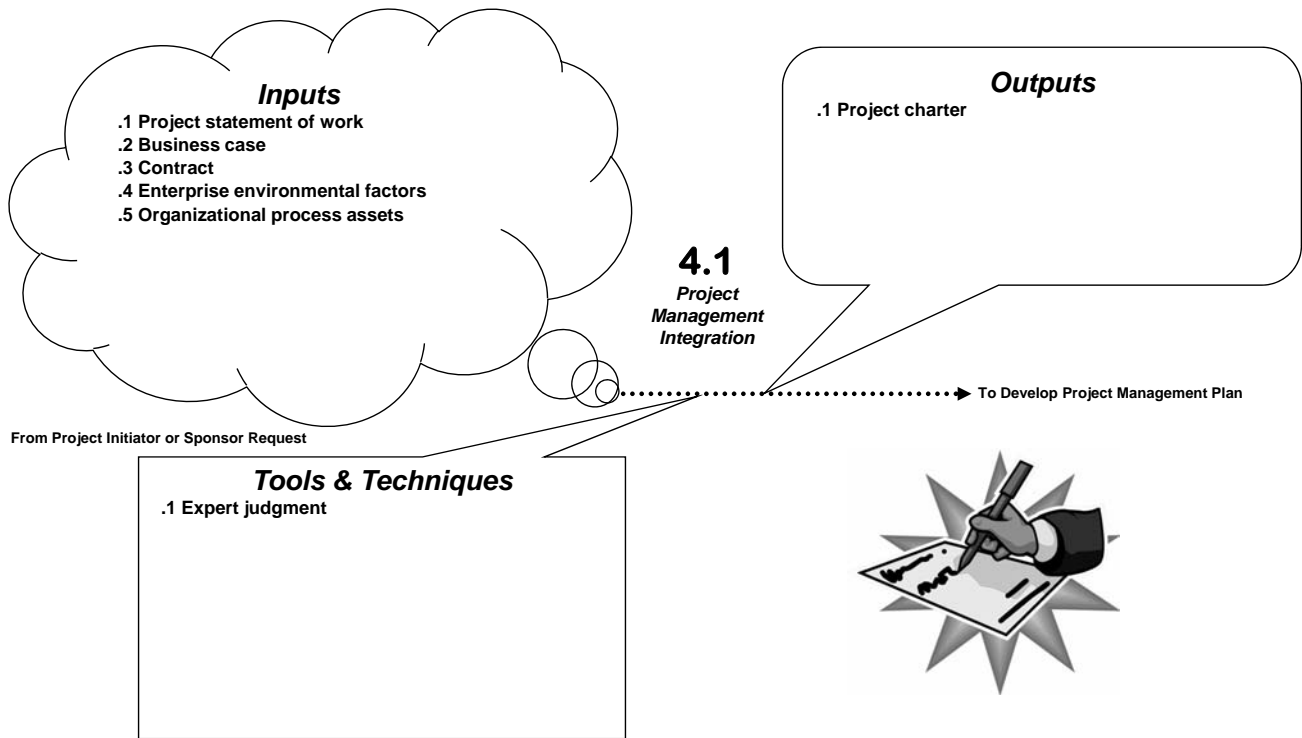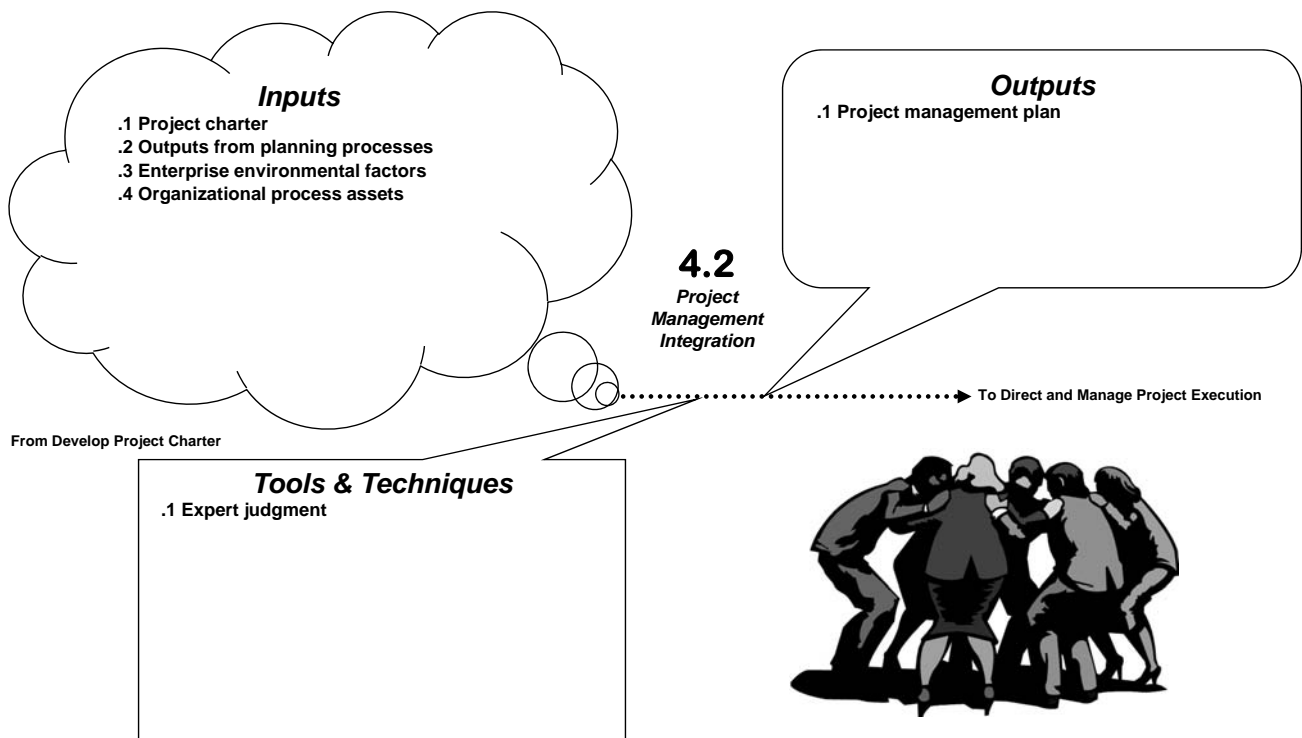# Develop *Project* Charter

Develop Project Charter is the process of developing documentation that formally authorizes a project or a phase. The documentation includes initial requirements that satisfy stakeholder needs and expectations. In multi-phase projects, this process is used to validate or refine decisions made during the previous iteration of this process. The project charter is the document that formally authorizes a project. The project charter also provides the project manager with authority to apply resources to project activities.

Inputs
.1 Project statement of work
.2 Business case
.3 Contract
.4 Enterprise environmental factors
.5 Organizational process assets

Outputs
.1 Project charter

4.1
Project Management Integration

······················► **To Develop Project Management Plan**

From Project Initiator or Sponsor Request

Tools & Techniques
.1 Expert judgment

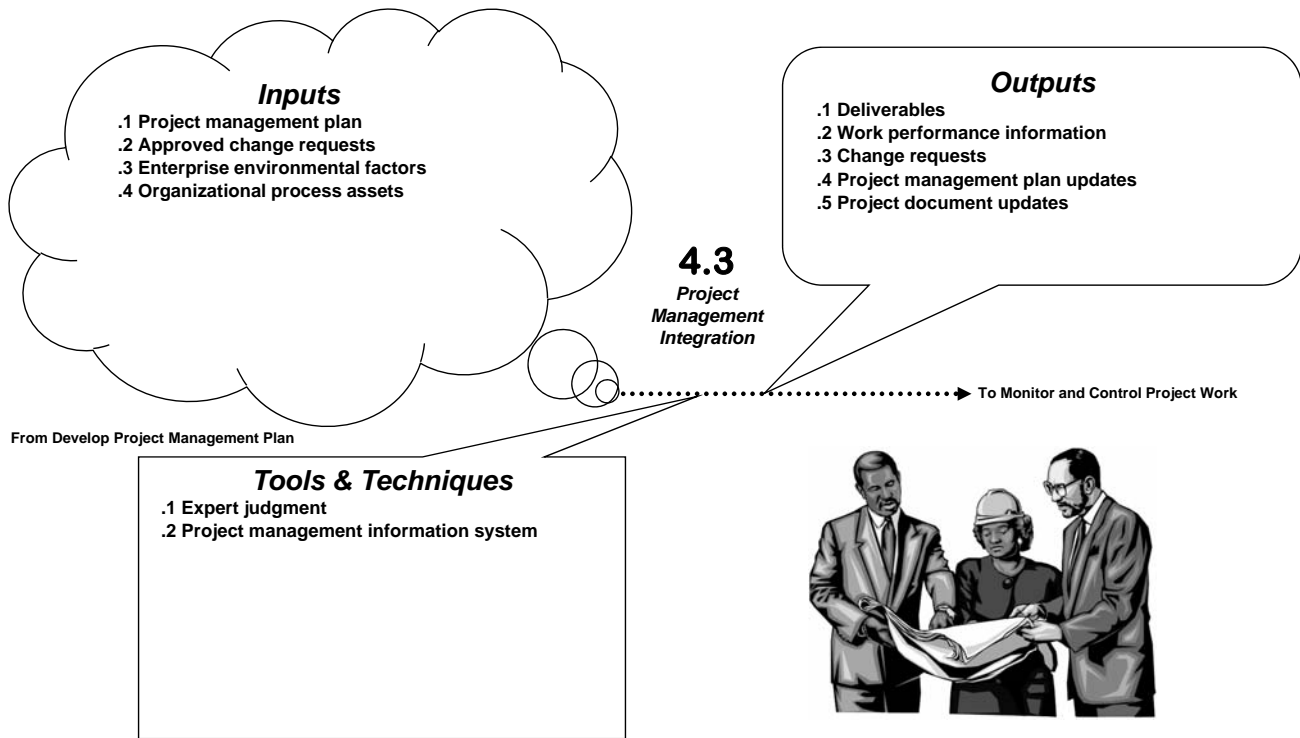# Develop *Project* Management Plan

Develop Project Management Plan is the process of documenting the actions necessary to define, prepare, integrate, and coordinate all subsidiary plans. The project management plan defines how the project is executed, monitored, controlled, and closed. The project management plan can be summary level or detailed, and it can be composed of one or more subsidiary plans and other components. The project management plan evolves through progressive elaboration and updates authorized through the integrated change control process until project closure.

Inputs
.1 Project charter
.2 Outputs from planning processes
.3 Enterprise environmental factors
.4 Organizational process assets

Outputs
.1 Project management plan

4.2
Project Management Integration

······················► **To Direct and Manage Project Execution**

From Develop Project Charter

Tools & Techniques
.1 Expert judgment
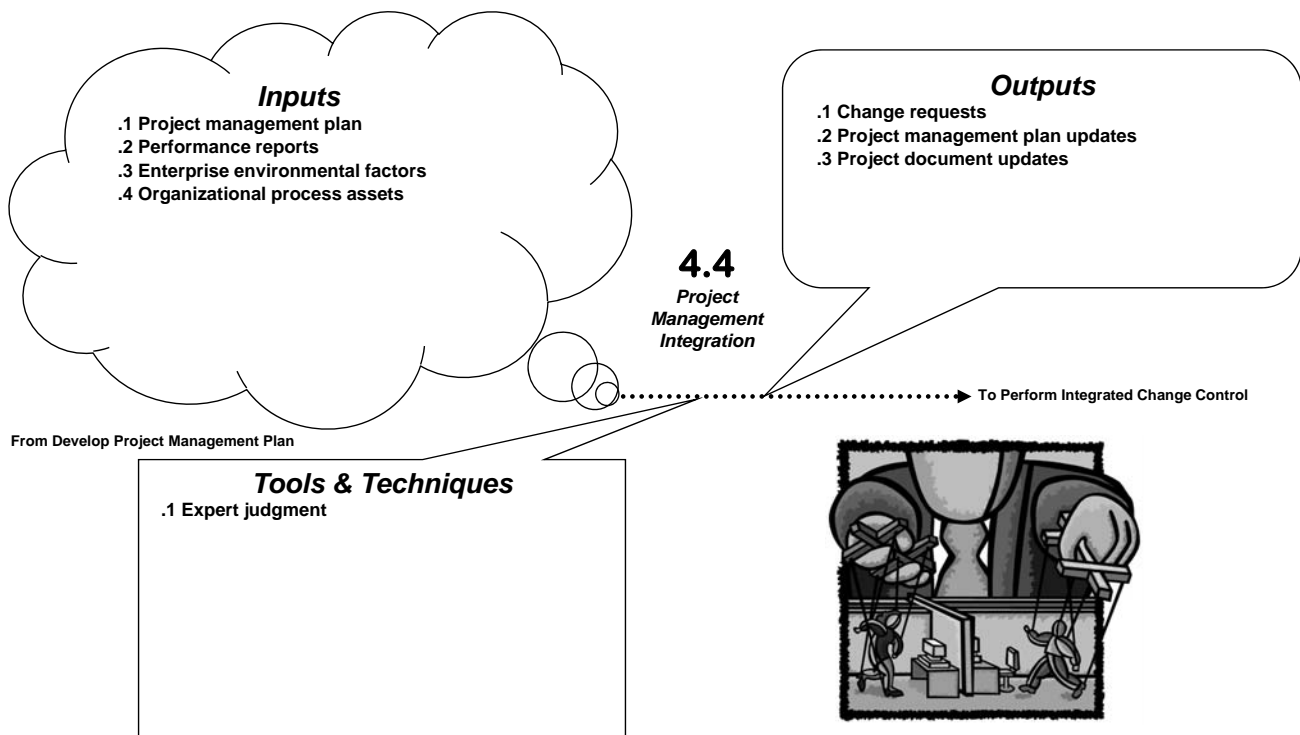
Direct and Manage *Project* Execution

Direct and Manage Project Execution is the process of performing all of the work defined in the project management plan to achieve the project's objectives as defined in the project's scope statement. The project manager acquires and manages team members, and directs use of resources including materials, tools, equipment, and facilities. The activities generate project data for tracking cost, schedule, quality, progress, and status to facilitate forecasting. The process generates change requests, adapts to approved changes, and implements approved responses to risks.

Inputs
.1 Project management plan
.2 Approved change requests
.3 Enterprise environmental factors
.4 Organizational process assets

Outputs
.1 Deliverables
.2 Work performance information
.3 Change requests
.4 Project management plan updates
.5 Project document updates

4.3
Project Management Integration

.... To Monitor and Control Project Work

From Develop Project Management Plan

Tools & Techniques
.1 Expert judgment
.2 Project management information system

ITTO Slide - 3 of 42

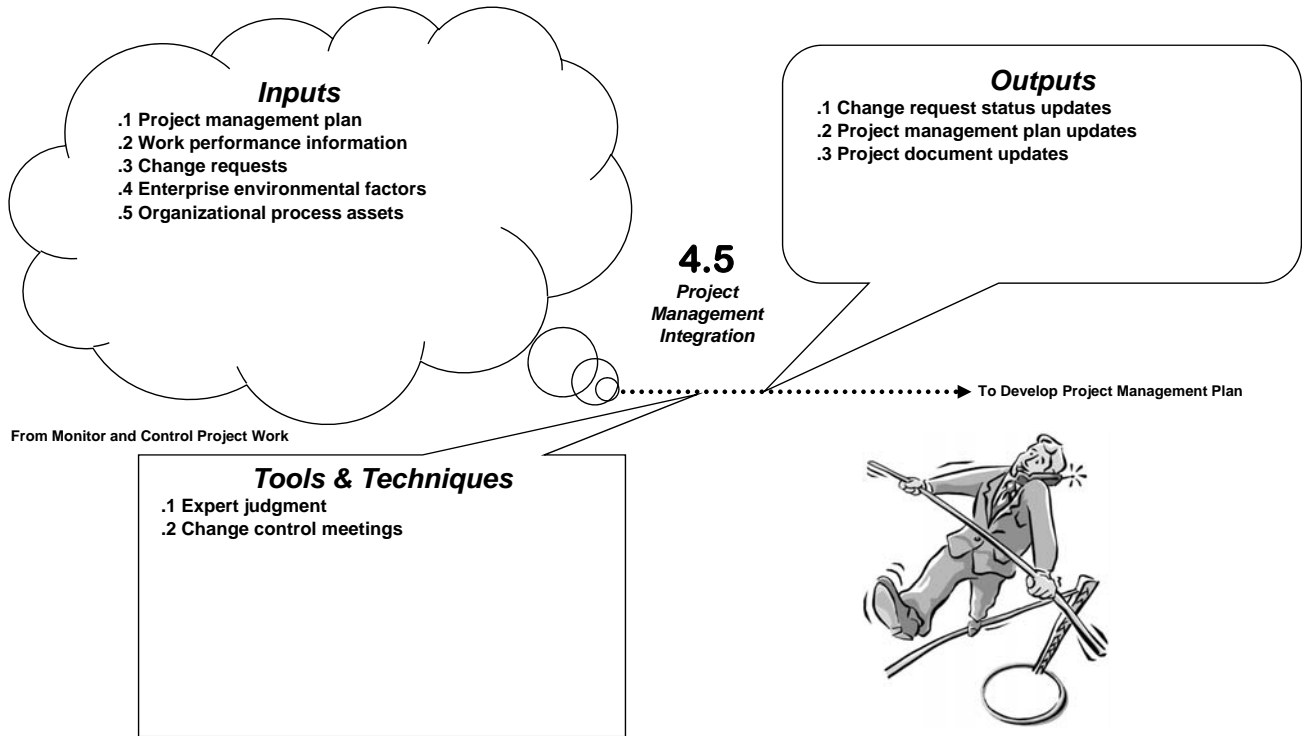
Monitor and Control *Project* Work

Monitor and Control Project Work is the process of tracking, reviewing, and regulating the progress to meet the performance objectives defined in the project management plan. Monitoring is performed throughout the life of the project. It includes collecting, measuring, and distributing performance information, and assessing measurements and trends to effect process improvements. Control includes determining corrective or preventive actions or replanning and following up on action plans to determine if the actions taken resolved the performance issues.

