Project Management Introduction

Erciyes University

Department of Aeronautical Engineering

Melih YILDIZ

What is Project

- A project is a temporary endeavor undertaken to create a unique product, service, or result.

- The temporary nature of projects indicates that a project has a definite beginning and end.

- The end is reached when the project's objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists.

- A project may also be terminated if the client (customer, sponsor, or champion) wishes to terminate the project.

- Temporary does not necessarily mean the duration of the Project is short.
- Temporary does not typically apply to the product, service, or result created by the project; most projects are undertaken to create a lasting outcome. For example, a project to build a national monument will create a result expected to last for centuries.
- Projects can also have social, economic, and environmental impacts that far outlive the projects themselves.

- Every project creates a unique product, service, or result. 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 characteristics of the project work.
- For example, office buildings can be constructed with the same or similar materials and by the same or different teams. However, each building project remains unique with a different location, different design, different circumstances and situations, different stakeholders, and so on.

- An ongoing work effort is generally a repetitive process that follows an organization's existing procedures.
- In contrast, because of the unique nature of projects, there may be uncertainties or differences in the products, services, or results that the project creates.
- Project activities can be new to members of a project team, which may necessitate more dedicated planning than other routine work. In addition, projects are undertaken at all organizational levels. A project can involve a single individual or multiple individuals, a single organizational unit, or multiple organizational units from multiple organizations.

- A project can create:
  - A product that can be either a component of another item, an enhancement of an item, or an end item in itself;
  - A service or a capability to perform a service (e.g., a business function that supports production or distribution);
  - An improvement in the existing product or service lines (e.g., A Six Sigma project undertaken to reduce defects); or
  - A result, such as an outcome or document (e.g., a research project that develops knowledge that can be used to determine whether a trend exists or a new process will benefit society).

What is Project

- A project:
  - Is a temporary endeavor with a beginning and an end
  - Creates a unique product, service, or result

What is Project

- So what is a project? If your boss walked in to your office today and said, "The system is broken. Can you figure out what is wrong with it and fix it?" would this be a project?

- The project planning process will produce schedules and budgets. Can you schedule "fix it" if you do not know w hat is wrong? Of course not, so there are at least two projects in the previous story.

The Relationships Among Portfolios, Programs, and Projects

- The relationship among portfolios, programs, and projects is such that a portfolio refers to a collection of projects, programs, subportfolios, and operations managed as a group to achieve strategic objectives. Programs are grouped within a portfolio and are comprised of subprograms, projects, or other work that are managed in a coordinated fashion in support of the portfolio. Individual projects that are either within or outside of a program are still considered part of a portfolio.

- Although the projects or programs within the portfolio may not necessarily be interdependent or directly related, they are linked to the organization's strategic plan by means of the organization's portfolio.
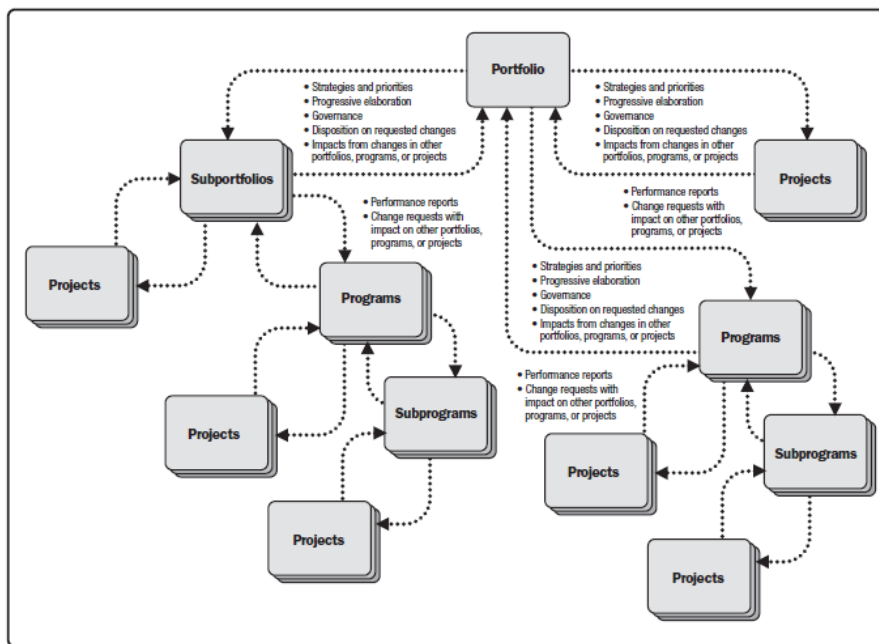

