Unit 9: Project Management Processes

AGENDA

- Common Project Management Process Interactions,
- Project Management Process Groups,
- Initiating, Planning, Executing, Monitoring and Controlling, and Closing Process Group,
- Project Information,
- Role of the Knowledge Areas.

Introduction

- Project management is application of knowledge and requires the effective management of the project management processes.
- A process is a set of interrelated actions and activities performed to create a pre-specified product, service, or result.
- *Each process is characterized by its inputs, the tools and techniques that can be applied, and the resulting outputs*.
- **For every process** project manager needs to consider organizational **process assets and enterprise environmental factors**.

Introduction

- In order for a project to be successful, the project team should:
- Select **appropriate processes** required to meet the project objectives;
- Use a **defined approach** that can be adapted to meet requirements;
- Establish and maintain appropriate communication and engagement with stakeholders;
- Comply with requirements to meet stakeholder needs and expectations; and
- Balance the competing constraints of scope, schedule, budget, quality, resources, and risk to produce the specified product, service, or result.

Project Management Processes

- The project processes are performed by the project team with stakeholder interaction and generally fall into one of two major categories:
- **Project management processes and Product-oriented processes.**
- Project management processes apply globally and across industry groups.
- For any given project, the project manager, in collaboration with the project team, is always responsible for determining which processes are appropriate, and the appropriate degree of rigor for each process.
- ***Successful project management includes actively managing interactions amongst processes to meet sponsor, customer, and other stakeholder requirements.***

Project Management Processes

- Project management processes are grouped into five categories known as Project Management Process Groups.
- **Initiating Process Group.**
- Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- **Planning Process Group.**
- Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

Project Management Processes

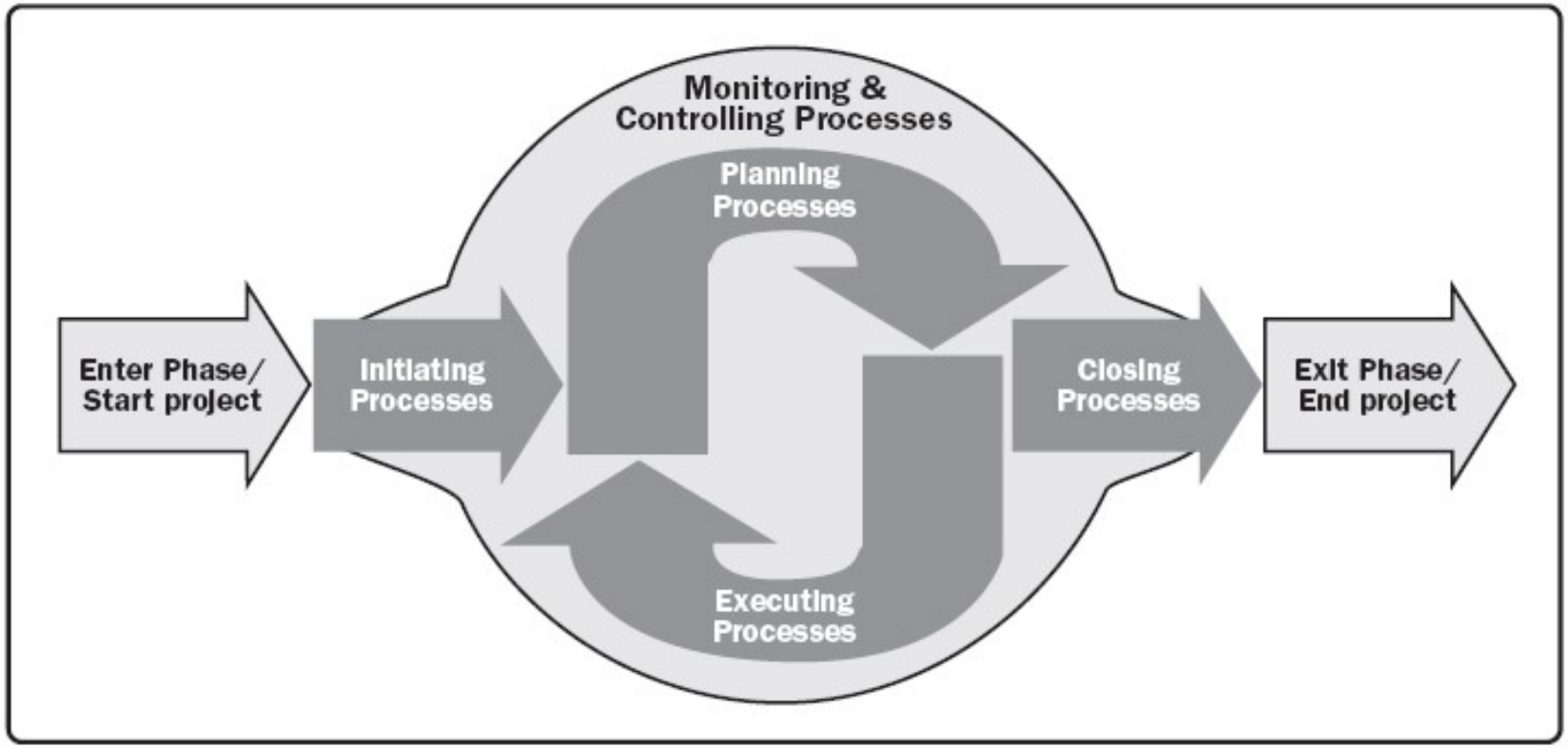
- **Executing Process Group.**
- Those processes performed to complete the work defined in the project management plan to satisfy the project specifications.
- **Monitoring and Controlling Process Group.**
- Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.
- **Closing Process Group.**
- Those processes performed to finalize all activities across all Process Groups to formally close the project or phase.

