

Project Management Framework

Study Notes

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Points to Note

- Please read Chapter 1, Chapter 2, and Chapter 3 from Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013 (pages 1 to 61).
- The study notes explains topics that are important for PMP® exam preparation and you can expect several questions from these topics.
- Pay close attention to all the terms used. It is very important to understand all the concepts discussed in this chapter.
- Try to relate the concepts to real life examples.
- After reading the study notes, please read, understand, and answer the chapter test questions in this knowledge area. The chapter questions improve your understanding of the concepts discussed in the study notes.



What is a Project?

- *Project is a temporary endeavor undertaken to create a unique product, service, or result.
- Features of project:
 - Temporary: Project has a definite beginning and a definite ending. The duration may vary from one day to even a few years – but ultimately all projects must either meet their objectives or be terminated. Please note that even though the projects are temporary, the products or services created by them may far outlast the projects themselves.
 - Unique product, service or result: All projects create something unique which has never been created before. A product or service may be unique to whatever category it belongs (e.g., a project to create a building has a unique design, location, resources, etc.).
- Please visualize those situations at your work place and check whether what you are working on is in fact a project or some other engagement, taking into account the following guidelines that help you understand some of the characteristics of a project:
 - Does it have features of operations that are repetitive, and required to sustain business?
 - Does it relate to merely fixing something which is broken or making minor modifications or carrying on maintenance activities (e.g., making changes in a document or website, resolving minor issues, etc.)? These activities will not produce a unique product and are hence not projects.
 - Does the work require you to follow project management practices (e.g., does it require you to use expert knowledge discussed in several *PMBOK® Guide* Knowledge Areas such as Integration Management, Time Management, Scope Management, Cost Management, etc.)? Does it require a project plan to be created and Project Manager assigned? If answers to these questions are “No”, then you are not dealing with projects.

Important: Please read *PMBOK® Guide* Fifth Edition (pages 3 and 4) which cites examples of projects and how they can be identified.

*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Projects and Operations (How they differ)

	Projects	Operations
Duration	Temporary - has definite beginning and definite end (although duration may vary)	Ongoing activity
Objective	Deliver service/product and close the project	Sustain business
End Result	Create unique product or service	Sustain business



Programs, PMO, and Portfolios

- **Program:**

- *A group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually.
- Program management (as opposed to project management) is important because:
 - It provides a holistic view of several related projects which, if executed together, will achieve better results than when executed individually.
 - It satisfies a distinct strategic objective, which requires management of several projects simultaneously.

e.g.: A space launch is usually a program. It includes several individual projects related to manufacturing, testing, creating the launch pad, R&D, etc. It may also include operational activities like co-ordination with research institutes, compliance with procedures, remembering lessons learned from other launch programs, etc. For the space launch to be successful, all the underlying projects and associated operational activities should be well coordinated and executed as part of a single program.

*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Programs, PMO, and Portfolios (continued)

- **Project Management Office (PMO):**

- *An organizational structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.
- An entity that selects, deploys, and manages project resources

- **Portfolio:**

- *Projects, programs, sub portfolios, and operations managed as a group to achieve strategic objectives.
- Portfolio Management is important because:
 - It satisfies strategic business objectives.
 - It identifies, prioritizes, authorizes, controls, and manages projects, programs, and other related work.

e.g.: A space launch portfolio will include several individual space launch programs. The Portfolio Manager will be instrumental in determining which space launch programs should be selected based on risks, returns, human resources, strategic objectives, and other considerations. Also, all the programs and projects will be managed as part of the portfolio and follow the standards & guidelines laid down as part of the portfolio.

Important: Please read *PMBOK® Guide* Fifth Edition (pages 7 to 12) which discusses these concepts in greater detail.