Inputs
.1 Project management plan
.2 Performance reports
.3 Enterprise environmental factors
.4 Organizational process assets

Outputs
.1 Change requests
.2 Project management plan updates
.3 Project document updates

4.4
Project Management Integration

.... To Perform Integrated Change Control

From Develop Project Management Plan

Tools & Techniques
.1 Expert judgment

ITTO Slide - 4 of 42
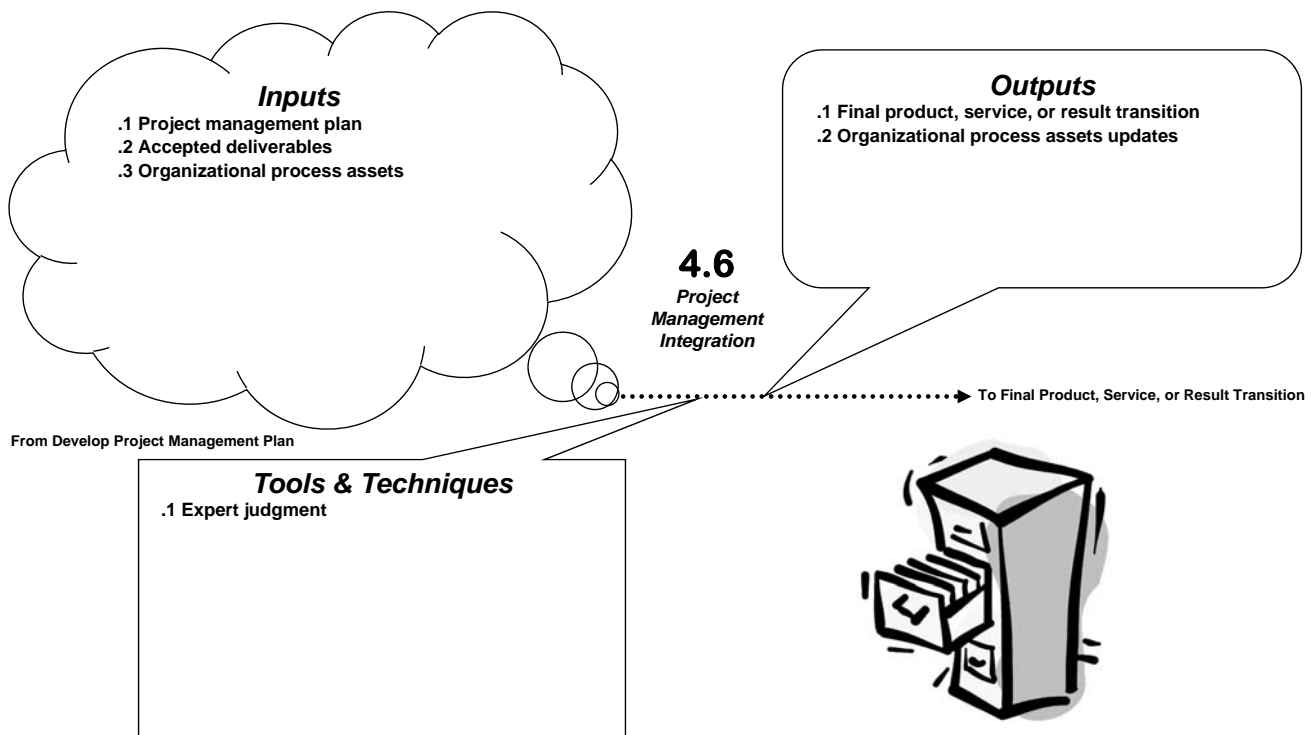
Perform Integrated Change Control

Perform Integrated Change Control is the process of reviewing change requests, approving changes, and managing changes to the deliverables, organizational process assets, project documents and the project management plan. It is performed from project inception through completion. The project management plan, project scope statement, and other deliverables are maintained by carefully and continuously managing changes, either by rejecting changes or by approving changes, thereby assuring that only approved changes are incorporated into the revised baseline.

Inputs
.1 Project management plan
.2 Work performance information
.3 Change requests
.4 Enterprise environmental factors
.5 Organizational process assets

Outputs
.1 Change request status updates
.2 Project management plan updates
.3 Project document updates

4.5
Project Management Integration

⋯⋯⋯► To Develop Project Management Plan

From Monitor and Control Project Work

Tools & Techniques
.1 Expert judgment
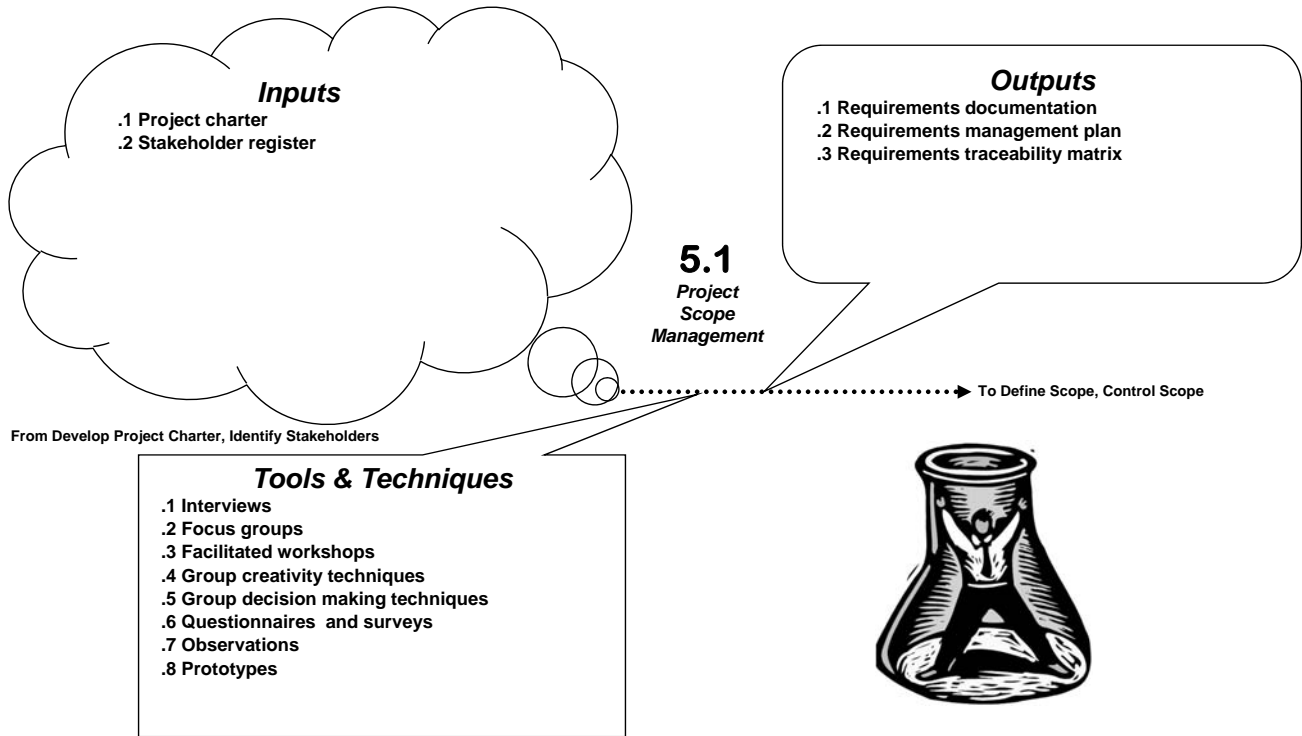.2 Change control meetings

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Close *Project* or Phase

Close Project or Phase is the process of finalizing all activities across all of the Project Management Process Groups to complete the project or phase. Completion of the project scope is measured against the project management plan, and the project manager reviews project documents ensure that they are completed before considering the project closed. The process establishes procedures to investigate and document reasons for action taken if a project is terminated before completion. The process also transfers lessons learned to the organization's knowledge base.

Inputs
.1 Project management plan
.2 Accepted deliverables
.3 Organizational process assets

Outputs
.1 Final product, service, or result transition
.2 Organizational process assets updates

4.6
Project Management Integration

⋯⋯⋯► To Final Product, Service, or Result Transition

From Develop Project Management Plan

Tools & Techniques
.1 Expert judgment
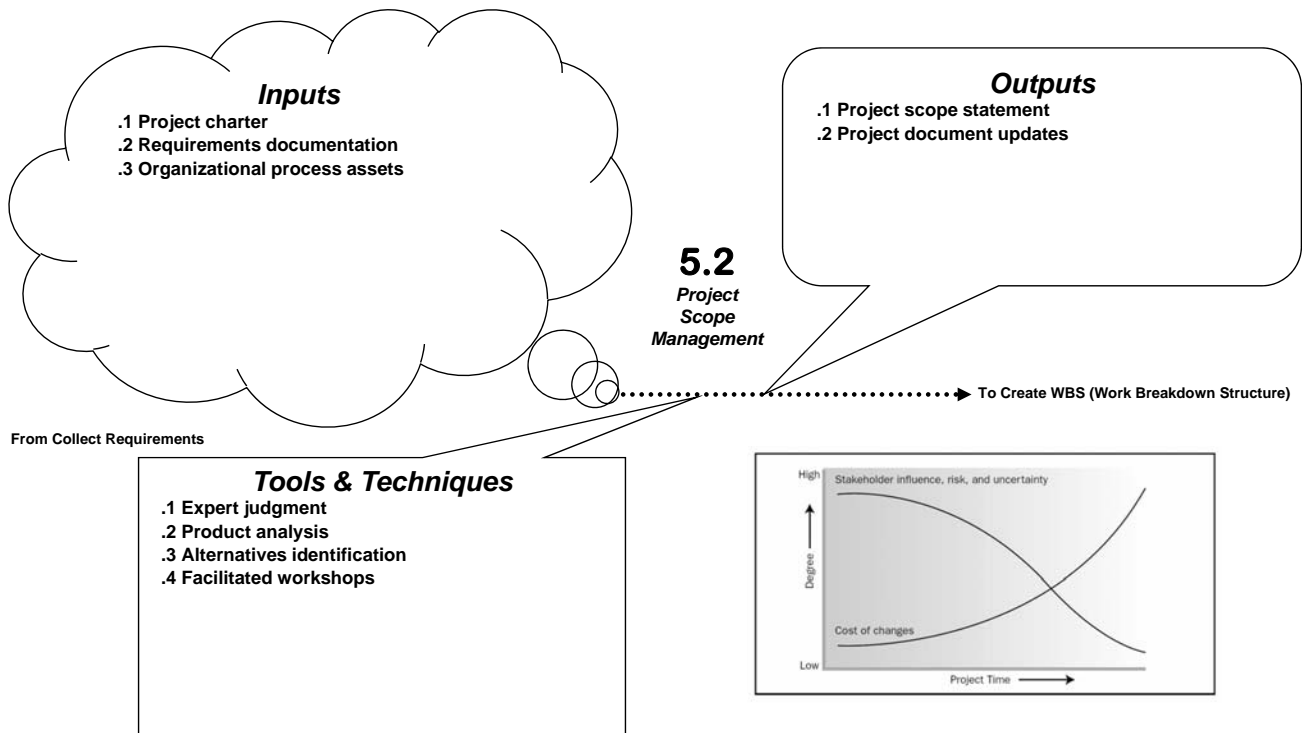
Collect Requirements

Collect Requirements is the process of defining and documenting stakeholders' needs to meet the project objectives. The project's success is directly influenced by the care taken in capturing and managing project and product requirements. Requirements include the quantified and documented needs and expectations of the sponsor, customer, and other stakeholders. These requirements need to be elicited, analyzed, and recorded in enough detail to be measured during project execution. Requirements become the foundation of the Work Breakdown Structure.

Inputs
.1 Project charter
.2 Stakeholder register

Outputs
.1 Requirements documentation
.2 Requirements management plan
.3 Requirements traceability matrix

5.1
Project Scope Management

To Define Scope, Control Scope

From Develop Project Charter, Identify Stakeholders

Tools & Techniques
.1 Interviews
.2 Focus groups
.3 Facilitated workshops
.4 Group creativity techniques
.5 Group decision making techniques
.6 Questionnaires and surveys
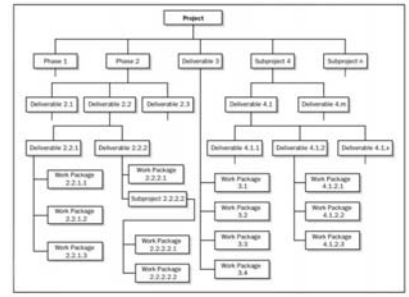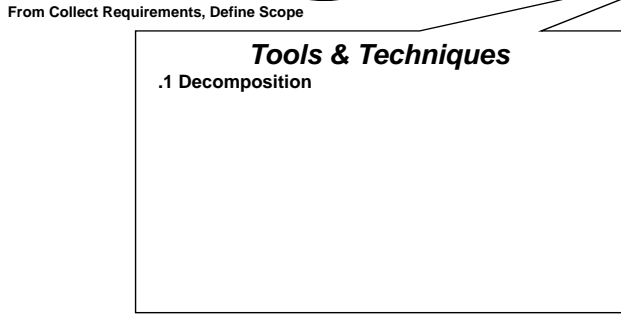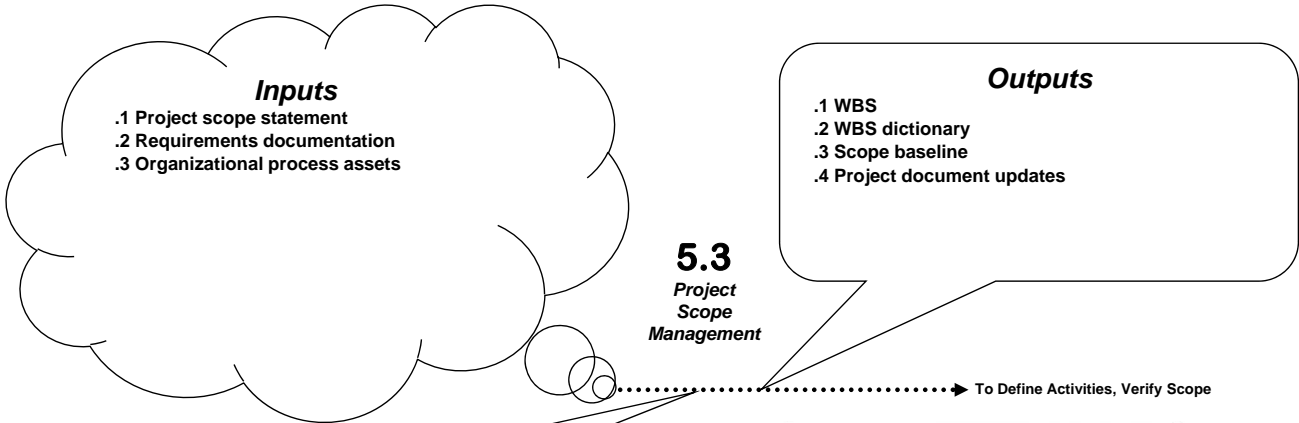.7 Observations
.8 Prototypes

Define Scope

Define Scope is the process of developing a detailed description of the project and product. Preparation of a detailed project scope statement is critical to project success and builds upon the major deliverables, assumptions, and constraints that were documented during project initiation. During planning, project scope is defined and described with greater specificity as more information about the project is known. Existing risks, assumptions, and constraints are analyzed for completeness. Additional risks, assumptions, and constraints are documented as necessary.