Figure 1-1. Portfolio, Program, and Project Management Interactions

What is Project Management

- Many people think project managers just need to know how to manage people or, even worse, that you can simply buy some software and be a project manager. The project management profession is growing rapidly. It is both a science and an art, and follows a systematic process.

- Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management is accomplished through the appropriate application and integration of the *47 logically grouped project management processes*, which are categorized into five Process Groups. These five Process Groups are:
  - Initiating,
  - Planning,
  - Executing,
  - Monitoring and Controlling, and
  - Closing.

- Managing a project typically includes, but is not limited to:
  - Identifying requirements;
  - Addressing the various needs, concerns, and expectations of the stakeholders in planning and executing the project;
  - Setting up, maintaining, and carrying out communications among stakeholders that are active, effective, and collaborative in nature;
  - Managing stakeholders towards meeting project requirements and creating project deliverables;
  - Balancing the competing project constraints, which include, but are not limited to:
    - Scope,
    - Quality,
    - Schedule,
    - Budget,
    - Resources, and
    - Risks.

- The relationship among these factors is such that if any one factor changes, at least one other factor is likely to be affected. For example, if the schedule is shortened, often the budget needs to be increased to add additional resources to complete the same amount of work in less time. If a budget increase is not possible, the scope or targeted quality may be reduced to deliver the project's end result in less time within the same budget amount.

- Project stakeholders may have differing ideas as to which factors are the most important, creating an even greater challenge. Changing the project requirements or objectives may create additional risks. The project team needs to be able to assess the situation, balance the demands, and maintain proactive communication with stakeholders in order to deliver a successful project.

- Due to the potential for change, the development of the **project management plan** *is an iterative activity* and is progressively elaborated throughout the project's life cycle.

- Progressive elaboration involves continuously improving and detailing a plan as more detailed and specific information and more accurate estimates become available.

- Progressive elaboration allows a project management team to define work and manage it to a greater level of detail as the project evolves.

Relationships Among Portfolio Management, Program Management, Project Management, and Organizational Project Management

- Portfolio, program, and project management are aligned with or driven by organizational strategies. Conversely, portfolio, program, and project management differ in the way each contributes to the achievement of strategic goals.

- Portfolio management aligns with organizational strategies by selecting the right programs or projects, prioritizing the work, and providing the needed resources, whereas program management harmonizes its projects and program components and controls interdependencies in order to realize specified benefits.

- Project management develops and implements plans to achieve a specific scope that is driven by the objectives of the program or portfolio it is subjected to and, ultimately, to organizational strategies.

- OPM advances organizational capability by linking project, program, and portfolio management principles and practices with organizational enablers (e.g. structural, cultural, technological, and human resource practices) to support strategic goals. An organization measures its capabilities, then plans and implements improvements towards the systematic achievement of best practices.

Program Management

- A program is defined as a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually. Programs may include elements of related work outside the scope of the discrete projects in the program. A project may or may not be part of a program but a program will always have projects.

- Program management is the application of knowledge, skills, tools, and techniques to a program in order to meet the program requirements and to obtain benefits and control not available by managing projects individually.

- Projects within a program are related through the common outcome or collective capability. If the relationship between projects is only that of a shared client, seller, technology, or resource, the effort should be managed as a portfolio of projects rather than as a program.

- An example of a program is a new communications satellite system with projects for design of the satellite and the ground stations, the construction of each, the integration of the system, and the launch of the satellite.

Portfolio Management

- A portfolio refers to projects, programs, sub-portfolios, and operations managed as a group to achieve strategic objectives.

- The projects or programs of the portfolio may not necessarily be interdependent or directly related. For example, an infrastructure firm that has the strategic objective of "maximizing the return on its investments" may put together a portfolio that includes a mix of projects in oil and gas, power, water, roads, rail, and airports.

