PM-3 Presentation

Project lifecycle

- Some typical project phases
  - Starting the project
  - Organizing and preparing
  - Execution
  - Closing the project
- Phases determined based on related activities which produce one or more deliverables
- Project phases are mostly sequential, but can overlap
- Risk magnitude decreases as time increases
- Cost of change increases as time increases
- Projects are most vulnerable near the end of their lifecycles
- Most risks occur near the beginning of their lifecycle

Types of project lifecycles

- Predictive
- Iterative
- Incremental
- Agile

Predictive lifecycle

- Scope, time, and cost determined in early stages
- Used in well-defined projects (residential construction)
- Fixed project requirements
- Phases are mostly sequential
- Project carried out in single pass
- Main goals are to manage cost and time

Iterative lifecycles

- Iteration in some project phases to enhance understanding
- Mostly used in high-tech and R&D projects
- Project requirements can change
- Some stages are repeated until everything is correct
- Main goal is the correctness
- Stakeholders might provide feedback on the prototypes

Incremental lifecycles

- Project speed is the main goal
- A portion of the overall solution is delivered first
- Smaller deliverables are delivered subsequently
- Project requirements can change
- Common in software industry

Agile lifecycles

- Common in modern software industry
- Uses aspects of iterative and incremental approaches
- Quick iteration and feedback loops for better understanding of requirements and faster delivery

Project management processes

- Initiating
- Planning
    - Iterative w/ executing
- Executing
    - Iterative w/ planning
- Monitoring and controlling
- Closing

Initiating process group

- Define a project (or a new phase of a project)
- Assign project manager
- Develop and approve “Project charter”
- Align the stakeholders’ expectations with the project
- Create a shared understanding of the project among involved parties
- Sometimes initiating processes re-performed at higher levels than the project
- Part-time (common in functional)

Planning process group

- Determine the scope of the project
- Define objectives
- Develop course of action required to achieve objectives
- Develop project management plan
- Require comprehensive information gathering
- Iterative process to progressive elaboration
- Discover and plan for risks

Monitoring and controlling process group

- Monitor performance against baseline performance indicators
- Monitor changes
- Active and passive control
    - Identify influencing factors
- Take corrective or preventive changes

Closing process group

- Processes to complete a project, phase, or contractual obligations
- Premature closure of the project
- Important tasks include
    - Obtain completion certificates
    - Document lesson learned
    - Archive documents as historical data
    - Team assessments

PM-4-1 Presentation

Project integration management – aims to identify, define, combine, unify, and coordinate various project management processes

- Develop project charter
- Develop project management plan
- Direct and manage project work
- Monitor and control project work
- Perform integrated change control
- Close project or phase
- Develop a document that authorizes the existence of a project
- Authority of the project manager

Project charter

- Initiated by an entity external to the project
- Better to involve project manager (as soon as identified)
- Validates alignment of the project to the strategy of the organization
- Project charter is not a contract

Inputs to project charter

- Project statement of work (SOW)
- Business case
- Agreement
- Enterprise environmental factors
- Organizational process assets

Tools and techniques

- Expert judgement
- Facilitation techniques

Contents of project charter

- Purpose or justification
- Description and scope
- Project manager
- Measurable project objectives and related success criteria
- High-level requirements and resources
- High-level risks
- Assumptions and constraints
- Major milestones
- Summary budget
- Stakeholders
- Project sponsor(s) and other people who authorize the project charter

Project management plan

- Develop a document describing how the project is executed, monitored, and controlled

- Includes project baselines
    - Scope baseline
    - Schedule baseline
    - Cost baseline
- Also included subsidiary plans
    - Scope management plan
    - Schedule management plan
    - Cost management plan
    - Risk management plan
    - Quality management plan

Inputs to project management plan

- Project charter
- Output from other processes
- Enterprise environmental factors
- Organizational process assets

Tools and techniques

- Expert judgment
- Facilitation techniques

PM-4-2 Presentation

Project scope management – the process required to ensure that the project includes all the work required, and only the work required, to complete a project successfully

Includes these typical steps:
- Plan
- Collect requirements
- Define scope
- Create WBS
- Validate scope
- Control scope

WBS – work breakdown structure
- organizes and defines the total scope of the project
- Subdivides the major project deliverables and project work into smaller, more manageable components
- Should focus on physical deliverables in addition to other deliverables
    - Other deliverables such as permits, design, orders, tests, etc.
- Lowest-level WBS components, which are called work packages (some call it activity, some others task), can be scheduled, cost estimated, monitored, and controlled

Some more details regarding WBS
- Identifying the deliverables and related work
- Structuring and organizing the WBS
- Decomposing the upper WBS into lower level detailed components
- Developing and assignment identification codes to the WBS components
- Verifying that the degree of decomposition of the work is necessary and sufficient

Types of WBS
- Based on the product or outcome elements
- Based on the trades and skills involves
- Based on geographical location (if applicable)
- Combined approach (location and elements)

Work packages
- Some mega projects can have thousands of work packages
- Lowest level WBS component

Rules of thumb
- Each work package should be finished in a reporting period
- Should use engineering judgement and common sense
- 80 or 40 hour rules
- Don’t break it apart (too much)