IT PROJECT MANAGEMENT

BY: PRISCILLA HOPE, PMP

Project Integration Management

- Change Control Processes
  - All of the control processes used to manage other knowledge areas such as:
    - Scope change control
    - Schedule change control
    - Cost change control
    - Risk change control.
- The Kübler-Ross model
  - Known as the five stages of grief
    - Denial
    - Anger
    - Bargaining
    - Depression
    - Acceptance

Project Integration Management

- Corrective Actions
  - any action taken to bring expected future project performance in line with the project management plan
  - requires constant focus, measurement, and tracking of actual performance to performance baselines to identify deviations
    - Project Manager should
      - Evaluate the impact
      - Create options
      - Get internal buy-in
      - Get customer buy-in (if required)

One reason people resist change is they focus on what they are giving up, rather than what they have to gain   - Anonymous

"People resist change only when they are not an active part of it."   – Anonymous

"If project content is allowed to change freely the rate of change will exceed the rate of progress."   – Anonymous

Project Integration Management

- Change Control Board (CCB)

  - A formally chartered group responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project, and for recording and communicating such changes.

  - Committee made up of project sponsors or other stakeholder making decisions on project change requests.

  - Decisions are final and binding

Project Scope Management

- Scope
  - defines project limits and identifies the products and/or services delivered by the project.
  - establishes the boundaries of the project and should describe products and/or services that are outside of the project scope.
- Scope Management
  - Includes the processes required to ensure that project includes all the work required, and only the work required, to complete the project successfully.
- Processes include:
  - Planning Scope Management
    - Creating a scope management plan documenting how the project and product scope will be defined, validated and controlled
  - Collect Requirements
    - Process of determining, documenting and managing stakeholder needs and requirements to meet project objectives.
  - Define Scope
    - The process of developing a detailed description of the project and product.
  - Create WBS
    - The process od subdividing project deliverables and project work into smaller, more manageable components.
  - Validate Scope
    - The process of formalizing acceptance of the completed project deliverables.
  - Control Scope
    - The process of monitoring the status of the project and product scope and managing changes to the scope baseline.

Project Scope Management

- Product Scope
  - The features and functions that characterize a product, service or result.
- Project Scope
  - The work performed to deliver a product, service or result with the specified features and functions.
  - Sometimes viewed as including product scope.
- Project Scope and Life Cycle
  - Predictive Life Cycle
    - Deliverables are defined at project initiation
    - Changes to deliverables are progressively managed.
    - The Collect Requirements, Define Scope and Create WBS processes are performed at the beginning and updated as necessary, using the integrated change process.
  - Adaptive or agile Life Cycle
    - Deliverables are developed over multiple iterations where scope is defined and approved.
    - Require ongoing engagement with stakeholders
    - Product Backlog
      - When the scope is decomposed into a set of requirements and work to be performed.
    - The Collect Requirements, Define Scope and Create WBS processes are repeated for eah iteration.

Project Scope Management

▶ Project Scope and Life Cycle

   ▶ Predictive

      ▶ The Validate scope process occurs with each deliverable or phase review

      ▶ Control scope is an ongoing process.

      ▶ The Scope baseline is the approved version of the project scope statement, WBS an associated Dictionary.

         ▶ Can be changed only through formal change control procedures.

         ▶ Basis for comparison while performing Validate scope and Control Scope processes etc.

   ▶ Adaptive / Agile

      ▶ Sponsor and customer representatives should be continuously engaged to provide feedback on deliverables per iteration.

         ▶ This ensures the product backlog reflects stakeholder needs

         ▶ The Validate scope and Control scope are repeated for each iteration.

      ▶ Uses backlogs including product requirements and user stories to reflect stakeholders current needs.

▶ Completion of project scope is measured against the project management plan whiles completion of the product scope is measured against the product scope.