- From this mix, the firm may choose to manage related projects as one program. All of the power projects may be grouped together as a power program. Similarly, all of the water projects may be grouped together as a water program. Thus, the power program and the water program become integral components of the enterprise portfolio of the infrastructure firm.

Projects and Strategic Planning

- Projects are often utilized as a means of directly or indirectly achieving objectives within an organization's strategic plan.
- Such as
  - Market demand
  - Strategic oppportunity
  - Social need
  - Environmental considerations
  - Technological advance
  - Legal requirement
  - etc

Project Management office (PMO)

- A project management office (PMO) is a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.
- The responsibilities of a PMO can range from providing project management support functions to actually being responsible for the direct management of one or more projects.

Relationship Between Project Management, operations Management, and organizational Strategy

- Operations management is responsible for overseeing, directing, and controlling business operations. Operations evolve to support the day-to-day business, and are necessary to achieve strategic and tactical goals of the business. Examples include: production operations, manufacturing operations, accounting operations, software support, and maintenance.
- Though temporary in nature, projects can help achieve the organizational goals when they are aligned with the organization's strategy.
- Organizations sometimes change their operations, products, or systems by creating strategic business initiatives that are developed and implemented through projects.
- Projects require project management activities and skill sets, while operations require business process management, operations management activities, and skill sets.

Organizations and Project Management

- Organizations use governance to establish strategic direction and performance parameters. The strategic direction provides the purpose, expectations, goals, and actions necessary to guide business pursuit and is aligned with business objectives.
- Project management activities should be aligned with top-level business direction, and if there is a change, then project objectives need to be realigned. In a project environment, changes to project objectives affect project efficiency and success.
- When the business alignment for a project is constant, the chance for project success greatly increases because the project remains aligned with the strategic direction of the organization.
- *Should something change, projects should change accordingly*.

Business Value

- Business value is a concept that is unique to each organization.

- Business value is defined as the entire value of the business; the total sum of all tangible and intangible elements. Examples of tangible elements include monetary assets, fixtures, stockholder equity, and utility. Examples of intangible elements include good will, brand recognition, public benefit, and trademarks.

- Successful business value realization begins with comprehensive strategic planning and management.

- Organizational strategy can be expressed through the organization's mission and vision, including orientation to markets, competition, and other environmental factors. Effective organizational strategy provides defined directions for development and growth, in addition to performance metrics for success.

- In order to bridge the gap between organizational strategy and successful business value realization, the use of portfolio, program, and project management techniques is essential.

Role of the Project Manager

- The project manager is the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.
- The role of a project manager is distinct from a functional manager or operations manager. Typically the functional manager is focused on providing management oversight for a functional or a business unit, and operations managers are responsible for ensuring that business operations are efficient.

Responsibilities and competencies of the Project Manager

- In general, project managers have the responsibility to satisfy the needs: task needs, team needs, and individual needs. As project management is a critical strategic discipline, the project manager becomes the link between the strategy and the team.
- The project manager's role therefore becomes increasingly strategic. However, understanding and applying the knowledge, tools, and techniques that are recognized as good practice are not sufficient for effective project management.

- In addition to any area-specific skills and general management proficiencies required for the project, effective project management requires that the project manager possess the following competencies:
- **Knowledge**—Refers to what the project manager knows about project management.
- **Performance**—Refers to what the project manager is able to do or accomplish while applying his or her project management knowledge.
- **Personal** –Refers to how the project manager behaves when performing the project or related activity. Personal effectiveness encompasses attitudes, core personality characteristics, and leadership, which provides the ability to guide the project team while achieving project objectives and balancing the project constraints.

Interpersonal Skills of a Project Manager

- Project managers accomplish work through the project team and other stakeholders. Effective project managers require a balance of ethical, interpersonal, and conceptual skills that help them analyze situations and interact appropriately.
  - Leadership,
  - Team building,
  - Motivation,
  - Communication,
  - Influencing,
  - Decision making,
  - Political and cultural awareness,
  - Negotiation,
  - Trust building,
  - Conflict management, and
  - Coaching.

- Questions?