

Target: PMP® Certification



Project Integration Management

1	DEVELOP PROJECT CHARTER		
2	DEVELOP PROJECT MANAGEMENT PLAN		
3	DIRECT AND MANAGE PROJECT WORK		
4	MANAGE PROJECT KNOWLEDGE		
5	MONITOR AND CONTROL PROJECT WORK		
6	PERFORM INTEGRATED CHANGE CONTROL		
7	CLOSE PROJECT OR PHASE		

Project Integration Management

*** Project Integration Management.** Project Integration Management includes the processes and activities needed to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups.

1

DEVELOP PROJECT CHARTER



*** Develop Project Charter.** The process of developing a document that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

7 Questions to raise at the beginning of the project:

1. Which is the customer business need?
2. Which is the organizational business case?
3. Do we know the project scope and boundaries?
4. Do we know the Project Constraints?
5. What about the Assumptions?
6. Who what should approve/validate/review?
7. Which are the project deliverables?

1**DEVELOP PROJECT CHARTER****INPUTS**

- » Business documents
 - Business case
 - Benefits management plan
- » Agreements
- » Enterprise Environment Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgment
- ✓ Data gathering
 - Brainstorming
 - Focus groups
 - Interviews
- ✓ Interpersonal and team skills
 - Conflict management
 - Facilitation
 - Meeting management
- ✓ Meetings

OUTPUTS

- Project charter »
- Assumption log »

1

DEVELOP PROJECT CHARTER



INPUTS

» Project statement of work

* **Statement of Work (SOW).** A narrative description of products, services, or results to be delivered by the project.

It is provided by:

- Project initiator or sponsor for internal projects
- Customer, as part of bid document or as part of a contract, for external projects

The SOW references the following:

- Business need
- Product scope description
- Strategic plan

1

DEVELOP PROJECT CHARTER



INPUTS

» Business case

* **Business Case.** A documented economic feasibility study used to establish validity of the benefits of a selected component lacking sufficient definition and that is used as a basis for the authorization of further project management activities.

Business Case = Business Need + Cost-benefit analysis + Technical analysis

It can be a result of:

- Market demand
- Organizational need
- Customer request
- Technological advance
- Legal requirement
- Ecological impacts
- Social need

1

DEVELOP PROJECT CHARTER



INPUTS

» Agreements

* **Agreements.** Any document or communication that defines the initial intentions of a project. This can take the form of a contract, memorandum of understanding (MOU), letters of agreement, verbal agreements, email, etc.

1**DEVELOP PROJECT CHARTER****INPUTS****» Enterprise Environment
Factors**

EEF examples:

- Governmental standards, industry standards, or regulations
- Organizational culture and structure
- Marketplace conditions

1**DEVELOP PROJECT CHARTER****INPUTS****» Organizational Process
Assets**

OPA examples:

- Develop Project Charter process definition
- Project charter template
- Historical information and lessons learned knowledge base

1

DEVELOP PROJECT CHARTER



TOOLS & TECHNIQUES

✓ Expert judgement

* **Expert Judgment.** Judgment provided based upon expertise in an application area, knowledge area, discipline, industry, etc., as appropriate for the activity being performed. Such expertise may be provided by any group or person with specialized education, knowledge, skill, experience, or training.

Example of expert judgment:

- Other units within the organization
- Consultants
- Stakeholders, including customers or sponsors
- Professional and technical associations
- Industry groups
- Subject matter experts (SME)
- Project management office (PMO)

1**DEVELOP PROJECT CHARTER****TOOLS & TECHNIQUES**✓ **Facilitation techniques**

Example of facilitation techniques:

- Brainstorming
- Conflict resolution
- Problem solving
- Meeting management techniques
- Delphi technique

1

DEVELOP PROJECT CHARTER



OUTPUTS

Project charter »

* **Project Charter.** A document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

It contains:

1. Project purpose or justification (Business Case and Customer Business need)
2. Measurable project objectives and related success criteria
3. High-level requirements
4. Assumptions and constraints
5. High-level project description and boundaries
6. High-level risks
7. Summary milestone schedule
8. Summary budget
9. Stakeholder list
10. Project approval requirements (i.e., what constitutes project success, who decides the project is successful, and who signs off on the project),
11. Assigned project manager, responsibility, and authority level
12. Name and authority of the sponsor or other person(s) authorizing the project charter.

1**DEVELOP PROJECT CHARTER****OUTPUTS****Project charter »**

- Projects are initiated by an entity external to the project such as a sponsor, program or project management office (PMO) staff person, or a portfolio governing body chairperson or authorized representative.
- Business case assessment, approval, and funding are handled externally to the project boundaries
- Project management team may help write the project charter
- It is recommended that the project manager participate in the development of the project charter to obtain a foundational understanding of the project requirements.
- The approved project charter formally initiates the project
- The Project Charter:
 - is issued by the project initiator or sponsor
 - should be broad enough so it does not need to change as project progresses
 - is an internal document of the performing organization
 - is a „contract” between the project manager and the performing organization

1**DEVELOP PROJECT CHARTER****OUTPUTS****Project charter »**

Project charter benefits:

- Formally authorizes the existence of a project (e.g.: internal accounting unique code)
- Formally name a project manager
- Establish the project manager authority to apply organizational resources to project activities
- It links the project to the ongoing work of the organization
- It provides a high level risk identification
- It synthesizes project constraints and assumptions known at this stage

1**DEVELOP PROJECT CHARTER****OUTPUTS**

Project charter »



- First of all, identify the project scope and project boundaries
- Identify who is the customer of the project
- Remember: the project charter is an internal document of the performing organization
- A project without a project charter does not exist internally
- Business need vs Customer's need
- Business need vs Business case
- Why the „develop project charter” process is an integration process?

2

DEVELOP PROJECT MANAGEMENT PLAN

*** Develop Project Management Plan.** The process of defining, preparing, and coordinating all plan components and consolidating them into an integrated project management plan.