Common Project Management Process Interactions

- The project management processes are presented as discrete elements with well-defined interfaces. There is more than one way to manage a project.
- The required Process Groups and their processes are guides for applying appropriate project management knowledge and skills during the project.
- The application of the project management processes is iterative, and many processes are repeated during the project.
- The integrative nature of project management requires the Monitoring and Controlling Process Group to interact with the other Process Groups, as shown in Figure next.

Common Project Management Process Interactions

- Monitoring and Controlling processes occur at the same time as processes contained within other Process Groups and hence pictured as “background” Process Group.

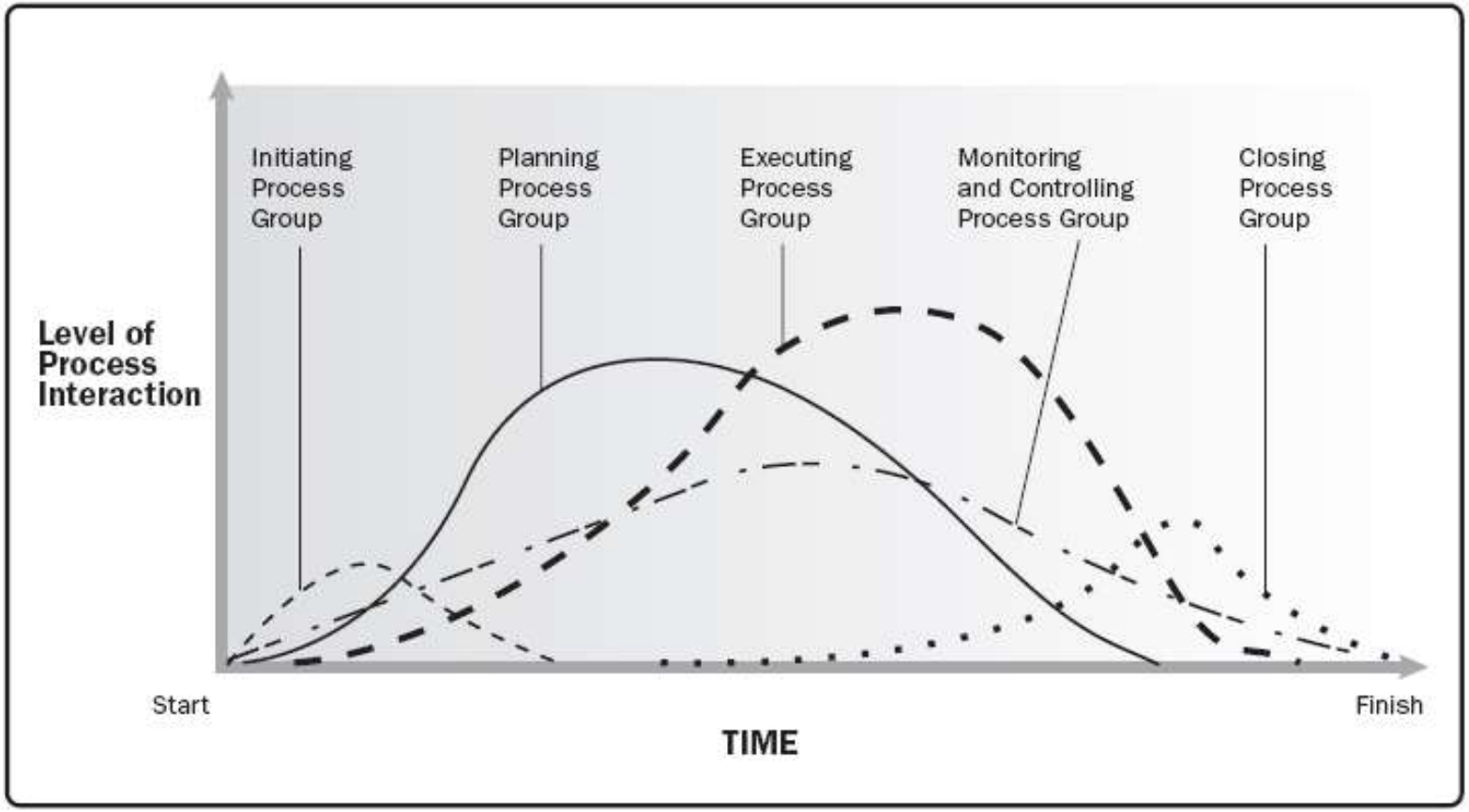


Project Management Process Groups

Common Project Management Process Interactions

- The output of one process generally becomes an input to another process or is a deliverable of the project, subproject, or project phase.
- Deliverables at the subproject or project level may be called incremental deliverables.
- Figure below illustrates how the Process Groups interact and shows the level of overlap at various times.