Inputs
.1 Project charter
.2 Requirements documentation
.3 Organizational process assets

Outputs
.1 Project scope statement
.2 Project document updates

5.2
Project Scope Management

To Create WBS (Work Breakdown Structure)

From Collect Requirements

Tools & Techniques
.1 Expert judgment
.2 Product analysis
.3 Alternatives identification
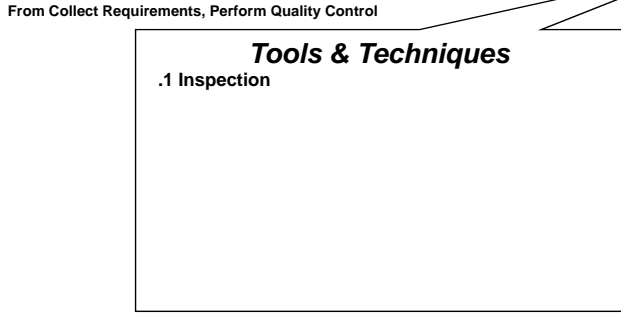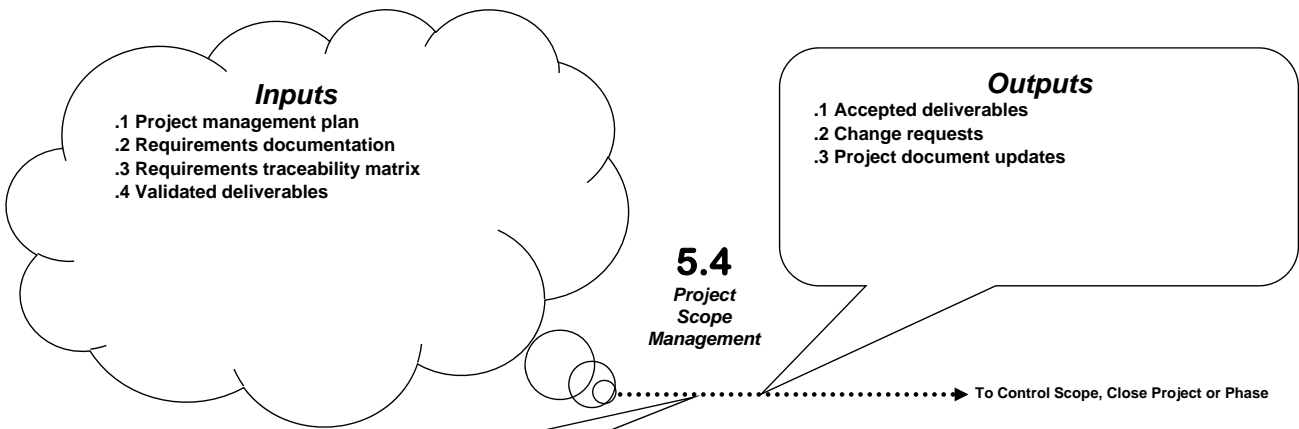.4 Facilitated workshops

Create WBS

Create WBS (Work Breakdown Structure) is the process of subdividing the project deliverables and project work into smaller, more manageable components. The WBS is a deliverable-oriented hierarchical decomposition of all the work to be executed by the project team to accomplish the project objectives and create the required deliverables. Planned work is contained within the lowest-level WBS components, which are called work packages. A work package can be scheduled, cost estimated, monitored, and controlled. The WBS serves as the basis for the activity list.
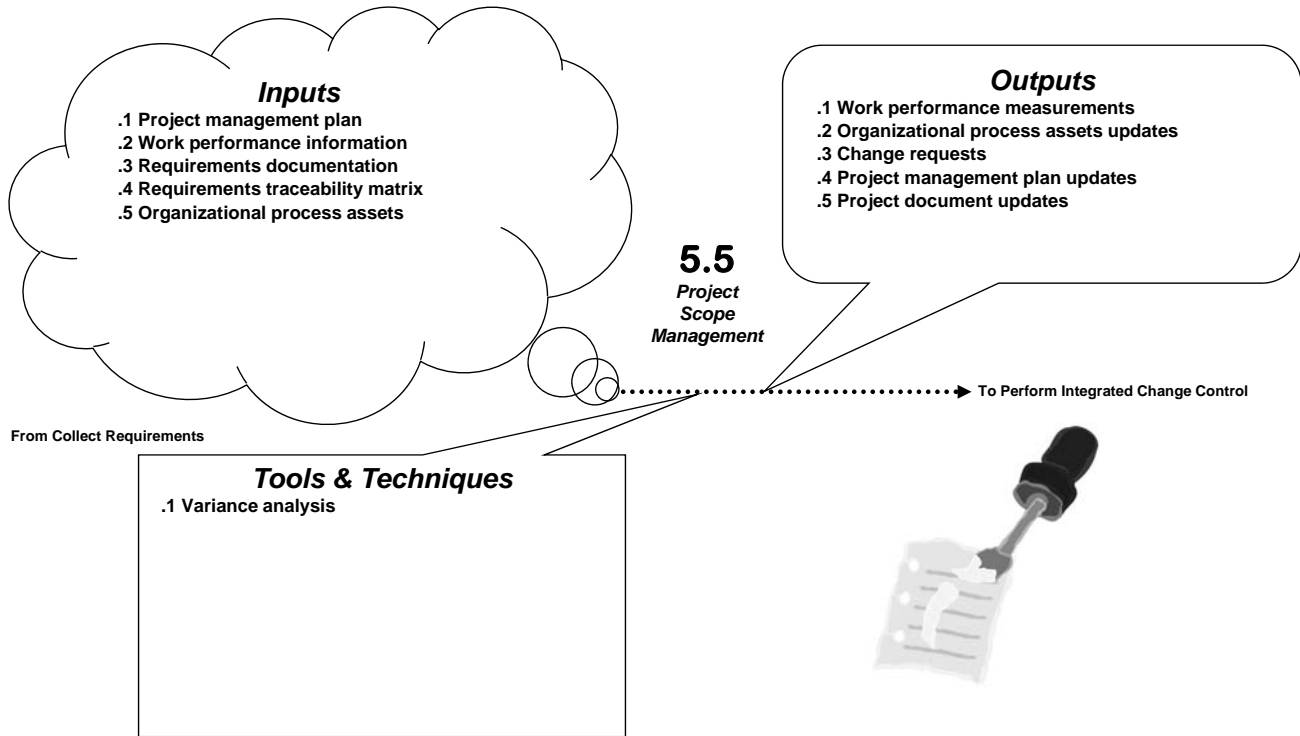
Inputs
.1 Project scope statement
.2 Requirements documentation
.3 Organizational process assets

Outputs
.1 WBS
.2 WBS dictionary
.3 Scope baseline
.4 Project document updates

5.3
Project Scope Management

To Define Activities, Verify Scope

From Collect Requirements, Define Scope

Tools & Techniques
.1 Decomposition

Verify Scope

Verify Scope is the process of formalizing acceptance of the completed project deliverables. Verifying scope includes reviewing the deliverables with the customer or sponsor to ensure that they are completed satisfactorily and obtaining formal acceptance of deliverables by the customer or sponsor. Scope verification differs from quality control in that scope verification is primarily concerned with acceptance of the deliverables, while quality control is primarily concerned with conformance to specifications and meeting quality requirements specified for the deliverables.

Inputs
.1 Project management plan
.2 Requirements documentation
.3 Requirements traceability matrix
.4 Validated deliverables

Outputs
.1 Accepted deliverables
.2 Change requests
.3 Project document updates

5.4
Project Scope Management

To Control Scope, Close Project or Phase

From Collect Requirements, Perform Quality Control

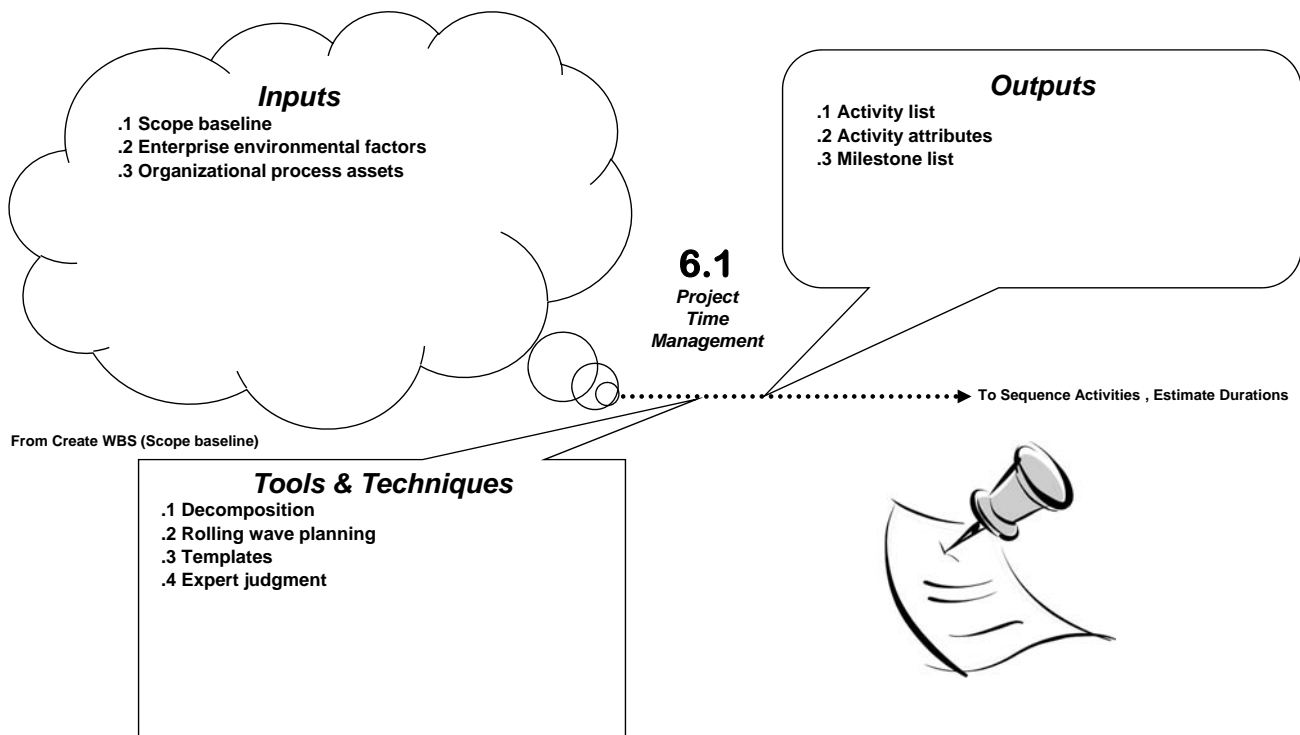### Tools & Techniques
.1 Inspection

Control Scope

Control Scope is the process of monitoring the status of the project and product scope and managing changes to the scope baseline. Controlling project scope ensures that requested changes and recommended corrective or preventive actions are processed through the Perform Integrated Change Control process. Project scope control is also used to manage actual changes when they occur and is integrated with the other control processes. Uncontrolled changes often are referred to as scope creep. Because change is inevitable, some kind of change control is mandated.

Inputs
.1 Project management plan
.2 Work performance information
.3 Requirements documentation
.4 Requirements traceability matrix
.5 Organizational process assets

Outputs
.1 Work performance measurements
.2 Organizational process assets updates
.3 Change requests
.4 Project management plan updates
.5 Project document updates

5.5
Project Scope Management

To Perform Integrated Change Control

From Collect Requirements

Tools & Techniques
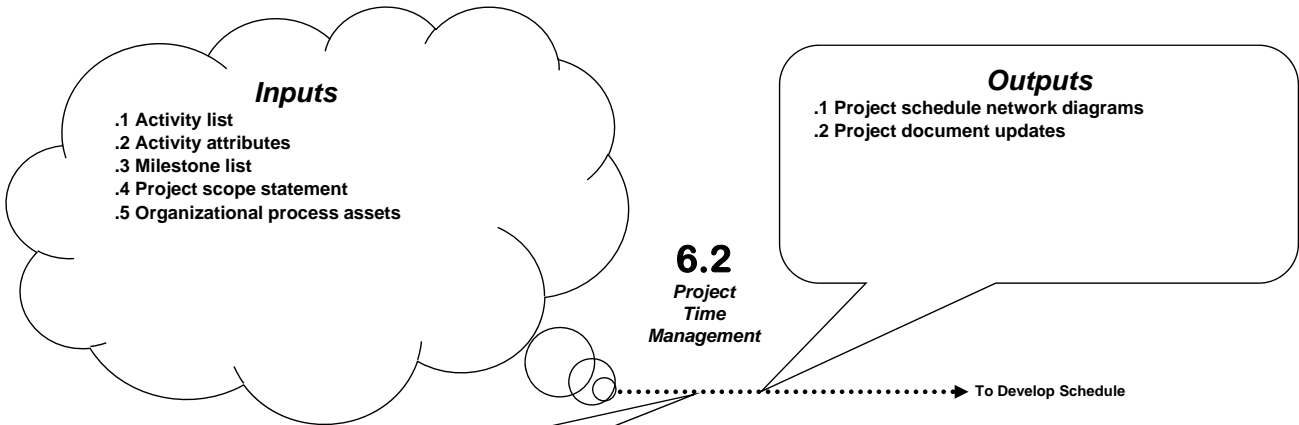.1 Variance analysis

Define Activities

Define Activities is the process of identifying the specific actions to be performed to produce the project deliverables. The Create WBS process identifies deliverables at the lowest level in the Work Breakdown Structure. Project work packages typically are further decomposed into smaller components called activities that represent work necessary to complete that work package. Activities provide a basis for estimating, scheduling, executing, and monitoring and controlling work. Implicit in the process is defining and planning activities to achieve the project's objectives.

Inputs
.1 Scope baseline
.2 Enterprise environmental factors
.3 Organizational process assets

Outputs
.1 Activity list
.2 Activity attributes
.3 Milestone list

6.1
Project Time Management

To Sequence Activities , Estimate Durations

From Create WBS (Scope baseline)

Tools & Techniques
.1 Decomposition
.2 Rolling wave planning
.3 Templates
.4 Expert judgment

Sequence Activities

Sequence Activities is the process of identifying and documenting relationships among the project activities. Activities are sequenced using logical relationships. Every activity and milestone except the first and last are connected to at least one predecessor and one successor. It may be necessary to use lead or lag time between activities to support a realistic and achievable project schedule. Sequencing can be performed by using project management software or by using manual or automated techniques. Most software uses Precedence Diagraming Method (PDM).
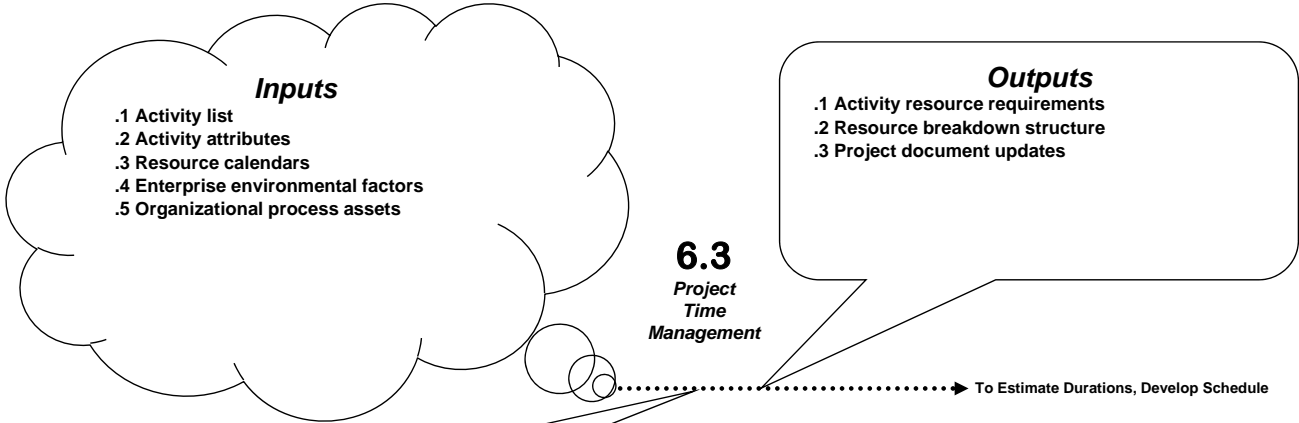
Inputs
.1 Activity list
.2 Activity attributes
.3 Milestone list
.4 Project scope statement
.5 Organizational process assets

Outputs
.1 Project schedule network diagrams
.2 Project document updates

6.2
*Project
Time
Management*

........► To Develop Schedule

From Define Activities

Tools & Techniques
.1 Precedence Diagramming Method (PDM)
.2 Dependency determination
.3 Applying leads and lags
.4 Schedule network templates
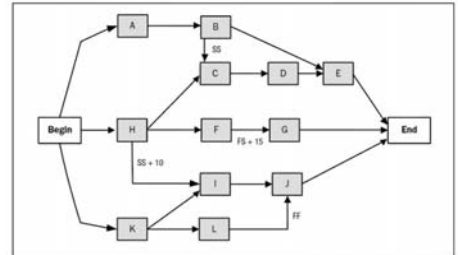
Estimate Activity Resources

Estimate Activity Resources is the process of estimating the type and quantities of material, people, equipment, or supplies required to perform each activity. Among the challenges is finding out when each resource will be available. The resource estimating process is closely coordinated with the Estimate Costs process. Activities may have dependencies between them that can affect application and use of resources. Resource requirements may depend upon when an activity is scheduled, and estimates may vary significantly when based on different assumptions.

