Project Management

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The Project Management Life Cycle

- The project management is a cross life-cycle activity that is project management activities overlap all the system development phases.
- The project management activities always match with the classic management functions like scoping, planning, estimating, scheduling, organizing, directing, controlling and closing.
- The project management process combines the joint project planning (JPP) technique. Joint project planning is a strategy in which all stakeholders attend an intensive workshop aimed at reaching agreement on project decisions.

The Project Management Life Cycle

- Negotiate Scope
- Identify Tasks
- Estimate Task Durations
- Specify Intertask Dependencies
- Assign Resources
- Direct the team effort
- Monitor and control progress
- Assess project results and experiences

Negotiate Scope

- Scope defines the expectations of a project, and expectations ultimately determine satisfaction and degree of success. Accordingly, the negotiation of project scope is a necessary activity in the project management life cycle.
- Scope defines the boundaries of a project, the parts of the business that are to be studied, analyzed, designed, constructed, implemented, and ultimately improved.
- Scope also defines the aspects of a system that are considered outside the project. The answers to five basic questions influence the negotiation of project scope
  - Product. What do you want?
  - Quality: how good do you want it to be?
  - Time: When, do you want it?
  - Cost: how much are you willing to pay for it?
  - Resources- What resources are you willing or able to bring to the table?

Identify Tasks

- Tasks identify the work be done .Typically, this work is defined in top-down, outline manner. System development routes and phases are too large and complex for planning and scheduling a project.
- We need to break them down into activities and tasks until each task represents n manageable amount of work that can be planned, scheduled, assigned.
- Popular tool used to identify end document activities and tasks in a Work Breakdown Structure .
- A Work Breakdown Structure(WBS) is a hierarchical, decomposition of the project onto phases , activities and tasks.

Estimate Task Durations

- Most system development methodologies not only define tasks but also provide baseline estimates for task duration.
- The project manager must adjust these baselines into reasonable estimates for each unique project. In estimating task duration, it is important to understand the concept of elapsed time. Elapsed time takes into consideration two important factors with respect to people:
- **Efficiency**: No worker performs at 100 percent efficiency. Most people take coffee breaks, lunch breaks, restroom breaks, and time to read their e-mail, check their calendars, participate in non-project work and even engage in idle conversations.
- **Interruptions**: People experience phone calls, visitors, and other unplanned interruptions that increase the time required for project work. There are many techniques for estimating task duration.
- Some of them are:
- **Optimistic Duration (OD):** Estimated minimum amount of time needed to complete a task.
- **Pessimistic Duration (PD):** Estimated maximum amount of time needed to complete a task.
- **Expected Duration (ED):** Estimated amount of time requires to complete a task

Specify Intertask Dependencies

- The project schedule depends not only on task durations but also on Intertask dependencies. In other words, the start or completion of individual tasks may depend on the start or completion of other tasks.
- There are four types of Intertask dependencies:
  - ❖ **Finish to Start (FS):** The finish of one task triggers the start of another task.
  - ❖ **Start to Start (SS):** The start of one task triggers the start of another task
  - ❖ **Finish to Finish (FF):** Two tasks must finish at the same time.
  - ❖ **Start to Finish (SF):** The start of one task signifies the finish of another task Intertask dependencies can be established and depicted in both Gantt than and PERT chart.

There are two approaches to schedule Intertask

- ❖ **Forward Scheduling**: A project scheduling approach that establishes a project start date and then schedules forward form that date.
- ❖ **Reverse Scheduling:** A project scheduling strategy that established a project deadlines and then schedules backward from that date.

Assign Resources

Resources include the following categories:

- **People**: Includes all the system owners, users, analysts, designers, builders, external agents, and clerical help that will be involved in the project in anyway.
- **Services**: Includes services such as a quality review that may be charged on a per-use basis.
- **Facilities and Equipment**: Includes all rooms and technology that will be needed to complete the projects
- **Supplies and Materials**: Includes everything from pencils, paper and notebooks to toner cartridges and so on.
- **Money**: Includes a translation of all of the above into budgeted dollars.

Direct the team effort

- There are several dimensions to direct the team effort. We can perform following tasks:
  - Be Consistent
  - Provide Support
  - Don't Make Promises You Can't Keep
  - Praise In Public, Criticize In Private
  - Be Aware Of Morale Danger Points
  - Set Realistic Deadlines
  - Set Perceivable Targets
  - Explain And Show, Rather Than Do
  - Don't Rely Just One Status Reports
  - Encourage A Good Team Spirit

Monitor and control progress

- While executing the project, the project manager must control the project that Is monitor its progress against the scope, schedule, and budget. The manager must report progress and when necessary adjust scope, schedule, and resources.

The project manager should focus on following tasks:

- **Progress Reporting**: Progress reporting should be frequent enough to establish accountability and control, but not so frequent as to become a burden and impediment to real project progress.
- **Change Management**: Change management system results in a collection of procedures for documenting a change request and defines the steps necessary to consider the change based on the expected impact of the change.
- **Expectations Management Matrix**: An expectations management matrix is a rule-driven tool for helping management understands the dynamics and impact of changing project parameters such as cost, schedule, scope and quality.
- **Schedule Adjustments - Critical Path Analysis**: When it comes to the project schedule, some tasks are more sensitive to schedule delays than others. For this reason, project managers must become aware of the critical path and slack times for a project.

Assess project results and experiences

- Project managers must learn from their mistakes. They should embrace continuous process improvement. This final activity involves soliciting feedback from project team members (including customers) concerning their project experiences and suggestions aimed at improving the project and process management of the organization.
- Project reviews should be conducted to answer the following fundamental questions:
  - Did the final product meet or exceed user expectations?
  - Did the project come in on schedule?
  - Did the project come in under budget?
- The answer to these questions should be followed up with the basic question "why or why not?"