2**DEVELOP PROJECT MANAGEMENT PLAN****INPUTS**

- » Project charter
- » Outputs from other processes
- » Enterprise Environment Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

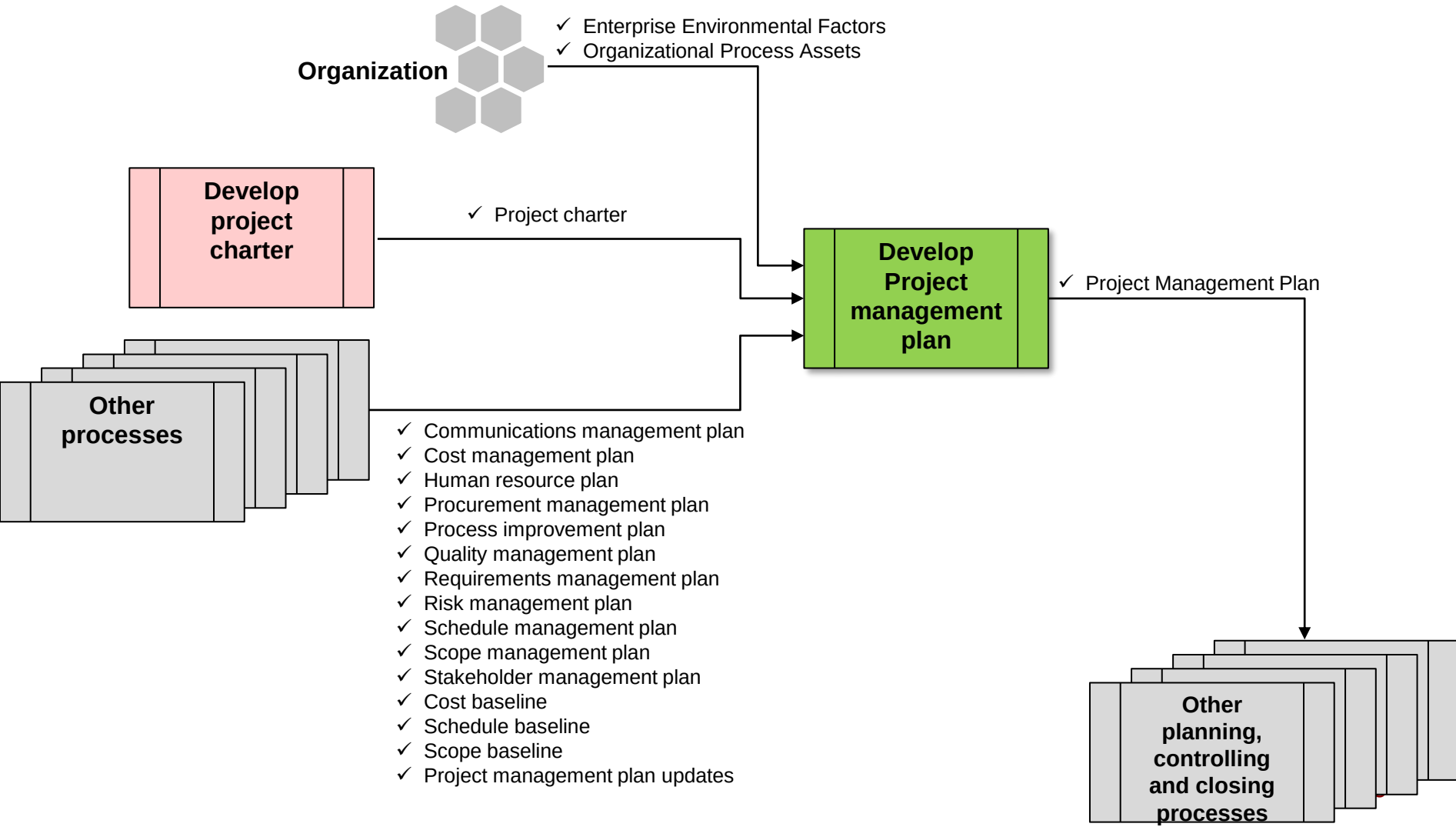
- ✓ Expert judgement
- ✓ Data gathering
 - Brainstorming
 - Checklists
 - Focus groups
 - Interviews
- ✓ Interpersonal and team skills
 - Conflict management
 - Facilitation
 - Meeting management
- ✓ Meetings

OUTPUTS

Project Management Plan »

2

DEVELOP PROJECT MANAGEMENT PLAN



2**DEVELOP PROJECT MANAGEMENT PLAN****INPUTS**

» Outputs from other processes

Outputs from other processes include:

- Communications management plan
- Cost management plan
- Human resource plan
- Procurement management plan
- Process improvement plan
- Quality management plan
- Requirements management plan
- Risk management plan
- Schedule management plan
- Scope management plan
- Stakeholder management plan
- Cost baseline
- Schedule baseline
- Scope baseline
- Project management plan updates

2**DEVELOP PROJECT MANAGEMENT PLAN****INPUTS****» Enterprise Environment
Factors**

EEF examples:

- Governmental or industry standards;
- Project management information system (e.g., an automated tool, such as a scheduling software tool, a configuration management system, an information collection and distribution system, or web interfaces to other online automated systems)
- Organizational structure, culture, management practices
- Infrastructure (e.g., existing facilities and capital equipment)
- Personnel administration (e.g., hiring and termination guidelines, employee performance reviews, and employee development and training records)

2**DEVELOP PROJECT MANAGEMENT PLAN****INPUTS****» Organizational Process
Assets**

OPA examples:

- Standardized guidelines, work instructions, proposal evaluation criteria, and performance measurement criteria;
- Project management plan template, including:
 - Guidelines and criteria for tailoring the organization's set of standard processes to satisfy the specific needs of the project
 - Project closure guidelines or requirements such as the product validation and acceptance criteria;
- Change control procedures
- Project files from previous projects
- Historical information and lessons learned knowledge base
- Configuration management knowledge base containing the versions and baselines of all official organization standards, policies, procedures, and any project documents.

2

DEVELOP PROJECT MANAGEMENT PLAN



OUTPUTS

[Project Management Plan »](#)

* **Project Management Plan.** The document that describes how the project will be executed monitored, and controlled.

- A formal, approved document or collection of documents used to manage project execution, monitoring and controlling and closing
- It is created by the project manager with the help of the team
- It should have input from stakeholders and executive management
- It is updated and revised through the Integrated Change Control process
- It documents the collection of all planning processes from the Planning Process Group
- It should be approved before execution by executive management, as well as by project team
- It may evolve and change during execution

2**DEVELOP PROJECT MANAGEMENT PLAN****OUTPUTS****Project Management Plan »**

It consolidates and integrates subsidiary plans and project baselines.