Inputs
.1 Activity list
.2 Activity attributes
.3 Resource calendars
.4 Enterprise environmental factors
.5 Organizational process assets

Outputs
.1 Activity resource requirements
.2 Resource breakdown structure
.3 Project document updates

6.3
*Project
Time
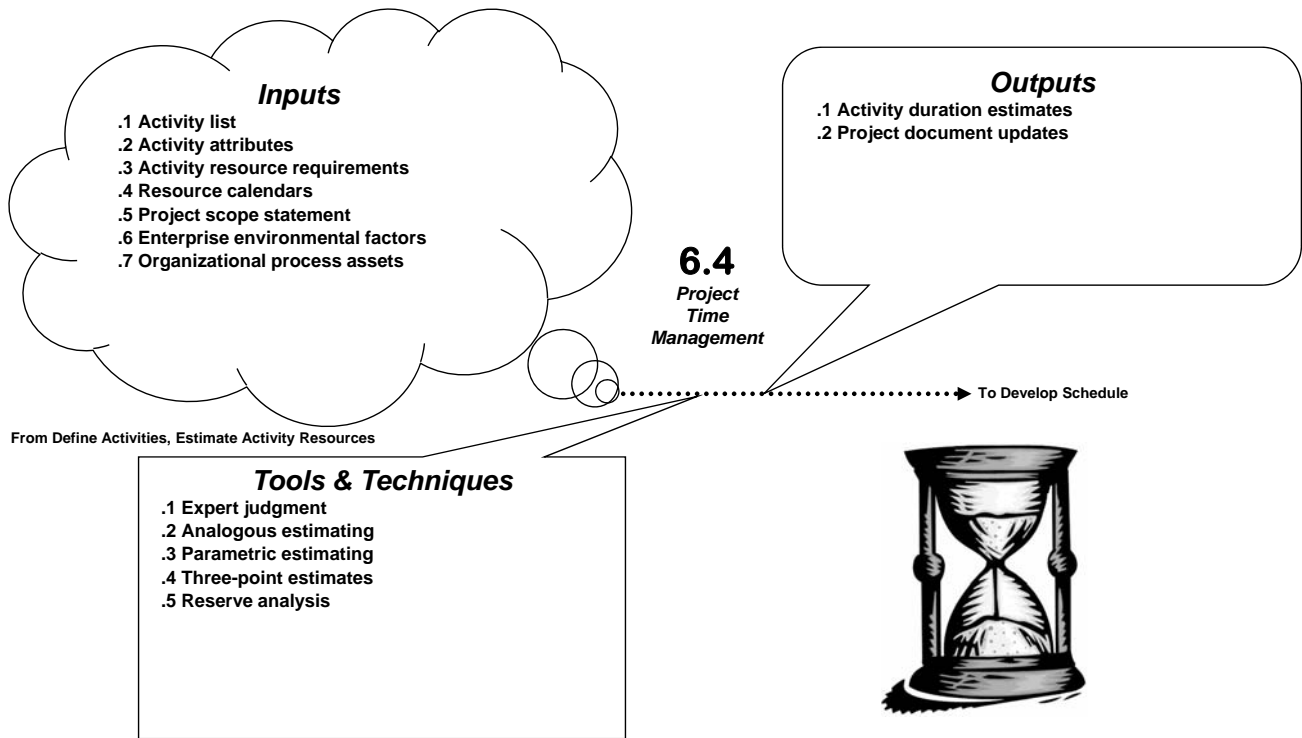Management*

........► To Estimate Durations, Develop Schedule

From Define Activities

Tools & Techniques
.1 Expert Judgment
.2 Alternatives analysis
.3 Published estimating data
.4 Bottom-up estimating
.5 Project management software
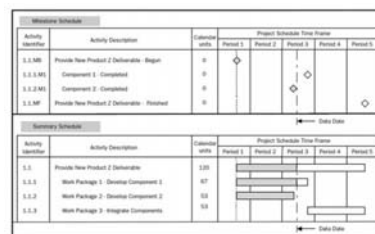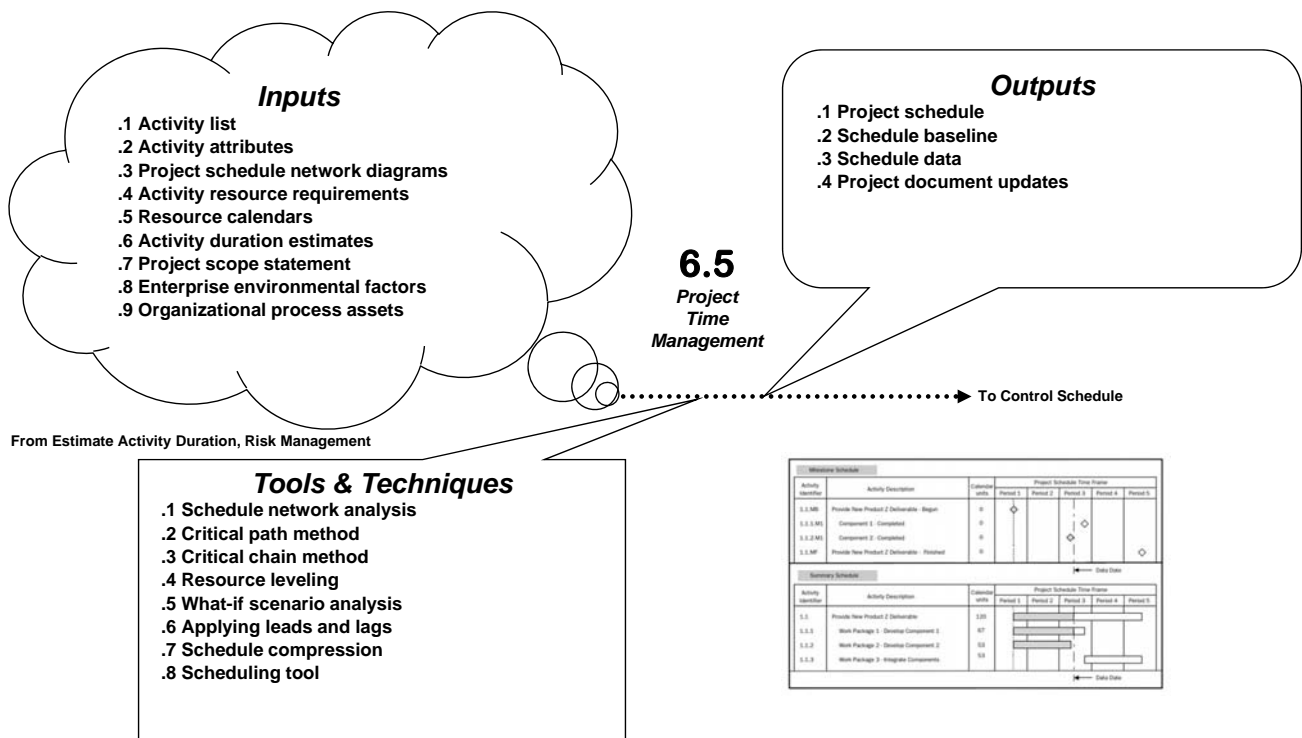
Estimate Activity Durations

Estimate Activity Durations is the process of approximating the number of work periods needed to complete individual activities with estimated resources. Estimating activity durations uses information on activity scope of work, required resource types, estimated resource quantities, and recourse calendars. Inputs originate from the person or group on the project team who is most familiar with the nature of the work in the specific activity. Activity duration estimates are progressively elaborated, and the process considers the quality and availability of input data.

Inputs

.1 Activity list
.2 Activity attributes
.3 Activity resource requirements
.4 Resource calendars
.5 Project scope statement
.6 Enterprise environmental factors
.7 Organizational process assets

Outputs

.1 Activity duration estimates
.2 Project document updates

6.4
Project Time Management

To Develop Schedule

From Define Activities, Estimate Activity Resources

Tools & Techniques

.1 Expert judgment
.2 Analogous estimating
.3 Parametric estimating
.4 Three-point estimates
.5 Reserve analysis

Develop Schedule

Develop Schedule is the process of analyzing activity sequences, durations, resource requirements, and schedule constraints to create a project schedule. Often an iterative process, it determines planned start and finish dates for project activities and milestones. The process can require review and revision of the duration estimates and resource estimates to create an approved project schedule that can serve as a baseline to track project progress. Schedule development continues throughout the project as work progresses and environmental factors change.

Inputs

.1 Activity list
.2 Activity attributes
.3 Project schedule network diagrams
.4 Activity resource requirements
.5 Resource calendars
.6 Activity duration estimates
.7 Project scope statement
.8 Enterprise environmental factors
.9 Organizational process assets

Outputs

.1 Project schedule
.2 Schedule baseline
.3 Schedule data
.4 Project document updates

6.5
Project Time Management

To Control Schedule

From Estimate Activity Duration, Risk Management

Tools & Techniques

.1 Schedule network analysis
.2 Critical path method
.3 Critical chain method
.4 Resource leveling
.5 What-if scenario analysis
.6 Applying leads and lags
.7 Schedule compression
.8 Scheduling tool

Control Schedule

Control Schedule is the process of monitoring the status of the project to update project progress and manage changes to the schedule baseline. It is concerned with determining the current status of the project schedule, influencing the factors that create schedule changes, determining that the project schedule has changed, and managing the actual changes as they occur. Progress reporting and current schedule status includes information such as actual start and finish dates for schedule activities and the remaining durations for unfinished schedule activities.
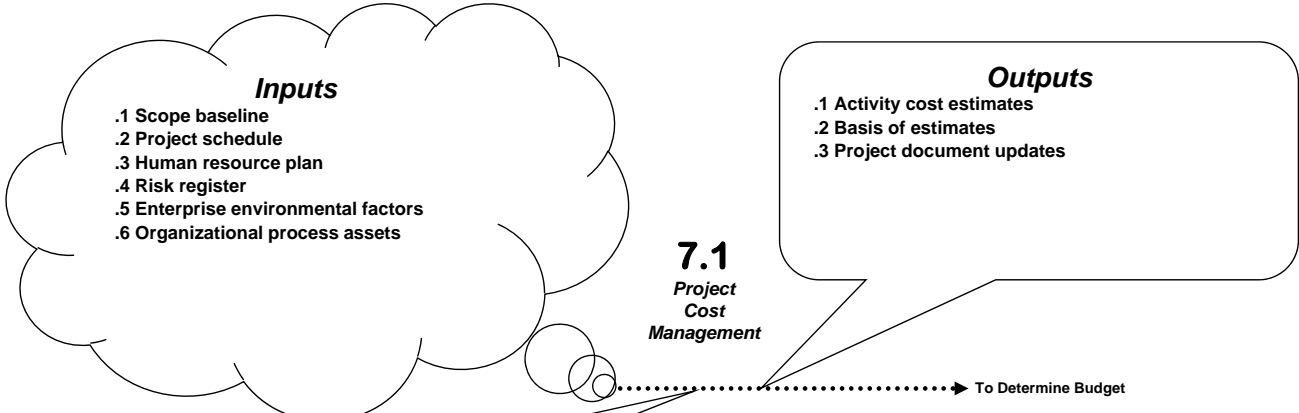
Inputs
.1 Project management plan
.2 Project schedule
.3 Work performance information
.4 Organizational process assets

Outputs
.1 Work performance measurements
.2 Organization process assets updates
.3 Change requests
.4 Project management plan updates
.5 Project document updates

6.6
Project Time Management

To Perform Integrated Change Control
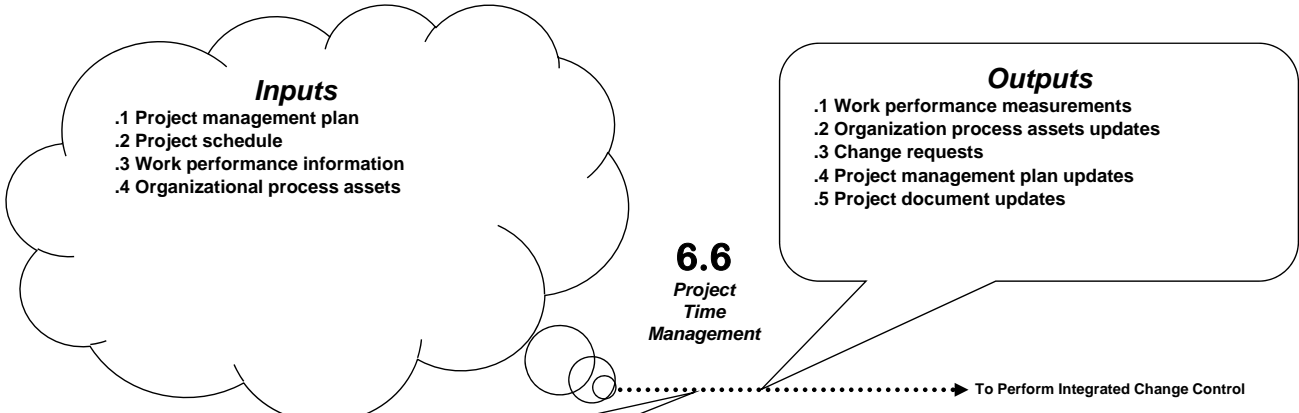
From Develop Schedule, Direct Project Execution

Tools & Techniques
.1 Performance reviews
.2 Variance analysis
.3 Project management software
.4 Resource leveling
.5 What-if scenario analysis
.6 Adjusting leads and lags
.7 Schedule compression
.8 Scheduling tool
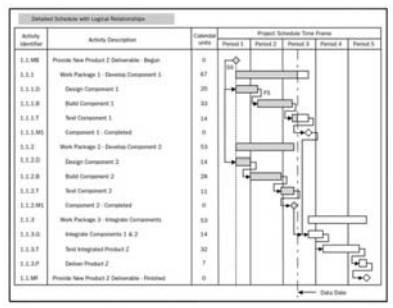
Estimate Costs

Estimate Costs is the process of developing an approximation of the monetary resources needed to complete project activities. Cost estimates are predictions based on the information known at a given point in time. They include identification and consideration of costing alternatives to initiate and complete the project. Cost trade-offs and risks must be considered. Estimates typically are expressed in units of currency, although in some instances other units of measure such as staff hours or staff days are used to facilitate comparisons within and across projects.

Inputs
.1 Scope baseline
.2 Project schedule
.3 Human resource plan
.4 Risk register
.5 Enterprise environmental factors
.6 Organizational process assets

Outputs
.1 Activity cost estimates
.2 Basis of estimates
.3 Project document updates
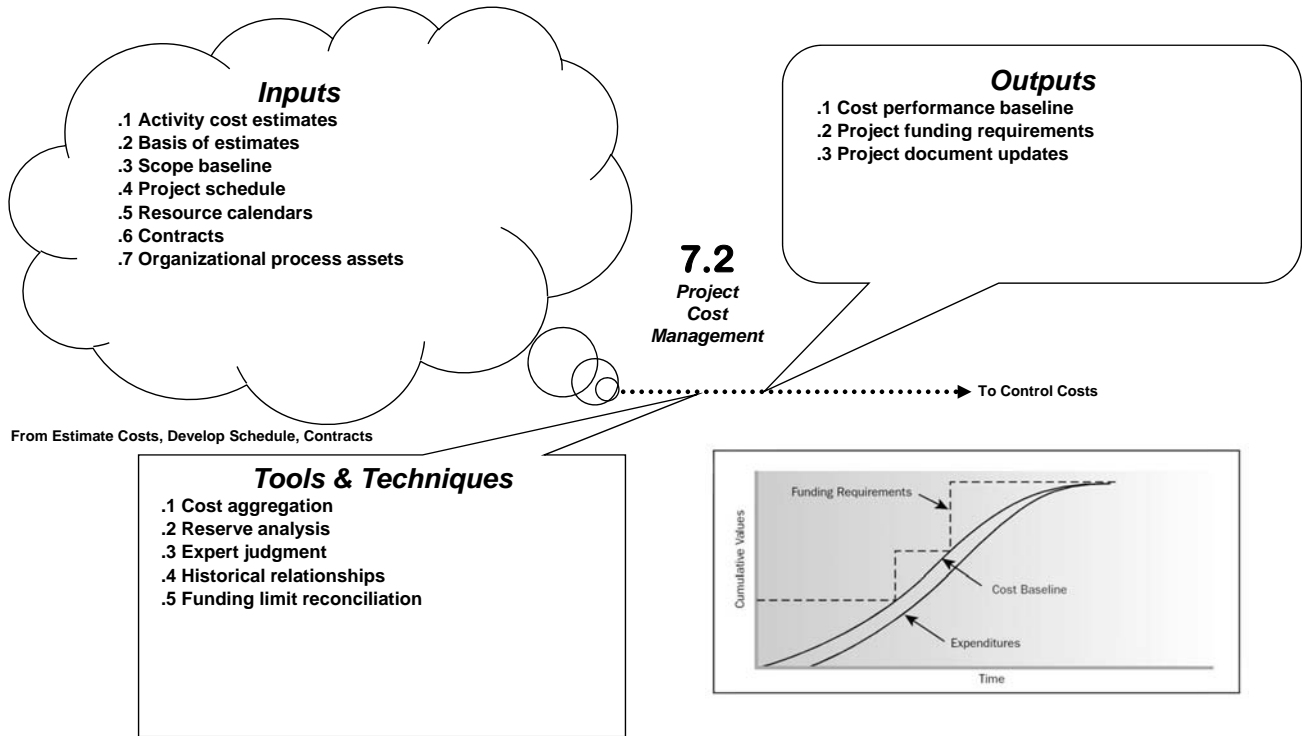
7.1
Project Cost Management

