

Project Management Framework

Goals of this Unit

- Understanding what is a project, what is the life cycle of a project and how it differs from other types of works
 - Understanding the players and the relationships among them
 - Understanding the influences organizations exert on project and project executions
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What is a Project?

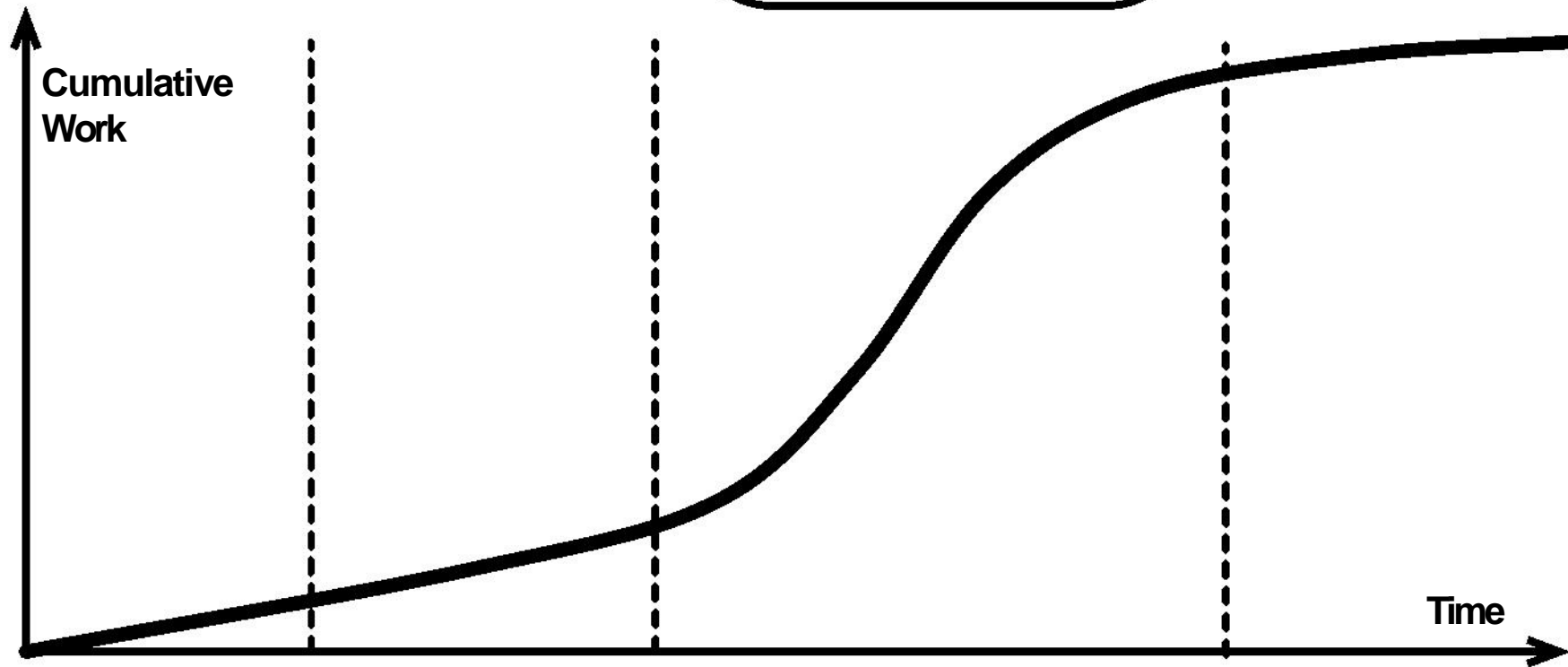
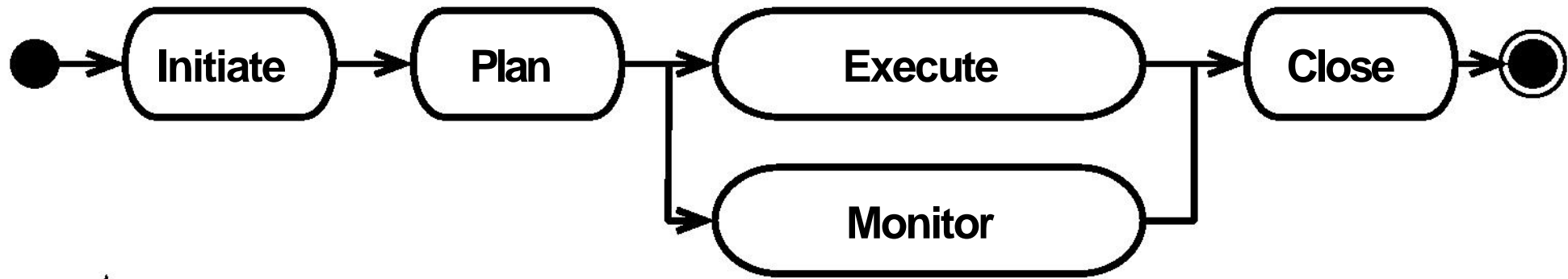
A project is a temporary endeavor undertaken to create a unique product, service, or result.

