ICT Project Management

Disclaimer

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Unit 4: Project Integration Management

4.1 Project Integration Management Process

What is Integration Management?

- ✓ Project integration management is a way of making various processes work together.
- ✓ i.e., it takes the numerous processes that are being used in a project and makes sure that they're coordinated.
- ✓ Project integration management involves coordinating all elements of a project, including tasks, resources, stakeholders, and deliverables.
- ✓ Hence, it is called *Umbrella of rest of other knowledge area*.

Example: Suppose, the marketing team requires data from the sales team in order to produce a report for stakeholders. Project integration management is used to ensure that the data from the sales team is properly handed off to the marketing team and that the deliverable meets requirements.

- ✓ Project integration management also involves overseeing the five project management phases that occur during the project lifecycle.

PMBOK Says, **"**Project Integration Management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups. In the project management context, integration includes characteristics of unification, consolidation, communication, and interrelationship**"**.

There are **7 Different steps / process / Rules** for Project Integration Management:

1. 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.

2. Develop Project Management Plan

The process of defining, preparing, and coordinating all plan components and consolidating them into an integrated project management plan.

3. Direct and Manage Project Work / Execution

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

4. Manage Project Knowledge

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

5. 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.

6. 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.

7. Closing Project or Phase

The process of finalizing all activities for the project, phase, or contract

4.2 Developing Project Charter

- ✓ A project charter is a document that serves as the foundation for a project.
- ✓ The project charter functions as both the project's internal marketing tool and reference guide.
- ✓ Everything that stakeholders need to know about why a project needs to happen should be contained within the project charter.
- ✓ project charter includes the following elements:
    - Business case
    - Scope and deliverables
    - Objectives
    - Resource needed
    - Milestone plan and timeline
    - Cost estimate
    - Risk and issues
    - dependencies
- ✓ A charter should contain all the details decision-makers need to know.
- ✓ In the Project charter, you should provide a short, succinct explanation of the main elements of your project before you get started.

Typically a project charter is about 1-2 pages long and is written in a formal style by a project initiator or investor. However, it often becomes a project manager's duty, due to their competence in the project management sphere. The project charter can also be seen as a skeleton for project development and will be used throughout the project lifecycle.

The inputs, tools and techniques, and outputs of the process in Project Charter

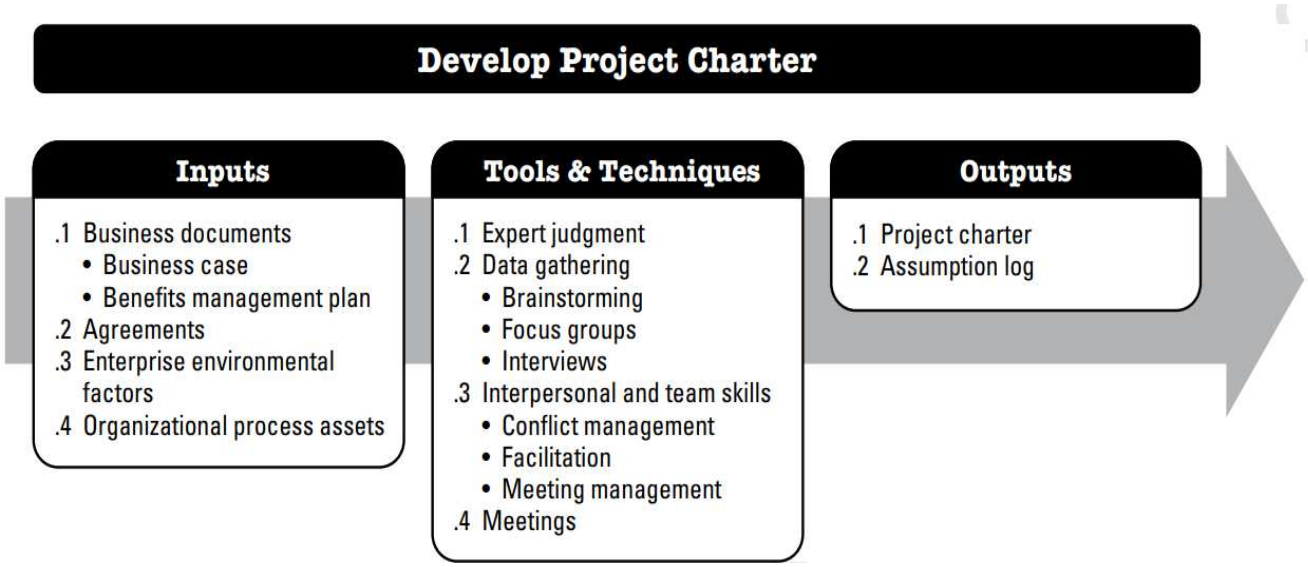

Figure: The inputs, tools and techniques, and outputs of the process in Development of Project Charter by PMBOK