To Determine Budget

From Create WBS, Develop Schedule, Identify Risks

Tools & Techniques
.1 Expert judgment
.2 Analogous estimating
.3 Parametric estimating
.4 Bottom-up estimating
.5 Three-point estimates
.6 Reserve analysis
.7 Cost of quality
.8 Project management estimating software
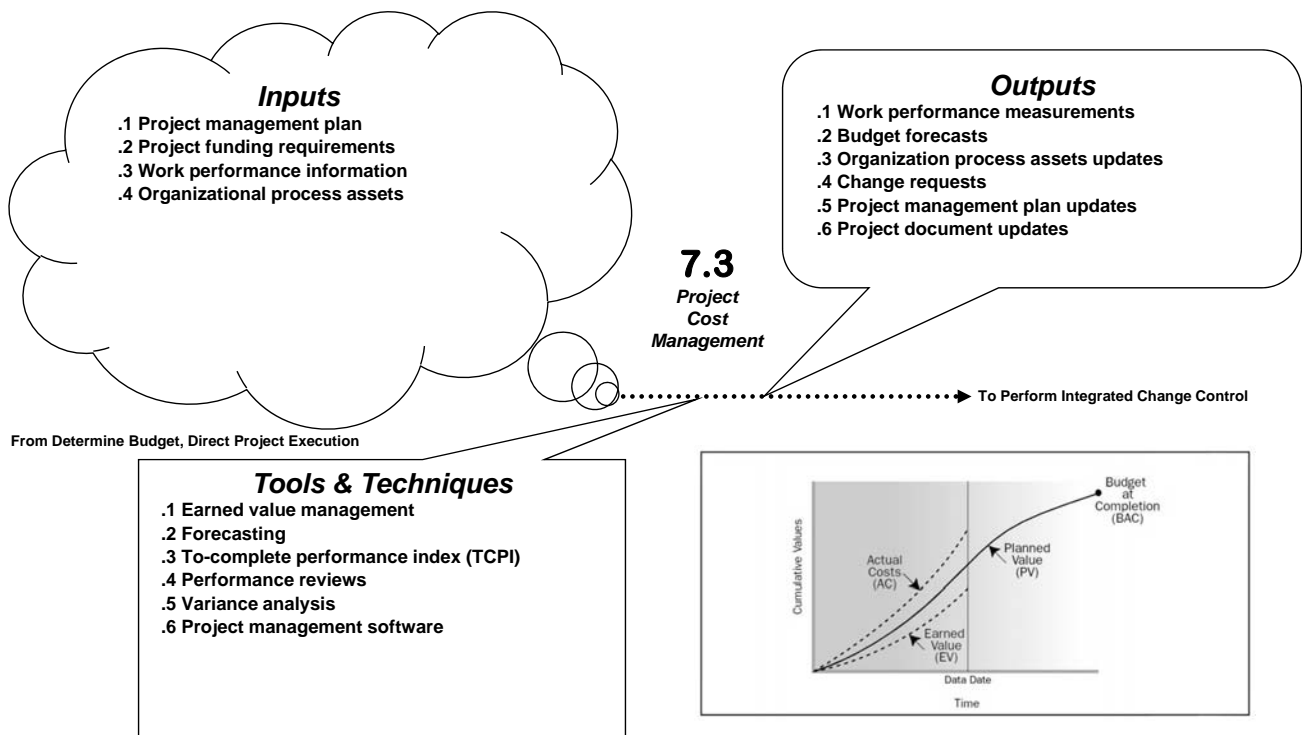.9 Vendor bid analysis

Determine Budget

Determine Budget is the process of aggregating estimated costs of individual activities or work packages to establish an authorized cost baseline. The baseline includes all authorized budgets, but excludes management reserves. Project budgets constitute the funds authorized to execute the project. Project cost performance is measured against the authorized budget. Contingency reserves are funds budgeted for "known" unknowns, whereas management reserves are set aside for "unknown" unknowns and therefore considered to be outside the project budget baseline.

Inputs
.1 Activity cost estimates
.2 Basis of estimates
.3 Scope baseline
.4 Project schedule
.5 Resource calendars
.6 Contracts
.7 Organizational process assets

From Estimate Costs, Develop Schedule, Contracts

Outputs
.1 Cost performance baseline
.2 Project funding requirements
.3 Project document updates

7.2
Project Cost Management

................► To Control Costs

Tools & Techniques
.1 Cost aggregation
.2 Reserve analysis
.3 Expert judgment
.4 Historical relationships
.5 Funding limit reconciliation

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Control Costs

Control Costs is the process of monitoring the status of the project to update the project budget and managing changes to the cost baseline. Updating the budget involves recording actual costs incurred to date. Any increase to the authorized budget can be approved only through the Perform Integrated Change Control process. Monitoring the expenditure of funds without regard to the value of work being accomplished has little value to the project other than to allow the project team to stay within the authorized funding.

Inputs
.1 Project management plan
.2 Project funding requirements
.3 Work performance information
.4 Organizational process assets

From Determine Budget, Direct Project Execution

Outputs
.1 Work performance measurements
.2 Budget forecasts
.3 Organization process assets updates
.4 Change requests
.5 Project management plan updates
.6 Project document updates

7.3
Project Cost Management

................► To Perform Integrated Change Control

Tools & Techniques
.1 Earned value management
.2 Forecasting
.3 To-complete performance index (TCPI)
.4 Performance reviews
.5 Variance analysis
.6 Project management software

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Plan Quality

Plan Quality is the process of identifying quality requirements and/or standards for the project and deliverables and documenting how the project will demonstrate compliance. Quality planning should be performed in parallel with the other project planning processes. For example, proposed changes in the product to meet identified quality standards may require cost or schedule adjustments and a detailed risk analysis of the impact to plans. Quality should be planned, designed, and built into the final product or service - not inspected into it.

Inputs
.1 Scope baseline
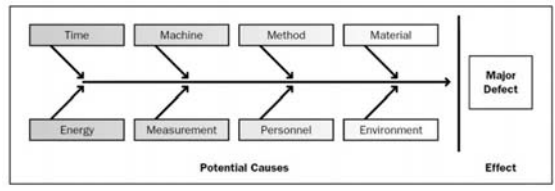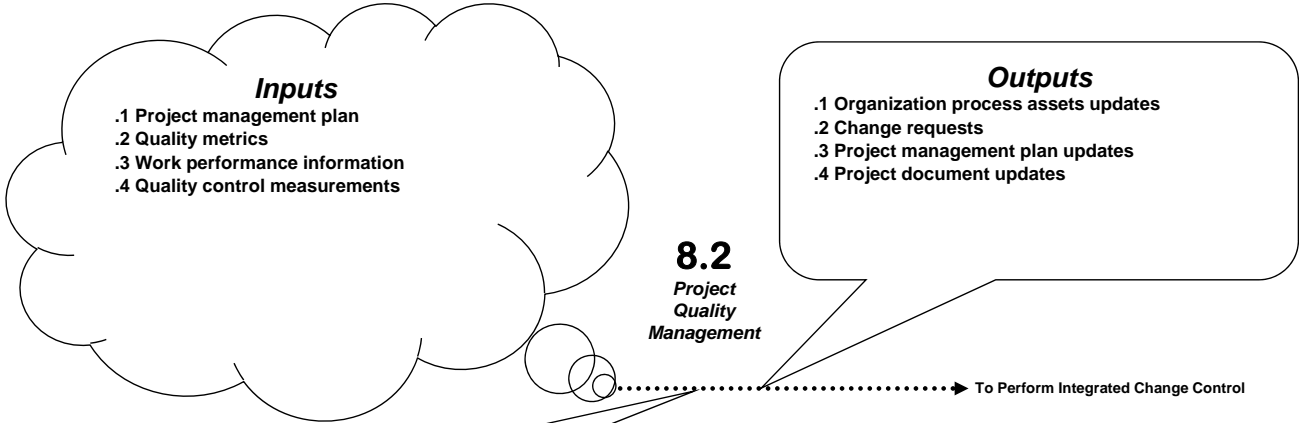.2 Stakeholder register
.3 Cost performance baseline
.4 Schedule baseline
.5 Risk register
.6 Enterprise environmental factors
.7 Organizational process assets

Outputs
.1 Quality management plan
.2 Quality metrics
.3 Quality checklists
.4 Process improvement plan
.5 Project document updates

8.1
Project Quality Management

............► To Perform Quality Assurance & Control

From Create WBS, Identify Stakeholders

Tools & Techniques
.1 Cost-benefit analysis
.2 Cost of quality
.3 Control charts
.4 Benchmarking
.5 Design of experiments
.6 Statistical sampling
.7 Flowcharting
.8 Proprietary quality management methodologies
.9 Additional quality planning tools

Time	Machine	Method	Material

Major Defect

Energy	Measurement	Personnel	Environment

Potential Causes   Effect

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Perform Quality Assurance

Perform Quality Assurance (QA) is the process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used. Perform Quality Assurance is a project execution process that uses data created during Perform Quality Control. A quality assurance department, or similar organization, often oversees the quality assurance activities. Quality assurance also provides an umbrella for continuous process improvement, which is an iterative means for improving overall quality.

Inputs
.1 Project management plan
.2 Quality metrics
.3 Work performance information
.4 Quality control measurements

Outputs
.1 Organization process assets updates
.2 Change requests
.3 Project management plan updates
.4 Project document updates

8.2
Project Quality Management

............► To Perform Integrated Change Control

From Plan Quality, Perform Quality Control

Tools & Techniques
.1 Plan Quality and Perform Quality Control tools and techniques
.2 Quality audits
.3 Process analysis

Pareto Diagram of Causes of Late Time Entries

	Process Instructions	Insufficient Time	Travel	System Failure	Management Direction	Other
Frequency	30	25	15	11	5	14
Cumulative	30%	55%	70%	81%	86%	100%

Occurrences

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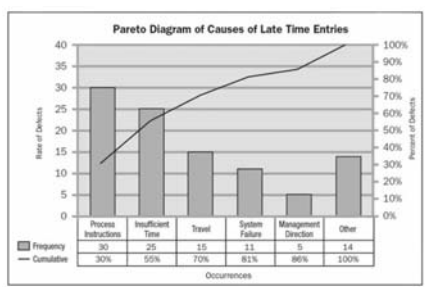
Perform Quality Control

Perform Quality Control (QC) is the process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes. Quality control is performed throughout the project. Quality standards include project processes and product goals. Project results include deliverables and project management results, such as cost and schedule performance. The project management team should have a working knowledge of statistical quality control, especially sampling and probability, to evaluate quality control outputs.

Inputs
.1 Project management plan
.2 Quality metrics
.3 Quality checklists
.4 Work performance measurements
.5 Approved change requests
.6 Deliverables
.7 Organizational process assets

Outputs
.1 Quality control measurements
.2 Validated changes
.3 Validated deliverables
.4 Organization process assets updates
.5 Change requests
.6 Project management plan updates
.7 Project document updates

8.3
Project Quality Management

To Perform Quality Assurance

From Plan Quality

Tools & Techniques
.1 Cause and effect diagrams
.2 Control charts
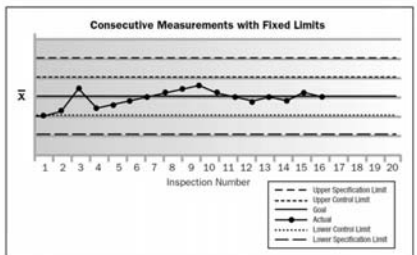.3 Flowcharting
.4 Histogram
.5 Pareto chart
.6 Run chart
.7 Scatter diagram
.8 Statistical sampling
.9 Inspection
.10 Approved change requests review

Consecutive Measurements with Fixed Limits

x̄

Inspection Number
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

— — — Upper Specification Limit
········· Upper Control Limit
——— Goal
—•— Actual
········· Lower Control Limit
— — — Lower Specification Limit

Develop Human Resource Plan

Develop Human Resource Plan is the process of identifying project roles, responsibilities, required skills and reporting relationships, and creating a staffing management plan. Human resource planning is used to determine and identify human resources with the necessary skills required for project success. The human resource plan documents project roles and responsibilities, project organization charts, and a staffing management plan with a timetable for staff acquisition and release. Consideration should be given to the availability of, and competition for, scarce resources.

Inputs
.1 Activity resource requirements
.2 Enterprise environmental factors
.3 Organizational process assets

Outputs
.1 Human resource plan

9.1
Project Human Resource Management

To Develop Project Management Plan

From Estimate Activity Resources
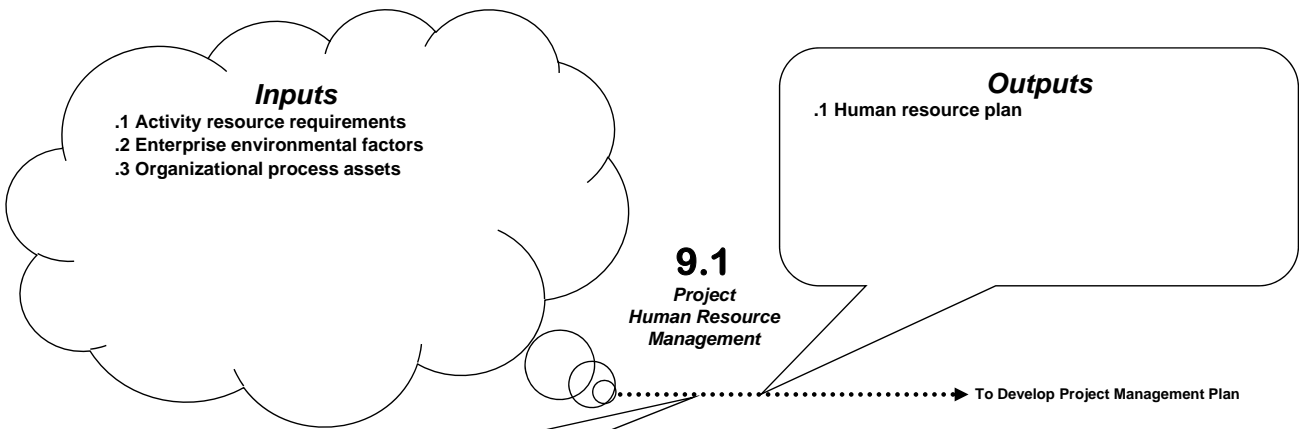
Tools & Techniques
.1 Organization charts and position descriptions
.2 Networking
.3 Organizational theory
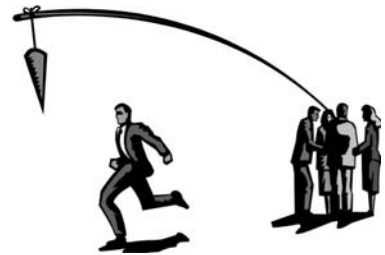
Acquire *Project* Team

Acquire Project Team is the process of confirming human resource availability and obtaining teams necessary to complete project assignments. The project management team may or may not have direct control over team member selection because of collective bargaining agreements, use of subcontractor personnel, matrix project environments, internal or external reporting relationships or other reasons. The project manager or project management team should effectively negotiate and influence others who are in a position to provide the required human resources.
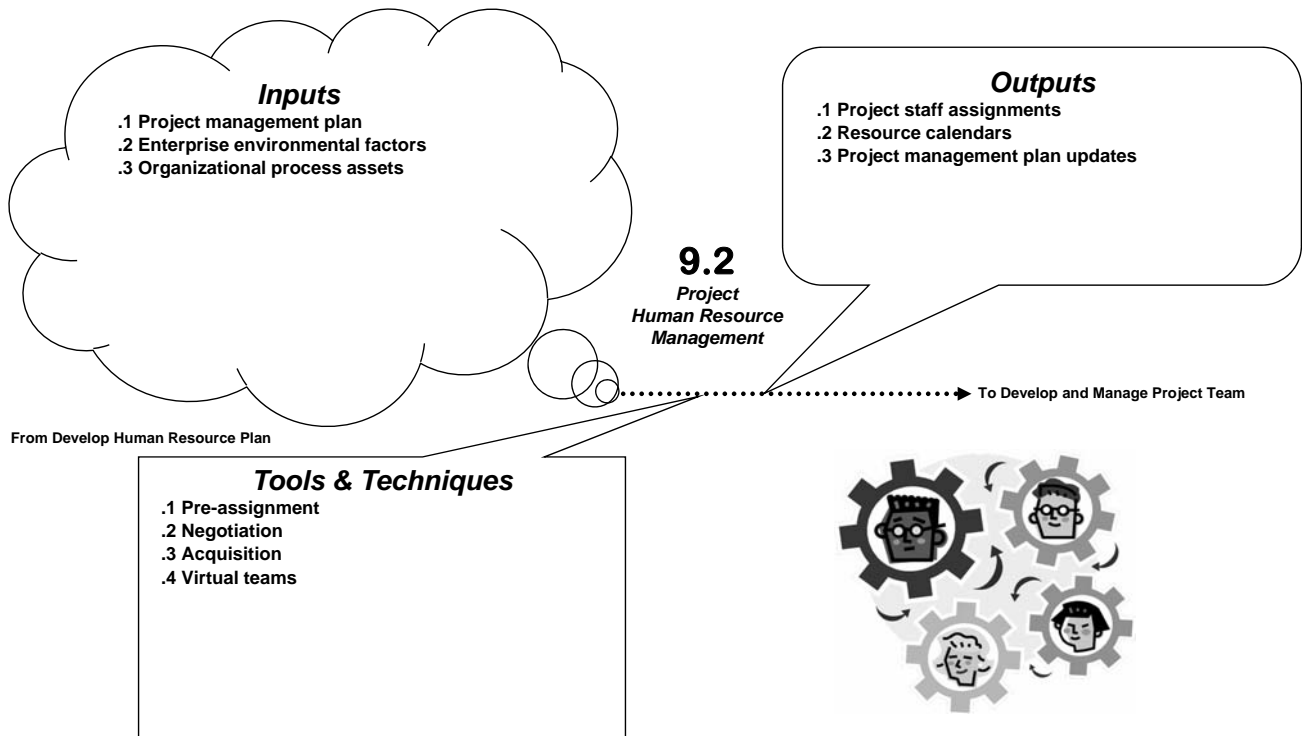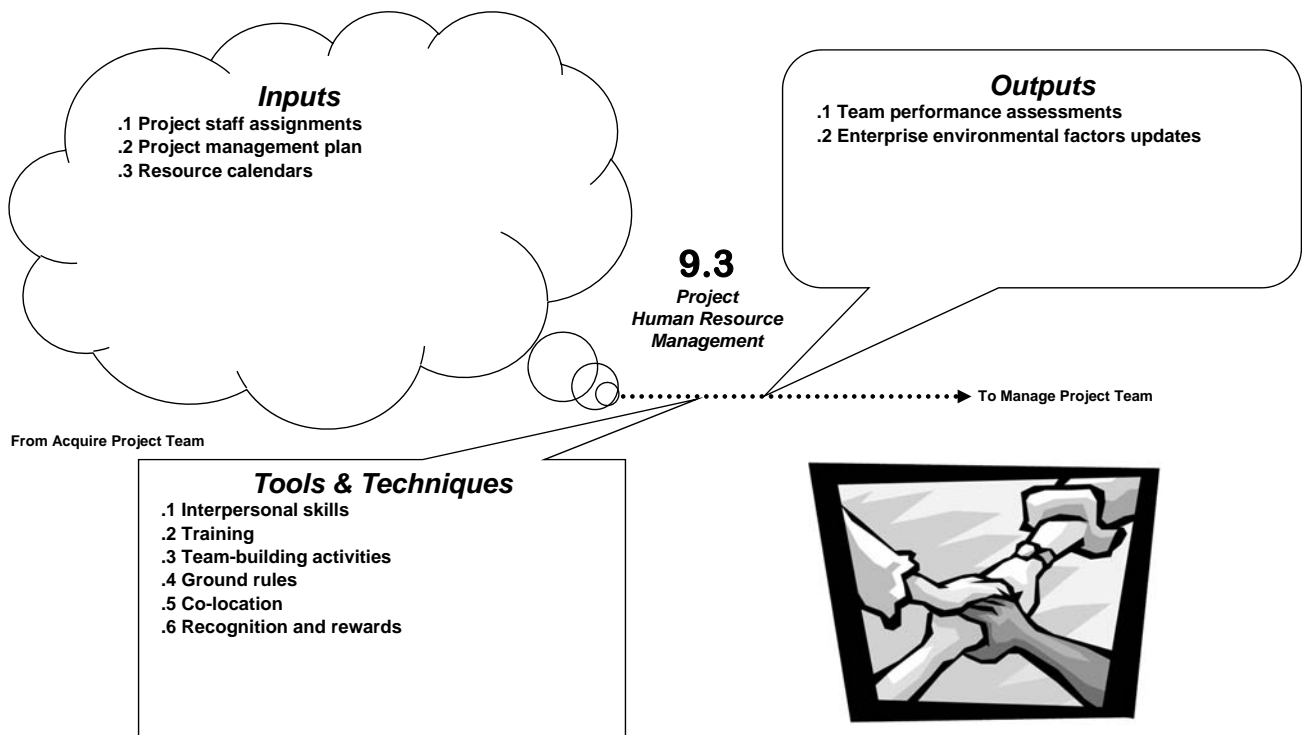
Inputs
.1 Project management plan
.2 Enterprise environmental factors
.3 Organizational process assets