(Definition from the PMBOK®)

Characteristics of a Project

- Temporary
 - Definitive begin and end (either because the goals are met or the project is closed - goals cannot or will not be met)
 - Projects' results are not necessarily temporary (see project and product lifecycle)
 - Unique products, service, or result
 - A product which is quantifiable (e.g. a component, ...)
 - A capability to perform a service, such a business function
 - A result, such as knowledge (collected in documents, presentation, ...)
 - Progressive elaboration
 - Development by steps and in increments (necessary to keep a project under scope)
 - Resource constrained (like everything else in life)
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Progressive Elaboration



Project Management Context

- **Subprojects**

- Projects may be divided in subprojects (although the subprojects may be referred to as "projects" and managed as such)

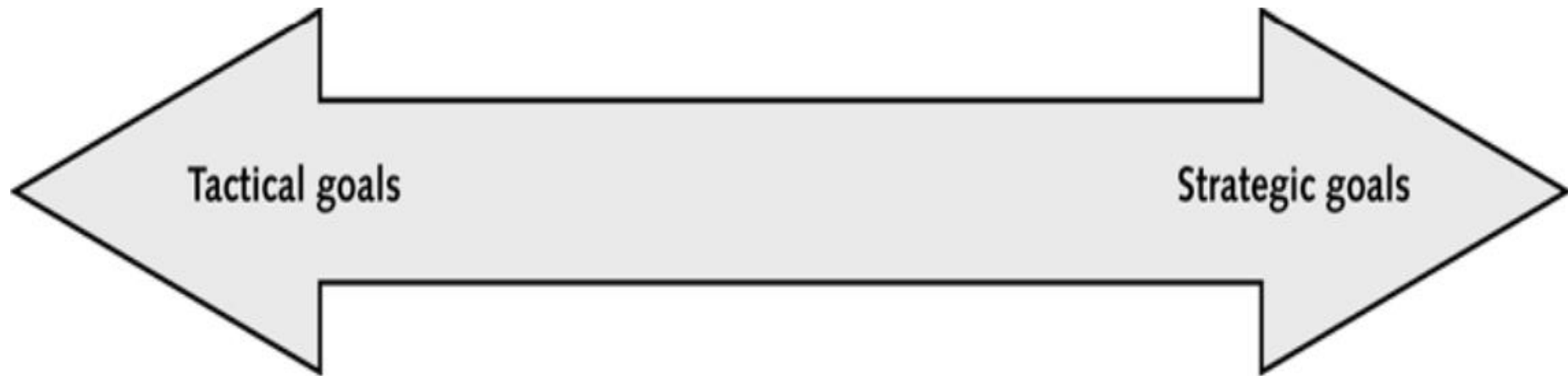
- **Project and Program Management**

- Set of related projects managed in a coordinated way in order to achieve some sort of benefit

- **Portfolios and Portfolio Management**

- Collection of unrelated projects or programs and other work grouped together to facilitate management and meet strategic objectives
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Project Management vs Project Portfolio Management



Project management

- Are we carrying out projects well?
- Are projects on time and on budget?
- Do project stakeholders know what they should be doing?

Project portfolio management

- Are we working on the right projects?
- Are we investing in the right areas?
- Do we have the right resources to be competitive?

PMO

A centralized department that manages projects.

A PMO usually takes one of three roles:

- **Project Support:** Provide project management guidance to project managers in business units
- **Project Management Process/Methodology:** Develop and implement a consistent and standardized process.
- **Training:** Conduct training programs or collect requirements for an outside company

Projects and Operational Work

Projects

- To attain its objectives and terminate
- Catalyst for change
- Unique product or services
- Heterogeneous teams
- Start and end date

Examples

- Producing a News letter
- Writing and publishing a book
- Implementing a LAN
- Hiring a sales man
- Arrange for a conference
- Opening for a new shop
- Producing the annual report

Operations

- To sustain the business
- Maintain status quo
- Standard product or services
- Homogeneous teams
- Ongoing

Examples

- Responding to customer requests
- Writing a letter to a Prospect
- Hooking up a Printer to a computer
- Meeting with an employee
- Attending a conference
- Opening the shop
- Writing a progress update memo

It Is Not Just Scheduling!

One of the common misconceptions about project management is that it is just scheduling. At last report, Microsoft had sold a huge number of copies of Microsoft Project®, yet the project failure rate remains high.

Scheduling is certainly a major tool used to manage projects, but it is not nearly as important as developing a shared understanding of what the project is supposed to accomplish, without practicing good project management, the only thing a detailed schedule is going to do is allow you to document your failures with great precision!

Managing Project

The Project Manager is the person responsible for accomplishing the project objectives.

Managing a project includes:

- Identifying requirements.
- Establishing clear and achievable objectives.
- Balancing the competing demands of **quality, scope, time and cost.**
- Adapting the specifications, plans, and approach to the different concerns and expectations of the various stakeholders.

Project Constraints

The triple Constraint / The Trade-off Triangle

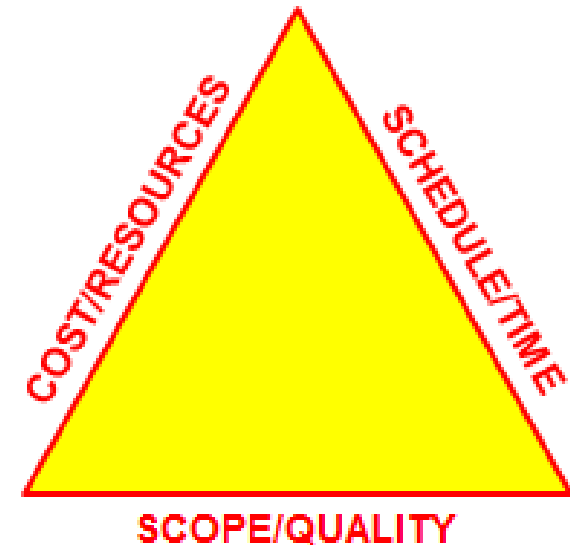
One of the common causes of project failures is that the project sponsor demands that the project manager must finish the job by a certain time, within budget, and at a given magnitude or scope, while achieving specific performance levels. In other words, the sponsor dictates all four of the project constraints. This doesn't work.