Example of Project Charter Development

Project Name: QFX Movie Ticketing Application		
Last revision date	October 28, 2022	
Project Description / Purpose Statement	An application (web &mobile) for booking the movie ticket from QFXs. The purpose of this project is to facilitate the movie lovers by integrating all the QFXs into single Application. The application will also be available on Google play and App Store.	
Project Objectives	To make QFXs movie ticketing online.	
Success measure of Project	**1.** When the application has a high number of visitors **2.** When the application has a high number of downloads on Google play and App store **3.** When the at least 50% of tickets are booked from application.	
Project Team	**Title**	**Name**
	Investor	QFX Cinema
	Project Manager	Er. Mukunda Paudel

	Team Members Front End Developer Back End Developer QA Engineer	 Er. Pratap KC Er. Maharani Koirala Er. Prabin Shrestha
Resources	**Budget**: $5000 **App test Environment**: Apple iPhone 5 & A smart phone with Android OS (version: jellybean (minimum)).	
Project Milestones	**Status**	**Due** / **Deadline**
	1. Present prototype **2.** Build 1.0 main function (Booking) for web. **3.** Release beta version of Android and IOS App with fully functional web **4.** Release V 2.0 adding payment gateway after beta testing.	11/01/2022 11/11/2022 12/05/2022 / 11/05/2022 11/30/2022 12/30/2022
Potential Risks	**1.** Team may not meet deadline due to adding unplanned in the specification features. **2.** Team may run out of the budget due to extending development and testing time.	
Approval	Title and Designation	Date and Signature
	1. Executive Investor: Bibek Sharma, QFX Cinema **2.** Project Manager: Mukunda Paudel	……10/28/2022 ……10/28/2022

Disclaimer of example document:

This document (The Project Charter) is for academic example purpose, the named organization and personals involved in above document are just example consideration.