Subsidiary plans include, but are not limited to:

1. Scope management plan
2. Requirements management plan
3. Schedule management plan
4. Cost management plan
5. Quality management plan
6. Process improvement plan
7. Human resource management plan
8. Communications management plan
9. Risk management plan
10. Procurement management plan
11. Stakeholder management plan

Project Baselines include, but are not limited to:

1. Scope baseline
2. Schedule baseline
3. Cost baseline

2

DEVELOP PROJECT MANAGEMENT PLAN



OUTPUTS

Project Management Plan »

* **Baseline.** The approved version of a work product that can be changed only through formal change control procedures and is used as a basis for comparison.

* **Performance Measurement Baseline.** An approved, integrated scope-schedule-cost plan for the project work against which project execution is compared to measure and manage performance. The PMB includes contingency reserve, but excludes management reserve.

2

DEVELOP PROJECT MANAGEMENT PLAN



OUTPUTS

[Project Management Plan »](#)

Other things can be included:

- Life cycle selected for the project and the processes that will be applied to each phase
- Details of the tailoring decisions specified by the project management team as follows:
 - Project management processes selected by the project management team
 - Level of implementation for each selected process
 - Descriptions of the tools and techniques to be used for accomplishing those processes
 - Description of how the selected processes will be used to manage the specific project, including the dependencies and interactions among those processes and the essential inputs and outputs
- Description of how work will be executed to accomplish the project objectives
- **Change management plan** that documents how changes will be monitored and controlled
- **Configuration management plan** that documents how configuration management will be performed
- Description of how the integrity of the project baselines will be maintained

2

DEVELOP PROJECT MANAGEMENT PLAN



OUTPUTS

Project Management Plan »

Project Management Plan vs
Project Documents

Project Management Plan	Project Documents	
1. Scope management plan	1. Activity attributes	19. Quality control measurements
2. Requirements management plan	2. Activity list	20. Quality metrics
3. Schedule management plan	3. Assumption log	21. Quality report
4. Cost management plan	4. Basis of estimates	22. Requirements documentation
5. Quality management plan	5. Change log	23. Requirements traceability matrix
6. Resource management plan	6. Cost estimates	24. Resource breakdown structure
7. Communications management plan	7. Cost forecasts	25. Resource calendars
8. Risk management plan	8. Duration estimates	26. Resource requirements
9. Procurement management plan	9. Issue log	27. Risk register
10. Stakeholder engagement plan	10. Lessons learned register	28. Risk report
11. Change management plan	11. Milestone list	29. Schedule data
12. Configuration management plan	12. Physical resource assignments	30. Schedule forecasts
13. Scope baseline	13. Project calendars	31. Stakeholder register
14. Schedule baseline	14. Project communications	32. Team charter
15. Cost baseline	15. Project schedule	33. Test and evaluation documents
16. Performance measurement baseline	16. Project schedule network diagram	
17. Project life cycle description	17. Project scope statement	
18. Development approach	18. Project team assignments	

3

DIRECT AND MANAGE PROJECT WORK



* **Direct and Manage Project Work.** The process of leading and performing the work defined in the project management plan and implementing approved changes to achieve the project's objectives.

The process includes the following activities:

- Perform activities to accomplish project objectives
- Create project deliverables to meet the planned project work
- Train, and manage the team members assigned to the project
- Obtain, manage, and use resources including materials, tools, equipment, and facilities
- Implement the planned methods and standards
- Establish and manage project communication channels
- Generate work performance data, such as cost, schedule, technical and quality progress, and status to facilitate forecasting
- Issue change requests and implement approved changes
- Manage risks and implement risk response activities
- Manage sellers and suppliers
- Manage stakeholders and their engagement
- Collect and document lessons learned and implement approved process improvement activities

3

DIRECT AND MANAGE PROJECT WORK



INPUTS

- » Project management plan
 - Any component
- » Project documents
 - Change log
 - Lessons learned register
 - Milestone list
 - Project communications
 - Project schedule
 - Requirements traceability matrix
 - Risk register
 - Risk report
- » Approved change requests
- » Enterprise Environment Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgement
- ✓ Project management information system
- ✓ Meetings

OUTPUTS

- Deliverables »
- Work performance data »
- Issue log »
- Change requests »
- Project management plan updates »
 - Any component
- Project documents updates »
 - Activity list
 - Assumption log
 - Lessons learned register
 - Requirements documentation
 - Risk register
 - Stakeholder register
- Organizational Process Assets updates »

3

DIRECT AND MANAGE PROJECT WORK



INPUTS

» Approved change requests

* **Approved Change Request.** A change request that has been processed through the integrated change control process and approved.

There are updated in the project management plan => Project management plan updates »

There are implemented as part of the project management plan => Deliverables »

The impact of their implementation is reviewed => Change requests »

3**DIRECT AND MANAGE PROJECT WORK****INPUTS****» Enterprise Environment
Factors**

EEF examples:

- Organizational culture
- Infrastructure

3**DIRECT AND MANAGE PROJECT WORK****INPUTS****» Organizational Process Assets**

OPA examples:

- Standardized guidelines and work instructions
- Communication requirements defining allowed communication media, record retention, and security requirements
- Issue and defect management procedures defining issue and defect controls, issue and defect identification and resolution, and action item tracking
- Process measurement database used to collect and make available measurement data on processes and products
- Project files from previous projects
- Issue and defect management database(s) containing historical issue and defect status, control information, issue and defect resolution, and action item results

3

DIRECT AND MANAGE PROJECT WORK



TOOLS & TECHNIQUES

✓ Project management information system

* **Project Management Information System.** An information system consisting of the tools and techniques used to gather, integrate, and disseminate the outputs of project management processes. It is used to support all aspects of the project from initiating through closing, and can include both manual and automated systems.

It provides access to tools such as:

- Scheduling tool
- Work authorization system
- Configuration management system
- Information collection and distribution system
- Interfaces to other online automated systems
- Automated gathering and reporting on key performance indicators (KPI)

* **Work Authorization System.** A subsystem of the overall project management system. It is a collection of formal documented procedures that defines how project work will be authorized (committed) to ensure that the work is done by the identified organization, at the right time, and in the proper sequence. It includes the steps, documents, tracking system, and defined approval levels needed to issue work authorizations.

