the effective decision making.

There are three main interdependent constraints for every project; time, cost and scope. This is also known as Project Management Triangle. Let's try to understand each of the element of project triangle and then how to face challenges related to each.

### The Three Constraints: time, cost and

scope

## 1 - Time

A project's activities can either take shorter or longer amount of time to complete. Completion of tasks depends on a number of factors such as the number of people working on the project, experience, skills, etc.

Time is a crucial factor which is uncontrollable. On the other hand, failure to meet the deadlines in a project can create adverse effects. Most often, the main reason for organizations to fail in terms of time is due to lack of resources.

**2 - Cost:** It's imperative for both the project manager and the organization to have an estimated cost when undertaking a project. Budgets will ensure that project is developed or implemented below a certain cost. Sometimes, project managers have to allocate additional resources in order to meet the deadlines with a penalty of additional project costs.

## 3 - Scope

Scope looks at the outcome of the project undertaken. This consists of a list of deliverables, which need to be addressed by the project team.

A successful project manager will know to manage both the scope of the project and any change in scope which impacts time and cost.

## Project Lifecycle:

Project management is a one-time carefully planned and organized effort to achieve a specific goal. Project management includes: Developing a project plan, which includes defining project goals and objectives, specifying tasks or how goals will be achieved, what resources are need, and associating budgets and timelines for completion Implementing the project plan, carefully to make sure the plan is being managed according to plan. Project management usually follows major phases:

## 1. Project Initiation

Project Initiation is the opening point in the 5 steps Projelogic's Project development Cycle, (based on the PMBOK® methodology) and in simple terms: starting up the project. We initiate a project by defining its reason, business goals, and scope. The reason for initiating it, and the propose solution to be implemented. We will also put together a project team, define early milestones, and early budget proposal. With the above information we can move on and perform an end of Phase study in order to get a GO No GO decision.

## 2. Project Planning

Once we define the project and assemble the project team, we are ready to enter the in depth Project Planning phase. This involves creating the "PMP", Project Management Plan, in order to guide the team during the project development and after. We will define the Required Skills of development team.

Define Non-labor Resources, Risks plan, detailed action items and milestones.

### **3. Development**

### **4. Implementation**

With a comprehensible characterization of the project and the full and detailed PMP, we are now ready to enter the Execution phase of the project. This is the stage in which the requirements are actually built and programmed. After the QA process the product will be presented to the customer for acceptance and full implementation. If the customer has accepted the final product, the project is complete and ready for closure

### **5. Project Closure**

Project Closure involves releasing the final product to the customer, handing over project documentation, Manuals, level of project success and note.

**BAR CHART:** Bar consists of two coordinates axis one represent time elapsed and other activities performed.

#### **Activity Program:**

**PERT:** Project management technique that shows the time taken by each component of a project and the total time required for its completion.

**CPM:** This is a step-by-step technique for process planning that defines critical and non-critical tasks with the goal of preventing time-frame problems and process bottlenecks. The CPM is ideally suited to projects consisting of numerous activities that interact in a complex manner.

**PDM:** It is same as CPM only the difference in relationship.

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