Relationship of Integrated management process with project life cycle / phase

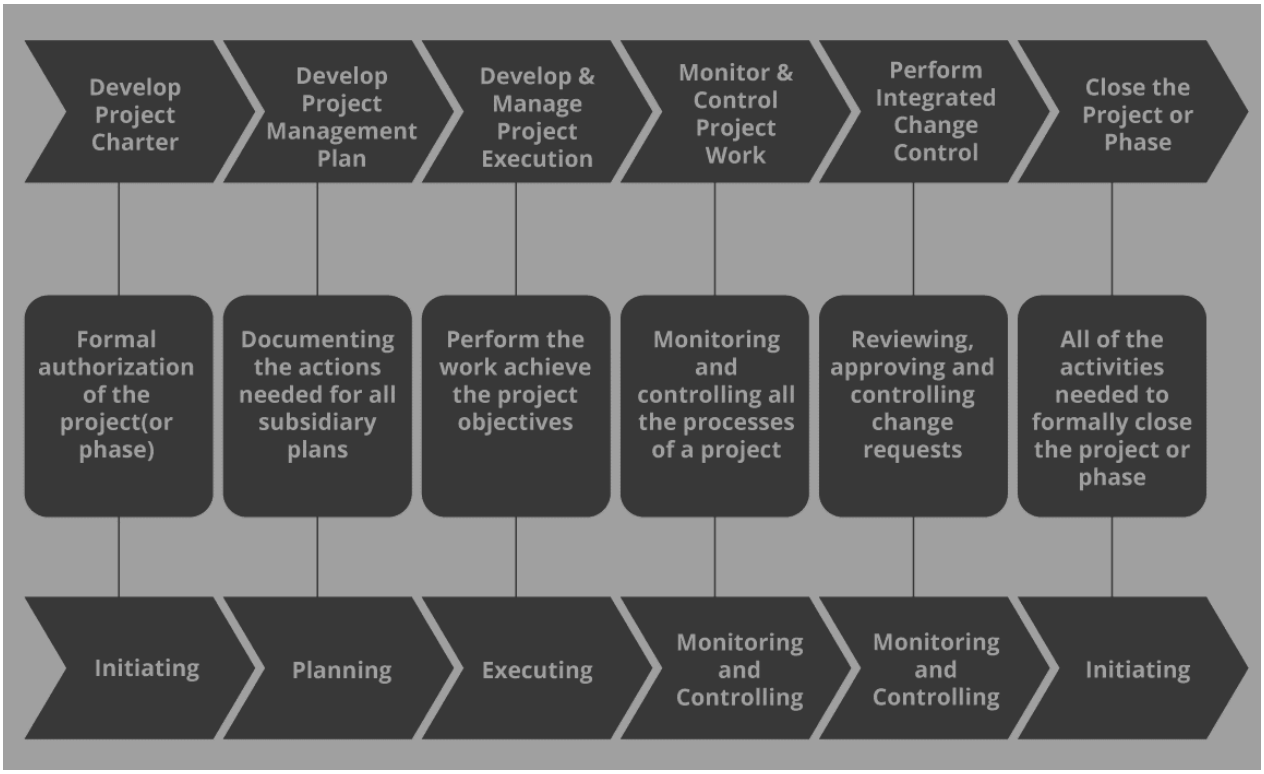

Figure: Relationship of Integrated management process with project life cycle / phase

4.3. Developing Project Management Plan

- ✓ Develop Project Management Plan is the process of defining, preparing, and coordinating all plan components and consolidating them into an integrated project management plan. - **PMBOK**
- ✓ The key benefit of this process is the production of a comprehensive document that defines the basis of all project work and how the work will be performed.
- ✓ This process is performed once or at predefined points in the project.
- ✓ It is updated by the Integrated Change Control process.
- ✓ The project management plan brings all aspects of the planning phase together into a single document

The Project Management Plan is an "integration" of baselines (such as scope, schedule, and cost) and subsidiary management plans (such as Scope Management Plan, Schedule Management Plan, Cost Management Plan, Risk Management Plan, etc.) from other planning processes.

It may also include Change Management Plan, Configuration Management Plan, Performance Measurement Baseline, project life cycle chosen for the project, development approach (waterfall, agile, hybrid, etc.), and management review points.

The PM plan = Subsidiary Management plan + Baselines + *Additional components*

These 3 are called Components of PM Plan

Components of Project Management Plan are:

Generally 3 Components (not limited to)

Subsidiary management plans:

- ✓ Scope management plan
- ✓ Requirements management plan
- ✓ Schedule management plan
- ✓ Cost management plan Quality management plan
- ✓ Resource management plan
- ✓ Communications management plan
- ✓ Risk management plan
- ✓ Procurement management plan
- ✓ Stakeholder engagement plan

Baselines:

- ✓ Scope baseline
- ✓ Schedule baseline
- ✓ Cost baseline

Additional components:

- ✓ Change management plan
- ✓ Configuration management plan
- ✓ Performance measurement baseline
- ✓ Project life cycle
- ✓ Development approach
- ✓ Management reviews

The inputs, tools and techniques, and outputs of the process are:

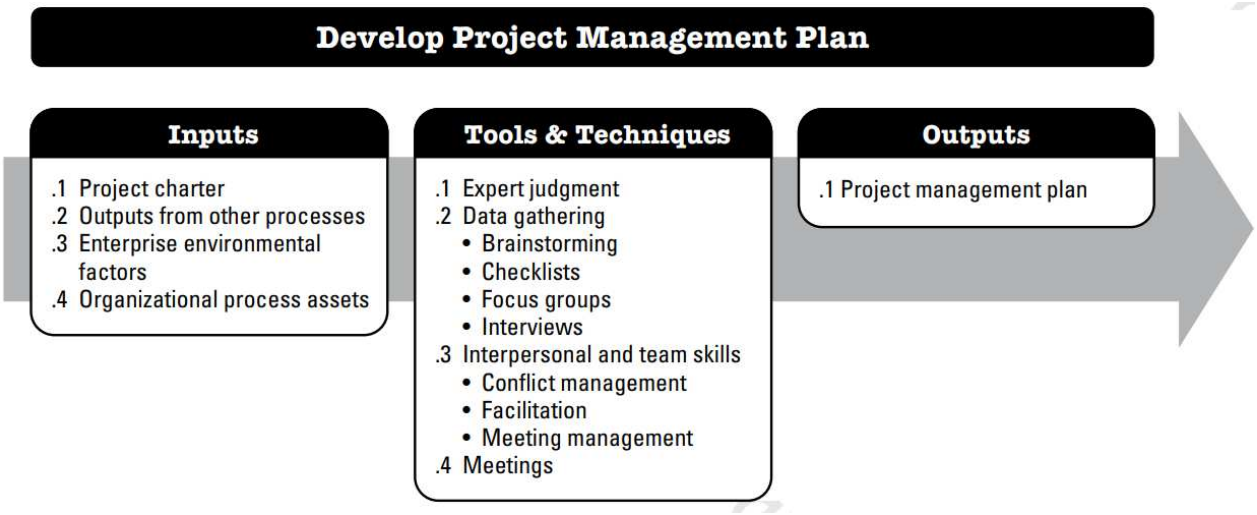

Figure: Developing Project Management Plan**:** The inputs, tools and techniques, and outputs of the process by PMBOK

4.4. Direct and Manage Project Execution

- ✓ The process of leading and performing the work defined in the project management plan and implementing approved changes to achieve the project's objective - *PMBOK*
- ✓ **Integration of all execution work** to accomplish the project management plan and **producing the deliverables** are **two critical activities** of Direct and Manage Project Execution.
- ✓ The key benefit of this process is that it provides overall management of the project work and deliverables, thus improving the probability of project success.
- ✓ This process is performed throughout the project
- ✓ The Direct and Manage Project Work process is part of the **executing** process group and it is part of the Project Integration Management area.
- ✓ Requesting changes and completing the work necessitated by approved change requests are involved in Direct and Manage Project Execution.
- ✓ Project manage directs project work, manages technical and organizational interfaces
- ✓ Project manager also manages unplanned work, unanticipated risks, unforeseen challenges
- ✓ Up to project manager to determine the best path forward in face of the unexpected

Direct and Manage Project Execution process involves:

- Managing project members / stakeholders / others
- Executing tasks
- Process improvements
- Change management
- Helping the team to get the work completed
- Ensuring the team is calibrated, focused and informed

In Direct and Manage Project Execution process, the role of a project manager involves:

- Effective facilitation
- Effective communication
- Keep the project on track as per schedule
- Increase efficiency by performing process improvements

Inputs, tools and techniques, and outputs of the process:

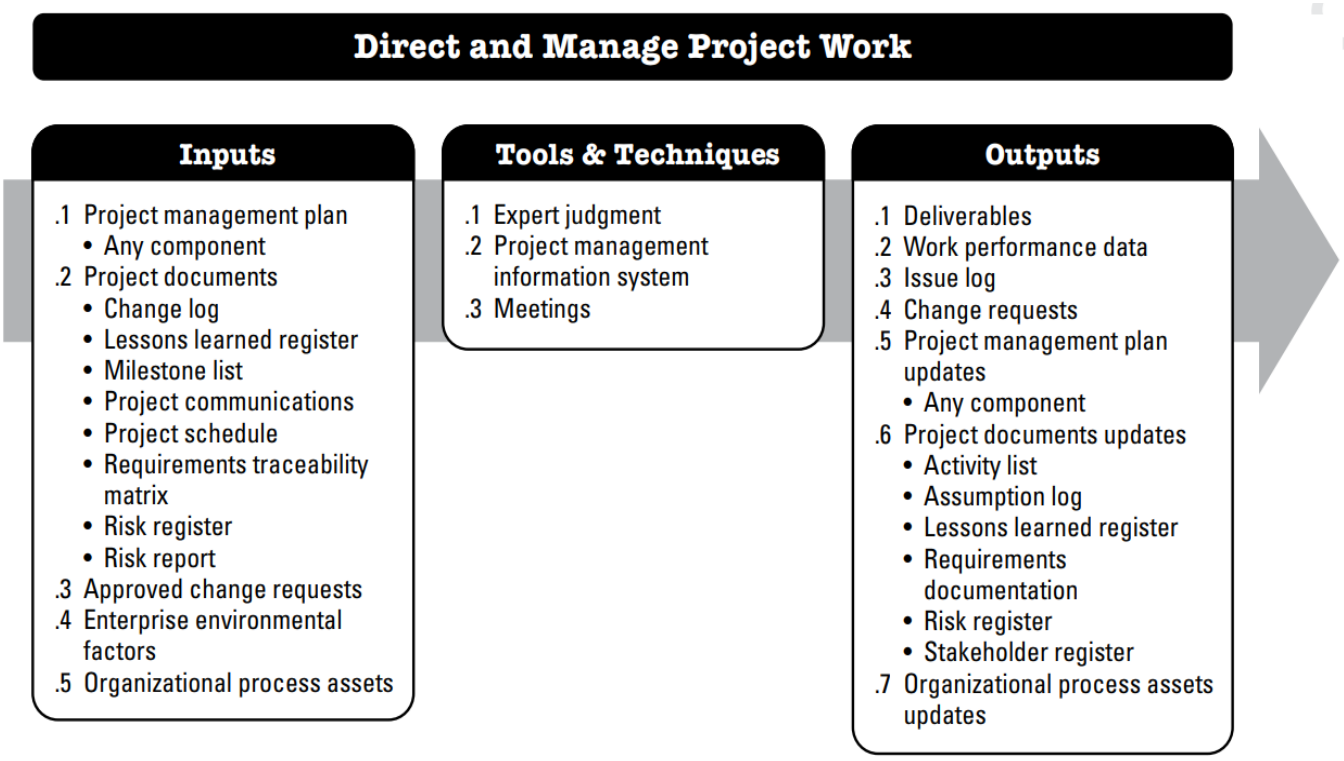

Figure: Direct and Manage Project Execution: Inputs, tools and techniques, and outputs of the process

4.5. Monitoring and Controlling Project Work

- ✓ Monitor and Control Project Work is the process of tracking, reviewing, and reporting the overall progress to meet the performance objectives defined in the project management plan.
- ✓ The key **benefits** of this process are that it allows stakeholders to understand the current state of the project, to recognize the actions taken to address any performance issues, and to have visibility into the future project status with cost and schedule forecasts.
- ✓ This process is performed throughout the project.
- ✓ **Monitoring** is an aspect of project management performed throughout the project. Monitoring includes collecting, measuring, and assessing measurements and trends to effect process improvements.

- ✓ Continuous monitoring gives the project management team insight into the health of the project and identifies any areas that may require special attention.
- ✓ **Control** includes determining corrective or preventive actions or re-planning and following up on action plans to determine whether the actions taken resolved the performance issue.

The Monitor and Control Project Work process is concerned with:

- ❖ Comparing actual project performance against the project management plan
- ❖ Assessing performance periodically to determine whether any corrective or preventive actions are indicated, and then recommending those actions as necessary
- ❖ Checking the status of individual project risks
- ❖ Maintaining an accurate, timely information base concerning the project's product(s) and their associated documentation through project completion
- ❖ Providing information to support status reporting, progress measurement, and forecasting
- ❖ Providing forecasts to update current cost and current schedule information
- ❖ Monitoring implementation of approved changes as they occur
- ❖ Providing appropriate reporting on project progress and status to program management when the project is part of an overall program, and
- ❖ Ensuring that the project stays aligned with the business needs