3**DIRECT AND MANAGE PROJECT WORK****OUTPUTS****Deliverables »**

*** Deliverable.** Any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project. There are typically tangible components completed to meet the project objectives and can include elements of the project management plan.

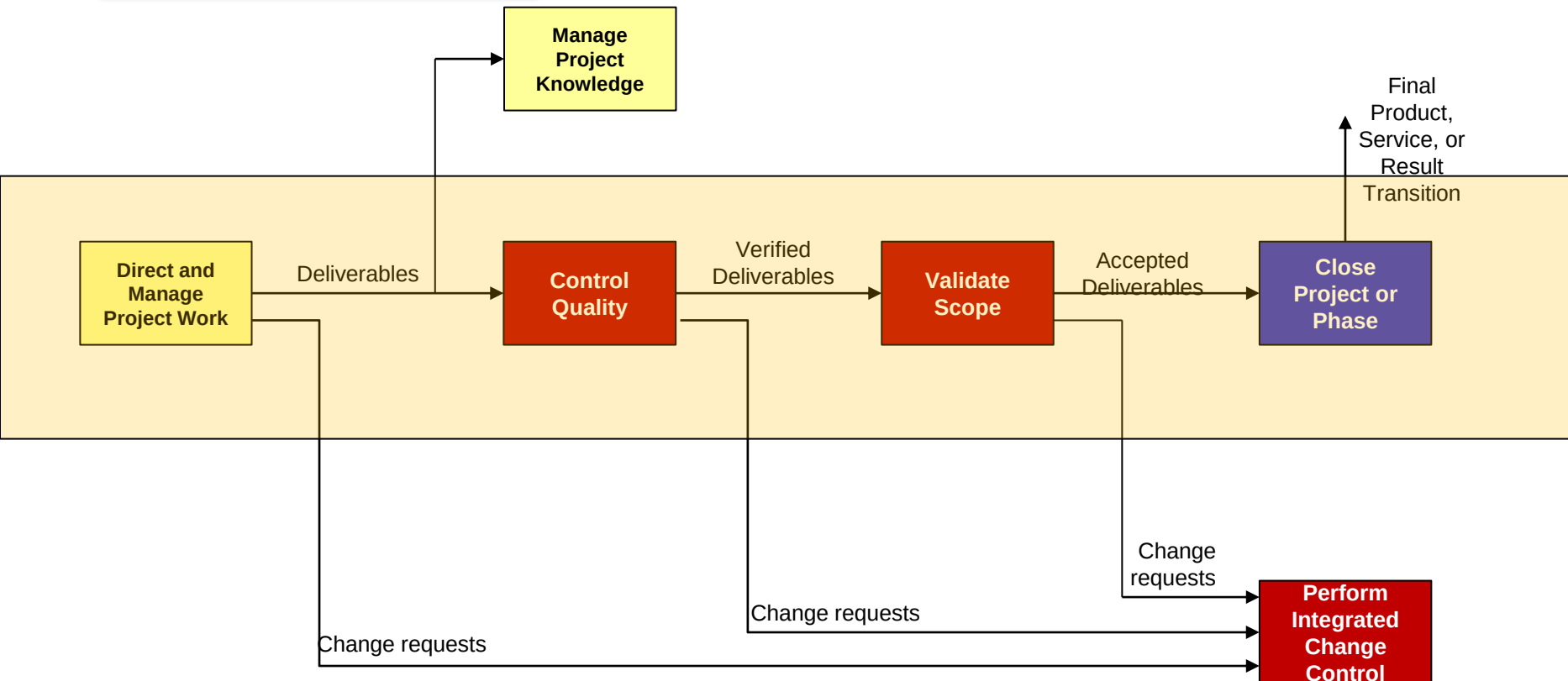
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DIRECT AND MANAGE PROJECT WORK



OUTPUTS

Deliverables »



**This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Sixth Edition, Project Management Institute, Inc., 2017.*

3

DIRECT AND MANAGE PROJECT WORK



OUTPUTS

Work performance data »

* **Work Performance Data.** The raw observations and measurements identified during activities being performed to carry out the project work.

Examples of work performance data:

- work completed
- start and finish dates of schedule activities
- number of change requests
- number of defects
- actual costs
- actual durations

3**DIRECT AND MANAGE PROJECT WORK****OUTPUTS****Change requests »**

* **Change Request.** A formal proposal to modify any document, deliverable, or baseline.

Change requests categories:

- Direct/Indirect
- Externally/Internally initiated
- Optional/contractually mandated

Change requests types:

- Corrective action
- Preventive action
- Defect repair
- Updates

3**DIRECT AND MANAGE PROJECT WORK****OUTPUTS**

**Project management plan
updates »**

Project management plan updates examples:

1. Scope management plan
2. Requirements management plan
3. Schedule management plan
4. Cost management plan
5. Quality management plan
6. Process improvement plan
7. Human resource management plan
8. Communications management plan
9. Risk management plan
10. Procurement management plan
11. Stakeholder management plan
12. Scope baseline
13. Schedule baseline
14. Cost baseline

3**DIRECT AND MANAGE PROJECT WORK****OUTPUTS****Project documents updates »**

Project documents updates examples:

- Requirements documentation
- Project logs (issues, assumptions, etc.)
- Risk register
- Stakeholder register

4

MANAGE PROJECT KNOWLEDGE



*** Manage Project Knowledge.** The process of using existing knowledge and creating new knowledge to achieve the project's objectives and contribute to organizational learning.

4

MANAGE PROJECT KNOWLEDGE



INPUTS

- » Project management plan
 - All components
- » Project documents
 - Lessons learned register
 - Project team assignments
 - Resource breakdown structure
 - Source selection criteria
 - Stakeholder register
- » Deliverables
- » Enterprise Environment Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgement
- ✓ Knowledge management
- ✓ Information management
- ✓ Interpersonal and team skills
 - Active listening
 - Facilitation
 - Leadership
 - Networking
 - Political awareness

OUTPUTS

- Lesson learned register »
- Project management plan updates »
 - Any component
- Organizational Process Assets updates »

5

MONITOR AND CONTROL PROJECT WORK



*** Monitor and Control Project Work.** The process of tracking, reviewing, and reporting overall progress to meet the performance objectives defined in the project management plan.

