Project Management Framework Study Guide

# PROJECTS VS. OPERATIONS

Most organizational work can be described as either operational or project work. Operational work is ongoing to support the organization's business and systems, and the project work ends when the project is closed.

In contrast, projects are temporary and help the business to meet organizational goals and to respond quickly and easily to the external environment. Organizations use projects to change operations, products, and services to meet a business need, gain competitive advantage and respond to new markets.

It is essential to understand the difference for the exam. You may see instances where the real problem in the question is that someone is attempting to manage ongoing(operational) work, like manufacturing as a project.

Although these are two distinct areas of work, they are closely connected. When a project is finished, the product is handed off to operations, which could require employee training our adjustments to the operational processes for those who will use the project's product or service.

## Different Objectives:

Projects require project management, whereas operations require business processes or operations management. However, projects and operations do meet at various points during the lifecycle of a product or service. For example, when:

* Re-engineering business processes,
* Developing or changing products and services, and
* Improving operations or product development.

The goal of process management is to **improve processes** continuously. Improving operational processes may increase effectiveness, cut costs and gain a competitive advantage.

Projects are about **driving organizational change**, for instance, using business process re-engineering to align business need with customer expectation.

## Different Skills

Moreover, the skills needed by the project manager differ from those required by operational managers.

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| **Project Manager** | **Operational Manager** |
| The role ends with a project | Routine |
| Temporary team | Stable organization |
| Many different skills | Specialist skills |
| Work not done before | Work repeatable |
| Time, cost, and scope constraints | Annual planning cycle |
| Difficult to estimate time and budget | Budgets set and fixed events |

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| Exam Watch: Even though you may argue that things presented in this course do not work within your environment, know that the exam is not based on your environment. Learn the *PMI®* method for passing the exam and allow that to influence your "real-world" implementations. |
| Exam Watch: Exam questions are very shallow. Do not read too much into the questions regarding political aspirations and influences. Take each question at face value and assume all of the information given in the question is correct. |
| Exam Watch: You must understand the definition of a project   * Temporary endeavor with a beginning and an end * Creates a unique product, service, or result |
| **SNIPPET:** It would be helpful to use an electronic copy of the *PMBOK*® *Guide* to search for these words: sponsor, stakeholder, project management, and senior management. It will help you to understand these roles better. |
| **SNIPPET**: MEMORIZE concepts, definitions, and approaches. |
| Definition: **Operations Management**   * Ongoing business operations * Supports business strategic and tactical goals   + Strategic – 12 mo.+   + Tactical – 1-12 mo.   + Operational – daily, weekly |
| Definition: **Progressive elaboration**  It is a continuous iterative process of refining and further detailing the project characteristics based on more detailedinformation and insight that becomes available as the project progresses. Generally applied to scope and estimates, it results in more precise and well-defined scope and estimates. |
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# DEFINING THE LIFE CYCLE

A lifecycle is a progression through a series of development stages. A product has a lifecycle (permits conception to its withdrawal from the marketplace), but there is also a lifecycle for projects. It would be best if you understood the difference between the project lifecycle and the project management process for the exam. Both of these concepts are necessary to complete the project. The project lifecycle is what you need to do to do the work, and the project management process is what you need to do to manage the work.

## PROJECT LIFE CYCLE

The project lifecycle is the performing organization or departments' methodology for projects. This is the logical breakdown of what you need to do to produce the deliverables of the project. There are many different project lifecycles, depending on the type of product being developed, the industry, and the organization's performance.

Project lifecycles range from plan driven to change driven. Plan-driven projects have addictive lifecycles (sometimes called waterfall or traditional lifecycles) that require a scope, schedule, and cost to be determined in detail early in the project's life before the work begins to produce the project deliverables. For example, a construction project would typically be managed using a predictive approach, undergoing the lifecycle phases of feasibility, planning, design, production, turnover, and startup.

On the other hand, change-driven projects use iterative, incremental, or adaptive (agile) lifecycles and will have varying levels of early planning for scope, schedule, and cost. Incremental and iterative lifecycles involve early planning of high-level scope sufficient to allow for preliminary estimates of time and cost; the scope is developed a little more with each iteration. Incremental delivers a complete, usable portion of the product for each iteration. With iterative, the whole concept is built in successive levels of detail to create the result. For example, a project to build a website using an incremental lifecycle would involve prioritizing requirements into iterations to deliver a fully functional portion of the website at the end of each iteration. To build the same project using an iterative lifecycle would involve first creating a prototype of the entire website; the basic skeleton of the site is built, and each successive iteration adds more detail and resonance until there is a complete, fully functioning site upon delivery. Note that a project may use a combination of incremental and iterative lifecycles throughout the project or four phases of the project.

Adaptive lifecycles involve fixed time and cost, and scope is broadly defined with the understanding that it will be refined as the project progresses. The customer's requirements are documented and prioritized in what's known as a backlog, which can be adjusted as the project progresses. Work is planned in quick increments to allow customers to change and reprioritize requirements within time and cost constraints. A new software development project may follow an adaptive approach, undergoing high-level feasibility, design, and planning effort, followed by short, iterative periods of detailed design, coding, testing, and release.