Inputs, Tools and Techniques, and Outputs of the process

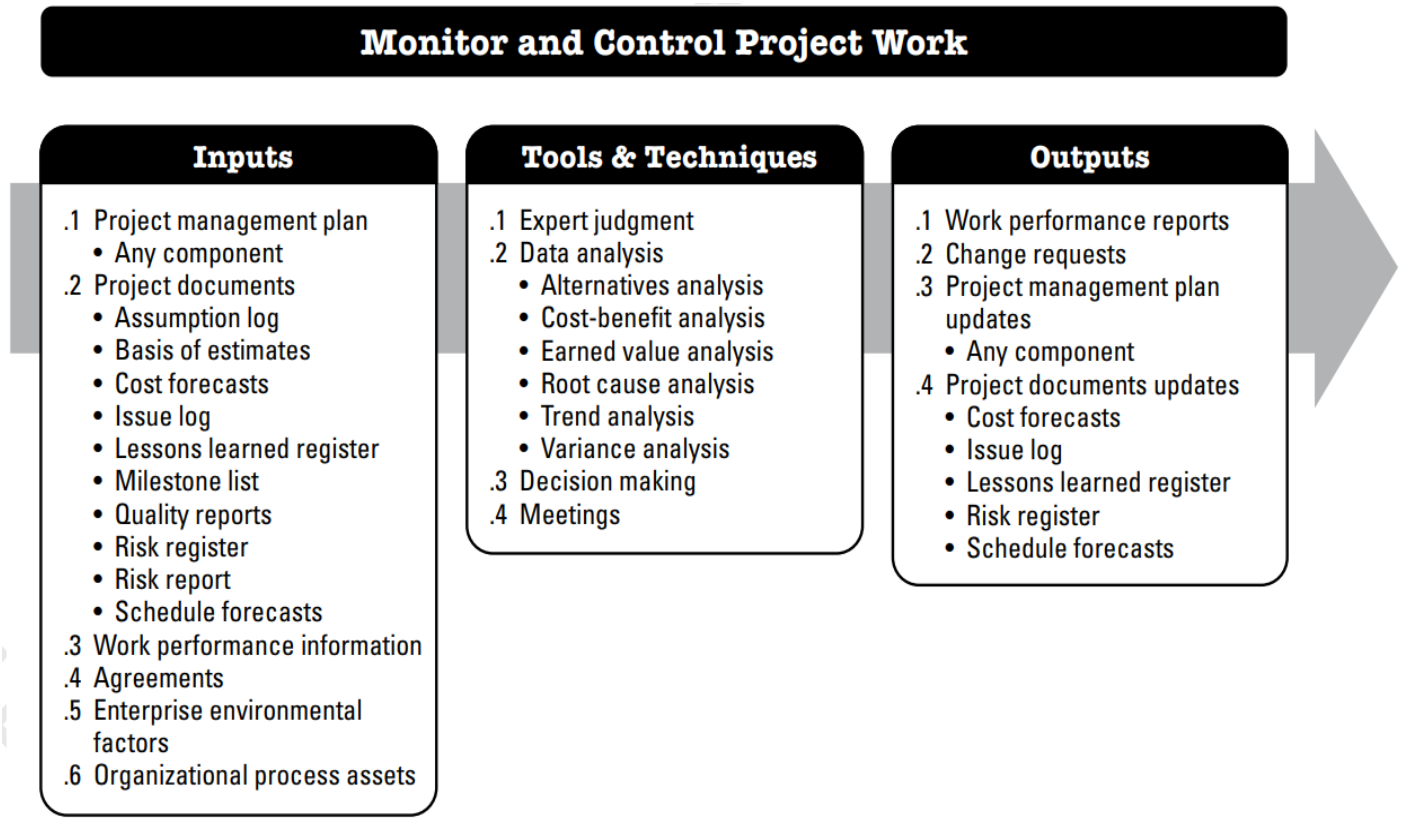

Figure: Monitor and Control Project Work: Inputs, Tools & Techniques, and Outputs

4.6 Perform Integrated Change control

- ✓ Perform Integrated Change Control is the **process of reviewing** all change requests; **approving** changes and **managing** changes to deliverables, project documents, and the project management plan, and communicating the decisions
- ✓ Through integrated change control, project managers may have a more organized structure for changing a project.
- ✓ This process reviews all requests for changes to project documents, deliverables, or the project management plan and determines the resolution of the change requests.
- ✓ The **key benefit** of this process is that it **allows** for documented **changes** within the project to be considered in an integrated manner while addressing overall project risk, which often arises from changes made without consideration of the overall project objectives or plans.
- ✓ This process is performed throughout the project.

General steps for Integrated Change Control:

1. Create a project management plan
2. Create a log of the change request (document the change)
3. Analyze the impact of change
4. Decide on a course of action
5. Communicate the decision
6. Update the project management plan

- ✓ The Perform Integrated **Change Control** process is conducted from project start through completion and is the ultimate **responsibility** of the **project manager**.
- ✓ Change requests can **impact** the project scope and the product scope, as well as any project management plan component or any project document.
- ✓ Changes may be requested by any stakeholder involved with the project and may occur at any time throughout the project life cycle
- ✓ **Before** the **baselines** are established, changes are **not required** to be formally controlled by the Perform Integrated Change Control process.
- ✓ Although changes **may be initiated** verbally, they should be recorded in written form and entered into the change management and/or configuration management system
- ✓ Change requests may require information on estimated schedule impacts and estimated cost impacts prior to **approval**

Every documented change request needs to be either approved, deferred, or rejected by a responsible individual, usually the project sponsor or project manager.