Outputs
.1 Project staff assignments
.2 Resource calendars
.3 Project management plan updates

9.2
*Project
Human Resource
Management*

............► **To Develop and Manage Project Team**

From Develop Human Resource Plan

Tools & Techniques
.1 Pre-assignment
.2 Negotiation
.3 Acquisition
.4 Virtual teams

Develop *Project* Team

Develop Project Team is the process of improving team competencies, team interaction, and the project team's environment to enhance project performance. Project managers should acquire skills to identify, build, maintain, motivate, lead, and inspire project teams to achieve high team performance and to meet project objectives. Teamwork is a critical factor for project success, and developing effective project teams is one of the primary responsibilities of the project manager. Project managers should create an environment that facilitates teamwork.

Inputs
.1 Project staff assignments
.2 Project management plan
.3 Resource calendars

Outputs
.1 Team performance assessments
.2 Enterprise environmental factors updates

9.3
*Project
Human Resource
Management*

............► **To Manage Project Team**

From Acquire Project Team

Tools & Techniques
.1 Interpersonal skills
.2 Training
.3 Team-building activities
.4 Ground rules
.5 Co-location
.6 Recognition and rewards

Manage *Project* Team

Manage Project Team is the process of tracking team member performance, providing feedback, resolving issues, and managing changes to optimize project performance. The project management team observes team behavior, manages conflict, resolves issues, and appraises team member performance. Managing the project team requires a variety of management skills for fostering teamwork and integrating the efforts of team members to create high-performance teams. Project managers should provide challenging assignments and recognize top performers.

Inputs
.1 Project staff assignments
.2 Project management plan
.3 Team performance assessments
.4 Performance reports
.5 Organizational process assets

9.4
Project
Human Resource
Management

Outputs
.1 Enterprise environmental factors updates
.2 Organization process assets updates
.3 Change requests
.4 Project management plan updates

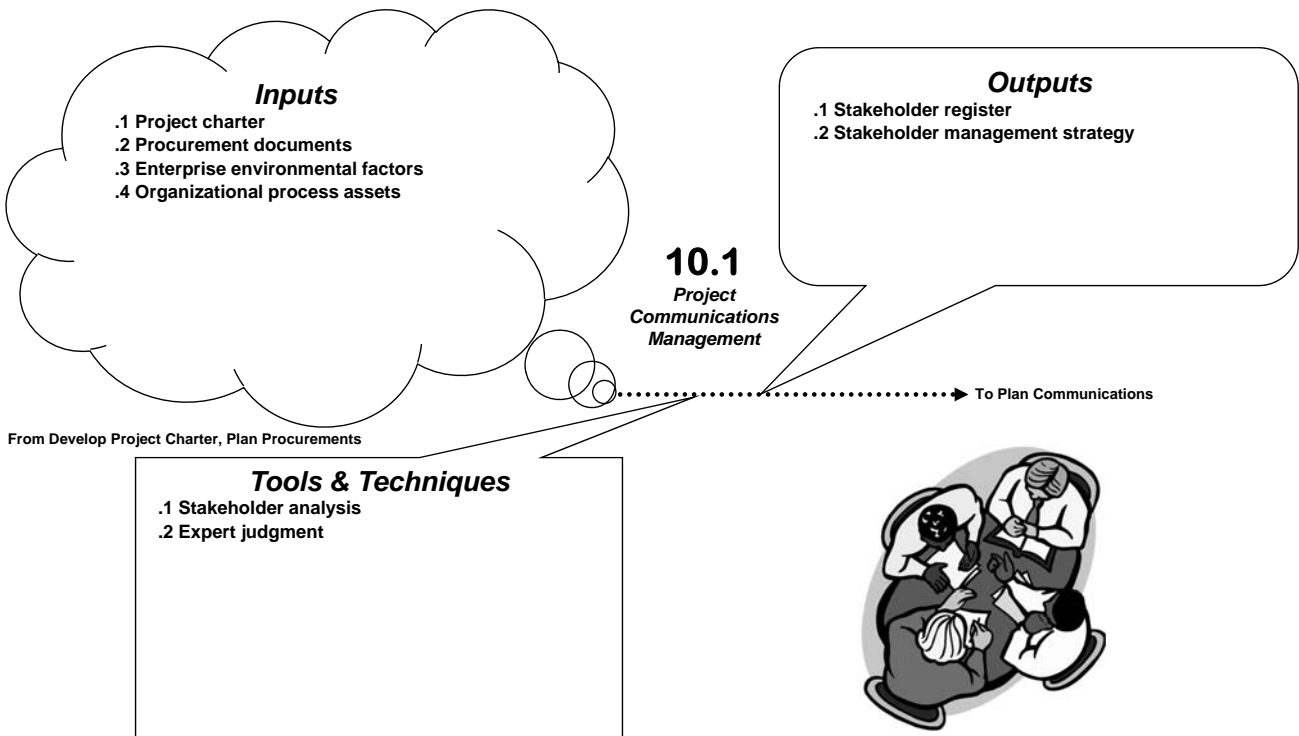................► **To Perform Integrated Change Control**

From Acquire & Develop Project Team

Tools & Techniques
.1 Observation and conversation
.2 Project performance appraisals
.3 Conflict management
.4 Issue log
.5 Interpersonal skills

Identify Stakeholders

Identify Stakeholders is the process of identifying all people or organizations impacted by the project and documenting the relevant information regarding their interests, involvement, and impact on project success. Project stakeholders are persons and organizations such as customers, sponsors, the performing organization, and the public that are actively involved in the project or whose interests may be positively or negatively affected by the execution or completion of the project. Stakeholders may also exert influence over the project and its deliverables.

Inputs
.1 Project charter
.2 Procurement documents
.3 Enterprise environmental factors
.4 Organizational process assets

10.1
Project
Communications
Management

Outputs
.1 Stakeholder register
.2 Stakeholder management strategy

................► **To Plan Communications**

From Develop Project Charter, Plan Procurements

Tools & Techniques
.1 Stakeholder analysis
.2 Expert judgment

Plan Communications

Plan Communications is the process of determining the project stakeholders' information needs and defining a communication approach. This process responds to the information needs and communications needs of stakeholders: for example who needs what information, when they will need it, how it will be provided to them, and by whom. While all projects share the need to communicate project information, the informational needs and methods of distribution vary widely. Communications planning should be performed very early in the project.

Inputs
.1 Stakeholder register
.2 Stakeholder management strategy
.3 Enterprise environmental factors
.4 Organizational process assets

Outputs
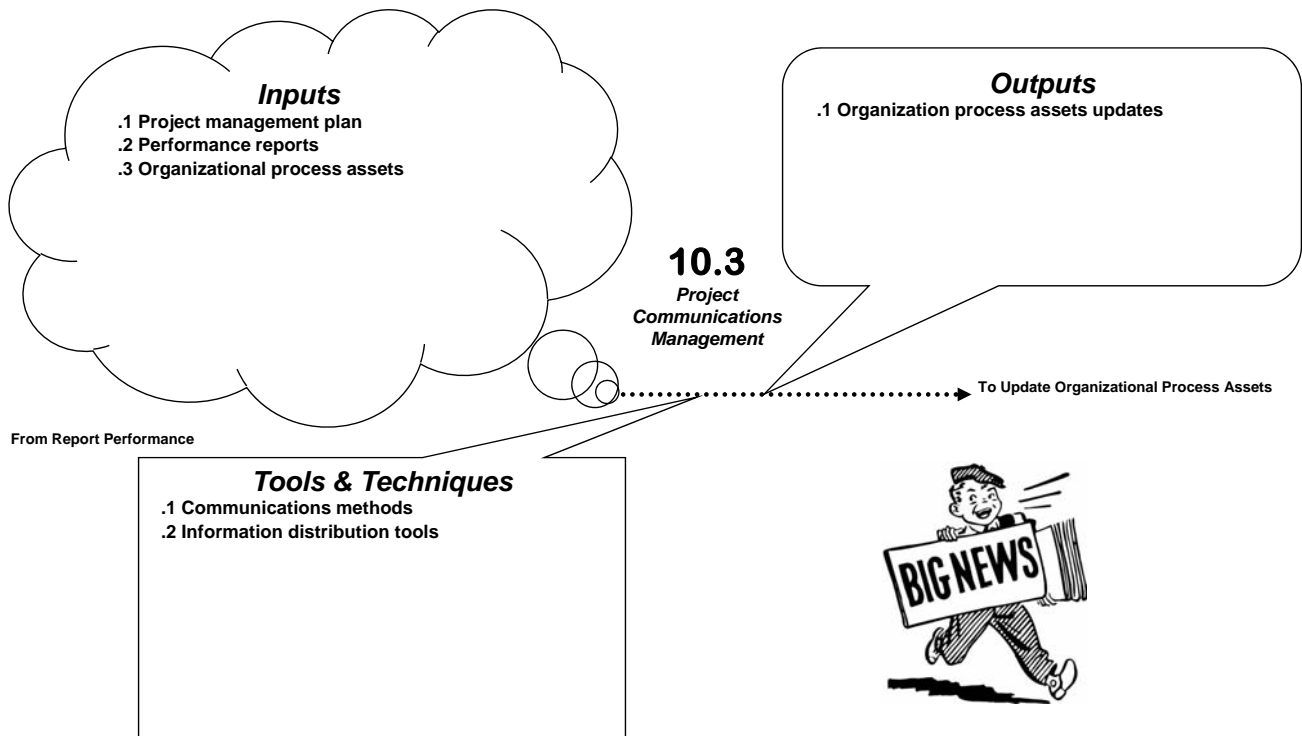.1 Communications management plan
.2 Project document updates

10.2
Project Communications Management

To Develop Project Management Plan

From Identify Stakeholders

Tools & Techniques
.1 Communication requirements analysis
.2 Communication technology
.3 Communication models
.4 Communication methods

Distribute Information

Distribute Information is the process of making relevant information available to project stakeholders as planned. It is performed throughout the entire project life cycle and in all project management processes. The focus is mainly in the execution process, which includes implementing the communications management plan as well as responding to unexpected requests for information. Effective information distribution includes an appropriate sender-receiver model, media, writing style, meeting management techniques, presentation techniques, and facilitation techniques.

Inputs
.1 Project management plan
.2 Performance reports
.3 Organizational process assets

Outputs
.1 Organization process assets updates

10.3
Project Communications Management

To Update Organizational Process Assets

From Report Performance

Tools & Techniques
.1 Communications methods
.2 Information distribution tools

Manage Stakeholder Expectations

Manage Stakeholder Expectations is the process of communicating and working with stakeholders to meet their needs and addressing issues as they occur. The process involves communication activities directed toward project stakeholders to influence their expectations, to address their concerns, and to resolve issues. Actively managing stakeholder expectations increases the likelihood of project acceptance by negotiating and influencing their desires to achieve and maintain the project goals. Addressing concerns that have not become issues yet can reduce conflict.

Inputs
.1 Stakeholder register
.2 Stakeholder management strategy
.3 Project management plan
.4 Issue log
.5 Change log
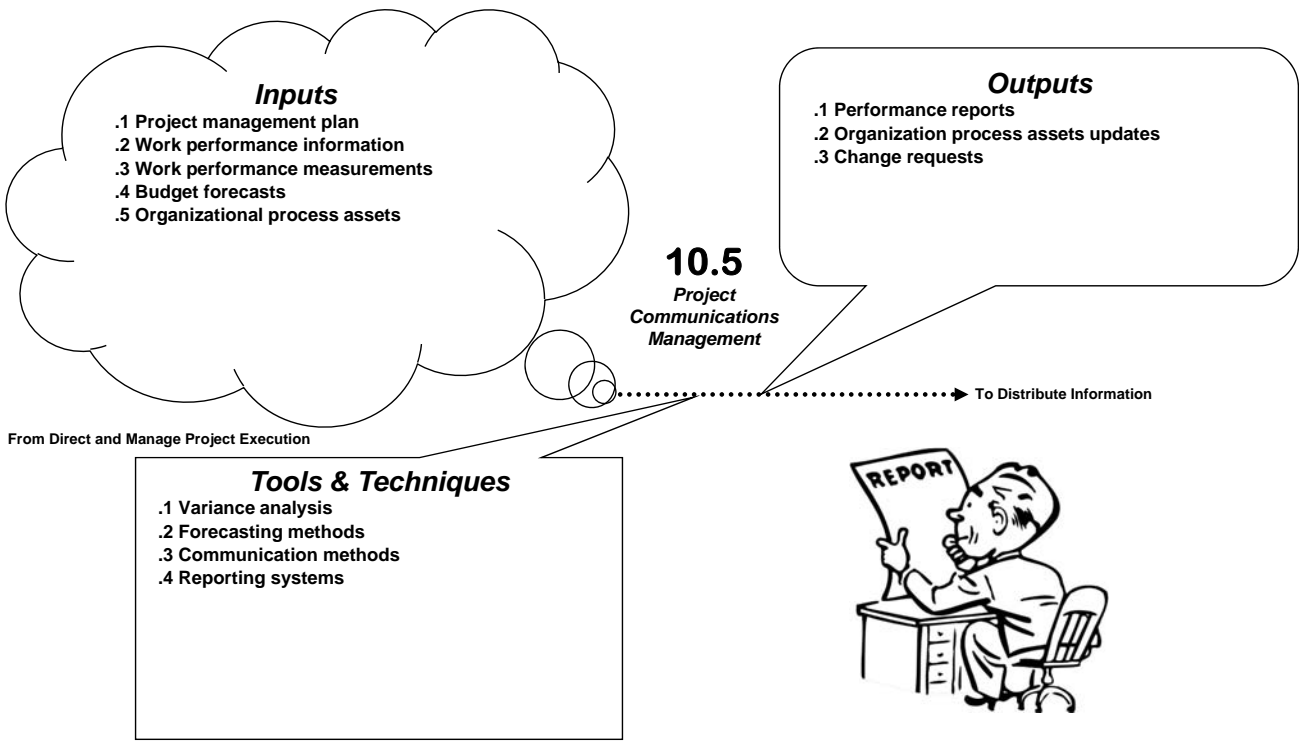.6 Organizational process assets

Outputs
.1 Organization process assets updates
.2 Change requests
.3 Project management plan updates
.4 Project document updates

10.4
Project Communications Management

To Perform Integrated Change Control

From Identify Stakeholders

Tools & Techniques
.1 Communications methods
.2 Interpersonal skills
.3 Management skills

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Report Performance

Report Performance is the process of collecting and distributing performance information, including status reports, progress measurements, and forecasts. Performance reporting involves periodic collection and timely analysis of baseline versus actual data to understand and communicate the project progress and performance information as well as to forecast the project results. Performance reports need to provide information at an appropriate level for each audience. The format may range from a simple summary or dashboard status report to more elaborate reports.

