Managing a Successful Computing Project

Lecture 2: Project Scope Management

What is Project Scope Management?

- **Scope** refers to *all* the work involved in creating the products of the project and the processes used to create them
- A **deliverable** is a product produced as part of a project, such as hardware or software, planning documents, or meeting minutes
- *Project scope management* includes the processes involved in defining and controlling what is or is not included in a project

- **Scope planning**: deciding how the scope will be defined, verified, and controlled

- **Scope definition**: reviewing the project charter and preliminary scope statement and adding more information as requirements are developed and change requests are approved

- **Creating the WBS**: subdividing the major project deliverables into smaller, more manageable components

- **Scope verification**: formalizing acceptance of the project scope by key project stakeholders

- **Scope control**: controlling changes to project scope which impact project cost and time goals

Planning
Process: **Scope planning**
Output: Project scope management plan
Process: **Scope definition**
Output: Project scope statement, requested changes to the project, updates to
   the project scope management plan
Process: **Create WBS**
Output: WBS, WBS dictionary, scope baseline, requested changes to the project,
   updates to the project scope statement and project scope management plan

Monitoring and Controlling
Process: **Scope verification**
Outputs: Accepted deliverables, requested changes, recommended
   corrective actions
Process: **Scope control**
Outputs: Requested changes, recommended corrective actions,
   updates to the project scope statement, WBS and WBS dictionary,
   scope baseline, project management plan, and organizational
   process assets

Project Start   **Project Finish**

- The **scope management plan** is a document that includes descriptions of how the team will prepare the project scope statement, create the WBS, verify completion of the project deliverables, and control requests for changes to the project scope

- Key inputs include the project charter, preliminary scope statement, and project management plan

- It should be reviewed with the project sponsor to make sure the approach meets expectations

- The project team develops a preliminary scope statement in initiating a project as part of the project integration management knowledge area

- The preliminary scope statement, project charter, organizational process assets, and approved change requests provide a basis for creating the more specific **project scope statement**

Scope Definition and the Project Scope Statement

- Project scope statements should contain at a minimum:
  - Description of the project – overall objectives, justification
  - Detailed descriptions of all project deliverables
  - Characteristics and requirements of products and services produced as part of the project
- Other helpful information:
  - Project success criteria
  - Project boundaries
  - Product acceptance criteria
  - Schedule milestones
  - Order of magnitude costs estimates…

Project Charter:

Upgrades may affect servers...

Preliminary Scope Statement:

Servers: If additional servers are required to support this project, they must be compatible with existing servers. If it is more economical to enhance existing servers, a detailed description of enhancements must be submitted to the CIO for approval. See current server specifications provided in Attachment 6. The CEO must approve a detailed plan describing the servers and their location at least two weeks before installation.

Project Scope Statement, Version 1:

Servers: This project will require purchasing 10 new servers to support Web, network, database, application, and printing functions. Two of each type of server will be purchased and dedicated to this project. Detailed descriptions of the servers are provided in a product brochure in Appendix 8 along with a plan describing where they will be located.

Scope Verification

- It is very difficult to create a good scope statement and WBS for a project
- It is even more difficult to verify project scope and minimize scope changes
- **Scope verification** involves formal acceptance of the completed project scope by the stakeholders
- Acceptance is often achieved by a customer inspection and then sign-off on key deliverables

- **Scope control** involves controlling changes to the project scope
- Goals of scope control are to:
  - Influence the factors that cause scope changes
  - Assure changes are processed according to procedures developed as part of integrated change control
  - Manage changes when they occur
- Tools for performing scope control include a change control system and configuration management
- **Variance** is the difference between planned and actual performance

Best Practices for Avoiding Scope Problems

1. Keep the scope realistic: Don't make projects so large that they can't be completed; break large projects down into a series of smaller ones

2. Involve users in project scope management: Assign key users to the project team and give them ownership of requirements definition and scope verification

3. Use off-the-shelf hardware and software whenever possible: Many IT people enjoy using the latest and greatest technology, but business needs, not technology trends, must take priority

4. Follow good project management processes: As described in this chapter and others, there are well-defined processes for managing project scope and others aspects of projects

- Develop a good project selection process and insist that sponsors are from the user organization

- Have users on the project team in important roles

- Have regular meetings with <u>defined agendas</u>, and have users sign off on key deliverables presented at meetings

- Deliver something to users and sponsors on a regular basis

- Don't promise to deliver when you know you can't

- Co-locate users with developers

Suggestions for Reducing Incomplete and Changing Requirements

- Develop and follow a requirements management process
- Use techniques such as prototyping, use case modeling, and JAD to get more user involvement
- Put all requirements in writing, keep them current and readily available
- Create a requirements management database for documenting and controlling

Suggestions for Reducing Incomplete and Changing Requirements

- Provide adequate testing and conduct testing throughout the project life cycle
- Review changes from a systems perspective
  - Project scope changes must include associated cost and schedule changes
  - Focus on approved scope goals and don't get side tracked
- Emphasize completion dates to help focus on what's most important
  - What should we drop in order to add something new?
- Allocate resources specifically for handling change requests/enhancements like NWA did with ResNet

Using Software to Assist in Project Scope Management

- Word-processing software helps create several scope-related documents
- Spreadsheets help to perform financial calculations and weighed scoring models, and develop charts and graphs
- Communication software like e-mail and the Web help clarify and communicate scope information
- Project management software helps in creating a WBS, the basis for tasks on a Gantt chart
- Specialized software is available to assist in project scope management