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| Exam Watch: There are two different life cycles referenced in the exam: project life cycle and project management life cycle. You must be very familiar with the project management life cycle, as there could be 40 to 60 questions on this topic. |
| Exam Watch: Questions about project life cycles are not often part of the exam and are more correctly part of exams for technical disciplines such as engineering, information systems, telecommunications, construction, etc.   * Construction – feasibility, planning, design, production, turnover, and startup * Information system – requirements analysis, high-level design, detailed design, coding, testing, installation, conversion, and operation |
| **SNIPPET:** The project life cycle differs from the Project Management Life Cycle. The Project Management Life Cycle is comprised of five project management processes (initiation, planning, execution, control, and closure). The project life cycle, meanwhile, is comprised of the logical phases within the project itself.  The project life cycle is affected by the project stakeholders. Project stakeholders have a vested interest in the outcome of the project. Stakeholders include the project manager, project team, management, customers, communities, and anyone affected by the project outcome. Project managers should scan the project outcome to identify all stakeholders and collect and record their expectations, concerns, and input regarding the project processes.  The project manager's power is relative to the organizational structure they are operating within. A project manager in a functional organization will have relatively low authority. A project manager in a matrix environment can have low, balanced, or high authority over the project. A project manager in a project-based organization will have a high level of authority on the project. Essentially, the project manager's authority is typically inverse to the authority of the functional |
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## PROJECT MANAGEMENT LIFE CYCLE

The project management process includes the management efforts of initiating, planning, executing, monitoring and controlling, and closing the project.

The process groups do not necessarily follow one after the other but frequently overlap during the project's life. For small projects, these process groups represent the whole of a project life cycle. For large projects, the project management life cycle may be repeated for each project life cycle phase.

# CONSTRAINT

As a project manager, you must juggle many things on a project, including project constraints like time, cost, risk, scope, quality, resources, customer satisfaction, and other factors limiting options. For example, the date a milestone deliverable is due, the date the project must be completed, and the maximum allowable risk a project can have are all constraints.

You use constraints to help evaluate come peeling demands. Management directly or indirectly sets the priority of each constraint. You then use this prioritization throughout the project to properly plan, assess the impact of changes, and prove successful project completion. It is essential to realize that you must determine the effort a shift in one constraint has on the other. In other words, you probably cannot shorten the schedule without hurting cost, risk, etc.

Stakeholders, managers, and others will inevitably try to change something or add work to the project. As a project manager, you are responsible for analyzing these change requests and identifying the impact on all constraints through integrated change control.

Constraints Are Imposed, within every project, there is a driving force for the project. You have probably experienced some forces first-hand. For example, ever had a project that had to be done by an exact date, or the organization would face fines and fees? This is a schedule constraint. Or a project that could not go over its fixed budget? This is a financial constraint. Or what about a project that had to hit an exact level of quality regardless of how long the project took? This is a scope constraint. All are forces that tend to compete with each other.

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| Exam Watch: You should memorize and understand the overall project management process, what each term means, the phase of the project management lifecycle when each should be done in a specific order of the planning and closing phases. Be prepared for questions that describe situations and ask you to pick the next thing to be done or to describe what step, process or phase of the project management lifecycle one is in. |
| Exam Watch: Historically, there have only been three constraints: cost, time, and scope. This is no longer the case. There may be several within a project. The main ones are:   * Scope * Quality * Schedule * Budget * Resources * Risk |
| Exam Watch: Project constraints influence practically all areas of the project process. Consider constraints as a ruling requirement over the project. Typical constraints you will encounter are time constraints in the form of deadlines and the availability of resources. |
| **SNIPPET:** The relationship among the constraint factors is such that if anyone factor changes, at least one other factor will likely be affected. |
| Exam Watch: If you want to pass the *PMP®* exam, learn and love the project management knowledge areas. These knowledge areas are the different facets of project management; a project manager will work through each process. |
| Exam Watch: Leadership and management are interrelated. You will not have effective leadership without management, and vice-versa. Know that leadership can also come from project team members, not just the project manager. |
| Definition: **Project Management**  "the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements" This is the official definition. |
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# WHAT IS PROJECT MANAGEMENT?

A project is managed with a clear end date, according to set scope and budget. It has a single easily definable tangible output. e.g., a list of deliverables, a new system, or an improved process. "... a temporary organization, usually existing for a much shorter time than a program, which will deliver one or more outputs by a specific business case. A particular project may or may not be part of a program."