The relationship among the PCTS constraints can be written as follows:

$$\mathbf{C = f(P, T, S)}$$

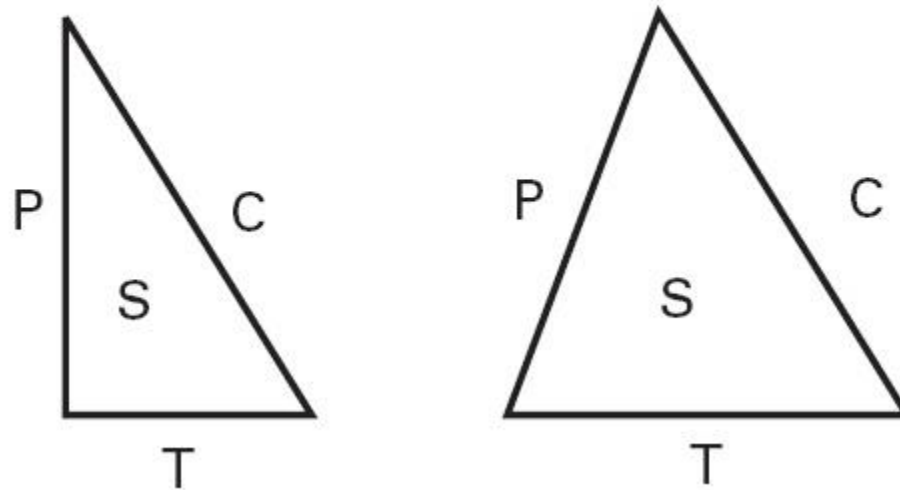
In words, this says, “Cost is a function of Performance, Time, and Scope.”

- Every project is constrained in different ways by its:
 - Scope
 - Schedule/Time
 - Cost/Budget
 - Quality
 - Resources
 - Risk



If any one factor changes, at least one other factor is likely to be affected. It is the project manager's duty to **balance** these competing constraints

Figure **Triangles showing the relationship**
between P, C, T, and S.



So let's assume that the sponsor requires certain performance, time, and scope from the project. It is the project manager's job to determine what it will cost to achieve those results. However, project managers that they should have a paramedic standing by when they give the cost figure to the sponsor because she will probably have a stroke or heart attack, and the paramedic will have to revive her.

Project Life Cycle and Organizations

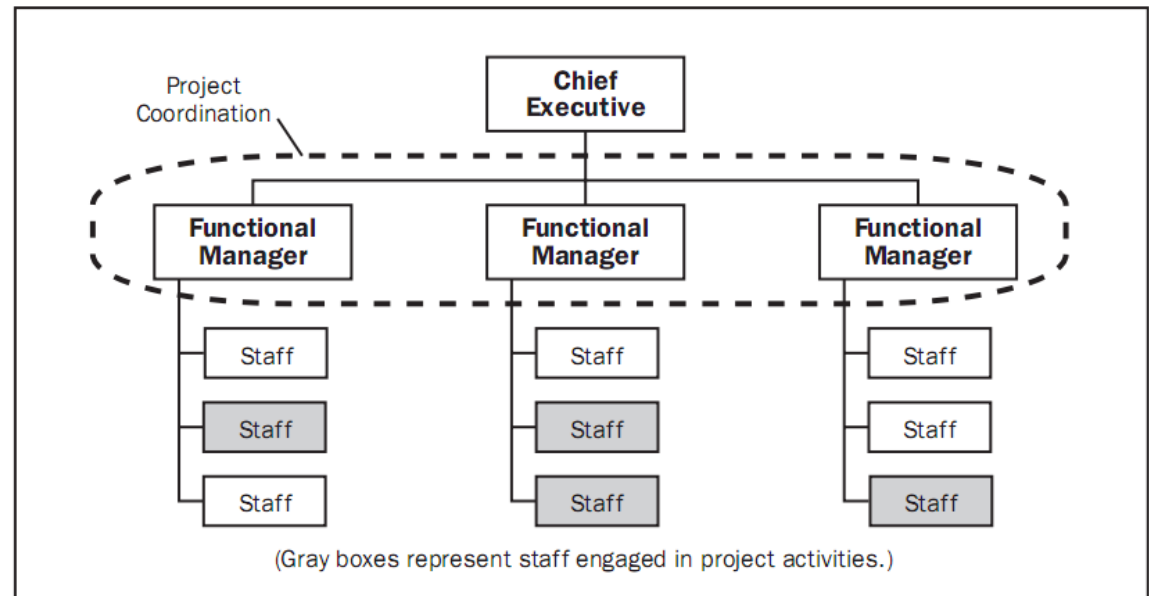
Organizational Structure

- Functional
- Projectized
- Matrix
 - Weak Matrix
 - Balance matrix
 - Strong Matrix

*(In the 1970s, Philips, a Dutch multinational electronics company, set up matrix management.)