*These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Project Stakeholders

*An individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of the project. Some examples are:

- **Project Managers:**
 - Responsible for managing the project
 - Not required to be a technical expert
- **Customers:**
 - *Person(s) or organization(s) that will pay for the project's product, service, or result (e.g., for a new computer processor manufacturing project, the computer manufacturers are the customers).
- **Users:**
 - Those who directly use the project's product (e.g., when a new drug is launched, patients are the users)
- **Functional Managers:**
 - Responsible for managing the work related to the functional areas of the business
- **Sponsor:**
 - Provides resources and support for the project, is accountable for the project success, and serves as an escalation point for important issues.
- **Project Team:**
 - Group of persons that carries out the project work
- **Program Managers:**
 - Responsible for managing related projects
- **Portfolio Managers/ Portfolio Review Board:**
 - Responsible for governing a number of projects or programs that may or may not be interdependent.

*These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Characteristics of Project Stakeholders

- Stakeholders' interests may positively or negatively impact the project.
- Stakeholders may exert influence over the project and its outcome.
- Very important for the Project Manager to identify all the stakeholders and their expectations (sometimes their expectations may be implicit and not explicitly stated).
- Stakeholders may have conflicting interests and objectives; so managing stakeholders may involve balancing those interests.
- Project Manager must aim to find resolutions to issues among various stakeholders.
- Involving stakeholders in the project phases improves the probability of successfully completing the project and thus satisfying customer requirements. This may also result in buy-in or shared ownership of the project by the stakeholders.
- In general, differences among stakeholders must be so resolved in favor of the customer.



Organizational Structures—Their Influence on Projects

Organization Structure Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Who manages the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Reference: Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013 – Table 2-1, Page 22. Also, please refer *PMBOK® Guide* - Fifth Edition - Figures 2-1 through 2-6, Pages 22 to 26.



Comparison of Functional vs. Projectized Organization Structures

	Functional	Projectized
Project Manager's authority	Virtually none	High to almost total
Ability to get resources for project	Very difficult, because resources work in specific functional areas	Easier to get resources
Reporting hierarchy	Resources report to Functional Manager	Resources report to Project Manager
Dedication to the project	Low	High
Performance Evaluation	Done by Functional Manager	Done by Project Manager
Home for the resource after project completed	Available, resources go back to functional departments	No home after project is completed
Specialized skills	Well developed, because resources place more emphasis on functional skill-sets compared to projects	Not as well developed, team members need to pay more emphasis to projects and not to develop functional skill-sets
Efficiency of resource allocation	Efficient allocation of resources	Less efficient- duplication of job functions
Career paths	Well defined - along functional specialization	Depends on type of project, no well defined career path



Some Important Terms

- ***Project Management Office (PMO):** It is an organizational structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.
- ***Program:** A group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually.
- ***Portfolio Management:** The centralized management of one or more portfolios to achieve strategic objectives.
- ***Subproject:** A smaller portion of the overall project created when a project is subdivided into more manageable components or pieces.

*These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Product Life Cycle, Project Life Cycle, Project Management Life Cycle

- ***Product Life Cycle:** The series of phases that represent the evolution of a product, from concept through delivery, growth, maturity, and to retirement.

The product lifecycle is used to launch a new product. A single product life cycle may have been generated as an outcome of several projects (multiple project life cycles). For example, a project undertaken to bring out a new desktop computer in to the market constitutes only one phase in the product life cycle of the desktop computer.

- ***Project Life Cycle:** The series of phases that a project passes through from its initiation to its closure.

Understanding the project life cycle constitutes the basic framework needed for managing the project.

- **Project Management Life Cycle:** It describes the processes required to be followed to manage the project and are grouped under various process groups (i.e., Initiating, Planning, Executing, Monitoring & Controlling, and Closing) explained in *PMBOK® Guide* - Fifth Edition.

