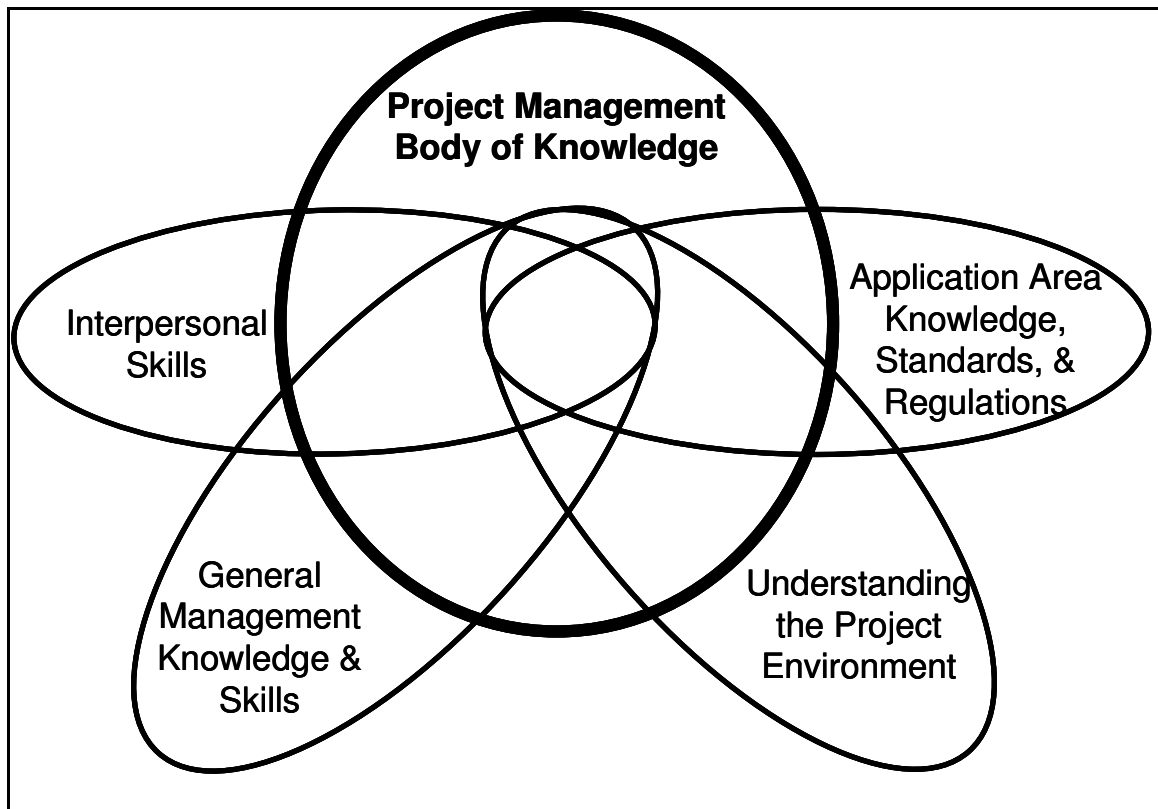


Module 1 – General Project Management Theory & Skill

Project Management Body of Knowledge

While terminology may vary, the principles of project management are consistent. A project manager needs more than tools to succeed in delivering quality projects on time and within budget. Project managers with the knowledge and skill to lead a team toward a common goal will optimize team member talents to the best benefit of the team.



PMBOK Guide, 3rd Edition

The Project Management Body of Knowledge (PMBOK) Guide describes the work planning process as defining and refining objectives and selecting the best alternative courses of action. There are many tools and techniques unique to project management; such as work breakdown structures, critical path, or earned value. These tools and techniques alone are not sufficient without effective project management knowledge and skills. The project team must recognize and use knowledge and skills from at least five areas of expertise:

The Project Management Body of Knowledge

Knowledge unique to the project management field and overlaps other management disciplines.

Application area knowledge, standards, and regulations

Project categories with common elements but not necessary in all projects

- Functional and supporting disciplines - legal, inventory management, personnel, traffic, right-of-way, environmental, etc.
- Technical elements – software development or ENGINEERING
- Management specializations – government contracting, new product development
- Industry groups – automotive, chemical, agriculture.