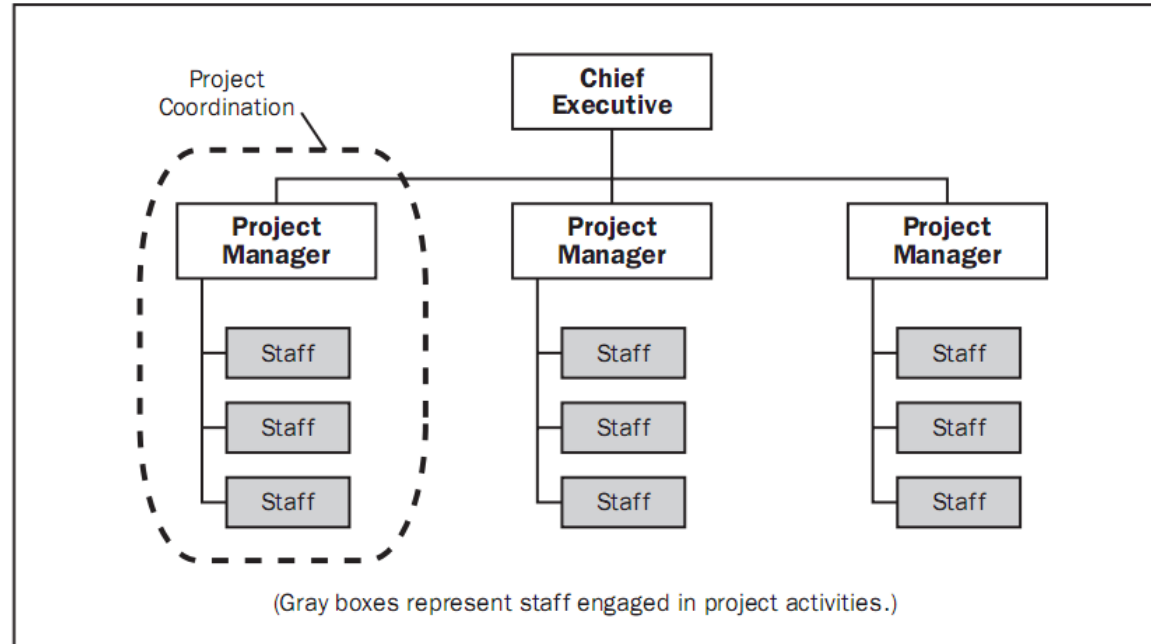
Functional

- Organization is grouped by areas of specialization
- Project generally occur within a single department



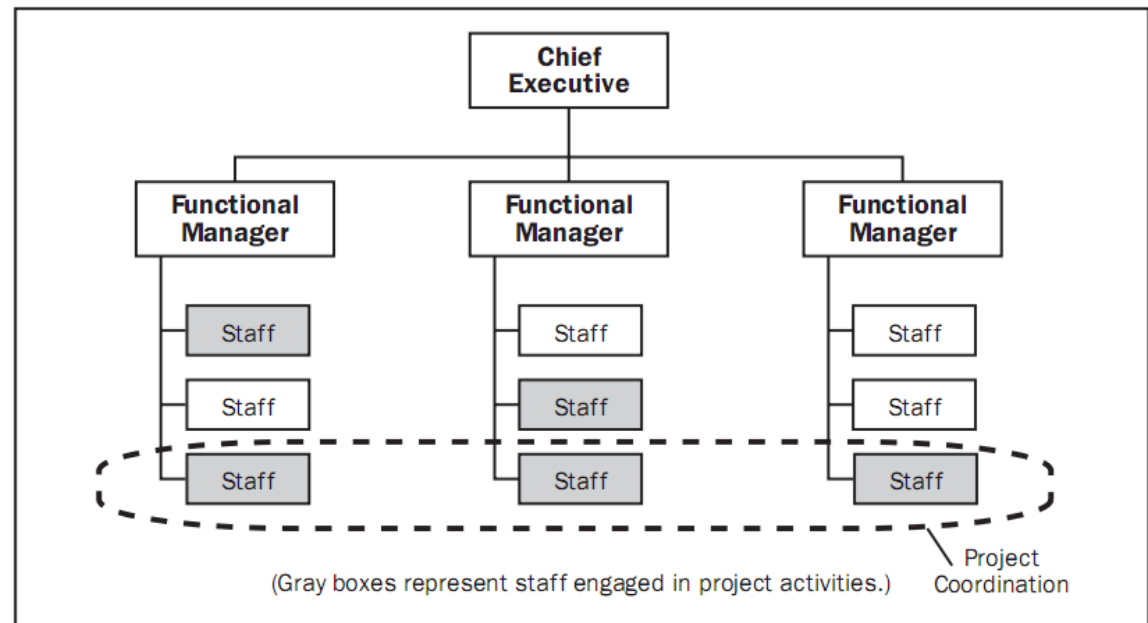
Projectized

- Entire company is organized by projects
- Personnel are assigned and report to a project manager
- Team have no department to go back to



