CONSTRUCTION PLANNING, SCHEDULING, CONTROLLING & MANAGEMENT: DOCUMENTATION

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Abstract: This is an empirical study in construction projects and a very important framework for successful completion of any project. These are procedural steps in project management, where appropriate and standard documents are required to create a comprehensive project. Knowledge, skills, tools and techniques are applied to various project activities to meet the project requirements. Substantial amounts of time, money, resources are wasted each year in a construction industry due to improper planning and scheduling. With globalization the construction projects have become vast and complex. In order to develop a successful project, different project management techniques have been widely established in the areas such as planning and control.

Key Words: Project Learning, Quality of Documentation, Engineering & Construction Documentation and Project Management Methodologies etc.

1. INTRODUCTION:

The construction industry has problems such as lack of detail in documentation; confusing and conflicting general documentation, quality problems; general coordination problems; insufficient and erroneous information. Providing good planning, proper organization and flow of resources to a project cannot automatically achieve desired result. A warning mechanism throughout the project must be present which can alert the organization about its possible success and failures. The main objectives of this study are to plan, schedule, and track a project, study the results generated, it is possible to suggest which method is suitable for the selected project. Also to recommend measures to the organization for enhancing their project planning skills for similar projects in future.

Project Monitoring is the process of recording, collecting and reporting information regarding project performance that the project manager. It includes watching the progress of the project against time, performance, schedule and resources. During actual execution of the project and it identified the lagging areas which require timely attention and actions. It is very common to see project failing to achieve their missions within specified time and budget, the factors causing overrun as stated above inadequate project formulation, poor planning and lack of project management during execution, but the main cause of failure can be attributed to cost estimation failure and management failure. Large projects become more complex and the ability to exchange information on paper within organization on a timely basis gets difficult.

The task administration requires some procedures to follow that can be effectively executed in such circumstances, where organizations have limited and extraordinary new procedures. These endeavors would call for more and quicker choice making strategies than conceivable in an ordinary operation and settling on the right decisions will be discriminating to achievement of organization. Thus the accomplishment of venture administration has regularly been connected with the last conclusion of the task. About whether it has been demonstrated that extend administration and undertaking achievement are not so much related specifically. The management process and the selection of a contractor are important factors for investor to achieve this goal.

2. LITERATURE REVIEW:

The meaning of undertaking administration proposes a shorter term and more particular connection for achievement. For the fulfillment of the plan, the evident markers are incorporated, thereby fulfilling the undertaking timetable, satisfactory quality principles, and hence meeting the task objective. The various elements which cause's the venture administration to neglect to accomplish this task include the following:

1. Insufficient premise for venture;
2. Wrong individual as task chief;
3. Top administration unsupportive;

4. Deficiently characterized undertakings;
5. Absence of task administration systems;
6. Administration procedures miss-utilized;
7. Venture closedown not arranged;
8. Absence of responsibility to extend.

Project learning practice can be defined as a set of actions that the project teams use to create and share knowledge within project (intra-project) and across projects (inter-project). Intra-project learning focuses on tasks within a single project and supports the delivery of a successful project by identifying the problems and solving them during the project life cycle. On the other hand, inter-project learning refers to the transfer of knowledge and experience from one project to other projects within the same time frame or to different projects over a period of time. It involves the combining and sharing of lessons learned across projects to develop a new knowledge. Experience accumulation and knowledge creation and sharing have notable advantages to the projects or the organizations.

3. OBJECTIVES:

1. PLANNING

Construction planning is a fundamental and challenging activity in management and execution of construction projects. It includes the selection of technology, the definition of work task, the estimation of required durations and resources of individual task, and identify the interactions between different work tasks. A good construction plan is the base for developing the schedule and the budget for work. Developing the construction plan is a critical task in construction management, even if the plan is not written or else formally recorded. During planning a planner begins with a result (a design) and he must synthesize the steps required to yield this result. The necessary aspects of construction planning include the generation of required activities, analysis of the implications of these activities and the choice among various alternatives methods of performing these activities. A planner must imagine the final design and describe it in plans and specifications. In developing a construction plan the importance is given either cost or schedule. Some projects a primarily divided into expense categories with associated cost in these cases planning is cost oriented. In this category, a distinction is made between cost incurred directly in the performance of the activity and indirectly for the accomplishment of the project. For other projects where time is a critical or the planner ensures that proper predeceasing among activities is maintained and that efficient scheduling of the available resource prevails. In such cases a critical path scheduling procedure is followed. Finally most of the complex projects require considerations of both cost and schedule over time, so that planning; monitoring and record keeping must be considered in both dimensions. In these cases integration of budget and scheduling information is a major concern.

2. SCHEDULING

Scheduling is determination the timing of events in the project that is when and which task will be performed. It is a reflection of plan and also be defined as the detailed plan of the project work tasks with respect to time. A schedule is also a good communication tool between all the stakeholders of the project. Schedule gives an overall sense of expected progress of the project and without it, it is very difficult to explain someone unfamiliar with the project what is going on and what is expected to take place.

3. TRACKING

Tracking is the process of collecting, entering and analyzing of actual project performance values, such as work on tasks and actual durations. It is the second major phase of project management. The main thing to focus on project planning is developing and communicating the details of project plan before actual work starts. When work begins, the next phase of project management is tracking progress. Tracking means recording project details such as what work did by whom, when the work was done, and at what costs these details are called as actual. Properly tracking actual work and comparing it's against original plan is useful to identify the difference in actual and planned and it enables to adjust incomplete task of the plan.

4. RESEARCH METHODOLOGY:

Research methodology is designed in three stages:

A. Pre data collection
B. Data collection
C. Post data collection

A. Pre data collection: This stage consists of literature review, setting of objectives and problem statement and based on that selection of research area has been done. For the research purpose, residential building is taken as a case study.