Each of these areas typically have there own set of accepted standards and practices.

Understanding the project environment

The team needs to understand the positive and/or negative cultural, political, social and environmental impacts the project may have and how people (customers, stakeholders, etc.) may affect the project.

General management knowledge and skills

Planning, organizing, staffing, controlling ongoing operations; including strategic planning, accounting, procurement, human resources, information technology, etc.

Interpersonal skills

Effective communication, getting things done, leadership, motivation, conflict management, and problem solving.

Each of these areas may appear to be discrete elements, but they generally overlap. It is not required that every team member be an expert in all five areas, the combined knowledge of the team leads to an effectively managed project.

The Project Team

Organization planning is a process that is primarily concerned with identifying and assigning roles and responsibilities for the project. Everyone on a project has a function or role and a responsibility assigned to that role or function. It is important for the Project Manager to identify these roles and help influence these team members in order to keep the project running smoothly and ensuring project success.

Identifying and defining these roles is a vital part of the “Initiate and Align” step of the project management process.

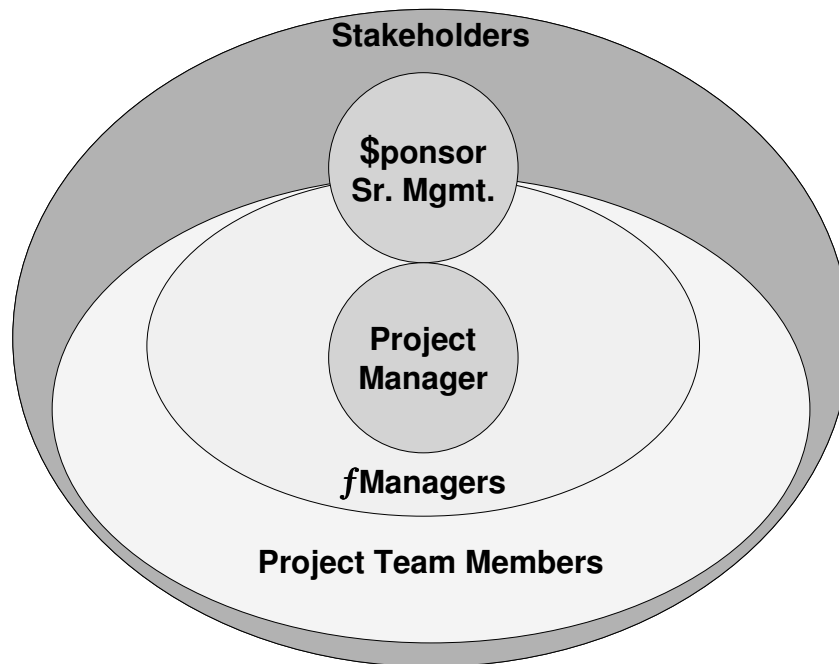


Figure 1-1

Project Manager

The project manager is ultimately responsible for the project. This person uses organizational resources to accomplish the project objectives. The project manager is “large and in charge” for the project. The project manager leads each step in the project management process.

Project Sponsor

The sponsor and the project manager are the “owners” of the project. Usually, the project sponsor will come from senior management, but can be the customer in some cases. The project sponsor is the person or group responsible for providing the financial resources (funding) for the project

Senior Management (Executive Management)

Senior managers are the people above the project manager within an organization. Senior management will prioritize projects in the organization. Senior management will *Initiate* the project, which is the formal recognition that a project exists. Senior managers delegate project responsibilities and authority to the project manager.

It is also senior management’s role to create a productive environment for the project, and to review and endorse the project management plan.

Functional Manager

The functional manager manages the specialty or specific resources required to create deliverables required for the project. Project managers will coordinate and negotiate with the functional managers for the resources needed for the project. Functional managers are often involved in project planning and setting priorities for the project.

Project Team Member

The group of individuals that is performing the work required for the project and project delivery.

Stakeholder

A project stakeholder is anyone with a particularly significant interest in the project's outcome including those providing funding or right of way for the project and property owners who are affected by the project. Stakeholders are unique for each project and include anyone actively involved in the project and whose interests may be positively or negatively affected by the execution or completion of the project. A stakeholder may also exert influence over the project and its deliverables.