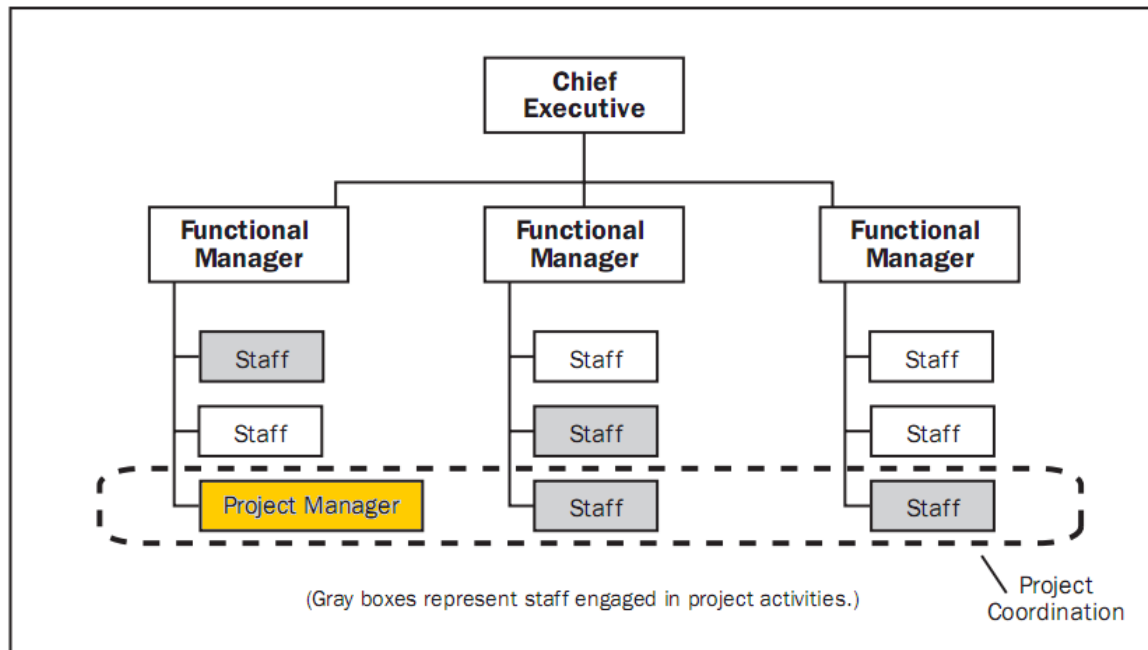
Weak Matrix

- Two bosses
- Power rest with the functional manager
- Power of project manager = **coordinator** or **expediter**