It includes more activities such as:

- Tracking, reviewing, and reporting the progress to meet the performance objectives defined in the project management plan
- Measuring the gap between the baselines and actuals
- Assessing possible outcomes across the project using analytical techniques
- Taking actions to shorten the gaps when needed
- Reviewing changes made on the project to see if they were effective

5

MONITOR AND CONTROL PROJECT WORK



INPUTS

- » Project management plan
 - Any component
- » Project documents
 - Assumption log
 - Basis of estimates
 - Cost forecasts
 - Issue log
 - Lessons learned register
 - Milestone list
 - Quality reports
 - Risk register
 - Risk report
 - Schedule forecasts
- » Agreements
- » Work performance information
- » Enterprise Environmental Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgment
- ✓ Data analysis
 - Alternatives analysis
 - Cost-benefit analysis
 - Earned value analysis
 - Root cause analysis
 - Trend analysis
 - Variance analysis
- ✓ Decision making
- ✓ Meetings

OUTPUTS

- Work performance reports »
- Change requests »
- Project management plan updates »
 - Any component
- Project documents updates »
 - Cost forecasts
 - Issue log
 - Lessons learned register
 - Risk register
 - Schedule forecasts

5**MONITOR AND CONTROL PROJECT WORK****INPUTS**

» Project management plan

- It contains the baselines and subsidiary plan.
- All the actual results will be compared against project management plan

5

MONITOR AND CONTROL PROJECT WORK



INPUTS

- » Schedule forecasts
- » Cost forecasts

* **Forecast.** An estimate or prediction of conditions and events in the project's future based on information and knowledge available at the time of the forecast. The information is based on the project's past performance and expected future performance, and includes information that could impact the project in the future, such as estimate at completion and estimate to complete

- Schedule Forecasts – output from Control Schedule process
- Cost Forecasts – output from Control Costs process
- The forecast may be used to determine if the project is still within defined tolerance ranges and identify any necessary change requests.

5**MONITOR AND CONTROL PROJECT WORK****INPUTS**

» Validated changes

- Validated means the change was implemented correctly and the expected results were met.
- Validated changes are output from Control Quality process

5

MONITOR AND CONTROL PROJECT WORK



INPUTS

» Work performance
information

* **Work Performance Information.** The performance data collected from various controlling processes, analyzed in context and integrated based on relationships across areas.

- It represents “the actual results”
- It comes from the controlling processes
- Example of Work Performance Information:
 - Status of deliverables against planned
 - Implementation status for change requests
 - Forecasted estimates to complete

5

MONITOR AND CONTROL PROJECT WORK



TOOLS & TECHNIQUES

✓ Analytical techniques

*** Analytical Techniques.** Various techniques used to evaluate, analyze, or forecast potential outcomes based on possible variations of project or environmental variables and their relationships with other variables.

Example of Analytical techniques:

- Regression analysis
- Grouping methods
- Causal analysis
- Root cause analysis
- Forecasting methods (e.g., time series, scenario building, simulation, etc.)
- Failure mode and effect analysis (FMEA)
- Fault tree analysis (FTA)
- Reserve analysis
- Trend analysis
- Earned value management
- Variance analysis

5

MONITOR AND CONTROL PROJECT WORK



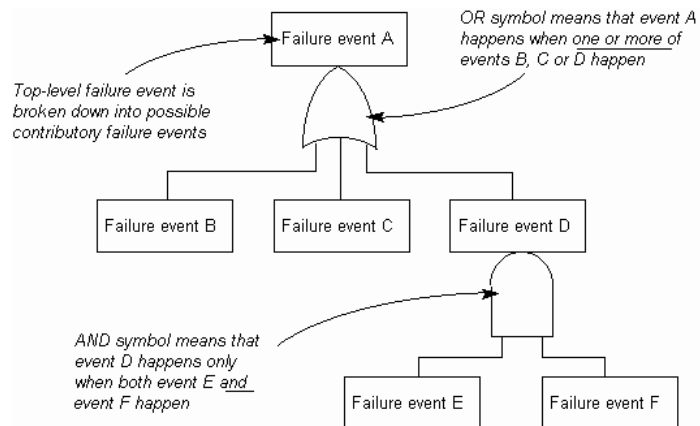
TOOLS & TECHNIQUES

✓ Analytical techniques

Failure mode and effect analysis (FMEA):

Steps in the Process	Failure Mode	Failure Causes	Failure Effects	Likelihood of Occurrence (1-10)	Likelihood of Detection (1-10)	Severity (1-10)	Risk Profile Number (RPN)	Actions to Reduce Occurrence of Failure
1								
2								
3								

Fault tree analysis (FTA):



5

MONITOR AND CONTROL PROJECT WORK



OUTPUTS

Change requests »

* **Change Request.** A formal proposal to modify any document, deliverable, or baseline.

Change requests categories:

- Direct/Indirect
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- Optional/contractually mandated

Change requests types:

- Corrective action
- Preventive action
- Defect repair
- Updates

5

MONITOR AND CONTROL PROJECT WORK



OUTPUTS

Work performance
reports »

* **Work Performance Reports.** The physical or electronic representation of work performance information compiled in project documents, intended to generate decisions, actions, or awareness.

Examples of Work Performance Reports:

- Status reports
- Memos
- Justifications
- Information notes
- Recommendations

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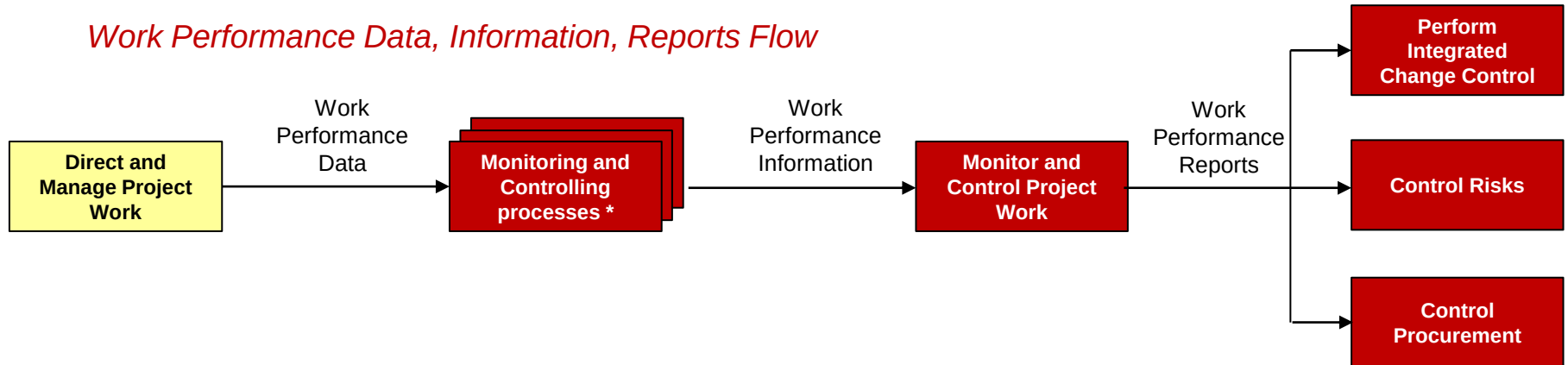
MONITOR AND CONTROL PROJECT WORK