Project Scope Management

- Requirement
  - A condition or capability that is required to be present in a product, service or result to satisfy an agreement or other formally imposed specification.
  - Are elicited, documented and managed
  - Includes the quantified and documented needs, wants and expectations of the sponsor, customer and other stakeholders.
  - The foundation of the WBS
  - Cost, schedule, quality planning and procurement are all based on requirements.
  - Requirements Management Process begins with needs assessment which may commence in:
    - Portfolio planning
    - Program planning
    - Discrete Project
- Trends and emerging practices
  - Determine problems and identify business needs
  - Identify and recommend viable solutions for meeting those needs
  - Elicit, document and manage stakeholder requirements in order to meet business and project objectives
  - Facilitate the successful implementation of the product, service or end result of the project.
  - Ends with requirements closure which transitions the product, service or result to the recipient.
    - In order to measure, monitor, realize and sustain benefits over time.
- The Business Analyst leads the process of requirements management.

Project Scope Management

- The relationship between a project,manager and a business analyst should be a collaborative partnership.

- Tailoring Considerations

  - Knowledge and requirements management

    - Organizations formal or informal knowledge and requirements management System

    - Guidelines on reuse of requirements in the future

  - Validation and control

    - Does the organization have existing formal or informal validation and control-related policies, procedures and guidelines.

  - Development approach

    - Consider the life cycle approach adopted by the organization (iterative, incremental, predictive or hybrid)

  - Stability of requirements

    - Do unstable requirements necessitate the use of lean, agile, or adaptive techniques?

  - Governance

    - Does the organization have formal or informal audit and governance policies, procedures and guidelines.

Project Scope Management

- Plan Scope Management
  - The process of creating a scope management plan to document how the project and product scope will be defined, validated and controlled.
  - Provides guidance and direction on how scope will be managed in the project.
  - Performed once or at predefined points in the project.
  - Tools and Techniques
    - Expert judgment
    - Data Analysis
      - Alternatives analysis
    - Meetings
  - Documents produced:
    - Scope Management Plan
      - Describes how the scope will be defined, developed, monitored, controlled and validated.
      - May include process for
        - Preparing a project scope statement
        - Enabling the creation of the WBS
        - Establishing how the scope baseline will be approved and maintained
        - Specifying how formal acceptance of the completed project deliverables will be obtained.

Project Scope Management

- Documents produced
  - Requirements Management Plan.
    - Describes how project and product requirements will be analysed, documented and managed.
    - Referred to by some as Business Analysis Plan
    - Components may include:
      - How requirements activities will be planned, tracked and reported
      - Configuration management activities
        - How changes will be initiated
        - How impacts will be analysed
        - How they will be traced, tracked and reported
        - Authorization levels required to approve changes
      - Requirements prioritization process
      - Metrics that will be used and the rationale for using them
      - Traceability structure that reflects attributes

Project Scope Management

- Collect Requirements
  - The process for determining, documenting and managing stakeholder needs and requirements to meet objectives.
  - Provides the basis for defining the product scope and project scope.
  - Performed once or at predefined points.
  - Tools and techniques
    - Expert judgment
    - Data Gathering
      - Brainstorming
      - Interviews
      - Focus groups
      - Questionnaires and surveys
      - Benchmarking
    - Data Analysis
      - Document Analysis
    - Decision making
      - Voting
      - Autocratic decision making
      - Multicriteria decision analysis

Project Scope Management

- Tools and Techniques
  - Data Representation
    - Affinity Diagrams
    - Mind Mapping
  - Interpersonal and team skills
    - Nominal group technique
    - Observation / Conversation facilitation
  - Context Diagram
  - Prototypes
- Documents produced
  - Requirements documentation
  - Requirements traceability matrix