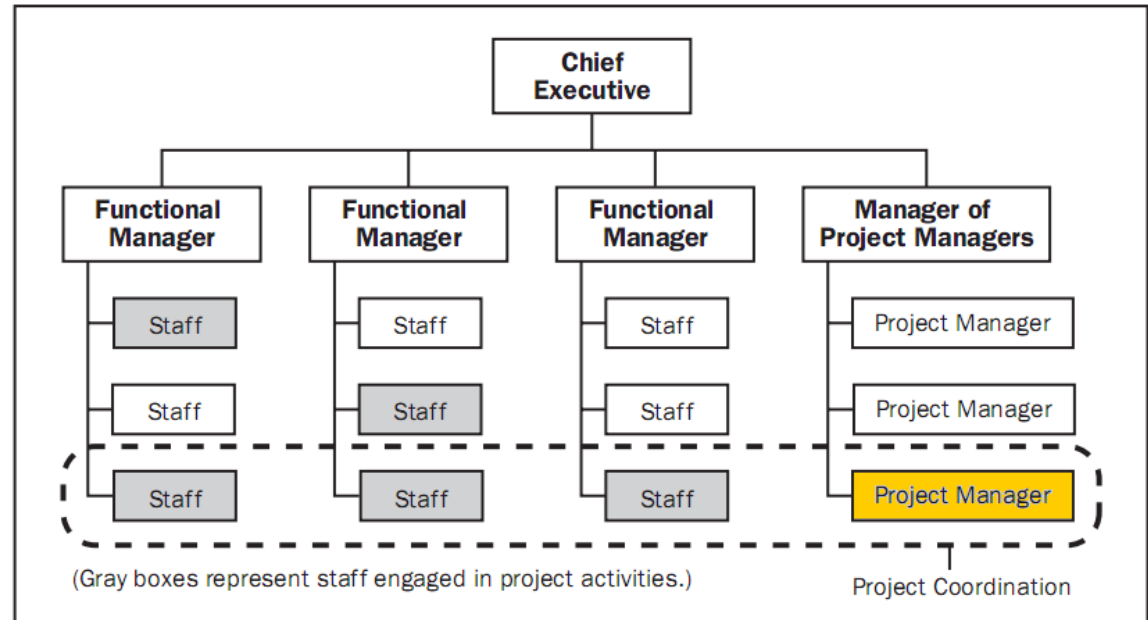
Balanced Matrix

- Power is shared between the project manager and the functional manager

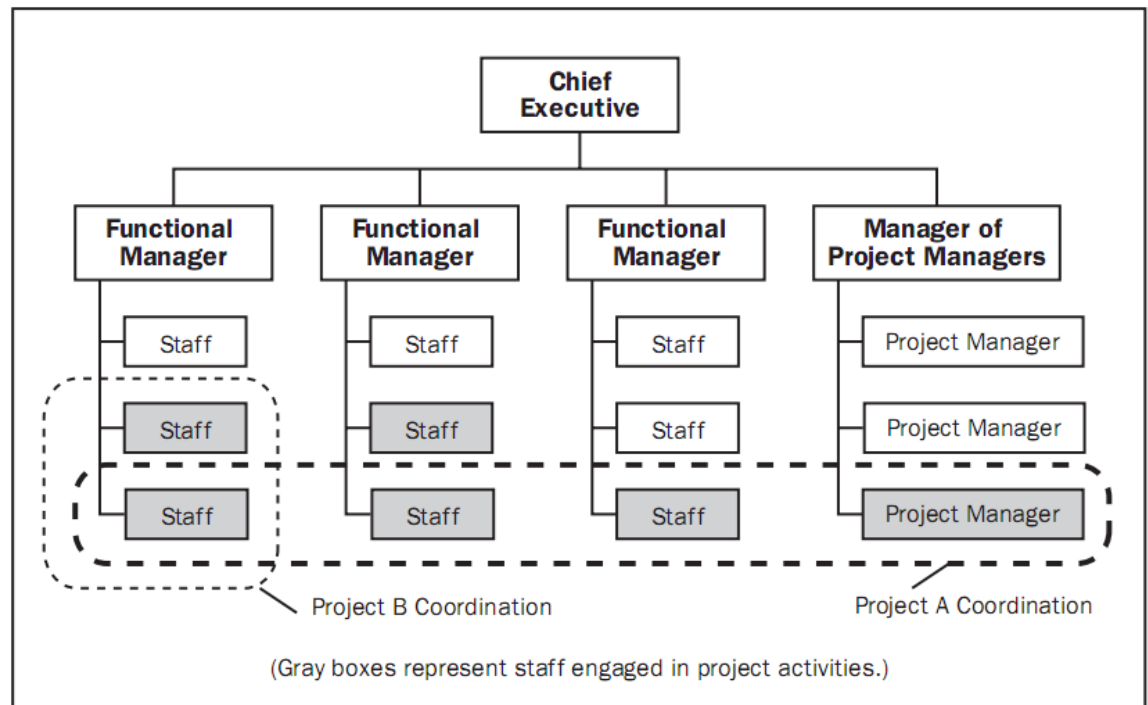


Strong Matrix

- Power rest with the project manager



- Composite



Organizational Structure influence on Projects

<div> <div>Organization Structure</div> <div>Project Characteristics</div> </div>	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Percent of Performing Organization's Personnel Assigned Full Time to Project Work	Virtually None	0 – 25%	15 – 60%	50 – 95%	85 – 100%
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Common Titles for Project Manager's Role	Project Coordinator/ Project Leader	Project Coordinator/ Project Leader	Project Manager/ Project Officer	Project Manager/ Program Manager	Project Manager/ Program Manager
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Organizational Structure

	Advantages	Disadvantages
Functional	<ul style="list-style-type: none">• Easier management of specialists• Team members report to only one supervisor• Similar resources are centralized, as the company is grouped by specialties• Clearly defined career paths in areas of work specialization	<ul style="list-style-type: none">• People place more emphasis on their functional specialty to the detriment of the project• No career path in project management• The project manager has little or no authority
<u>Projectized</u>	<ul style="list-style-type: none">• Efficient project organization• Loyalty to the project• More effective communication than functional	<ul style="list-style-type: none">• No "home" when project is completed• Lack of professionalism in disciplines• Duplication of facilities and job functions• Less efficient use of resources
Matrix	<ul style="list-style-type: none">• Highly visible project objectives• Improved project manager control over resources• More support from functional area• Maximum utilization of scarce resources• Better coordination	<ul style="list-style-type: none">• Extra administration is required• More than one boss for project teams• More complex to monitor and control• Tougher problems with resource allocation• Need extensive policies and procedures

Projects and their Environment

A **project stakeholder** is any individual or an organization that is actively involved in a project, or whose interest might be affected (positively or negatively) as a result of project execution or completion.

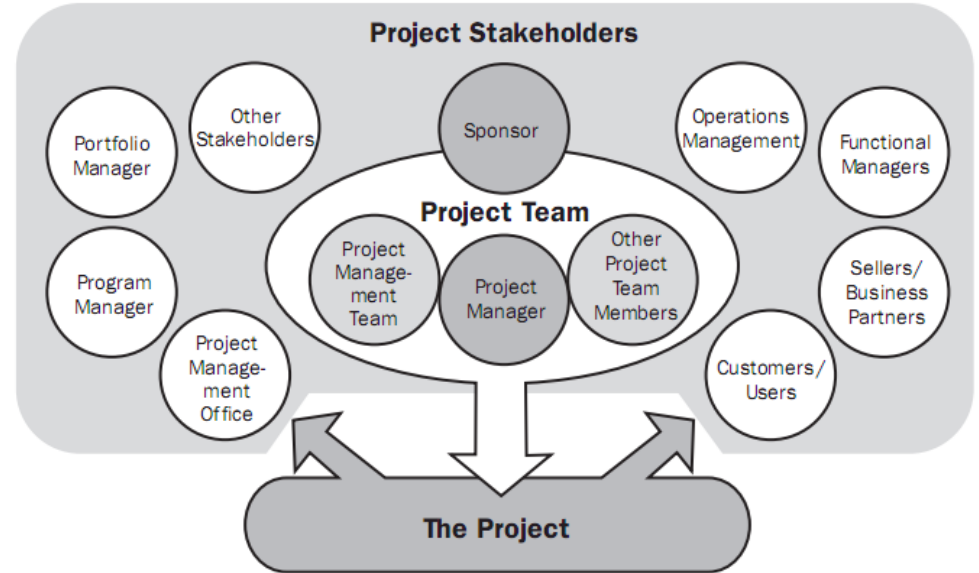
(PMBOK)

The Players

- Some characteristics:
 - They may have different influence and varying level of responsibility during the project
 - They may play different roles
 - They may have positive or negative influence on the project
 - They may be difficult to identify
 - Their lack of intervention may negatively influence the project (need for identification and involvement)
 - Remark: the project manager and the project team **are** project stakeholders, although the term is often used to refer to the "other" stakeholders
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Types of Stakeholders

- The project manager
- The project team
- The project sponsor
- The performing organizations
- The partners
- The client
- The "rest": anyone who might be affected by the project outputs



Key Stakeholders

- Internal:
 - Project team members: the group performing the work
 - Project management team: the members of the team directly involved in project management
 - In between:
 - Customer/User: person or organization that will use the results of a project. There may be multiple layers of users
 - Sponsor: person or group providing the financial resources
 - Performing Organization: the organization mostly involved in the project
 - External:
 - Influencers: people or groups not directly related to the project who could influence the course of a project
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Stakeholder Identification Exercise

- Identify the stakeholders of the following projects:
 - A project to build a bridge connecting an island to the mainland
 - A project to build a landfill (dumping ground)
 - A project to build an open source spreadsheet
 - A project to build a web-application to monitor one's weight - A project to port OpenOffice (a free Office suite) to Android
-

The Project Manager (you)

- **Project Manager**

- Person responsible of managing the project and stakeholders' expectations

- **Some skills**

- Communication and negotiation skills
 - A little predisposition to risk
 - Goal orientation
 - Leadership
 - A bit of thinking outside the schemes
 - Solid know-how
 - Professional correctness
 - A lot of common sense
 - A bit of style
-

Project Leader

The role of the project manager is that of an enabler. Her job is to help the team get the work completed, to “run interference” for the team, to get scarce resources that team members need, and to buffer them from outside forces that would disrupt the work. She is not a project tsar. She should be—above everything—a *leader*,

Projects are often accomplished by teams, teams are made up of people, and people are driven by . . . **project leaders**. Conspicuously absent from the preceding is the term “manager,” as in “project manager.” If project managers manage projects, what do they do with the people who make up their teams or support networks in the absence of a formal team?