Process Groups Interact in a Phase or Project



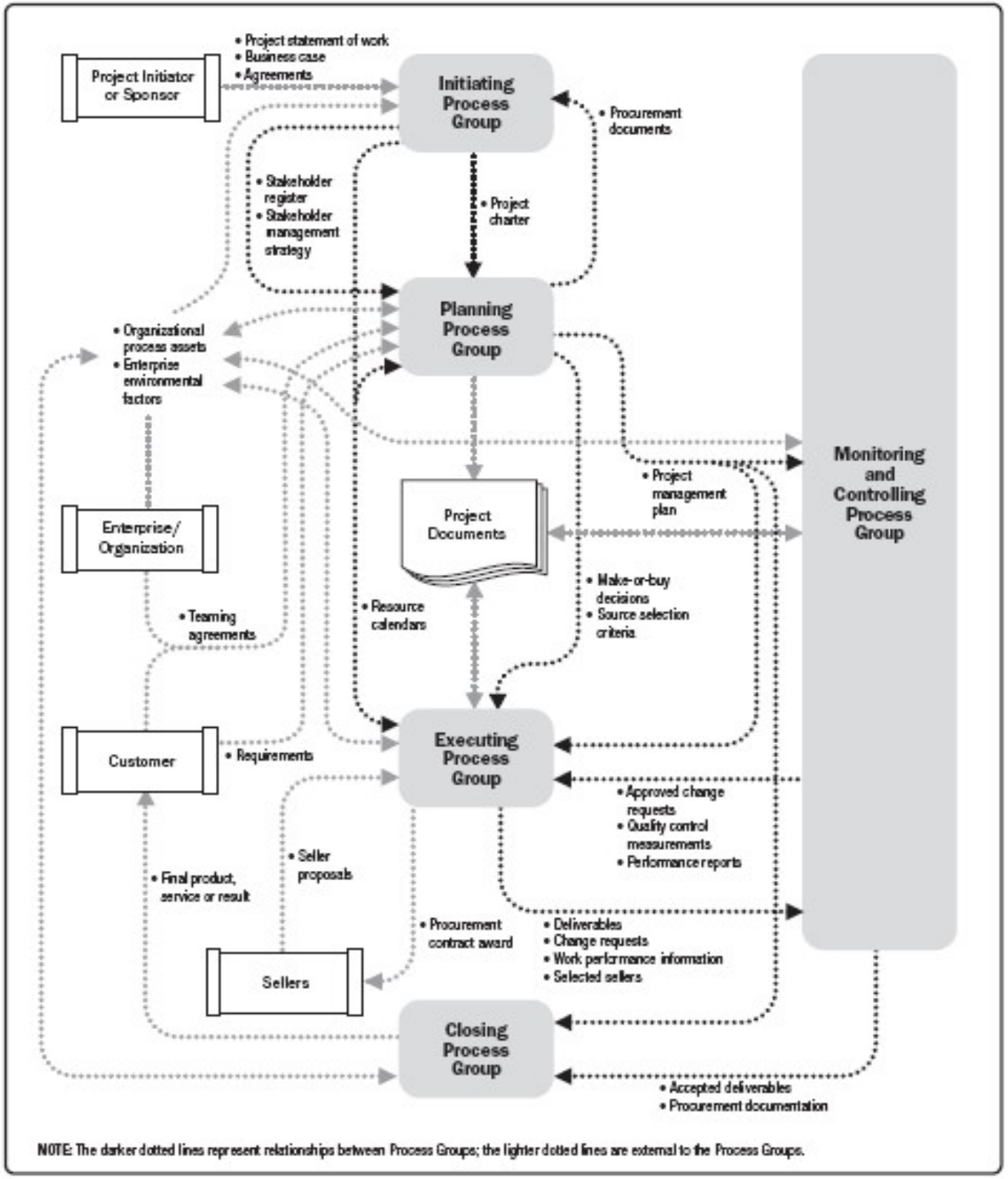
Project Management Process Groups

- Process Groups have clear dependencies and they:
  - are typically performed in each project
  - highly interact with one another and
  - are independent of application areas or industry focus.
- Individual Process Groups and individual processes are often iterated prior to completing the.
- The nature of these interactions varies from project to project and may or may not be performed in a particular order.
- The process flow diagram, Figure 3-3, provides an overall summary of the basic flow and interactions among Process Groups and specific stakeholders.
- The project management processes are linked by specific inputs and outputs where the result or outcome of one process becomes the input to another process but not necessarily in the same Process Group.
- **The Process Groups are not project life cycle phases.**

Project Management Process Groups

- The project management processes are shown in the Process Group in which most of the related activities takes place.
- For example, a process that normally takes place in the planning phase is put into the Planning Process Group.
- The iterative nature of project management means that processes from any group may be reused throughout the project life cycle.
- For example, in response to a risk event, executing a risk response may trigger further analysis, which leads to another iteration of the Identify Risks process and the associated Perform Quantitative Risk Analysis and Perform Quantitative Risk Analysis processes to evaluate the impact.