The responsible individual will be identified in the project management plan or by organizational procedures.

When required, the Perform Integrated Change Control process includes a change control board (CCB), which is a formally chartered group responsible for reviewing, evaluating, approving, deferring, or rejecting changes to the project and for recording and communicating such decisions.

The inputs, tools and techniques, and outputs of the process are:

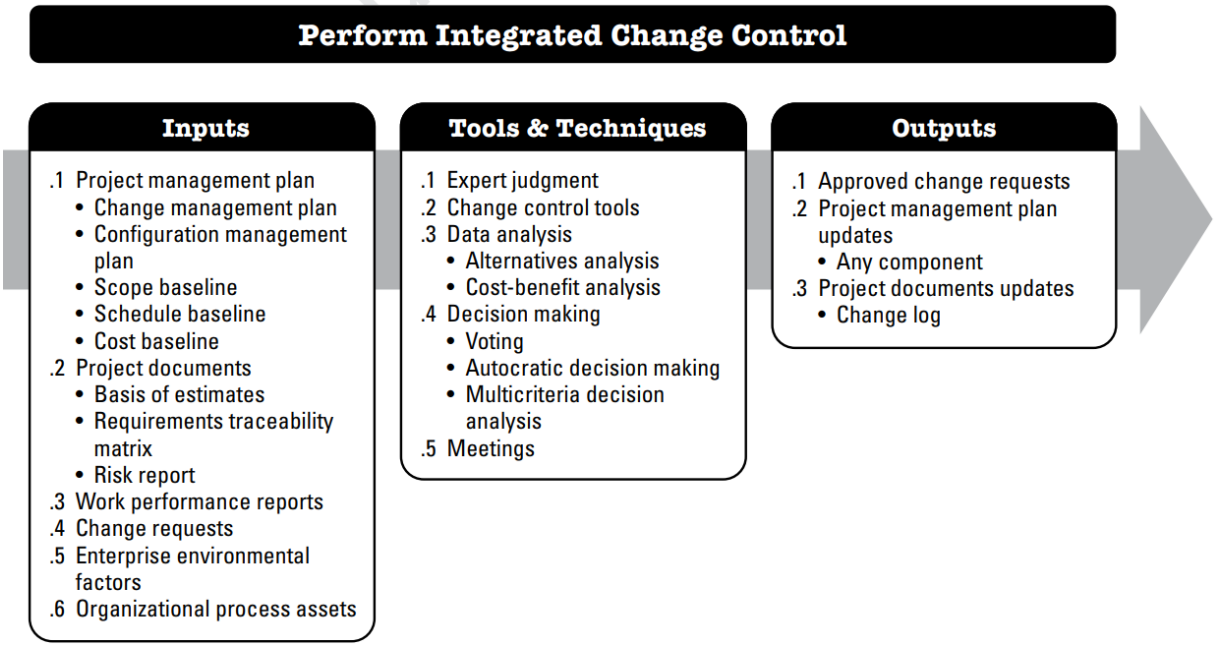

Figure: Perform Integrated Change Control: Inputs, Tools & Techniques, and Outputs by PMBOK

4.7. Closing Project or Phase

- ✓ Close Project or Phase finalizes all activities across all process groups to formally close-out the project or project phase.
- ✓ A project manager must get a formal acceptance of the project. He / She should issue a final report that shows the project is successful.
- ✓ Issue the final lessons learned. Finally, index and archive all the project records.

A few steps to be done by the project manager while he is confirming closing the project include:

- ✓ Confirming that the work is completed as per the baseline
- ✓ Completing closure formalities
- ✓ Gaining final acceptance of the product
- ✓ Completing financial closure
- ✓ Completing product hand-off
- ✓ Soliciting feedback from the customer about the project
- ✓ Completing final performance reporting

- ✓ Indexing and archiving documents

This process is performed once or at predefined points in the project.