A project manager must manage stakeholder expectations, which can be difficult because stakeholders often have different or even conflicting objectives for the project. A Project Manager will need to work with the project team and perform a key stakeholder analysis. Key stakeholders are those stakeholders who have a direct impact on project success. Maintaining effective communication with key stakeholders is vital to project success.

Customer

The person or organization that will acquire or use the project's product, service, or result.

Organizational Breakdown Structure (OBS)

An Organization Breakdown Structure (OBS) is a hierarchical organized depiction of the project organization arranged so as to relate the work packages to the performing organizational units (functional managers). This is an effective tool for defining roles and responsibilities and facilitates the development of the Project Communication Plan.

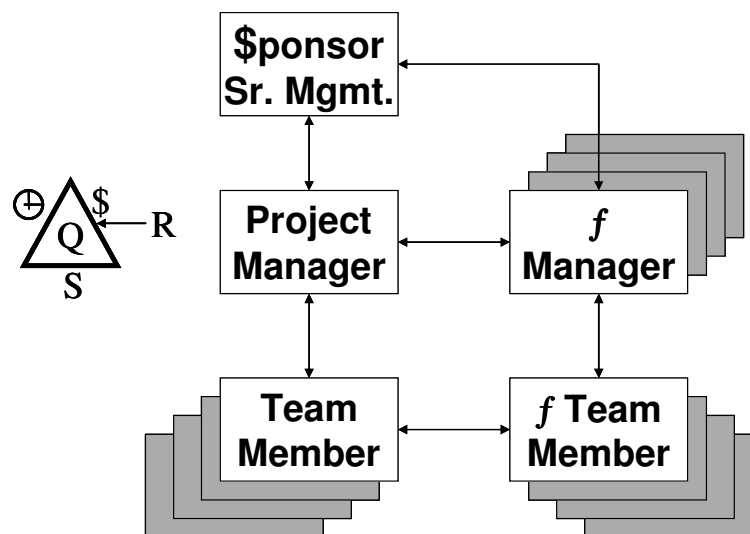


Figure 1-2

Responsibility Assignment Matrix (RAM)

A Responsibility Assignment Matrix (RAM) is a tool that relates the project OBS to the project Work Breakdown Structure (WBS). It is used to help ensure that each component of the project's scope is assigned to a responsible team or person.

WBS Item \ Role	Project Manager	Functional Manager A	Functional Manager B	Functional Manager C	Functional Manager D	Functional Manager E	Functional Manager F	Functional Manager G	Functional Manager H	Functional Manager J	Functional Manager K	Functional Manager L	Functional Manager M	Functional Manager N	Functional Manager P
WBS Deliverable 1	R						S			A					
WBS Deliverable 2			P		S	R									A
WBS Deliverable 3	R				I			I				A	S		
WBS Deliverable 4										S					I
WBS Deliverable 5	R			A				I			S				
WBS Deliverable 6		R			I			A			S				
WBS Deliverable 7	R	S					S						A		

P - Participant; A - Accountable; R - Review; I - Input Required; S - Signature Required

Figure 1-3

Organizational Influences and Structure

Projects are typically part of an organization that is larger than the project. Examples of organizations include corporations, governmental agencies, healthcare institutions, international bodies, professional associations, and others.

Project based organizations are those whose operations consist primarily of projects. These organizations fall into two categories:

- Organizations that derive their revenue primarily from performing projects for others under contract (i.e. architectural firms, engineering firms, consultants, construction contractors, and government contractors).
- Organizations that have adopted management by projects. These organizations usually have a management system in place to facilitate project management.

The structure of an organization often constrains the availability of resources.

Org Structure> Characteristics	<i>Functional</i>	<i>Matrix</i>			<i>Projectized</i>
		Weak	Balanced	Strong	
Project Mgr's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Who controls project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Mgr's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Mgr Admin Staff	Part-time	Part-time	Part-time	Full-time	Full-time

PMBOK Guide, 3rd Edition

Figure 1-4

Functional Organization

The typical functional organization is a hierarchy where each employee has one clear supervisor. Staff members are grouped by their specialty. The scope of work is typically bound by the group's specialty or specific function. Projects developed in a functional organization will have a project coordinator in lieu of a project manager.