Consistently successful projects depend on both.

It is a balancing act of **execution** and **skilled people management**.

What can go Wrong !



How the customer explained it



How the Project Leader understood it



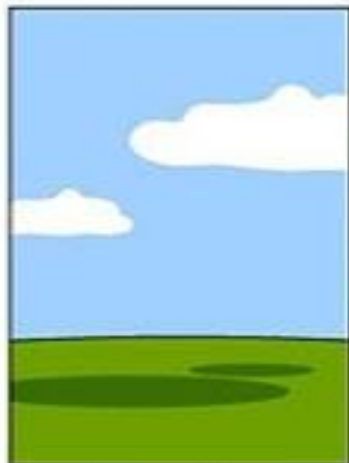
How the Analyst designed it



How the Programmer wrote it



How the Business Consultant described it



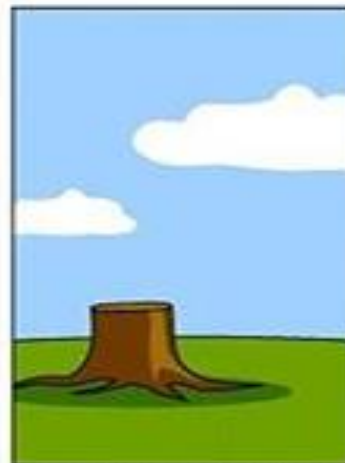
How the project was documented



What operations installed



How the customer was billed



How it was supported



What the customer really needed

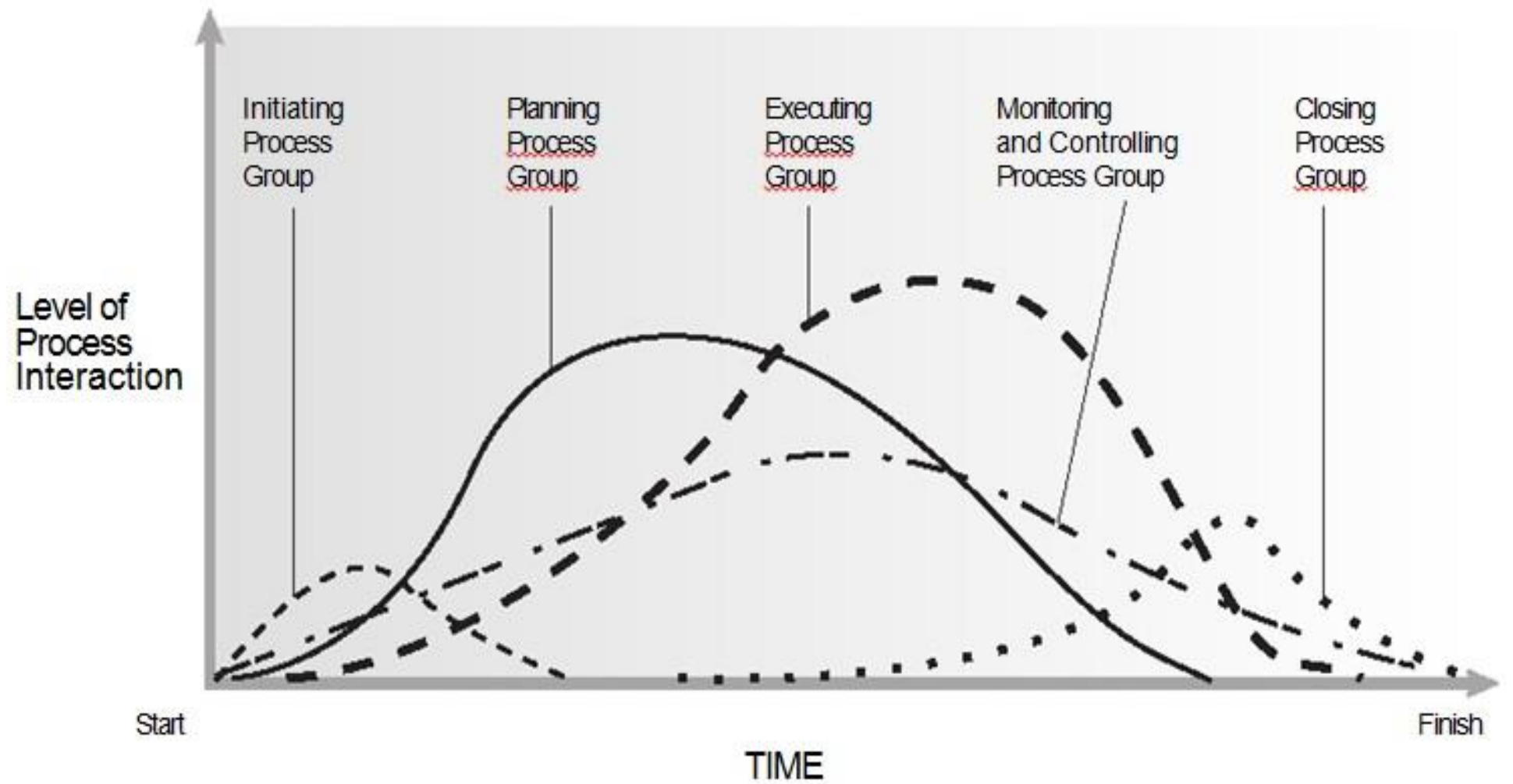
Projects Management Process Overview

The PMBOK® Guide describes the nature of project management processes in terms of the integration between the processes, their interactions, and the purposes they serve. Project management processes are grouped into **five categories known as Project Management Process Groups** (or process Groups):

(Page 76/638, PMBOK 5th edition)

- **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.
- **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.