*These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



Project Life Cycle - Features

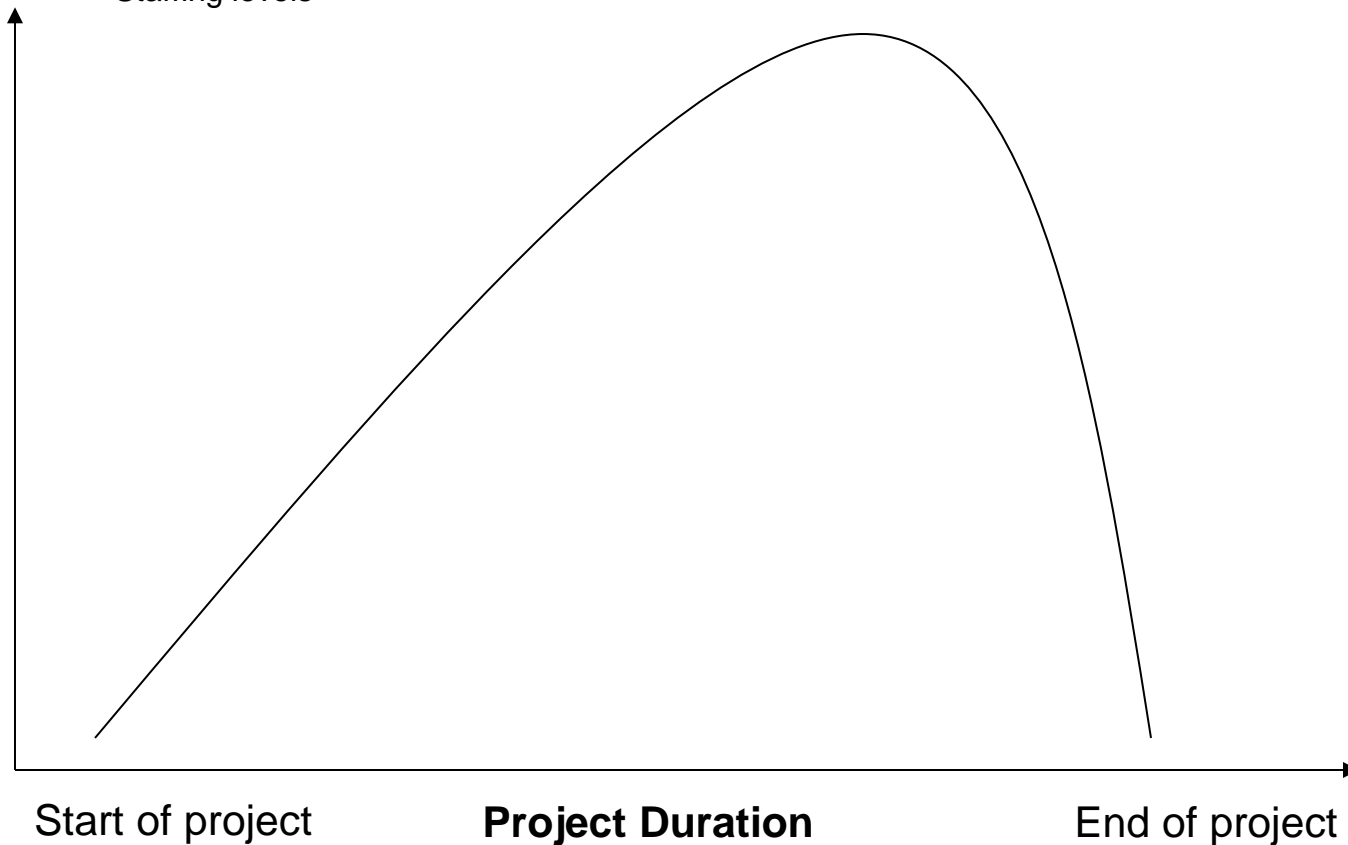
- Defines the beginning and end of the project
- Includes the transitional activities at the beginning and the end of the project (thus provides linkages with ongoing operations of the performing organization)
- Defines work and resources involved in each phase
- Project life cycle may be just one phase of the product life cycle
- Subprojects within projects have their own distinct life cycles



Project Life Cycle - Characteristics

Factors that increase with project progress and then decrease sharply when project nears completion:

- Cost of project
- Staffing levels

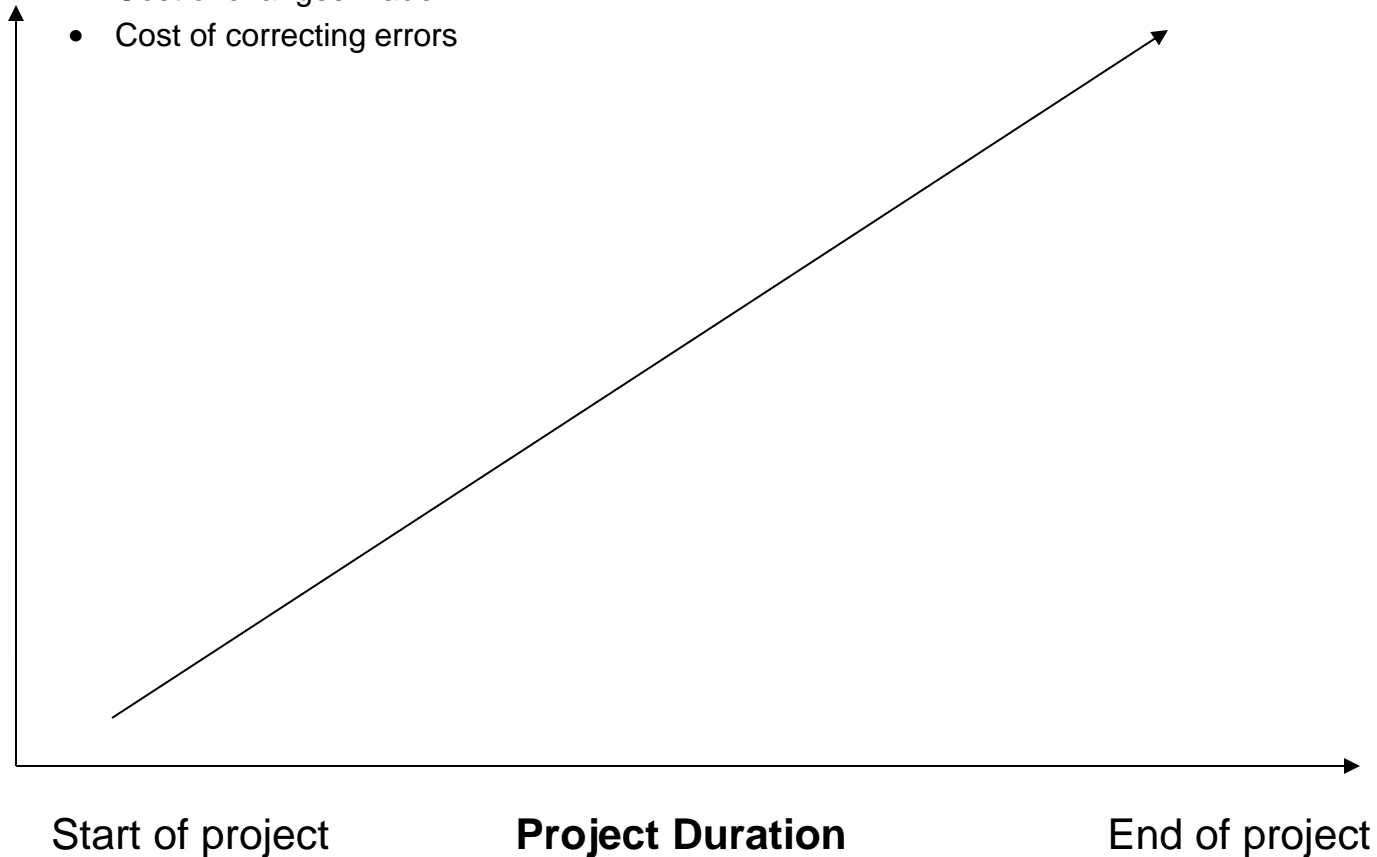




Project Life Cycle – Characteristics (continued)

Factors that increase with project progress:

- Probability of successfully completing the project
- Cost of changes made
- Cost of correcting errors