Projectized Organization

At the other end of the spectrum from the functional organization is the projectized organization. Often, team members are collocated. Most of the organization's resources are involved with the project's work. Project managers have a great amount of independence and project authority.

Matrix Organization

Matrix organizations are a blend of functional and projectized characteristics.

Strong Matrix

In a strong matrix organization, the Project Manager has considerable authority and usually will have full-time staff assigned. The Project Manager will usually report to a manager of project managers, or a Project Management Office.

Weak Matrix

Weak matrices maintain many of the characteristics of a functional organization, with the project manager actually providing a coordination role, with limited or no project authority.

Balanced Matrix

A balanced matrix recognizes the need for a project manager; this structure does not provide the project manager with the full authority over the project and project funding.

Project Coordinator

In some organizations, project managers do not exist. Instead, these organizations use the role of a project coordinator. The project coordinator has less authority than a project manager. This person may not be allowed to make budget decisions or overall project decisions, but they have some authority to assign resources. Project coordinators are typically found in weak matrix and functional organizations.

Project Expeditor

This role has the least amount of authority. The project expeditor is a staff member who makes sure things arrive on time and that tasks/activities are completed on time. An expeditor is usually found in a functional organization.

Power

Power is the ability to influence behavior in others. Power that is based on the organization and the position/title of the Project Manager is “Organizational” or “Legitimate” power. Power that is based on the characteristics of the person is “Individual” or “Earned” power.

Legitimate/Formal Power

Legitimate power, also known as formal power, is the power that the Project Manager has due to the position or title. This power comes from being formally in charge of a project and the backing and support from the agency/organization.

Strong, broad based formal authority for a project manager is rare. This would be characteristic of a projectized organizational structure.

Reward Power

Reward power is the ability to give rewards and recognize achievements. Some examples of these rewards and recognition are pay raises, bonuses, time off, or any other type of reward that would motivate the person.

Punishment Power

Similar to Reward power, this type of influence is the ability to punish an employee if a goal is not met. “Nobody is taking vacation next month if we miss this milestone date,” or “If you overspend the project budget, you’ll be demoted” are examples of a manager using punishment power. This type of power is also known as coercive power.

Expert Power

Expert power exists when the individual, or Project Manager, is an expert on the subject. People will listen and respond to an individual that has Expert power because that person has credibility. A subject matter expert (SME) has significant power to influence and control behavior.

Referent Power

Referent power is a form of power based on the respect or charismatic traits of the individual. This power is based in the persuasive ability of the person.

Another form of referent power is when a less persuasive (powerful) person will use the influence of, or allies with, another person with more persuasive trait, and leverages the power of the ally.

Most project management references consider Reward and Expert power as the most effective and Punishment or Coercive power as the least effective.

Conflict Management

Project Managers need to realize that conflicts during the life of a project are inevitable. Recognizing this fact, developing good procedures or techniques, and planning for conflict resolution can help resolve conflicts as they arise. A project management plan can identify potential conflicts, develop resolution methods, and document the methods for the project team to use throughout the project.

Sources of Conflict

Research has shown that the greatest source of conflict is between project managers and functional managers. Most of these are the result of disagreements over schedules, priorities, and resources. This runs contrary to commonly held beliefs that most project conflicts are a result of personality differences.

Confronting / Problem-Solving

Sometimes referred to as “confronting” or “collaborating”, although the term *confronting* may have a negative connotation to it, this method is generally viewed as the best method for conflict resolution. It “confronts” the source of conflict and looks to solve the conflict so it will not be an issue for the project.

Compromising

To compromise is to negotiate or bargain for a solution that gives both parties some degree of satisfaction. Some would call this a “give and take” or “win-win situation. Others might call it a “lose-lose” position, since neither party will get everything they want or need.

Forcing

Forcing is exactly as the name implies. It is when one party tries to impose the solution on the other party. The result is usually viewed as a “win-lose” situation, where one party wins at the expense of the other. Typically, this method does not address the underlying source of conflict and can reduce team morale. It is not viewed as a good method for long term solutions and relationship building.

