ABSTRACT

This Paper explains the concept of various stages of Project management. A project is requiring the commitment of various skills and resources—a one-shot, time-limited, goal-directed, major undertaking. As we have a “piece of data” that we want to somehow “scramble” so nobody can learn what this data is, and we want to send this data over unsecure lines to the recipient. Upon receipt of this scrambled data, the recipient must be able to “unscramble” this data to its original shape. In this paper, we will discuss about project management as well as the procedure and various steps of project management and their process groups.

Keywords

Initiation, Planning, Monitoring, controlling.

1. INTRODUCTION

Project management is the discipline of planning, organizing and managing all the different resources and aspects of the project in such a way that the resources will deliver all the output that is required to complete the project within the defined scope, time, and cost constraints. These are agreed upon in the project initiation stage and by the time the project begins all stakeholders and team members will have a clear understanding and acceptance of the process, methodology, and expected outcomes. It is sometimes conjoined with program management, that is actually a higher level construction: a group of related and somehow interdependent engineering projects. A project is generally initiated by a perceived need, problem or opportunity in an organization. The primary challenge of project management is to achieve all of the project goal and objectives while honoring the preconceived project constraints. Typical constraints are scope, time, and budget. The secondary and more ambitious challenge is to optimize the allocation and integration of inputs necessary to meet predefined objectives. Project management life cycle contains five steps: Initiation, Planning, Execution, Monitoring/Controlling, and Closing.

2. PROJECT MANAGEMENT LIFE CYCLE

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.

The project development stages are:

1. Initiation
2. Planning or development
3. Production or execution
4. Monitoring and controlling
5. Closing

Fig 1: Project development stages

2.1 Initiation

The initiation processes determine the nature and scope of the project. If this stage is not performed well, it is unlikely that the project will be successful in meeting the business’ needs. The key project controls needed here are an understanding of the business environment and making sure that all necessary controls are incorporated into the project. Any deficiencies should be reported and a recommendation should be made to fix them.

Fig 2: Initiating Process Group Processes

The initiation stage should include a plan that encompasses the following areas:

1. Analyzing the business needs/requirements in measurable goals
2. Reviewing of the current operations
3. Financial analysis of the costs and benefits including a budget
4. Stakeholder analysis, including users, and support personnel for the project
5. Project charter including costs, tasks, deliverables, and schedule

2.2 Planning and design

After the initiation stage, the project is planned to an appropriate level of detail. The main purpose is to plan time, cost and resources adequately to estimate the work needed and to effectively manage risk during project execution. As with the Initiation process group, a failure to adequately plan greatly reduces the project’s chances of successfully accomplishing its goals.

Fig 3: Planning Process

Project planning generally consists of the following steps:
1. Determining how to plan (level of detail or rolling wave)
2. Developing the scope statement
3. Selecting the planning team
4. Identifying deliverables and creating the work breakdown structure
5. Identifying the activities needed to complete those deliverables and networking the activities in their logical sequence
6. Estimating the resource requirements for the activities
7. Estimating time and cost for activities
8. Developing the schedule
9. Developing the budget
10. Risk planning
11. Gaining formal approval to begin work

2.3 Executing

Executing consists of the processes used to complete the work defined in the project management plan to accomplish the project’s requirements. Execution process involves coordinating people and resources, as well as integrating and performing the activities of the project in accordance with the project management plan. The deliverables are produced as outputs from the processes performed as defined in the project management plan

Fig 4: Executing Process

Once a project moves into the execution phase, the project team and all necessary resources to carry out the project should be in place and ready to perform project activities. The project plan is completed and base lined by this time as well. The project team and the project manager’s focus now shifts from planning the project efforts to participating, observing, and analyzing the work being done.

The execution phase is when the work activities of the project plan are executed, resulting in the completion of the project deliverables and achievement of the project objective(s). This phase brings together all of the project management disciplines, resulting in a product or service that will meet the project deliverable requirements and the customers need. During this phase, elements completed in the planning phase are implemented, time is expended, and money is spent.