Inputs
.1 Project management plan
.2 Work performance information
.3 Work performance measurements
.4 Budget forecasts
.5 Organizational process assets

Outputs
.1 Performance reports
.2 Organization process assets updates
.3 Change requests

10.5
Project Communications Management

To Distribute Information

From Direct and Manage Project Execution

Tools & Techniques
.1 Variance analysis
.2 Forecasting methods
.3 Communication methods
.4 Reporting systems

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Plan Risk Management

Plan Risk Management is the process of defining how to conduct risk management activities for a project. Careful and explicit planning enhances the probability of success for the other risk management processes. Planning risk management processes is important to ensure that the degree, type, and visibility of risk management are commensurate with both the risks and the importance of the project to the organization. Planning is also important to provide sufficient resources and time for risk management activities and to establish an agreed-upon basis for evaluating risk.
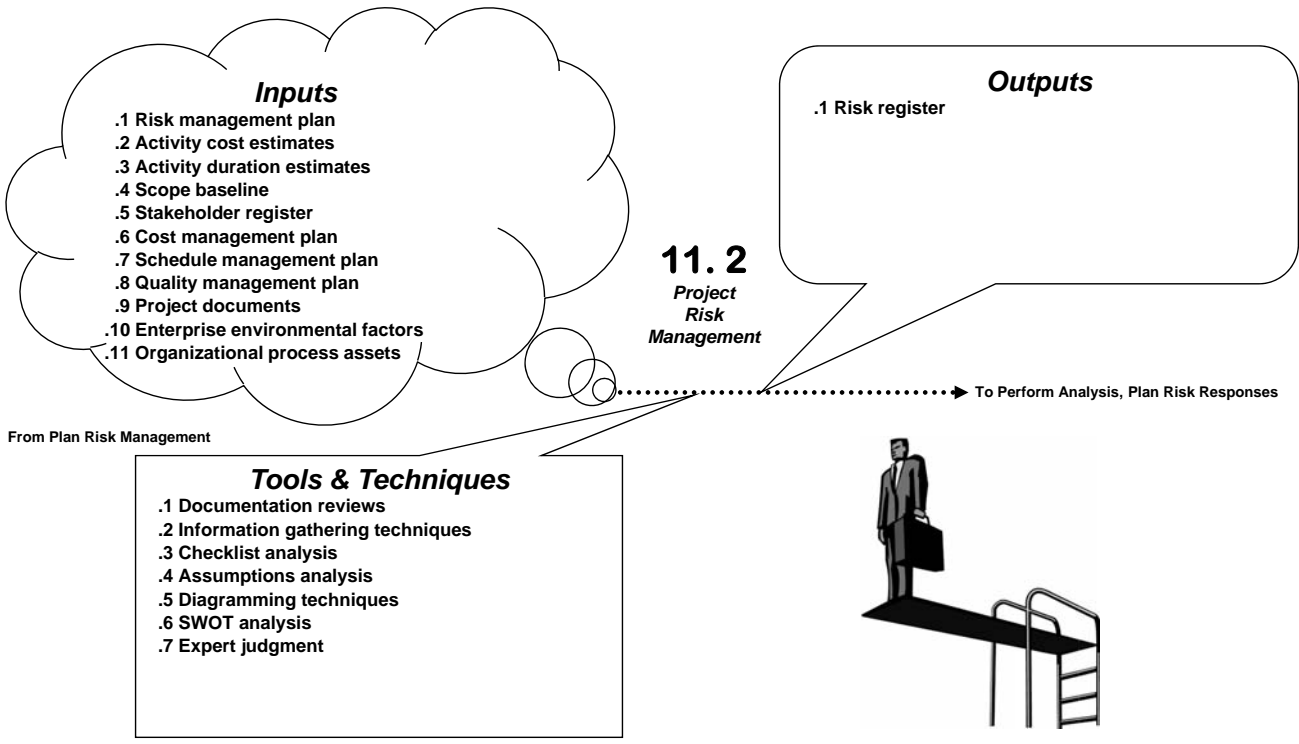
Inputs
.1 Project scope statement
.2 Cost management plan
.3 Schedule management plan
.4 Communications management plan
.5 Enterprise environmental factors
.6 Organization process assets

11.1
*Project
Risk
Management*

Outputs
.1 Risk management plan

•••••••••••••••••••••••••••► To Identify Risks, Plan Risk Responses

From Define Scope, Project Time & Cost Management

Tools & Techniques
.1 Planning meetings and analysis

Identify Risks

Identify Risks is the process of determining which risks may affect the project and documenting their characteristics. All participants associated with the project should be encouraged to identify risks. Identify Risks is an iterative process because new risks may evolve or become known as the project progresses through its life cycle. The format of risk statements should be consistent to ensure that relative effects of one risk event can be compared to relative effects of other risk events. Including the project team in the process develops a sense of responsibility for risk.

Inputs
.1 Risk management plan
.2 Activity cost estimates
.3 Activity duration estimates
.4 Scope baseline
.5 Stakeholder register
.6 Cost management plan
.7 Schedule management plan
.8 Quality management plan
.9 Project documents
.10 Enterprise environmental factors
.11 Organizational process assets

11. 2
*Project
Risk
Management*

Outputs
.1 Risk register

•••••••••••••••••••••••••••► To Perform Analysis, Plan Risk Responses

From Plan Risk Management

Tools & Techniques
.1 Documentation reviews
.2 Information gathering techniques
.3 Checklist analysis
.4 Assumptions analysis
.5 Diagramming techniques
.6 SWOT analysis
.7 Expert judgment

Perform Qualitative Risk Analysis

Perform Qualitative Risk Analysis is the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact. Organizations can improve project per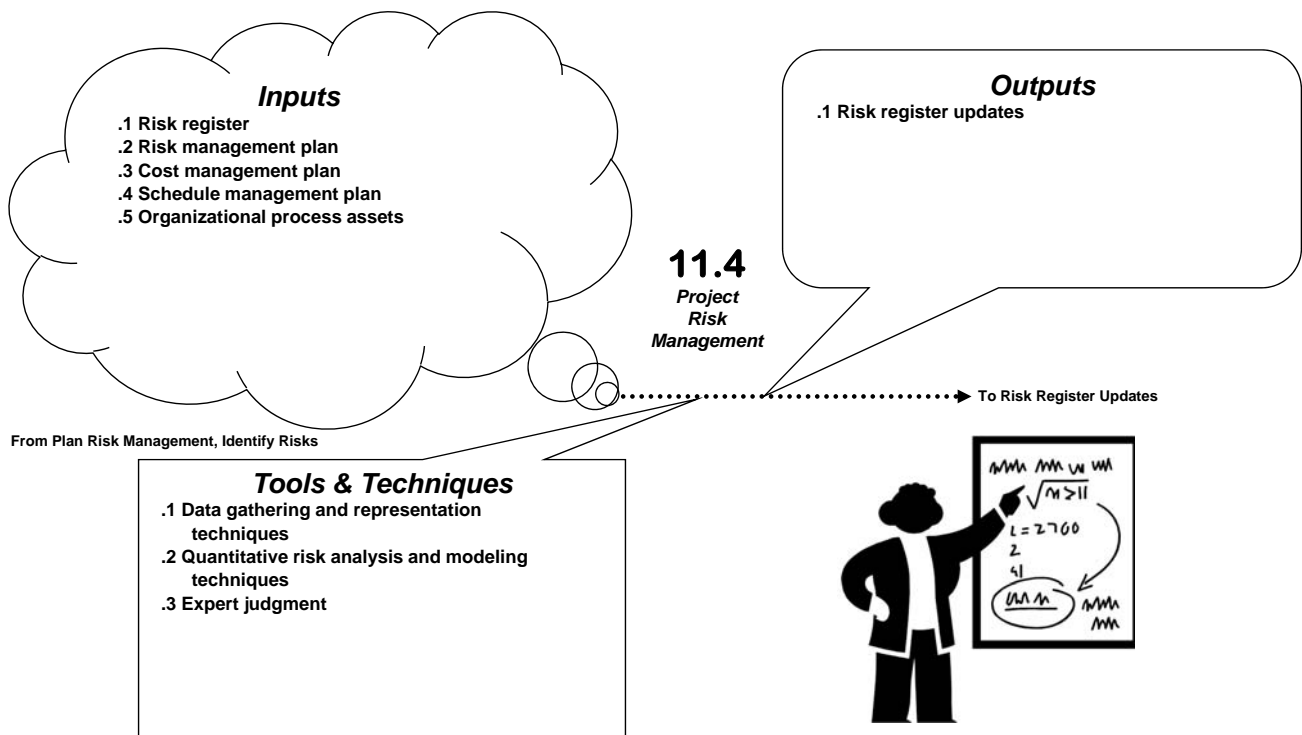formance by focusing on the high-priority risks. Perform Qualitative Risk Analysis assesses the priority of identified risks using their relative probability or likelihood of occurrence, the corresponding impact on project objectives if the risks occur, as well as other factors such as the time frame for responses, participant risk attitudes, and the organization's risk tolerances.

Inputs
.1 Risk register
.2 Risk management plan
.3 Project scope statement
.4 Organizational process assets

Outputs
.1 Risk register updates

11.3
Project Risk Management

To Risk Register Updates

From Plan Risk Management, Identify Risks

Tools & Techniques
.1 Risk probability and impact assessment
.2 Probability and impact matrix
.3 Risk data quality assessment
.4 Risk categorization
.5 Risk urgency assessment
.6 Expert judgment
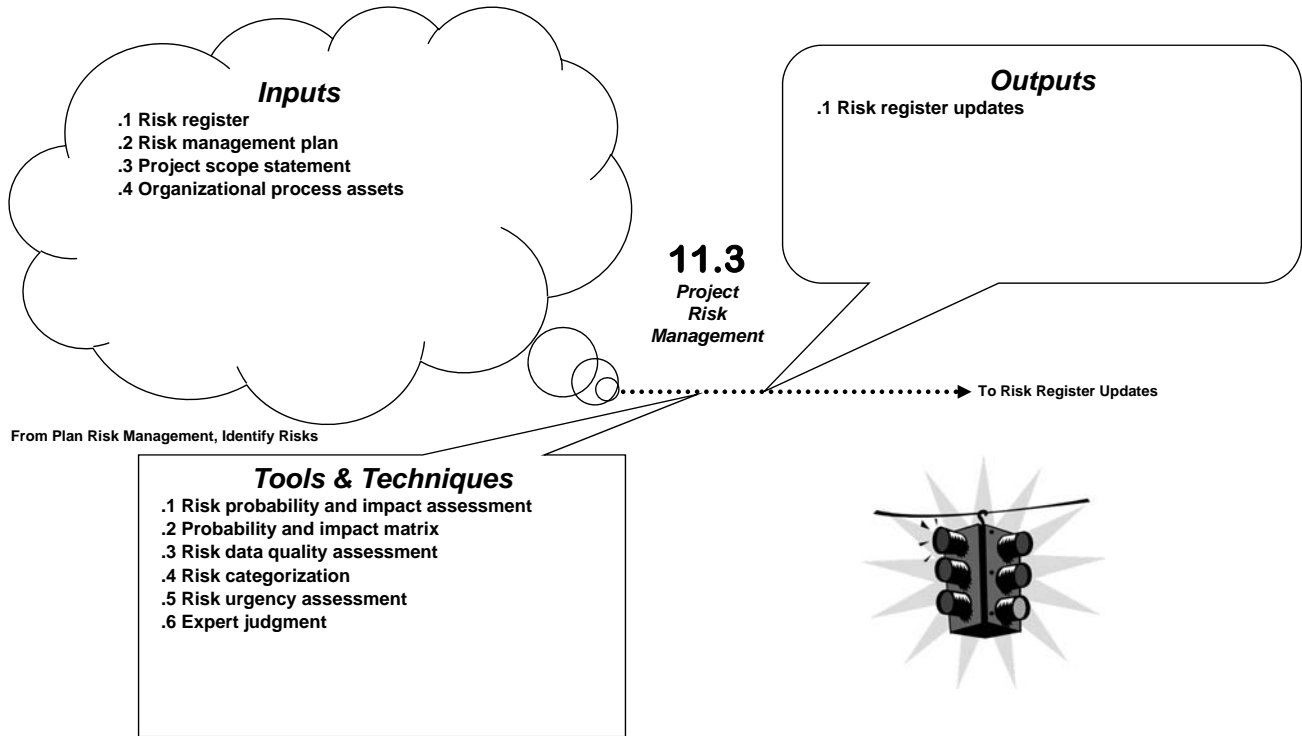
Perform Quantitative Risk Analysis

Perform Quantitative Risk Analysis is the process of numerically analyzing the effect of identified risks on the overall project objectives. Perform Quantitative Risk Analysis is performed on the risks that have been prioritized by the Perform Qualitative Risk Analysis process as potentially and substantially impacting the project's competing demands. The Perform Quantitative Risk Analysis process analyzes the effect of those selected risk events. It may be used to assign a numerical rating to individual risks or to evaluate the aggregate effect of all risks affecting the project.

Inputs
.1 Risk register
.2 Risk management plan
.3 Cost management plan
.4 Schedule management plan
.5 Organizational process assets

Outputs
.1 Risk register updates

11.4
Project Risk Management

To Risk Register Updates

From Plan Risk Management, Identify Risks

Tools & Techniques
.1 Data gathering and representation techniques
.2 Quantitative risk analysis and modeling techniques
.3 Expert judgment

Plan Risk Responses

Plan Risk Responses is the process of developing options and actions to enhance opportunities and to reduce threats to project objectives. It follows the Perform Qualitative Risk Analysis process and the Perform 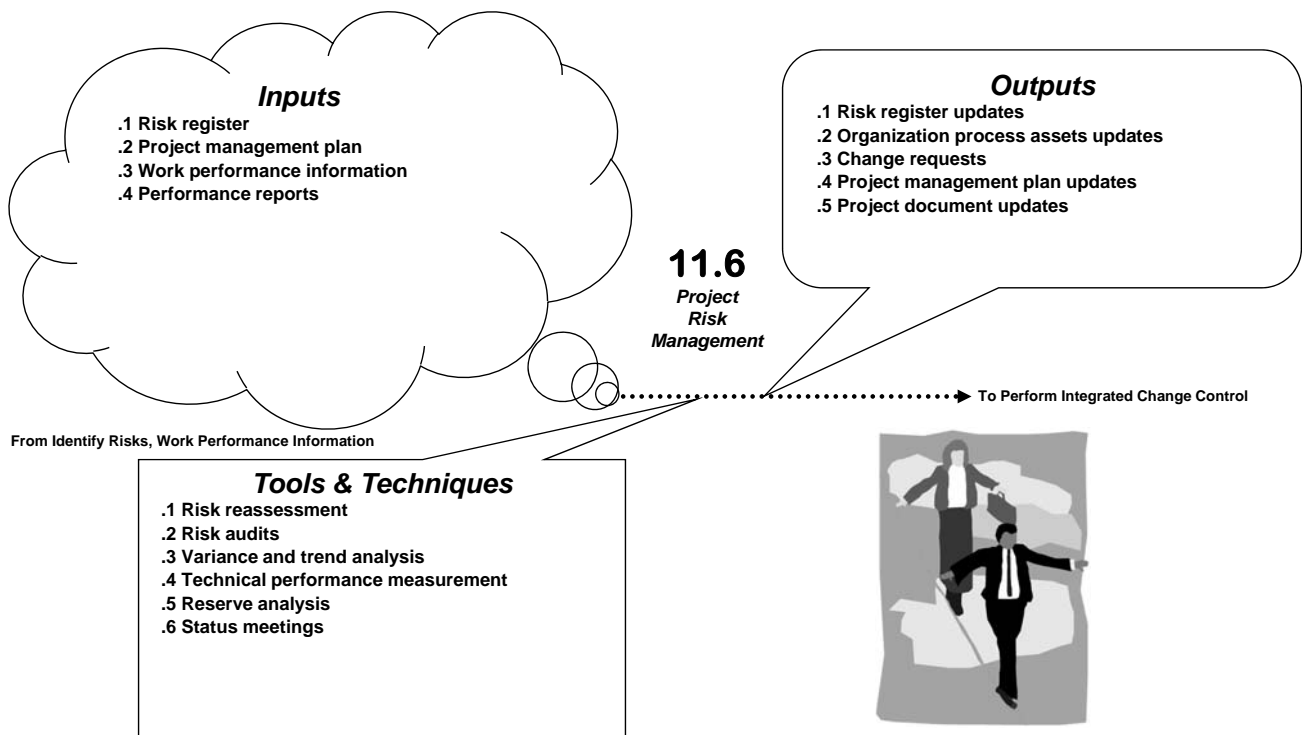Quantitative Risk Analysis process (if used). It includes the identification and assignment of a risk response owner (one person) to take responsibility for each agreed-to and funded risk response. Plan Risk Responses addresses the risks by their priority, inserting resources and activities into the budget, schedule, and project management plan as needed.

