Project Phases and the Project life Cycle

Project Management Key Knowledge Areas:
1. Scope Management
2. Time Management
3. Cost Management
4. Quality Management
5. Human Resources Management
6. Communications Management
7. Risk Management
8. Procurement Management

Project phases

The Planning phase
The primary objectives of the planning phase are:
- define the problem
- Confirm project feasibility
- Produce the project schedule
- Staff the project
- Launch the project

The Analysis Phase
- Gather information
- Define system requirements
- build prototypes for discovery of requirements
- Prioritise requirements
- Generate and evaluate alternatives
- Review recommendations with management

The Design Phase

The objective of the design phase is to design the Solution system
- design and integrate the network
- design the application architecture
- design the user interface
- Design the system interfaces
- Design and integrate the database
- Prototype for design details
- Design and integrate the system controls

The implementation Phase

During the implementation phase, the final system is built, tested and installed
- Construct software components
- Verify and test
- Develop prototypes for tuning
- Convert data
- Train and document
- Install the system

**The Support Phase**

*Activities fall into two categories*

- Providing support to end users
  - Helpdesk
  - Training Programs
- Maintaining and enhancing the computer system
  - Program error corrections (bug fixes)
  - Comprehensive enhancements and upgrades

**Baseline Costing**

A cost baseline is a time-phased budget that project managers use to measure and monitor cost performance.

Since many projects do not progress as exactly planned, new or revised cost estimates are often required.

The original project plan plus approved changes

**Milestone**

*A milestone is a significant event on a project with a zero duration.*
- Are represented on Gantt Charts
- Most often indicate when a deliverable is required
- If the Milestone is not met it is termed a slipped milestone

**What is Cost and Project Cost Management?**

- Cost is a resource sacrificed to achieve a specific objective or something given up in exchange
- Costs are usually measured in monetary units like dollars
- Project cost management includes the processes required to ensure that the project is completed within an approved budget

**Project Cost Management Processes**

- Resources planning: determining what resources and quantities of them should be used
- Cost estimating: developing an estimate of the costs and resources needed to complete a project
- Cost budgeting: allocating the overall cost estimate to individual work items to establish a baseline for measuring performance
- Cost control: controlling changes to the project budget

Basic Principles of Cost Management

- Most CEOs and boards know a lot more about finance than IT. IT project managers must speak their language
  - Profits are revenues minus expenses
  - Life cycle costing is estimating the cost of a project over its entire lifetime
  - Cash flow analysis is determining the estimated annual costs and benefits for a project
  - Benefits and costs can be tangible or intangible, direct or indirect
  - Sunk cost should not be a criteria in project selection

Resource Planning

- The nature of the project and the organization will affect resource planning
- Some questions to consider
  - How difficult will it be to do specific tasks on the project
  - Is there anything unique in this project’s scope statement that will affect resources?
  - What is the organization’s history in doing similar tasks?
  - Does the organization have or can they acquire the people, equipment, and materials that are capable and available for performing the work?

Cost Estimating

- An important output of project cost management is a cost estimate
- There are several types of cost estimates and tools and techniques to help create them
- It is important to develop a cost management plan that describes how cost variances will be managed on the project

Cost estimation tools and techniques

- 4 basic tools and techniques for cost estimates
  - Analogous or top-down: use the actual cost of a previous, similar project as the basis for the new estimate
  - Bottom-up: estimate individual work items and sum them to get a total estimate
  - Computerized tools: use spreadsheets, project management software, or other software to help estimate costs

Typical Problems with IT Costs Estimates

- Developing an estimate for a large software project is a complex task requiring a significant amount of effort. Remember that estimates are done at various stages of the project
- Many people doing estimates have little experience doing them. Try to provide training and mentoring
- People have a bias toward underestimation. Review estimates and ask important questions to make sure estimates are not biased
- Management want a number for a bid, not real estimate. Project managers must negotiate with project sponsors to create realistic cost estimates

**Cost Budgeting**
- Cost budget involves allocating the project cost estimate to individual work items and providing a cost baseline

**Cost Control**
- Project cost control includes
  - Monitoring cost performance
  - Ensuring that only appropriate project changes are included in a revised cost baseline
  - Informing project stakeholders of authorized changes to the project that will affect costs

**Using Software to Assist in Cost Management**
- Spreadsheets are a common tool for resource planning, cost estimating, cost budgeting, and control
- Many companies use more sophisticated and centralized financial applications software for cost information
- Project management software has many cost related features