Project Management Process Interactions

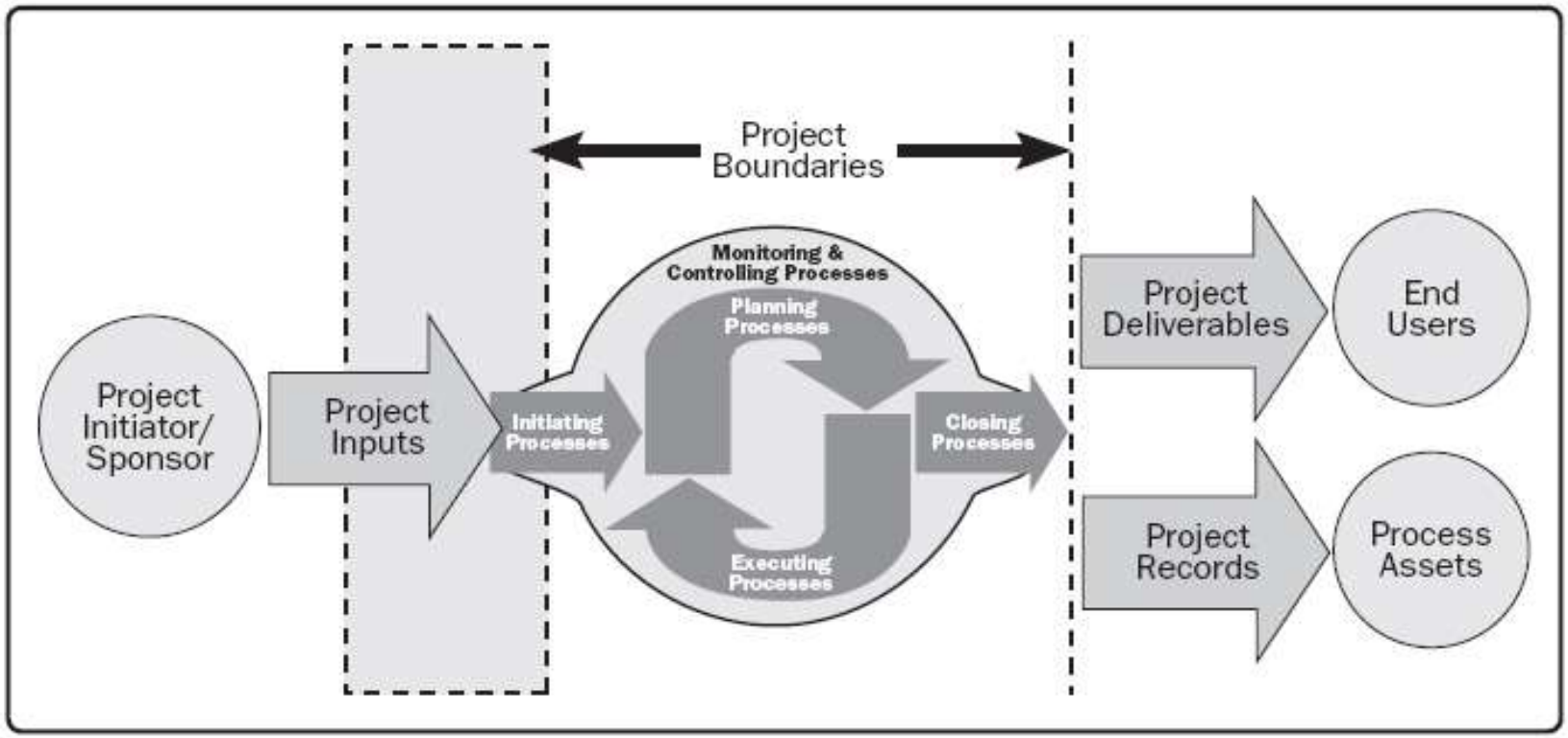


Initiating Process Group

- The Initiating Process Group: processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- Within the Initiating processes, the initial scope is defined and initial financial resources are committed.
- Internal and external stakeholders who will interact and influence the overall outcome of the project are identified.
- If not already assigned, the project manager will be selected. This information is captured in the project charter and stakeholder register.
- When the project charter is approved, the project becomes officially authorized.
- A project boundary is defined as the point in time that a project or project phase is authorized to its completion.

Initiating Process Group

- Large complex projects should be divided into separate phases.
- Performing the Initiating processes at the start of each phase helps to keep the project focused on the business need



Project Boundaries

Initiating Process Group

- Involving the sponsors, customers, and other stakeholders during initiation creates a shared understanding of success criteria, reduces the overhead of involvement, and generally improves deliverable acceptance, customer satisfaction, and other stakeholder satisfaction.
- Initiating processes are outside of the project's level of control.

Planning Process Group

- It consists of processes performed to establish the total scope of the effort, define and refine the objectives, and develop the course of action required to attain those objectives.
- The Planning processes develop the project management plan and the project documents that will be used to carry out the project.
- Significant changes occurring throughout the project life cycle trigger a need to revisit one or more of the planning processes and possibly some of the initiating processes.
- The project management plan and project documents developed as outputs from the Planning Process Group will explore all aspects of the scope, time, cost, quality, communications, human resources, risks, procurements, and stakeholder engagement.