OUTPUTS

Work performance reports »

Work Performance Data, Information, Reports Flow



Legend:

Executing process

M&C process

* except „Perform Integrated Change Control“

6

PERFORM INTEGRATED CHANGE CONTROL



*** Perform Integrated Change Control.** The process of reviewing all change requests; approving changes and managing changes to deliverables, organizational process assets, project documents, and the project management plan; and communicating the decisions.

- The process concerns with:
 - Reviewing all change requests
 - Evaluating the change requests
 - Approving/rejecting changes
 - Managing changes
 - Communicating the decisions and the change requests updates
- The process is the ultimate responsibility of the project manager
- Changes may be requested by any stakeholder
- If a change is initiated verbally, it should be recorded in written form

*** 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 decisions.

6

PERFORM INTEGRATED CHANGE CONTROL



Change control	Configuration control
It's focused on identifying, documenting, and approving or rejecting changes to the project documents, deliverables, or baselines	It's focused on the specification of both the deliverables and the processes
Change Control System	Configuration Management System
* A set of procedures that describes how modifications to the project deliverables and documentation are managed and controlled.	* A subsystem of the overall project management system. It is a collection of formal documented procedures used to apply technical and administrative direction and surveillance to: identify and document the functional and physical characteristics of a product, result, service, or component; control any changes to such characteristics; record and report each change and its implementation status; and support the audit of the products, results, or components to verify conformance to requirements. It includes the documentation, tracking systems, and defined approval levels necessary for authorizing and controlling changes.

**These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Sixth Edition, Project Management Institute, Inc., 2017.*

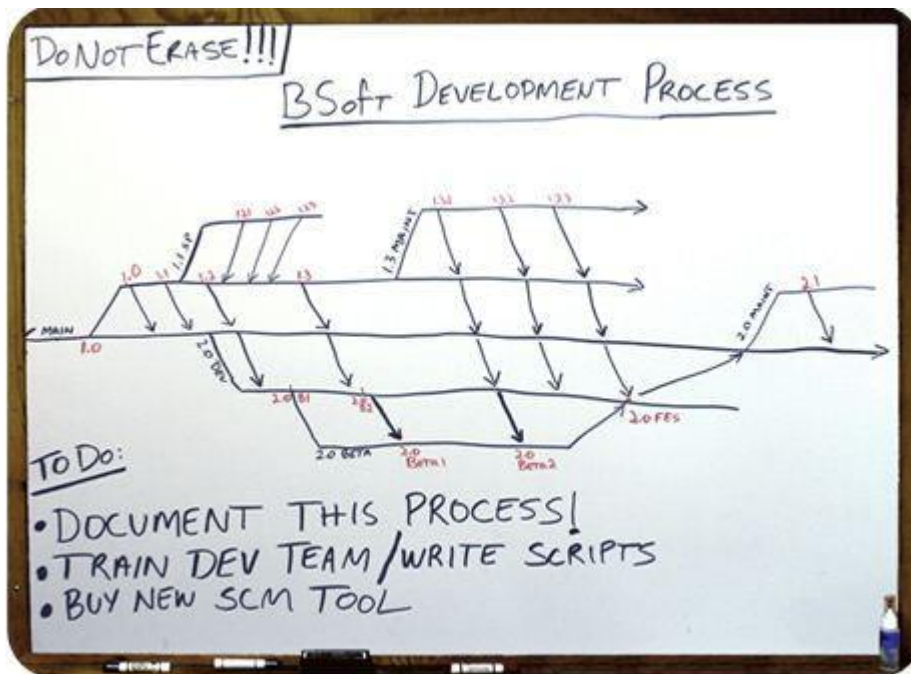
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PERFORM INTEGRATED CHANGE CONTROL



Configuration management activities includes:

- Configuration identification
- Configuration status accounting
- Configuration verification and audit



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PERFORM INTEGRATED CHANGE CONTROL



INPUTS

- » Project management plan
 - Change management plan
 - Configuration management plan
 - Scope baseline
 - Schedule baseline
 - Cost baseline
- » Project documents
 - Basis of estimates
 - Requirements traceability matrix
 - Risk report
- » Work performance Reports
- » Change requests
- » Enterprise Environmental Factors
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgment
- ✓ Change control tools
- ✓ Data analysis
 - Alternatives analysis
 - Cost-benefit analysis
- ✓ Decision making
 - Voting
 - Autocratic decision making
 - Multicriteria decision analysis
- ✓ Meetings

OUTPUTS

- Approved change requests »
- Project management plan updates »
 - Any component
- Project documents updates »
 - Change log

6**PERFORM INTEGRATED CHANGE CONTROL****TOOLS & TECHNIQUES**✓ **Expert judgment**

Analyzing a change may require experts opinions even outside the project such as:

- Consultants
- Stakeholders, including customers or sponsors
- Professional and technical associations
- Industry groups
- Subject matter experts (SME)
- Project management office (PMO)

6**PERFORM INTEGRATED CHANGE CONTROL****TOOLS & TECHNIQUES****✓ Meetings**

There are referring to the change control meetings

Change Control Board (CCB)

- The roles and responsibilities of CCB are defined in the change management plan
- Some of the responsibilities:
 - Reviewing the change requests
 - Evaluating the change requests
 - Approving, rejecting, delaying or other disposition of those changes
 - Reviewing configuration management activities

6

PERFORM INTEGRATED CHANGE CONTROL



TOOLS & TECHNIQUES

✓ Change control tools

*** Change Control Tools.** Manual or automated tools to assist with change and/or configuration management. At a minimum, the tools should support the activities of the CCB.

