SWE 4803

Lec - 2

THE ENVIRONMENT IN WHICH PROJECTS OPERATE

- ✓ Environment may have influence on each project
- ✓ Two major categories of influences are
  - enterprise environmental factors (EEFs): originate from the environment outside of the project and often outside of the enterprise. may have an impact at the organizational, portfolio, program, or project level. (i.e. different time zones, government regulations, organizational culture)
  - organizational process assets (OPAs): internal to the organization. These may arise from the organization itself, a portfolio, a program, another project, or a combination of these. (i.e. company knowledge base, standards and procedures)
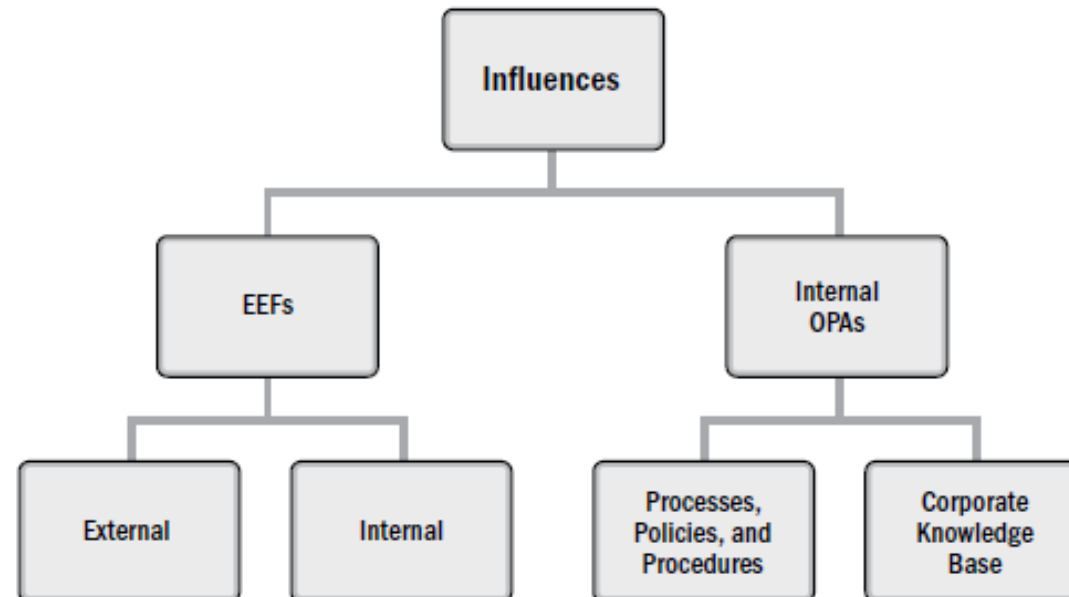
ENTERPRISE ENVIRONMENTAL FACTORS

- ✓ Examples of internal EEFs:
- ✓ **Existing infrastructure:** Availability of company servers, networks, tools.
- ✓ **Internal policies and procedures:** Company-mandated security policies or work-from-home policies.
- ✓ **Resource availability:** Limited in-house skilled developers.
- ✓ **Organizational culture or structure:** A project in a highly bureaucratic organization may take longer to get approvals compared to one in a startup.

ENTERPRISE ENVIRONMENTAL FACTORS

- ✓ Examples of External EEFs:
- ✓ **Marketplace conditions:** If there's a global chip shortage, a hardware project may get delayed due to unavailability of components.
- ✓ **Social and cultural influences and issues:** cultural norms may influence working hours during Ramadan.
- ✓ **Legal restrictions:** An e-commerce project must implement data encryption and access controls to comply with PCI DSS legal requirements for handling credit card transactions..
- ✓ **Government or industry standards:** A software development project must comply with the General Data Protection Regulation (GDPR) if handling European user data.
- ✓ **Political climate or economic trends:** A construction project may pause or scale down due to an economic recession..

ORGANIZATIONAL PROCESS ASSETS

✓ OPAs include any artifact, practice, or knowledge from any or all the performing organizations involved in the project that can be used to execute or govern the project.

✓ They may be grouped into two categories:

- **Processes, policies, and procedures**
  - Project management methodology used by the organization (e.g., Agile, Waterfall)
  - Change control procedures
  - Coding standards or QA processes
  - Risk management policies
  - Procurement processes and templates

- **Organizational knowledge bases**
  - Lessons learned database from past projects
  - Project archives (schedules, budgets, performance data)
  - Knowledge-sharing platforms or wikis
  - Historical cost and effort estimates

ORGANIZATIONAL STRUCTURE

✓ ***Factors to consider*** in selecting an organizational structure include but are not limited to:

- Degree of alignment with organizational objectives

- Clear path for escalation of decisions

- Clear line and scope of authority

- Delegation capabilities

- Accountability assignment

- Responsibility assignment

- Efficiency of performance

- Physical locations (e.g., co-located, regional, and virtual), and

- Clear communication (e.g., policies, status of work, and organization's vision).