Planning Process Group

- Updates arising from approved changes may significantly impact parts of the project management plan and the project documents.
- Updates provide greater precision with respect to schedule, costs, and resource requirements to meet the defined project scope.
- The project team seeks input and encourages involvement from all stakeholders when planning the project and developing the project management plan and project documents.
- Refining the documents cannot continue indefinitely, so planning process also defines when planning phase ends.

Executing Process Group

- It consists of those processes performed to complete the work defined in the plan to satisfy the project specifications.
- Process Group involves coordinating people and resources, managing stakeholder expectations, as well as integrating and performing the activities of the project in accordance with the project management plan.
- During project execution, results may require planning updates and rebaselining.
- A large portion of the project's budget will be expended in performing the Executing Process Group processes.

Monitoring and Controlling Process Group

- This Group consists of those processes
  - required to track, review, and orchestrate the progress and performance of the project;
  - identify any areas in which changes to the plan are required; and
  - initiate the corresponding changes.
- The Monitoring and Controlling Process Group not only monitors and controls the work being done within a Process Group, but also the entire project effort.

Monitoring and Controlling Process Group

- The Monitoring and Controlling Process Group also involves:
  - Controlling changes and recommending corrective or preventive action in anticipation of possible problems,
  - Monitoring the ongoing project activities against the project management plan and the project performance measurement baseline, and
  - Influencing the factors that could circumvent integrated change control or configuration management so only approved changes are implemented.

Closing Process Group

- Processes performed to conclude all activities across all Project Management Process Groups to formally complete the project, phase, or contractual obligations.
- Verifies that the defined processes are completed within all of the Process Groups to close the project or a project phase
- Establishes the premature closure of the project which may include, for example: aborted projects, cancelled projects, and projects having a critical situation.

Closing Process Group

- At project or phase closure, the following may occur:
- Obtain **acceptance by the customer or sponsor** to formally close the project or phase,
- Conduct **post-project or phase-end review**,
- Record **impacts of tailoring to any process**,
- Document **lessons learned**,
- Apply appropriate **updates to organizational process assets**,
- **Archive all relevant project documents** in the project management information system (PMIS) to be used as historical data,
- **Close out all procurement activities** ensuring termination of all relevant agreements, and
- Perform **team members' assessments and release project resources**.

Project Information

- Throughout the life cycle of the project, a significant amount of data and information is collected, analyzed, transformed, and distributed in various formats to project team members and other stakeholders.
- The collected data are analyzed in context, and aggregated and transformed to become project information during various Controlling processes.
- The information may then be communicated verbally or stored and distributed as reports in various formats.