Status		Justification and Impact	
Change No	5	APPROVED AND ALLOCATED	
Project	Business Relocation		
Name	Additional pallets		
Change Type	Other	Change Priority	Routine
Description	We will need more pallets to move the stock		
Proposed		Approved ☒	Allocated ☒
By	Wally House	By	John Smith
Date	18/08/2010	Date	26/08/2010
		To	Wally House
		Date	26/08/2010
		Rejected ☐	
Comments	We will order another 100 pallets		

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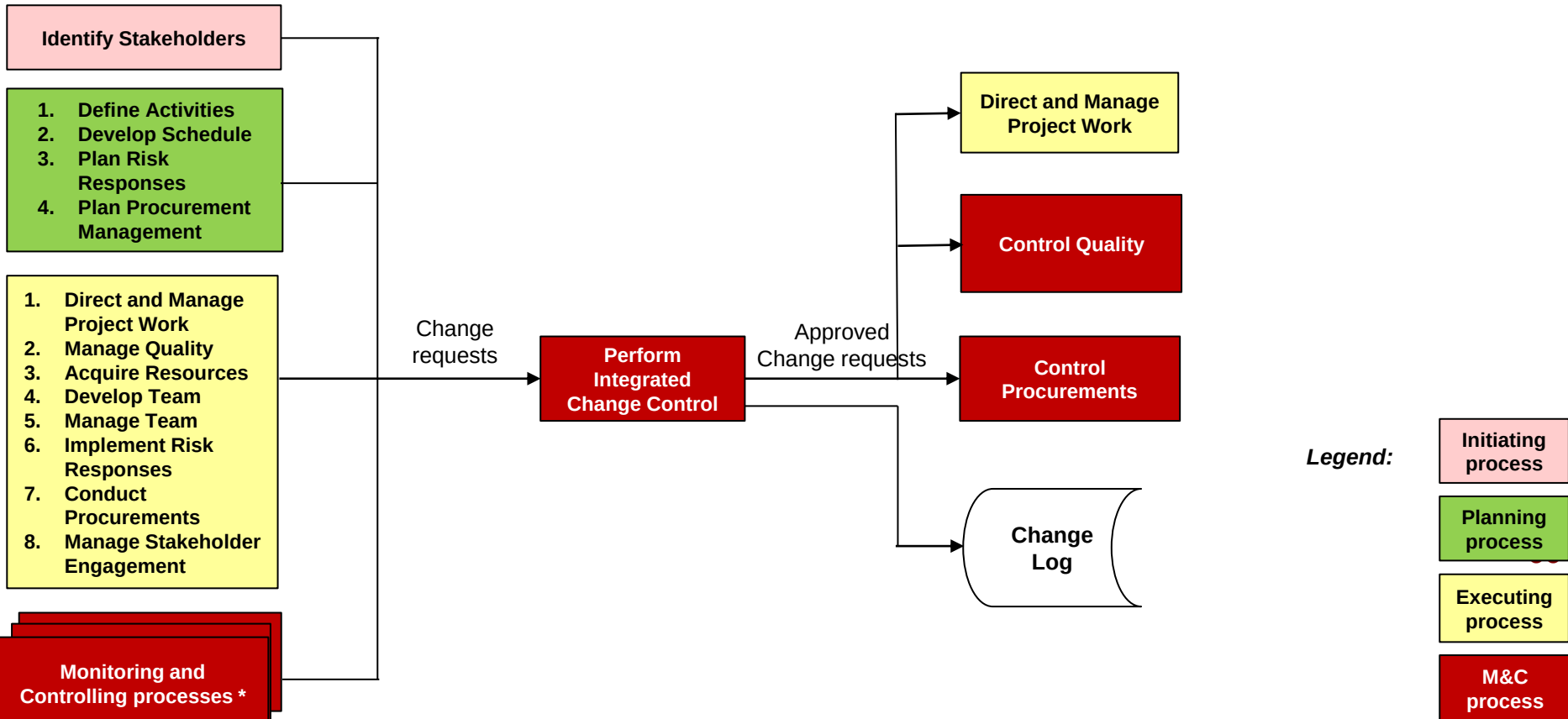
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PERFORM INTEGRATED CHANGE CONTROL



OUTPUTS

Approved change requests »



* except „Perform Integrated Change Control“

6

PERFORM INTEGRATED CHANGE CONTROL



OUTPUTS

Change log »

* **Change Log.** A comprehensive list of changes made during the project. This typically includes dates of the change and impacts in terms of time, cost, and risk.

Chg #	Change Description	Priority (M/H/L)	Date Reported	Requested By	Assigned To	Date Resolved	Status	Resolution/ Comments

6**PERFORM INTEGRATED CHANGE CONTROL****OUTPUTS**

Project management plan
updates »

If a change request is approved may lead to project management plan updates.

6**PERFORM INTEGRATED CHANGE CONTROL****OUTPUTS****Project documents updates »**

Project documents updates examples:

- Change log
- Risk register

7

CLOSE PROJECT OR PHASE



*** Close Project or Phase.** The process of finalizing all activities for the project, phase, or contract..

It covers:

- Actions and activities necessary to satisfy completion or exit criteria for the phase or project
- Actions and activities necessary to transfer the project's products, services, or results to the next phase or to production and/or operations
- Activities needed to collect project or phase records, audit project success or failure, gather lessons learned and archive project information for future use by the organization
- It also establishes the procedures to investigate and document the reasons for actions taken if a project is terminated before completion.
- Release the resources

7

CLOSE PROJECT OR PHASE



INPUTS

- » Project charter
- » Project management plan
 - All components
- » Project documents
 - Assumption log
 - Basis of estimates
 - Change log
 - Issue log
 - Lessons learned register
 - Milestone list
 - Project communications
 - Quality control measurements
 - Quality reports
 - Requirements documentation
 - Risk register
 - Risk report
- » Accepted deliverables
- » Business documents
 - Business case
 - Benefits management plan
- » Agreements
- » Procurement documentation
- » Organizational Process Assets

TOOLS & TECHNIQUES

- ✓ Expert judgment
- ✓ Data analysis
 - Document analysis
 - Regression analysis
 - Trend analysis
 - Variance analysis
- ✓ Meetings

OUTPUTS

- Project documents updates »
 - Lessons learned register
- Final product, service, or result transition »
- Final report »
- Organizational Process Assets updates »

7**CLOSE PROJECT OR PHASE****INPUTS**

» Project management plan
» Accepted deliverables
» Organizational Process Assets

- Project management plan. Completion of the project is measured against the baselines
- Accepted deliverables. They are output of Validate Scope. The customer has already accepted the deliverables and now are going to receive ownership
- Organizational Process Assets. For Example: Closure guidelines

7

CLOSE PROJECT OR PHASE



TOOLS & TECHNIQUES

✓ Analytical techniques

Example of Analytical techniques used in this process:

* **Regression Analysis.** An analytic technique where a series of input variables are examined in relation to their corresponding output results in order to develop a mathematical or statistical relationship.