Inputs

.1 Risk register
.2 Risk management plan

Outputs

.1 Risk register updates
.2 Risk-related contract decisions
.3 Project management plan updates
.4 Project document updates

11.5
*Project
Risk
Management*

From Plan Risk Management, Identify Risks

·············· ► **To Risk Register Updates**

Tools & Techniques

.1 Strategies for negative risks or threats
.2 Strategies for positive risks or opportunities
.3 Contingent response strategies
.4 Expert judgment

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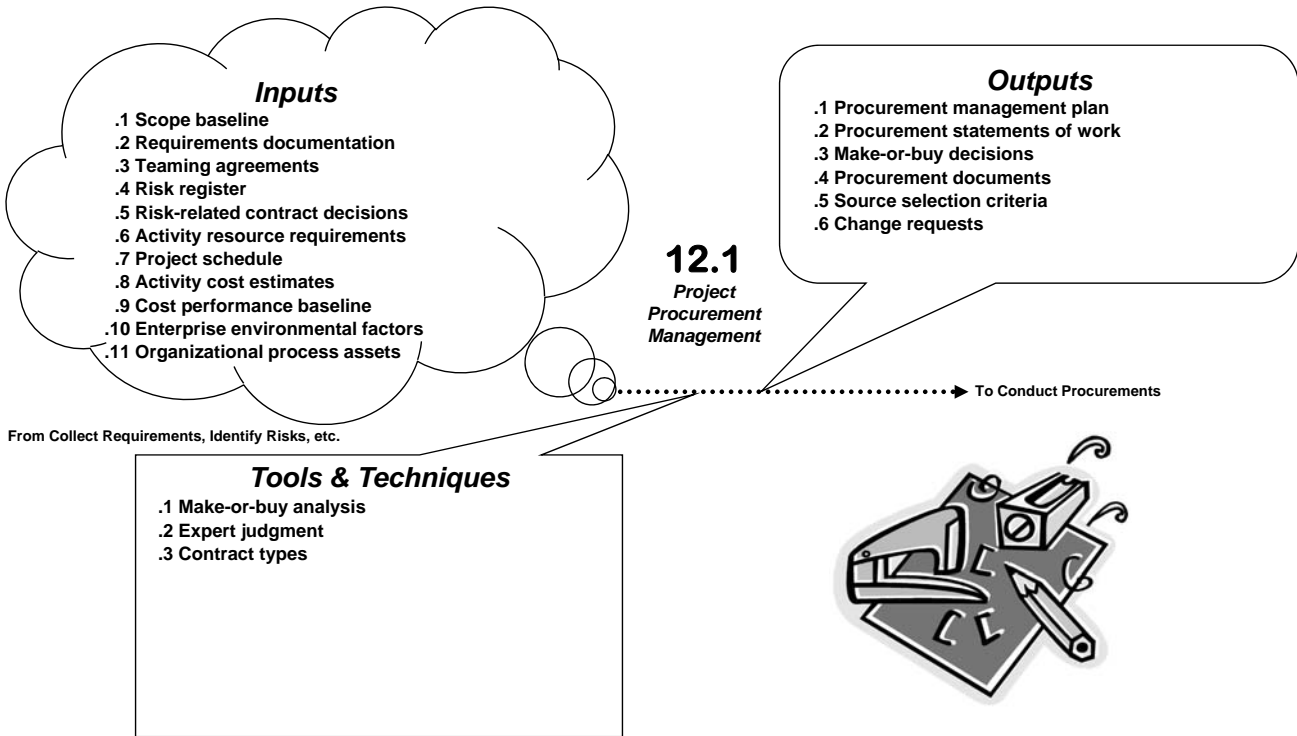
Monitor and Control Risks

Monitor and Control Risks is the process of tracking identified risks, implementing risk response plans, monitoring residual risks, identifying new (secondary) risks, and evaluating risk process effectiveness throughout the project. Project work should be continuously monitored for changing and outdated risks. The process applies techniques such as variance and trend analysis to determine if project assumptions are still valid and/or analysis shows that an assessed risk has changed or can be retired. The process should keep contingency reserves aligned with project risks.

Inputs

.1 Risk register
.2 Project management plan
.3 Work performance information
.4 Performance reports

Outputs

.1 Risk register updates
.2 Organization process assets updates
.3 Change requests
.4 Project management plan updates
.5 Project document updates

11.6
*Project
Risk
Management*

From Identify Risks, Work Performance Information

·············· ► **To Perform Integrated Change Control**

Tools & Techniques

.1 Risk reassessment
.2 Risk audits
.3 Variance and trend analysis
.4 Technical performance measurement
.5 Reserve analysis
.6 Status meetings

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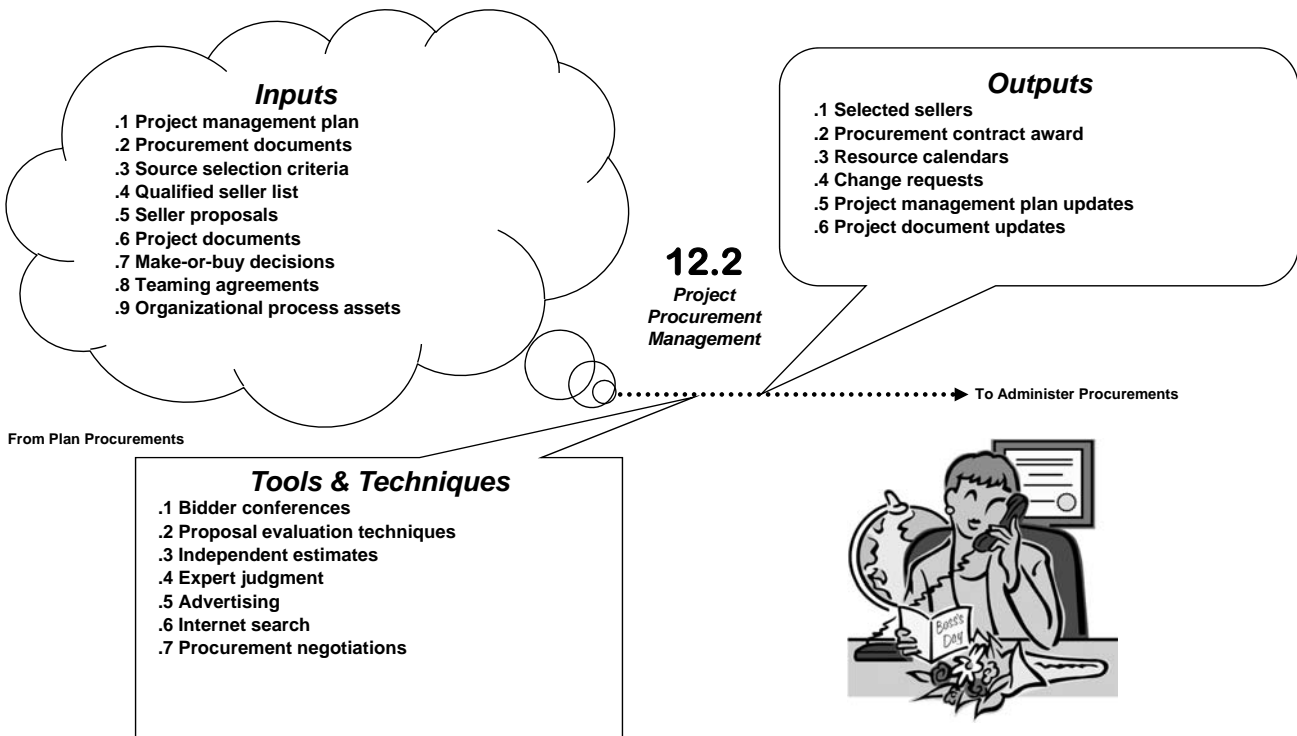
Plan Procurements

Plan Procurements is the process of documenting project purchasing decisions, specifying the approach, and identifying potential sellers. It identifies project needs which can best be, or must be, met by acquiring products, services, or results from outside of the project organization versus those project needs which can be accomplished by the project team. This process involves consideration of whether, how, what, how much, when to acquire, and potential sellers (suppliers), particularly if the buyer wishes to exercise influence over acquisition decisions.

Inputs
.1 Scope baseline
.2 Requirements documentation
.3 Teaming agreements
.4 Risk register
.5 Risk-related contract decisions
.6 Activity resource requirements
.7 Project schedule
.8 Activity cost estimates
.9 Cost performance baseline
.10 Enterprise environmental factors
.11 Organizational process assets

Outputs
.1 Procurement management plan
.2 Procurement statements of work
.3 Make-or-buy decisions
.4 Procurement documents
.5 Source selection criteria
.6 Change requests

12.1
Project Procurement Management

····· To Conduct Procurements

From Collect Requirements, Identify Risks, etc.

Tools & Techniques
.1 Make-or-buy analysis
.2 Expert judgment
.3 Contract types
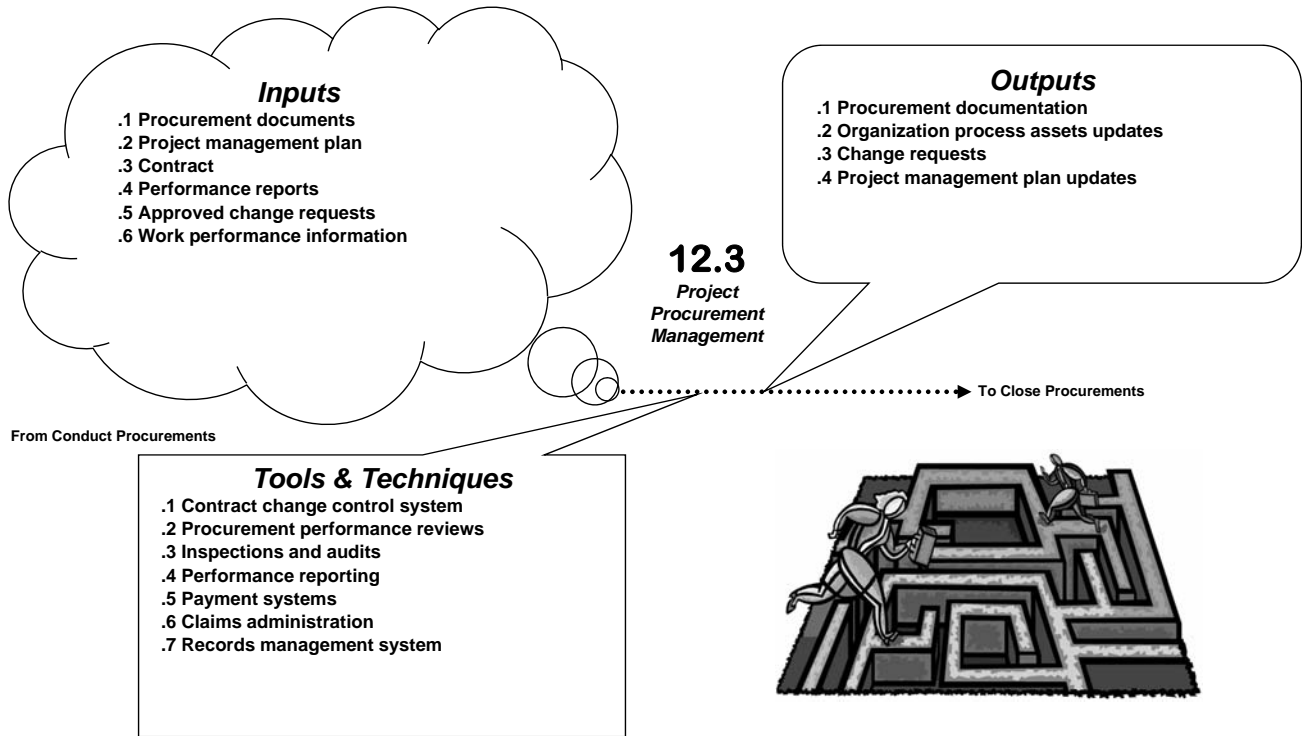

Conduct Procurements

Conduct Procurements is the process of obtaining seller (supplier) responses, selecting a seller, and awarding a contract. In this process, the team will receive bids or proposals and will apply previously defined selection criteria to select one or more sellers who are qualified to perform the work and acceptable as a seller. On major procurement items, the overall process of requesting responses from sellers and evaluating the responses can be repeated. A short list of qualified sellers can be established based on a preliminary proposal.

Inputs
.1 Project management plan
.2 Procurement documents
.3 Source selection criteria
.4 Qualified seller list
.5 Seller proposals
.6 Project documents
.7 Make-or-buy decisions
.8 Teaming agreements
.9 Organizational process assets

Outputs
.1 Selected sellers
.2 Procurement contract award
.3 Resource calendars
.4 Change requests
.5 Project management plan updates
.6 Project document updates

12.2
Project Procurement Management

····· To Administer Procurements

From Plan Procurements

Tools & Techniques
.1 Bidder conferences
.2 Proposal evaluation techniques
.3 Independent estimates
.4 Expert judgment
.5 Advertising
.6 Internet search
.7 Procurement negotiations
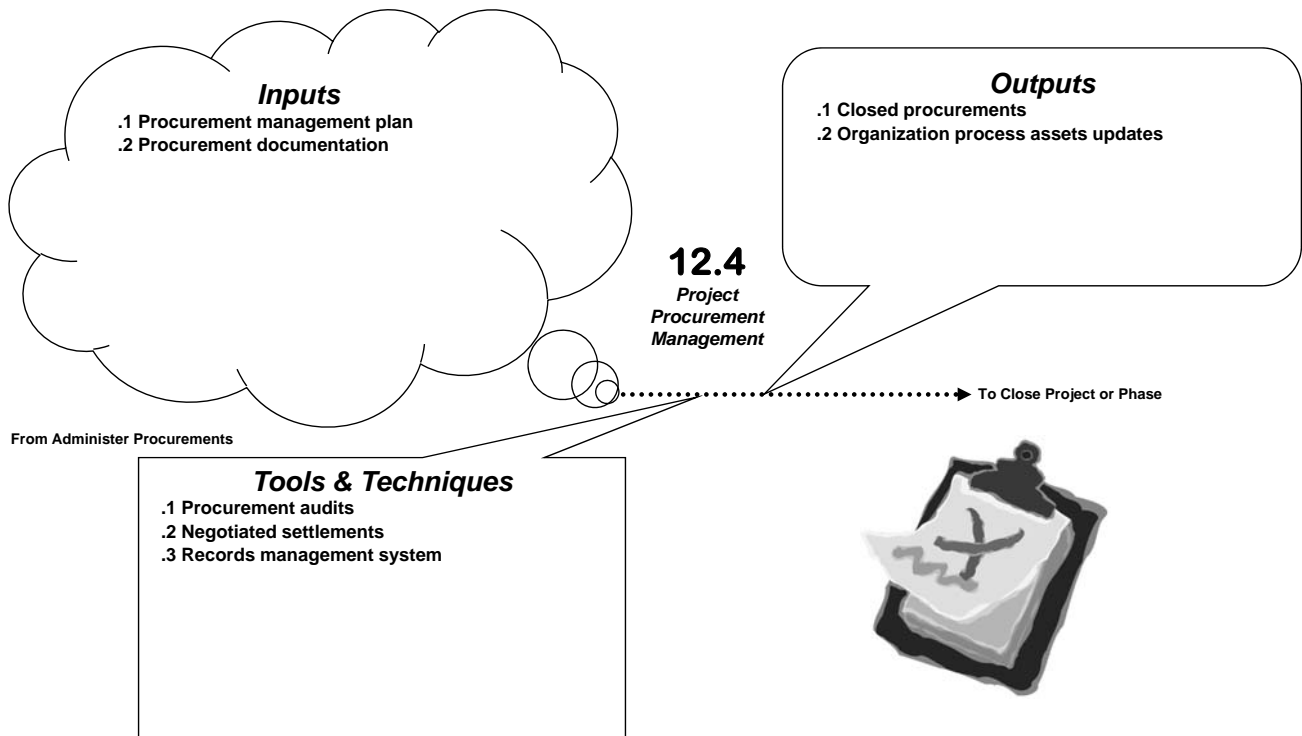
Administer Procurements

Administer Procurements is the process of managing procurement relationships, monitoring contract performance, and making changes and corrections as needed. Both the buyer and the seller will administer the procurement contract for similar purposes. Each must ensure that both parties meet their contractual obligations and that their own legal rights are protected. The Administer Procurements process ensures that the seller's performance meets procurement requirements and that the buyer performs according to the terms of the contract.

Inputs
.1 Procurement documents
.2 Project management plan
.3 Contract
.4 Performance reports
.5 Approved change requests
.6 Work performance information

Outputs
.1 Procurement documentation
.2 Organization process assets updates
.3 Change requests
.4 Project management plan updates

12.3
Project Procurement Management

To Close Procurements

From Conduct Procurements

Tools & Techniques
.1 Contract change control system
.2 Procurement performance reviews
.3 Inspections and audits
.4 Performance reporting
.5 Payment systems
.6 Claims administration
.7 Records management system

Close Procurements

Close Procurements is the process of completing each project procurement. Closing procurements supports the Close Project or Phase process since it involves verification that all work and deliverables were acceptable. The Close Procurements process involves administrative activities such as finalizing open claims, updating project records to reflect final results, and archiving information for future use. Unresolved claims may be subject to litigation after closure. The contract terms and conditions can prescribe specific procedures for contract closure.

Inputs
.1 Procurement management plan
.2 Procurement documentation

Outputs
.1 Closed procurements
.2 Organization process assets updates

12.4
Project Procurement Management

To Close Project or Phase

From Administer Procurements

Tools & Techniques
.1 Procurement audits
.2 Negotiated settlements
.3 Records management system