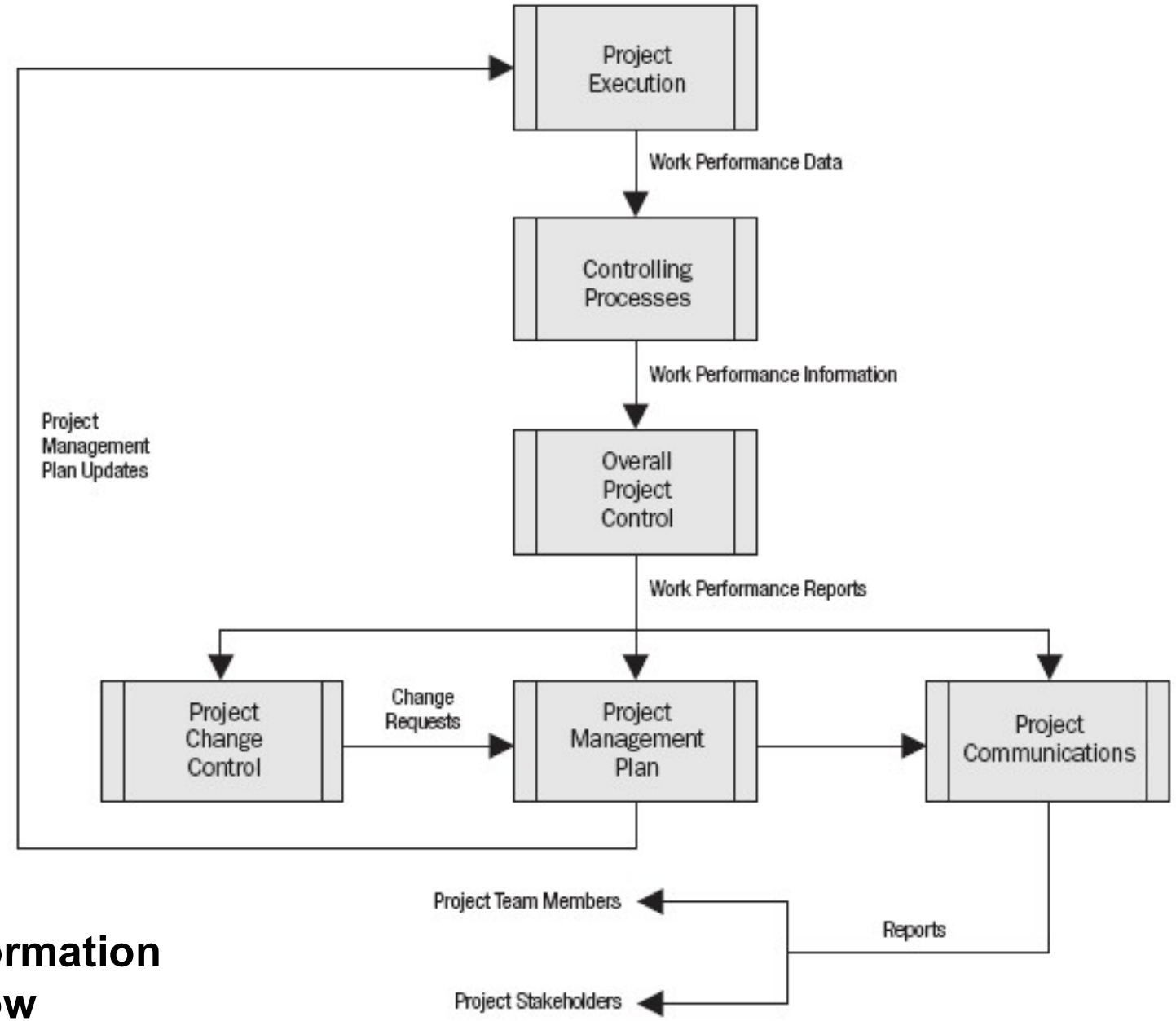
Project Information

- The following guidelines help minimize miscommunication and help the project team use appropriate terminology:
- **Work performance data.** The raw observations and measurements identified during activities performed to carry out the project work.
  - Examples include reported percent of work physically completed, quality and technical performance measures, start and finish dates of schedule activities, number of change requests, number of defects, actual costs, actual durations, etc.

Project Information

- **Work performance information**. The performance data from various controlling processes, is analyzed in context and integrated based on relationships across areas.
- Examples of performance information are status of deliverables, implementation status for change requests, and forecasted estimates to complete.
- **Work performance reports**. The physical or electronic representation of work performance information compiled in project documents, intended to generate decisions or raise issues, actions, or awareness.
- Examples include status reports, memos, justifications, information notes, electronic dashboards, recommendations, and updates.