The inputs, tools and techniques, and outputs of the process

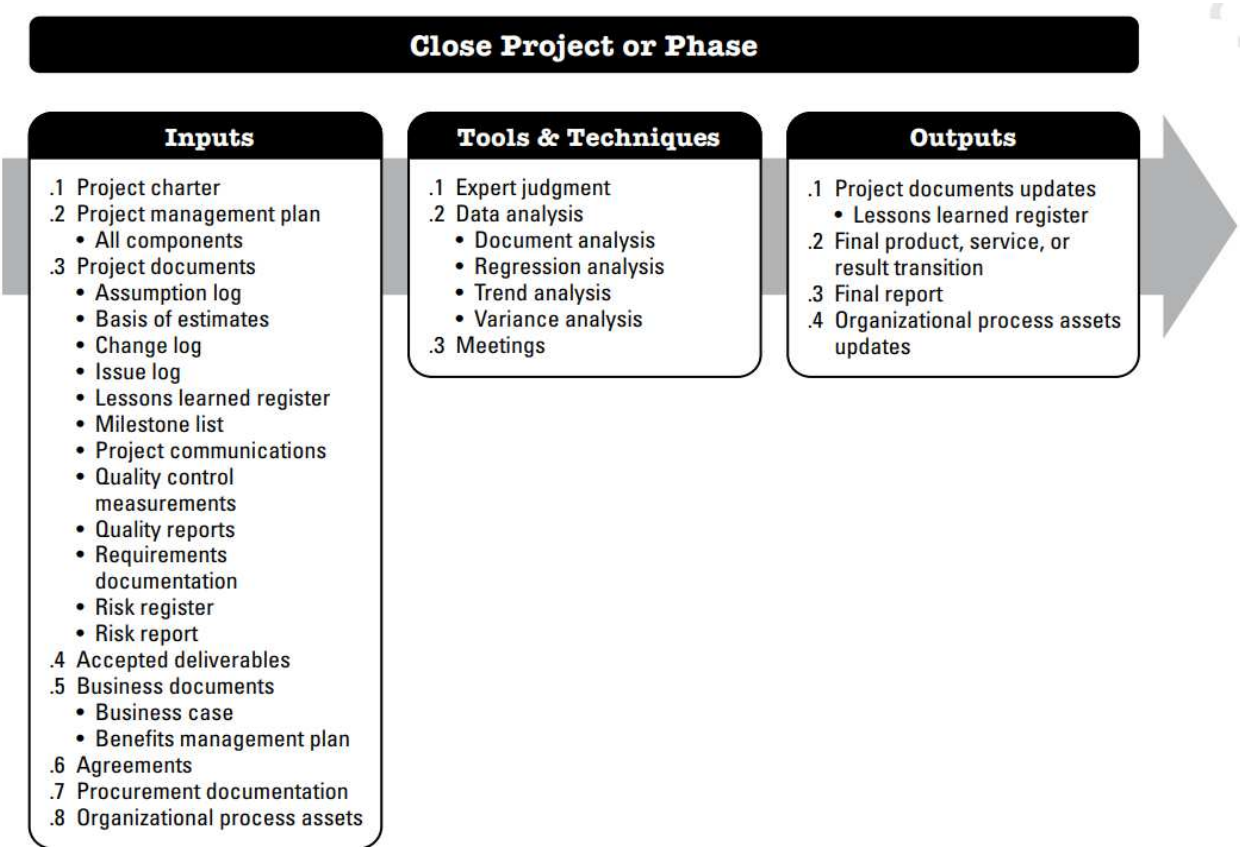

Figure: Close Project or Phase: Inputs, Tools & Techniques, and Outputs

Old Question

Q1. Describe Project integration management. How does it relate to the project life cycle, stakeholder, and the other project management knowledge areas? [2015 Fall, 2017 fall, 2018 fall]

Q2. Explain integrated change control with example. [2015 spring, 2018 spring]

Q3. Why it is important to develop a project charter at the beginning of the project? How integrated changed control mechanism is performed? [2016 Fall]

Q4. Why project integration management is termed as umbrella of rest of other knowledge areas? Explain with examples. [2019 fall]

Q5. Define project charter. Discuss the rule of 7 with example. [2019 spring]

Q6. At the beginning of the project, we need to develop project charter and management plan. Why? Explain on the basis of some imaginary project. How does integration management relate to project lifecycle? [2020 spring]

End of Unit 4