Collect Requirement

Collect requirements is a process where stakeholders' expectations are identified and documented. These requirements become the base of WBS, cost, schedule and quality planning. Success of the project depends upon how stakeholders participate in the process. Requirements include conditions or capabilities to be met by product/service/result of the project.

Sometimes the requirements are classified as product requirements and project requirements. Product requirements include technical, quality and performance requirements while project requirements include business case, delivery requirements, project management requirements etc.

Requirements are mainly classified as

- Business, Stakeholder, Solution, Transition, Project and Quality Requirements,

Inputs

- Scope Management Plan:
  - Scope Management Plan adds clarity regarding requirements collection
- Requirements Management Plan:
- Stakeholder Management Plan:
  - Details the processes to be used in requirements collection
- Project Charter
  - High level requirements are documented in a Project Charter. High level product description is also a part of charter.
- Stakeholder Register
  - Stakeholder Register is used to identify the stakeholders who will provide information in detail about project requirements and product requirements

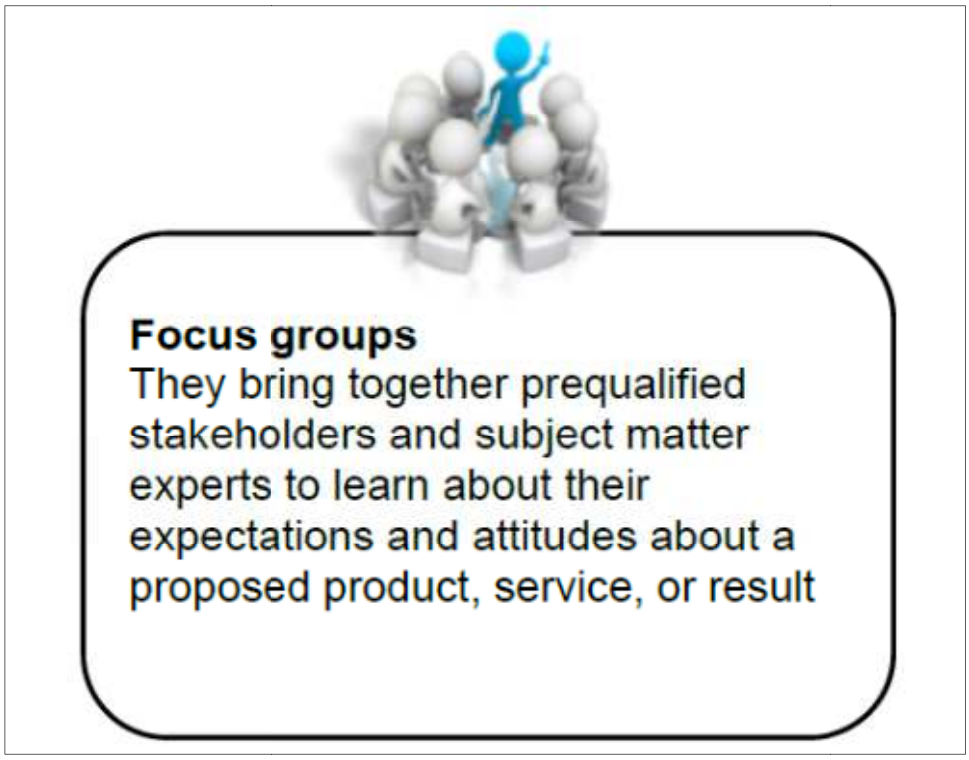
Tools and Techniques

- Interviews:
  - An informal technique for discovering information from stakeholders.
- Focus Groups
  - Prequalified stakeholders and subject matter experts are brought together so that requirement collection is facilitated. A trained moderator moderates the group
- Facilitated Workshops
  - These workshops are combined sessions of cross functional stakeholders. The cross functional stakeholders together develop the product requirements. These workshops are considered Primary technique for quickly defining the cross functional requirements and reconciling the stakeholders differences. These are very effective in building mutual trust.
  - Examples
    - Joint Application Development (JAD) sessions mainly used in SW
    - Quality Functional Deployment or QFD helps determine critical characteristics.
- Group Creativity Techniques
  - Brainstorming
  - Nominal Group (Brainstorming with Voting)
  - Delphi
  - Idea / Mind Mapping