The Process Groups are **not** project life cycle phases. In fact, it is possible that all Process Groups could be conducted within a phase. As projects are separated into distinct phases or subcomponents, such as concept development feasibility study, **design, prototype, build,** or test, etc., all of the Process Groups would normally be repeated for each phase or subcomponent.

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. Following Ten Knowledge Areas are identified by PMPOK are used on most projects most of the time.

1. I ntegration Management	6. H R Management
2. S cope Management	7. C ommunication Management
3. T ime Management	8. R isk Management
4. C ost Management	9. P rocurement Management
5. Q uality Management	10. S take Holder Management

The 47 PMBOK® PROJECT MANAGEMENT PROCESSES

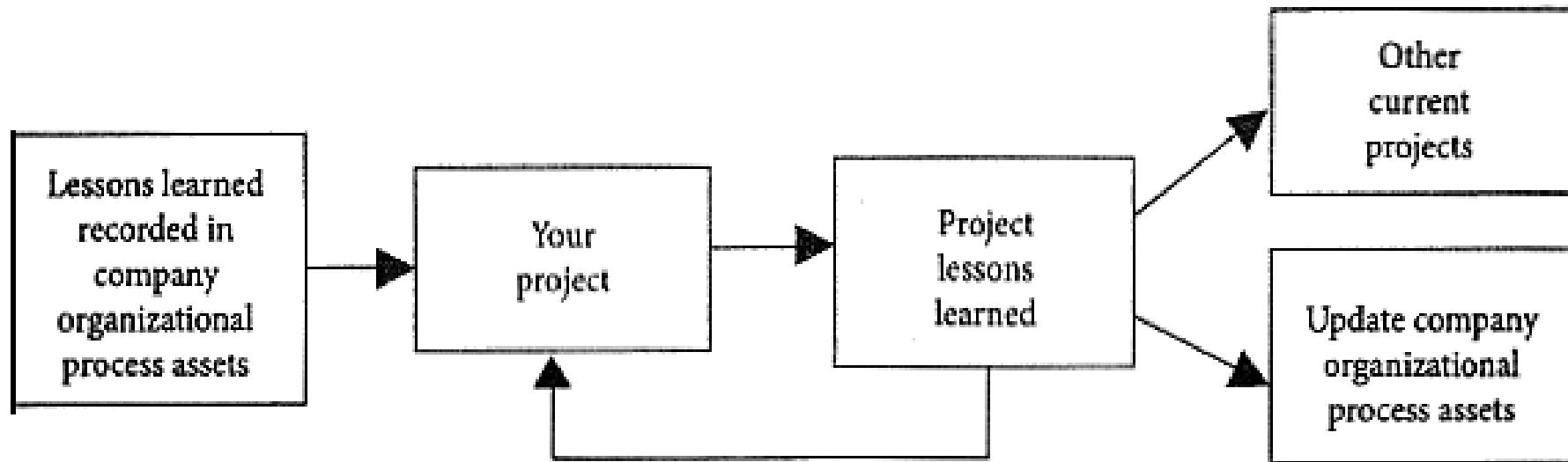
The 47 PMBOK® PROJECT MANAGEMENT PROCESSES		Knowledge Areas										
		Integration	Scope	Time	Cost	Quality	Human Resources	Communication	Risk	Procurement	Stakeholder	
Phases	Groups											
Initiation	Initiating	1									1	2
Planning	Planning	1	4	6	3	1	1	1	5	1	1	24
Execution	Executing	1				1	3	1		1	1	8
	Mon & Contr.	2	2	1	1	1		1	1	1	1	11
Close-out	Closing	1								1		2
		6	6	7	4	3	4	3	6	4	4	47

How do they all integrate and interact?

- The five process groups contain the 47 project management processes.
- The 47 processes are made up of activities.
- The activities need to be executed to complete the project and are the detail of the phases of the project.
- Executing the 47 processes also require knowledge and skills of the 10 knowledge areas

Lessons Learned

Lessons Learned are an essential asset to managing a project; they are taken into account as well as created throughout a project.



Lessons Learned from the Movies

Movie	Project Management Lessons Learned
A Bridge Too Far	Need for proper Risk Management, Project Governance and Scope Management.
The Incredible	Encourage Team Participation (Little boy felt he wasn't valued and therefore sabotaged the project.
Gladiator	Teamwork and Leadership; Risk Mitigation.
Thomas Crown Affair	Contingency Planning, Risk Management, Needs of Team Members, Controlling Processes.
Chak De India	Discipline, Play our role, Short Term vs Long Term
Field of Dreams	Importance of Planning.
The Great Escape	Planning – Benefits of a well planned project show up at execution.
Father of the Bride	Trust your Project Manager, no matter how eccentric she (or he) may be.

Project Success

There are different ways to define project success:

- The project met scope, time, and cost goals
- The project satisfied the customer/sponsor
- The project produced the desired results