Project Scope Management

- Requirements Documentation
  - Describes how individual requirements meet the business need of the project.
  - May start out at a high level and become progressively more detailed as more information is released in the course of the project.
  - Requirements need to be
    - unambiguous – measurable and testable
    - Traceable
    - Complete
    - Consistent
    - Acceptable to key stakeholders
  - Format ranges
    - From a simple document listing all the requirements categorized by stakeholder and priority
    - To more elaborate forms containing an executive summary, detailed descriptions and attachments.
  - Requirements Classification
    - Business Requirements
    - Stakeholder Requirements
    - Solution Requirements
      - Functional Requirements
      - Non-functional Requirements
    - Transition and readiness Requirements
    - Project Requirements
    - Quality Requirements

Project Scope Management

- Requirements Traceability Matrix
  - A grid linking product requirements from their origin to the deliverables that satisfy them.
  - Helps ensure that each requirement adds business value by linking it to the business and project objectives.
  - Helps track requirements throughout the project life cycle
  - Provides a structure for managing changes to the product scope.
  - delivered at the conclusion of the product developement life cycle
  - Tracing requirements include:
    - Business needs, opportunities, goals, and objectives
    - Project objectives
    - Project scope and WBS deliverables
    - Product design
    - Product development
    - Test strategy and test scenarios
    - High-level requirements to more detailed requirements.

Project Scope Management

- Requirements Traceability Matrix
    - Attributes for each requirement (optional)
        - A unique identifier
        - A textual description of the requirement
        - The rationale for inclusion
        - Owner
        - Source
        - Priority
        - Version
        - User stories
        - Design Documents
        - Wireframes
        - Technical specifications
        - Test cases

Project Scope Management

- **Requirements Traceability Matrix**
  - Attributes for each requirement (optional)
    - Current status
      - Active
      - Cancelled
      - Deferred
      - Added
      - Approved
      - Assigned
      - Completed
      - Stability
      - Complexity
      - Acceptance criteria

Project Scope Management

- Requirements Traceability Matrix
  - Benefits
    - Attend to defects with high priority
    - Improved test case management
    - Versioning in requirements management
    - Seamless tracing of requirement progress
    - Ensure adequate documentation on requirements

Project name: Online shopping system   **Starting date:** 1st Jan, 2012   **Completion date:** 31st August, 2012   **Traceability matrix number #:**1
Project description: The client wants to develop a shopping system, by which they can sell their products

Req. id	Rel. id	Functional requirements					Teams	Status	Design document	Non-functional requirements
		Main requirements	Sub requirements	Category	Description	Relationship				
1	1	Overall project	- Service - Payment	Required	There will be service and payment modules in the online system	Composition	C, RE, A (Australia) Dv (India, China)	Started (work in progress)	Use cases (1-19)	Performance, security, usability, support, availability, localizability
2	1.1	Project - Service	Purchase Order tracking Seller information	Required	Following services are required: purchase; order tracking; and seller information	Composition	Team in India	Started (work in progress)	Use case 2	Performance, security, usability, availability, localizability
3	1.1.1	Service - Purchase	Browse catalogue Select product Make payment Place order	Required	To make a purchase, the following steps are necessary: browse catalogue; select product; make payment; and place order	Composition			Use case 3	Performance, security, availability, usability
4	1.1.1.1	Purchase - Browse catalogue	Browse catalogue	Expected	To view product information	Association			Use case 4	Performance, availability
5	1.1.1.2	- Select product - Make payment	Select product	Expected	To choose required product	Association			Use case 5	Performance, availability
6	1.1.1.3	- Place order	Make payment	Expected	To pay required amount	Association, intersection			Use case 6	Performance, availability, security
7	1.1.1.4		Place order	Expected	To finalize and place order	Association			Use case 7	Performance, availability
14	1.2	Project - Payment	Payment mechanism Authentication mechanism	Required	Enable customers to make their payments	Composition	Team in China	Started (work in progress)	Use case 14	Performance, security, usability, availability, localizability
15	1.2.1	Payment -Payment mechanism	Payment via credit card	Required	Customers can pay by credit card	Association			Use case 15	Performance, security, availability, usability
19	1.2.2	Payment -Authentication mechanism	Verify card details	Required	Validation criteria associated with payment method	Association, intersection			Use case 19	Performance, security, availability