* **Trend Analysis.** An analytical technique that uses mathematical models to forecast future outcomes based on historical results. It is a method of determining the variance from a baseline of a budget, cost, schedule, or scope parameter by using prior progress reporting periods' data and projecting how much that parameter's variance from baseline might be at some future point in the project if no changes are made in executing the project.

7

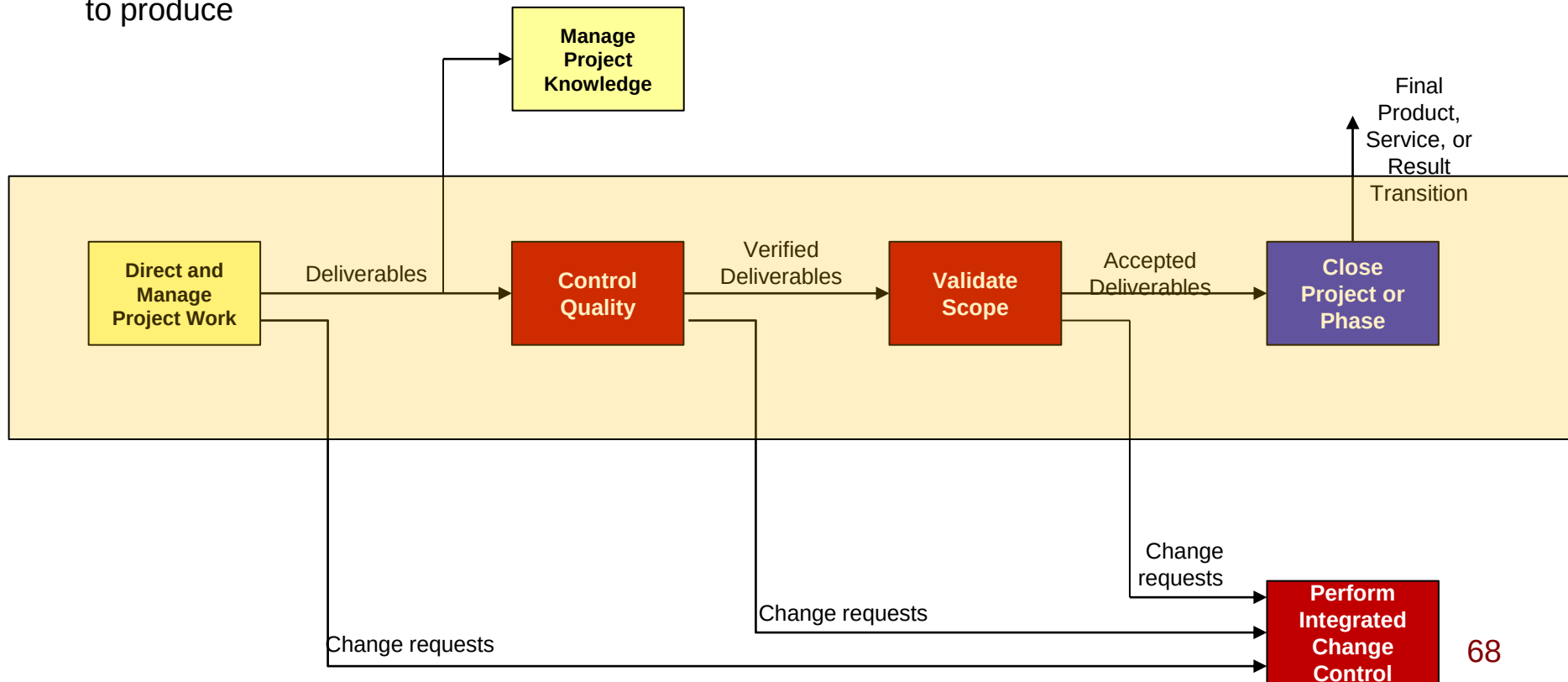
CLOSE PROJECT OR PHASE



OUTPUTS

Final product, service, or result transition »

It refers to the transition of the final product, service, or result that the project was authorized to produce



7**CLOSE PROJECT OR PHASE****OUTPUTS**

**Organizational Process
Assets updates »**

OPA updates examples:

- Project files - for example, project management plan
- Project or phase closure documents - Project or phase closure documents, consisting of formal documentation that indicates completion of the project or phase and the transfer of the completed project or phase deliverables to others
- Historical information – issues, risks, lesson learned

Project Integration Management

1	DEVELOP PROJECT CHARTER		
2	DEVELOP PROJECT MANAGEMENT PLAN		
3	DIRECT AND MANAGE PROJECT WORK		
4	MANAGE PROJECT KNOWLEDGE		
5	MONITOR AND CONTROL PROJECT WORK		
6	PERFORM INTEGRATED CHANGE CONTROL		
7	CLOSE PROJECT OR PHASE		

I Project Integration Management



- Project Statement of Work (SOW)
- Business Case
- Business Need vs Customer Business Need
- Agreements
- EEF
- OPA
- Facilitation techniques
- Delphi technique
- Expert Judgment
- Project Charter content
- Project Charter goals
- Project Management Plan content
- Project management plan vs Project Documents
- Baseline
- PMIS
- Work Authorization System
- Deliverables
- Work Performance Data
- Work Performance Information
- Work Performance Reports
- Forecast
- Validated Changes
- Analytical Techniques
- FMEA
- FTA
- Change Control Board (CCB)
- Change Control vs Configuration Control
- Change Control System vs Configuration Management System
- Final product, service, or result transition
- Deliverables Workflow
- Change Requests Workflow

Project Scope Management

Do you have Questions?

If not...

I have
25 Questions
30 minutes