    - Affinity Diagrams: Are used when there is large number of sets of data available or many ideas are to be sorted into groups. These are also called Kawakita Jiro or KJ method
    - Multicriteria Decision Analysis: is a sub-discipline of operations research that explicitly considers multiple criteria in decision-making environments. Cost or price is usually one of the main criteria. Some measure of quality is typically another criterion that is in conflict with the cost
- Group Decision Making Techniques
    - Unanimity
    - Majority
    - Plurality
    - Dictatorship
- Questionnaires and Surveys
- Observations: also known as job shadowing, are normally performed by outsiders who observe business experts performing their jobs.
- Prototypes
    - is an early sample or model built to test a concept or process or to act as a thing to be replicated or learned from. It is a term used in a variety of context. This is a method of allowing an early feedback. They support progressive elaboration. Proof-of-Concepts or Functional Prototype are examples of prototype.
- Benchmarking: Comparing actual or planned processes to comparable best practices.
- Context Diagrams: Context diagrams are used early in a project to get agreement on the scope under investigation. Context diagrams are typically included in a requirements document. These diagrams must be read by all project stakeholders and thus should be written in plain language, so the stakeholders can understand items within the document.

Interviews

An interview is a formal or informal approach to elicit information from stakeholders by talking to them directly. It is typically performed by asking prepared and spontaneous questions and recording the responses.

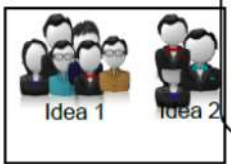


Group Decision Making Techniques

These techniques are used to generate, classify and prioritize requirements

Unanimity
Everyone agrees on single idea

Plurality
No idea gets more than 50% vote, so decision is taken by largest block



Majority
When an idea gets more than 50% support

Dictatorship
One individual making decision

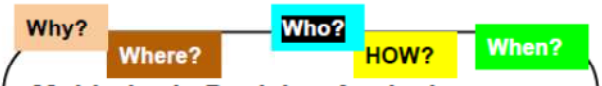
Group Creativity Techniques

Ideas / Mind Mapping:
Consolidation of ideas generated from brainstorming

Nominal Group Voting:
Enhances Brainstorming by voting and ranking generated ideas

Brainstorming:
Technique used to collect multiple ideas related to project requirements

Affinity Diagrams:
Takes large amounts of disorganized data. The data is organized into groups according to ideas for review and analysis.
This tool is also known as KJ diagram,after Jiro Kawakita who created this tool



Multicriteria Decision Analysis:
A technique that utilizes a decision matrix to provide a systematic analytical approach for establishing criteria, such as risk levels, uncertainty, and valuation, to evaluate
and rank many ideas

Outputs

- Requirements Documentations:
  - They include
    - Business Requirements
    - Stakeholder Requirements
    - Solution Requirements
    - Project Requirements
    - Assumptions, dependencies and constraints
- Requirements Traceability Matrix :
  - Requirements Traceability Matrix is a table that has links to the requirements and keeps a track of them throughout the project. Implementation of the Requirements Traceability Matrix helps to ensure that every requirement is captured and is tracked. It is a tool to crosscheck that all the approved requirements are met.
  - A Requirements Traceability Matrix may track following requirements.
    - Business goals and impacts
    - Project objectives
    - WBS / Project deliverable
    - Test Product design / development
    - / test scenarios
    - High level requirements to detailed requirements.
  - The Requirements Traceability Matrix may have
    - Identifier
    - Description
    - Rationale for approval
    - Owner / source
    - Priority
    - Current status

Requirements Traceability Matrix								
Project Name:								
Cost Center:								
Project Description:								
ID	Associate ID	Requirements Description	Business Needs, Opportunities, Goals, Objectives	Project Objectives	WBS Deliverables	Product Design	Product Development	Test Cases
001	1.0							
	1.1							
	1.2							
	1.2.1							
002	2.0							
	2.1							
	2.1.1							
003	3.0							
	3.1							
	3.2							
004	4.0							
005	5.0							

Figure 5-6. Example of a Requirements Traceability Matrix

Adapted from Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc, page 119, Figure 5.

PMP® Certification Pointers

Collect Requirements

Success of your project depends on this process to a large extent and success of this process depends largely on how stakeholders participate in this process. After you collect the requirements, if the documentation is well done, it will help the project. The documentation includes how to collect, track, trace, who and what of the requirements. This is Requirements Plan. The plan is implemented in actual Requirements Document which contains rationale, approval, business importance for all of the requirements. How does one keep a track of the requirements? Requirements Traceability Matrix which keeps track of description, ID no, owner, status etc. is really useful here.

What does a project manager need to create the Requirements Management Plan? The basic requirements will come from the Project Charter while people related with the project will add to them. (Stakeholder Register)

Once you get the Stakeholders Register, what do you need?

You take interviews; you have focus groups or workshops, group decision techniques or creativity techniques, questionnaires, surveys, prototypes. In short, you use everything that encourages the stakeholders to come out and give the information.