In short, it means coordinating and managing the project resources while executing the project plan, performing the planned project activities, and ensuring they are completed efficiently.

2.4 Monitoring and controlling

Monitoring and controlling consists of those processes performed to observe project execution so that potential problems can be identified in a timely manner and corrective action can be taken, when necessary, to control the execution of the project. The key benefit is that project performance is observed and measured regularly to identify variances from the project management plan.

Fig 5: Monitoring and Controlling Process

Project control function that involves comparing actual performance with planned performance and taking corrective action to get the desired outcome when there are significant differences. By monitoring and measuring progress regularly, identifying Monitoring and controlling includes:
1. Measuring the ongoing project activities (‘where we are’).
2. Monitoring the project variables (cost, effort, scope, etc.) against the project management plan and the project performance baseline (where we should be).
3. Identifying corrective actions to address issues and risks properly (How can we get on track again).
4. Influencing the factors that could circumvent integrated change control so only approved changes are implemented.

In multi-phase projects, the monitoring and control process also provides feedback between project phases, in order to implement corrective or preventive actions to bring the project into compliance with the project management plan.

Project Maintenance is an ongoing process, and it includes:
1. Continuing support of end users
2. Correction of errors
3. Updates of the software over time

2.4.1 Monitoring and Controlling cycle.
Over the course of any construction project, the work scope may change. Change is a normal and expected part of the construction process. Changes can be the result of necessary design modifications, differing site conditions, material availability, contractor-requested changes, value engineering and impacts from third parties, to name a few. Beyond executing the change in the field, the change normally needs to be documented to show what was actually constructed. This is referred to as Change Management. Hence, the owner usually requires a final record to show all changes or, more specifically, any change that modifies the tangible portions of the finished work. The record is made on the contract documents – usually, but not necessarily limited to, the design drawings. The end product of this effort is what the industry terms as-built drawings, or more simply, “as built.” The requirement for providing them is a norm in construction contracts. When changes are introduced to the project, the viability of the project has to be reassessed. It is important not to lose sight of the initial goals and targets of the projects. When the changes accumulate, the forecasted result may not justify the original proposed investment in the project.

2.5 Closing

Closing includes the formal acceptance of the project and the ending thereof. Administrative activities include the archiving of the files and documenting lessons learned.

Fig 6: Closing Process

Project closeout is performed after all defined project objectives have been met and the customer has formally accepted the project’s deliverables and end product or, in some instances, when a project has been cancelled or terminated early. Although, project closeout is a routine process, it is an important one. By properly completing the project closeout, organizations can benefit from lessons learned and information compiled. The project closeout phase is comprised of contract closeout and administrative closure.

This phase consists of:

Project close: Finalize all activities across all of the process groups to formally close the project or a project phase

Contract closure: Complete and settle each contract (including the resolution of any open items) and close each contract applicable to the project or project phase

3. PRONS AND CONS OF PROJECT MANAGEMENT

3.1 Prongs

1. Project Management is a great stepping stone to promotion.
2. Project Managers are better paid than their technical discipline colleagues.
3. Completing a project gives one a strong sense of achievement.
4. Work associated with Project Management has considerable variety – no 2 days are the same.
5. As a Project Manager you are normally given significant freedom of choice.
6. Project Management provides an opportunity to make significant changes to the organisation and/or environment.
7. A Project Managers role cuts across several technical disciplines.

3.2 Cons

1. As a Project Manager, you will need to be tolerant to the politics around the management.
2. Project and the people who participate in it. Your sole focus is to move the project forward.
3. Project Managers need to deal with significant ambiguity and uncertainty.
4. There is always someone threatening to halt the project. By definition, project are transformational and not all people like change.
5. Project Managers are given a lot of responsibility but little authority.

4. REFERENCES