Smoothing / Accommodating

When using the smoothing, or accommodating, technique, the Project Manager will emphasize the areas of agreement or turn attention to what is going well and deemphasizing the areas of disagreement or conflict. Smoothing tends to downplay the conflict instead of resolving it.

Withdrawing / Avoiding

Withdrawal is often regarded as a temporary solution at best. Some argue that this is not a conflict resolution at all. A project manager that uses this method is merely hoping that the problem will go away by itself over time. Because of the avoidance or temporary nature of this method, the conflict can come up again and again throughout the project life.

Team Roles

A project manager’s ability to effectively address and manage conflicts on a project will be affected by his or her ability to recognize and deal with constructive and destructive roles on the project team. An effective project manager will be able to identify destructive roles within the team and look to diminish or eliminate them and enhance and maximize the positive effects from constructive team roles.

Constructive Team Roles

Initiators

An initiator is a project team member that brings ideas and activities to a project. This role is proactive and is considered highly productive and positive.

Information Seekers

An information seeker is a project team member that actively seeks to gain as much project information and project understanding as possible. This role is considered positive because this develops an environment of increased project knowledge and open communications for the project team.

Information Givers

An information giver is a project team member that openly shares project information. Similar to the information seeker, this role is considered positive because it develops an environment of increased project knowledge and open

communications for the project team. Be mindful that not all information can be readily shared (i.e. confidential, classified, secret information).

Encouragers

Encouragers are project team members that maintain a positive and realistic attitude within the project team. These individuals keep the team focused on what can be accomplished. This role is considered positive because it contributes, improves, and maintains team morale.

Clarifiers

A clarifier is a project team member that works to ensure that everyone has the same project understanding and project knowledge. This role is considered positive because it is proactive and keeps the team focused on the project objectives. This role also improves communication.

Harmonizers

A harmonizer is a project team member that actively looks to enhance project information in a way that increases project understanding. This is considered a positive role because it increases project understanding and can contribute to better communication.

Summarizers

A summarizer can take the minute details of the project and restate or relate them in a summarized form back to the project objectives. This is considered a positive role because the fine details of a project can become overwhelming to project team members. A summarizer will, similar to the harmonizer, help in increased project understanding and can contribute to better communication.

Gate Keepers

The role of gate keeper has a couple of possible meanings in project management, depending on the reference used. One definition is a project team member that works to draw other team members into the project discussions. This role is considered possible because it encourages participation on the project.

Another definition is the project team member that judges whether the project will continue when a “kill point” or “stage gate” has been reached. This project team member makes decisions whether the project still meets the business needs and is justified in transitioning to the next phase.

Destructive Team Roles

Aggressors

An aggressor is a project team member that is openly opposed and hostile to the project and project objectives. This is a negative role because it serves no productive purpose for the project.

Blockers

A blocker is a project team member that blocks access to information and looks to disrupt the flow of communication. Since good project communication is essential for project success, this role is very destructive.

Withdrawers

A withdrawer is a project team member who does not participate in discussions, brainstorming sessions, team meetings, etc. This person will likely remain quiet or refuse to participate at all. This is a negative role because it usually produces a project team member that will not commit to the project plan and can have a negative effect on team morale.

Recognition Seekers

A recognition seeker will look at a project to see how it can personally benefit him or her. Because this person is more interested in personal benefit rather than project success, he or she can ultimately jeopardize the project.

Topic Jumpers

A topic jumper is a project team member that constantly changes the subject and brings up irrelevant facts. This is a destructive role because it disrupts effective communication and could prevent important topics from being fully discussed and brought to closure.

Dominator

A dominator is a project team member that disrupts team participation and communication by presenting their own opinions forcefully and without any recognition or consideration of other's contributions or points of view. This person will dominate the communication and bully their way through the project. This is a negative role because it prevents effective communication, quashes other's valid opinions, and may be contrary to the project's objectives.

Devil's Advocate

“*advocatus diaboli*”. Although the origins of this role are rooted as a positive role for the critical examination of canonization or beatification in the Roman Catholic Church, for project management this is considered a negative role. The definition of this role is a project team member that takes up the contrary view just for the sake of argument and not on the arguments merits (if any). This role is negative because it often frustrates and disrupts effective communication and discourages people from participating.