B. Data collection: Frequent site visits were carried out to identify the construction sequence. Of the residential building and also practical time durations for executing activities were worked out. The data required for conducting analysis is collected.

C. Post data collection: The data collected will be analyzed, tracked of the project will be done and all the reports and results generated will be studied and interactions with the organization will be done regarding selection of the planning procedure and to be used in their future projects.

5. DATA COLLECTION:

The data collection has been done in three parts:

A. Daily progress reports (DPR)
B. Work output of labour
C. Activities with their planned duration

A. Daily progress reports: The DPR consist of detailed description of the work done, labour and resources required for the work and record of the inventory. All the DPR from the starting day of project till now have been collected.

B. Work Output of labour: Work output is the amount of work done by one person (Labour) in 1 day. It is used to calculate durations required for activity based on the available manpower on site.

C. Activities with their planned duration: Total activities for construction of the residential project with their planned duration (based on work output and man power available on site) are entered in primavera for further working.

6. PROJECT MANAGEMENT METHODOLOGIES:

Different methods are imposed upon programming improvement with the point of making programming improvement more unsurprising and more useful. Consider a strategy which basically contains ten essential components that are: extend values, methods, groups, instruments, exercises measures, deliverables, quality measures, abilities, parts.

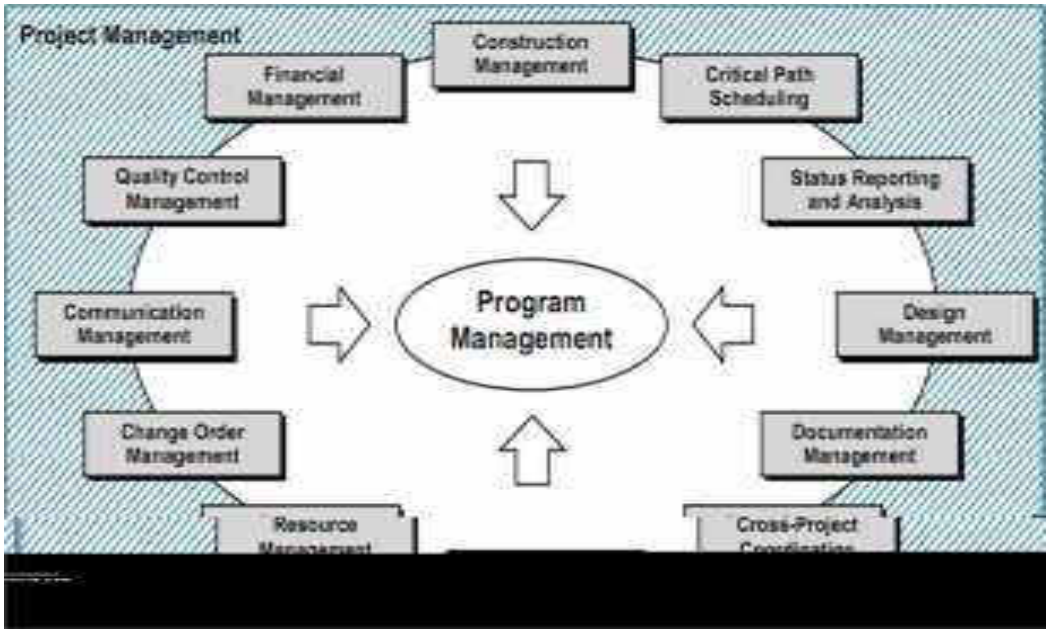

Fig. Project Management Methodologies

A particular technique is required depending on the task size (number of individuals being composed), the criticality of the frameworks being made and the needs of the task. For any point in the size/criticality space, an extent of concerns to address is chosen (which extend parts, exercises, deliverables, furthermore benchmarks to cover) and streamlining criteria are chosen. Approaches accordingly contrast by the size, criticality, scope and advanced quality. A bigger procedure (with more control components) is required when more individuals are included. Correspondence load raises as the quantity of individuals included increments. Since procedure is a matter of facilitating the individuals and dealing with the correspondence, its size must likewise climb, as the number of parts and deliverables sorts increment.

7. COST MANAGEMENT:

Cost management could be defined (include, consist of) as process of planning, interpretation, detailing, directing, agreement, cost control and evaluation of the construction during its preparation and constructing phases. This process is going on from throughout the building planning, projection and design, construction phases of a project until the final account is paid and permission for use of the building is granted.

The main factors a¦ecting the overall cost of a construction and the most important activities in cost management are:

1. Cost plan for planning which presents price during the planning phase. The quantity surveyor uses this estimated cost to guarantee the financing of a construction.
2. Cost estimation for building objects, operating packages and the final estimated price based on construction documentation (drawings, specifications and bill of quantities). In this phase tender documentation is completed for selecting the contractor and agreeing on the price of a construction.
3. Thorough control of finished works and their cost for invoice purposes submitted by the contractor.
4. Calculation of the final account, final technical and economical assessment of public services.

8. CONCLUSION:

This paper has highlighted the cover that passageways between tasks and venture administration and the perplexity that can emerge from the normal utilization of these terms. It has additionally endeavored to highlight how the goals of an undertaking and venture administration are distinctive and how the stress of venture administration is towards accomplishing particular and transient targets contrasted with the more extensive points of an undertaking. The conclusion is that to make the venture administration group completely in charge of achievement would give off an impression of being improper and that the customer ought to take an expanded enthusiasm toward the improvement and utilization of the undertaking. Hence, for a task to be effective there must, in the first place, be an enhanced valuation for the part of task administration inside ventures, and this part must be set inside the connection of a more extensive extend close by other outside criteria what's more long haul desires.

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