You must understand the definition of a project:

* Temporary endeavor with a beginning and an end
* Creates a unique product, service, or result
  + Result transition is a single deliverable; a project scope only includes one item. Example: a completed task on a Kanban board (Pick List)
* Done for a purpose
* Has interrelated activities
* Is progressively elaborated – distinguishing characteristics of each unique project will be progressively detailed as the project is better understood

Most projects have similar characteristics, such as the following:

* They Are Demanding, the stakeholders, the people with a vested interest in the project, will all have different expectations, needs, and requests of the project deliverables. No doubt, there will be a conflict between the stakeholders.
* They Have Clear Requirements; projects should have a clearly defined set of requirements. These requirements will set the bar for the actual product or service created by the project, the quality of the project, and the timeliness of the project's completion.
* They Come with Assumptions; projects also have assumptions. Assumptions are beliefs held to be accurate, but that has not been proven. For example, the project may be operating under the assumption that the project team will have access to the work at any time during the workday rather than only in the evenings or on weekends.

# Many people think project managers need to know how to lead people or, even worse, that you can buy software and be a project manager. It is both a science and an art and follows a systematic process. PMI breaks project management into process groups and knowledge areas. The process groups follow the high-level process of project management: initiating, planning, executing, monitoring and controlling, and closing. The knowledge areas include scope, time, cost, quality, human resources, communications, risk, procurement, and stakeholder management. PMI also focuses on project management framework concepts and project management processes.

# Do you know what project management is? Chances are, there are some critical aspects of project management you do not know. Even people with advanced degrees and project management sometimes fail this exam. It can involve technical terms and processes, but it also involves roles and responsibilities, and authority levels. Applying the practices, tools, techniques, knowledge, and skills of project management helps increase the likelihood of project success.

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| **SNIPPET:** What do projects do?   * Accomplish strategic objectives   + Market opportunity   + Social need   + Environmental consideration   + Customer request   + Technological advance   + Legal requirement |
| **SNIPPET:** The outcome of the project may be tangible or intangible. Although repetitive elements may be present in some project deliverables and activities, this repetition does not change the fundamental, unique characteristic of the project work. |
| **SNIPPET:** A project is often utilized to achieve objectives within an organization's strategic plan. |
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# What is program management?

## A program is a group of related projects. By grouping related projects into a program, an organization can coordinate the management of these projects. The program approach focuses on the interdependencies between the projects and may help achieve decreased risk, the economics of scale, and improved control. In addition to the work required to complete each project, the program includes efforts like the program managers' coordination and management activities. So when you discover that you have more than one project, you can manage all the projects as a program if there is a benefit. However, this should be done only when the program approach adds value.

# What is portfolio management?

A portfolio includes a group of programs, individual projects, and other related operational work that are prioritized and implemented to achieve a specific strategic business goal. The programs and projects that make up the portfolio may not be related other than the fact that they are helping to achieve a common strategic goal. As with program management, combining the projects, programs, and operations into one or more portfolios helps optimize resource use, enhances the organization's benefits, and reduces risk.

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| **SNIPPET:** Projects, within programs or portfolios, are a means of achieving organizational goals and objectives, often in the context of a strategic plan. |
| **SNIPPET:** Portfolio, program, and project management are aligned with or driven by organizational strategies. Conversely, portfolio, program, and project management differ in how each contributes to achieving strategic goals. |
| Definition of Standards: **Portfolio**   * + Success is measured in terms of the portfolio's aggregate investment performance and benefits realization. |
| Definition of Standards: **Program**   * + Success is measured by the degree to which the program satisfies the needs and benefits for which it was undertaken |
| Definition of Standards: **Project**   * + Product and project quality, timelines, budget compliance, and the degree of customer satisfaction measure success. |
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# TWO-MINUTE DRILL

* Exploring Project Attributes
  + Projects are temporary and unique and create a product or service.
  + All projects have their life cycle, while the project management life cycle has five distinct phases: Initiation, Planning, Execution, Control, and Closure.
  + Projects move from concept to completion through progressive elaboration.
  + Not all projects are selected. Choosing one project over another may vary from organization to organization. The process, however, is always called Project Portfolio Management.
* Project Management Framework
  + Within the project management framework, nine knowledge areas span the project management life cycle.
  + Project Integration Management focuses on managing all of the moving parts of a project.
  + Project Scope Management focuses on protecting, fulfilling, and delivering the project scope.
  + Project Time Management: the focus is scheduling activities, monitoring the project schedule, and working with the project team and stakeholders to ensure the project is completed on time.
  + Project Cost Management: the focus is on estimating and maintaining project costs.
  + Project Quality Management: the focus is on setting quality expectations and then delivering the project product with the expected level of quality.
  + Project Human Resources Management: focus on developing the project team to work together to deliver the project as expected.
  + Project Communications Management focuses on delivering needed information to the correct parties at the right time.
  + Project Risk Management focuses on identifying, mitigating, and managing project risks.
  + Project Procurement Management focuses on soliciting, selecting, and managing vendors to complete project work or supply project materials.
* Identifying Project Manager Characteristics
  + A project manager must have multiple skills to be successful, including the ability to communicate, manage a budget, be organized, negotiate, and provide leadership for the project.
  + Project managers in different sectors of business and non-profit entities will encounter situations unique only to their area of expertise. For example, a project manager of a construction project will have different issues and concerns from a manufacturing project manager.
  + Project managers require organization.