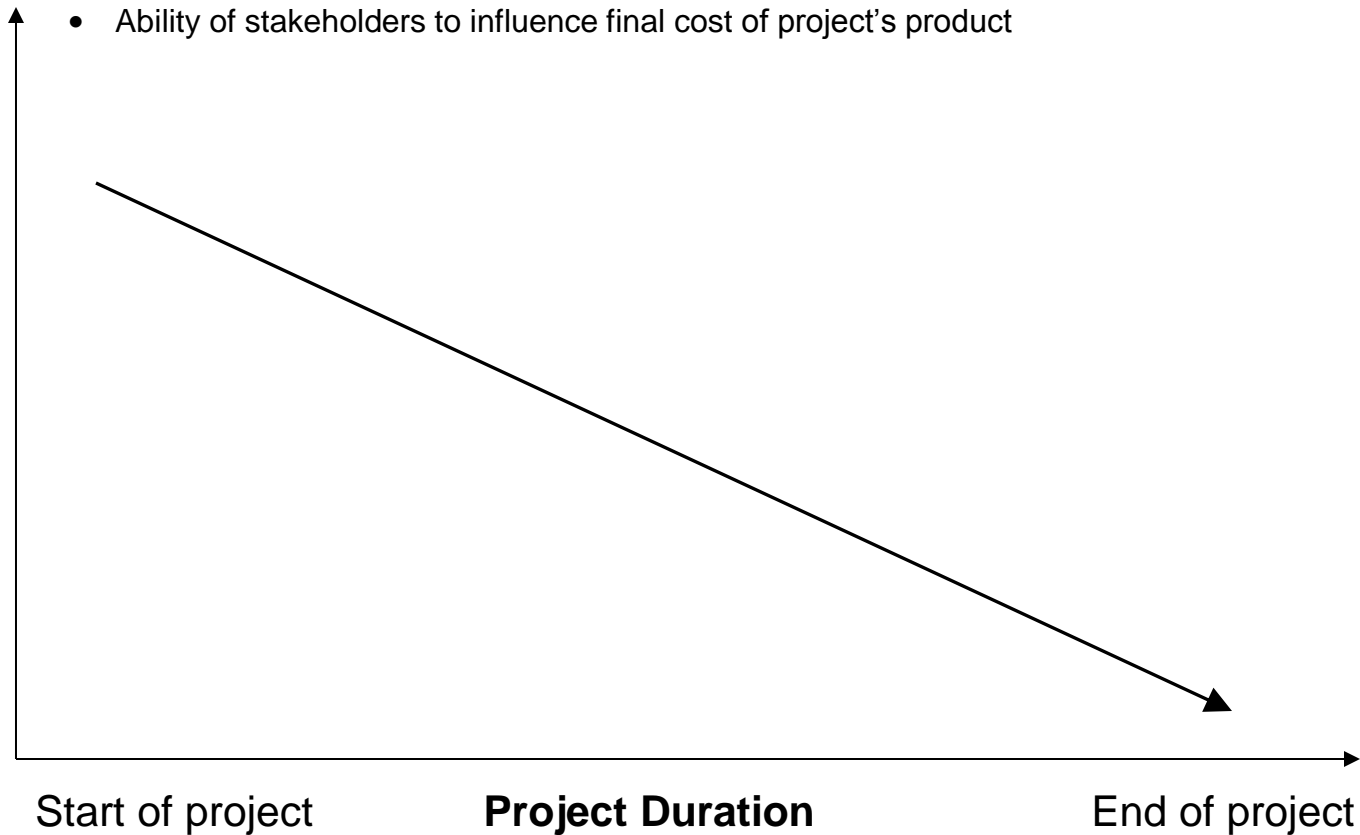




Project Life Cycle – Characteristics (continued)

Factors that decrease with project progress:

- Uncertainty/risks about the project
- Ability of stakeholders to influence final characteristics of project's product
- Ability of stakeholders to influence final cost of project's product





Process Groups

- The five process groups or project management process groups are:
 - Initiating
 - Planning
 - Executing
 - Monitoring and Controlling
 - Closing
- Process groups are linked by the results they produce, i.e., output of one process group becomes input to the succeeding process group.
- Process groups may overlap and interact within phases.
- If a project is broken down into several phases (e.g., design, implementation, etc.), then the process groups will occur in each of these phases.

Note: Please refer *PMBOK® Guide - Fifth Edition* (figure 3-3, Page 53). Please spend some time in understanding the processes and their interactions. These processes are explained in detail in subsequent chapters.



Key General Management Skills

- Leadership
- Decision Making
- Team Building
- Motivating
- Influencing
- Communicating
- Negotiating
- Problem Solving
- Political and Cultural Awareness
- Trust building
- Coaching
- Conflict Management