Project Information



Project Data, Information and Report Flow

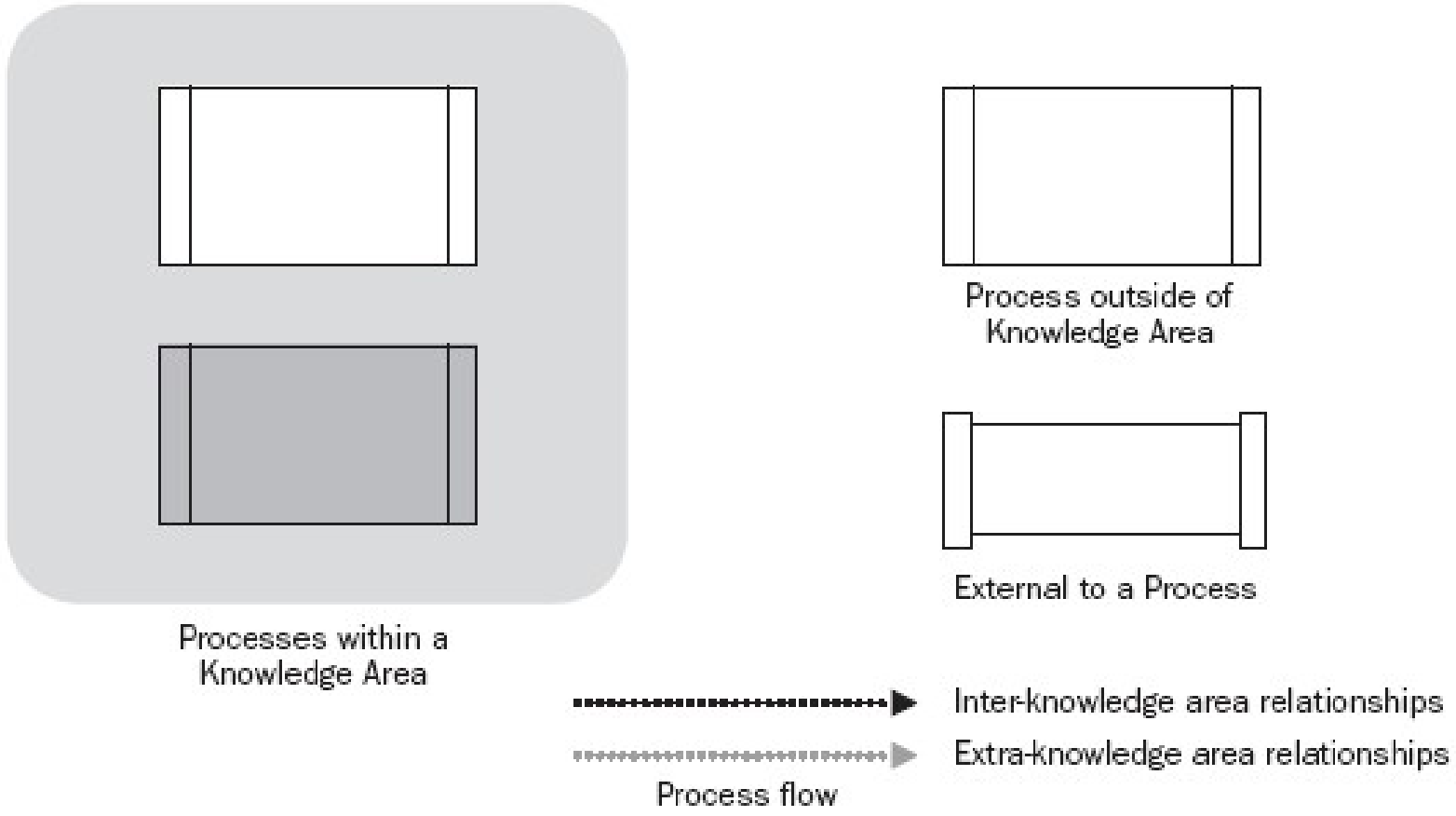
Role of the Knowledge Areas

- A **Knowledge Area** represents a complete set of concepts, terms, and activities that make up a professional field, project management field, or area of specialization.
- Project teams should utilize these ten Knowledge Areas and other Knowledge Areas, as appropriate, for their specific project.
- The Knowledge Areas are:
  - Project Integration Management,
  - Project Scope Management,
  - Project Time Management,
  - Project Quality Management,
  - Project Human Resource Management,
  - Project Communications Management,
  - Project Risk Management,
  - Project Procurement Management and
  - Project Stakeholder Management

Role of the Knowledge Areas

- The Knowledge Areas provide a detailed description of the process inputs/outputs and a descriptive explanation of tools and techniques most frequently used within the project management.
- A data flow diagram is provided in each Knowledge Area.
- The data flow diagram is a summary level depiction of the process inputs and process outputs that flow down through all the processes within a specific Knowledge Area (Figure next).
- Although the processes are presented here as discrete elements with well-defined interfaces, in practice they are iterative and can overlap and interact in ways not detailed here

Role of the Knowledge Areas



The data flow diagrams show basic steps and interactions. Many additional interactions are possible.

Data Flow Diagram Legend