ORGANIZATIONAL STRUCTURE

✓ Organizational structures take many forms or types

- Organic or Simple

- Functional (centralized)

- Multi-divisional (may replicate functions for each division with little centralization)

- Matrix – strong

- Matrix – weak

- Matrix – balanced

- Project-oriented (composite, hybrid)

- Hybrid

- PMO (Project Management Office)

ORGANIZATIONAL STRUCTURE

✓ **Organic or Simple**

- **Work Groups Arranged by:** people working side-by-side

- **Project Manager's Authority :** Little or none

- **Project Manager's Role :** Part-time; may or may not be a designated job role like coordinator

- **Resource Availability :** Little or none

- **Who Manages the Project Budget? :** Owner

- **Project Management Administrative Staff :** Little or none
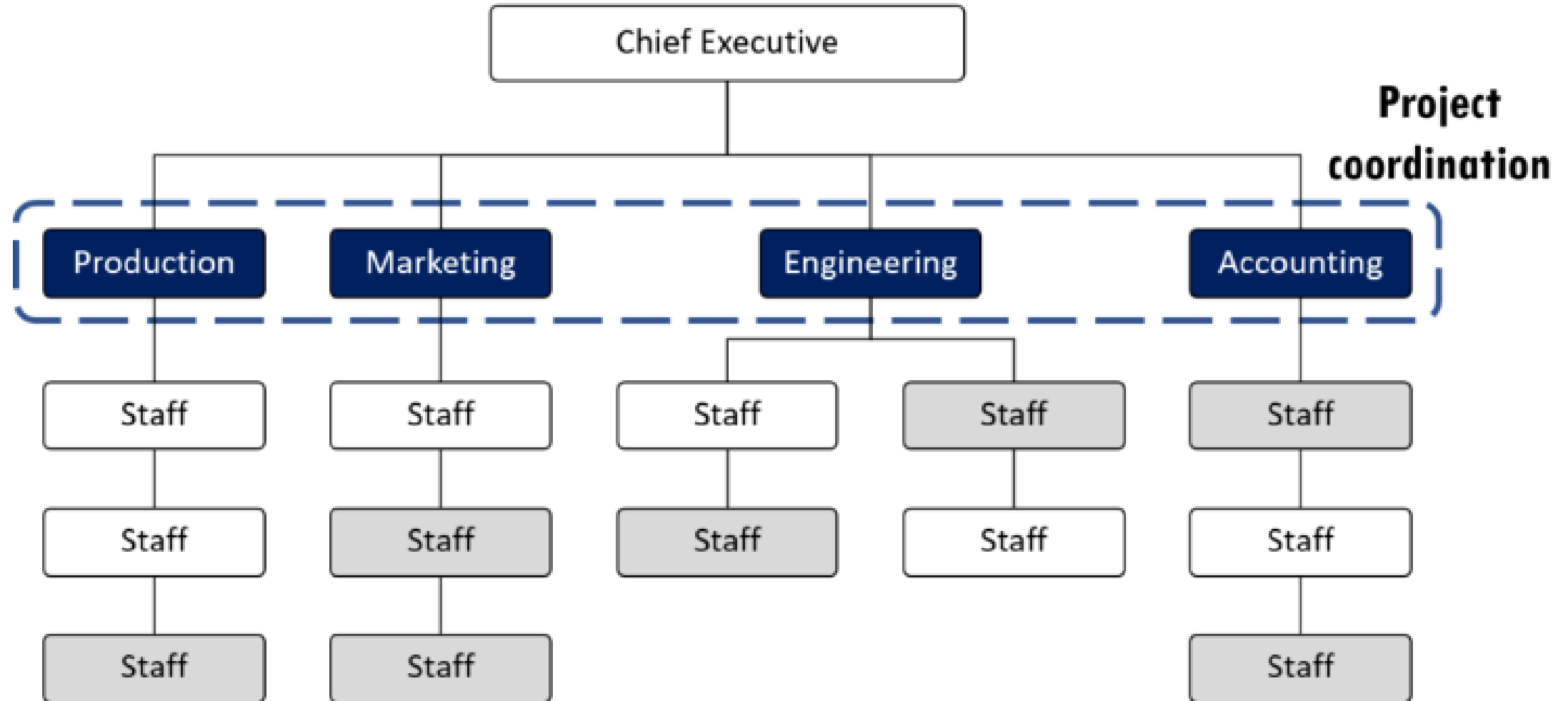
ORGANIZATIONAL STRUCTURE

✓ **Functional (centralized)**

- **Work Groups Arranged by:** Job being done (e.g., engineering, manufacturing)

- **Project Manager's Authority :** Little or none

- **Project Manager's Role :** Part-time; may or may not be a designated job role like coordinator

- **Resource Availability :** Little or none

- **Who Manages the Project Budget? :** Functional manager

- **Project Management Administrative Staff :** Part-time

ORGANIZATIONAL STRUCTURE

Functional

ORGANIZATIONAL STRUCTURE

- ✓ **Multi-divisional (may replicate functions for each division with little centralization)**

  - **Work Groups Arranged by:** One of product, production processes, portfolio, program, geographic region, customer type

  - **Project Manager's Authority :** Little or none

  - **Project Manager's Role :** Part-time; may or may not be a designated job role like coordinator

  - **Resource Availability :** Little or none

  - **Who Manages the Project Budget?** : Functional manager

  - **Project Management Administrative Staff** : Part-time
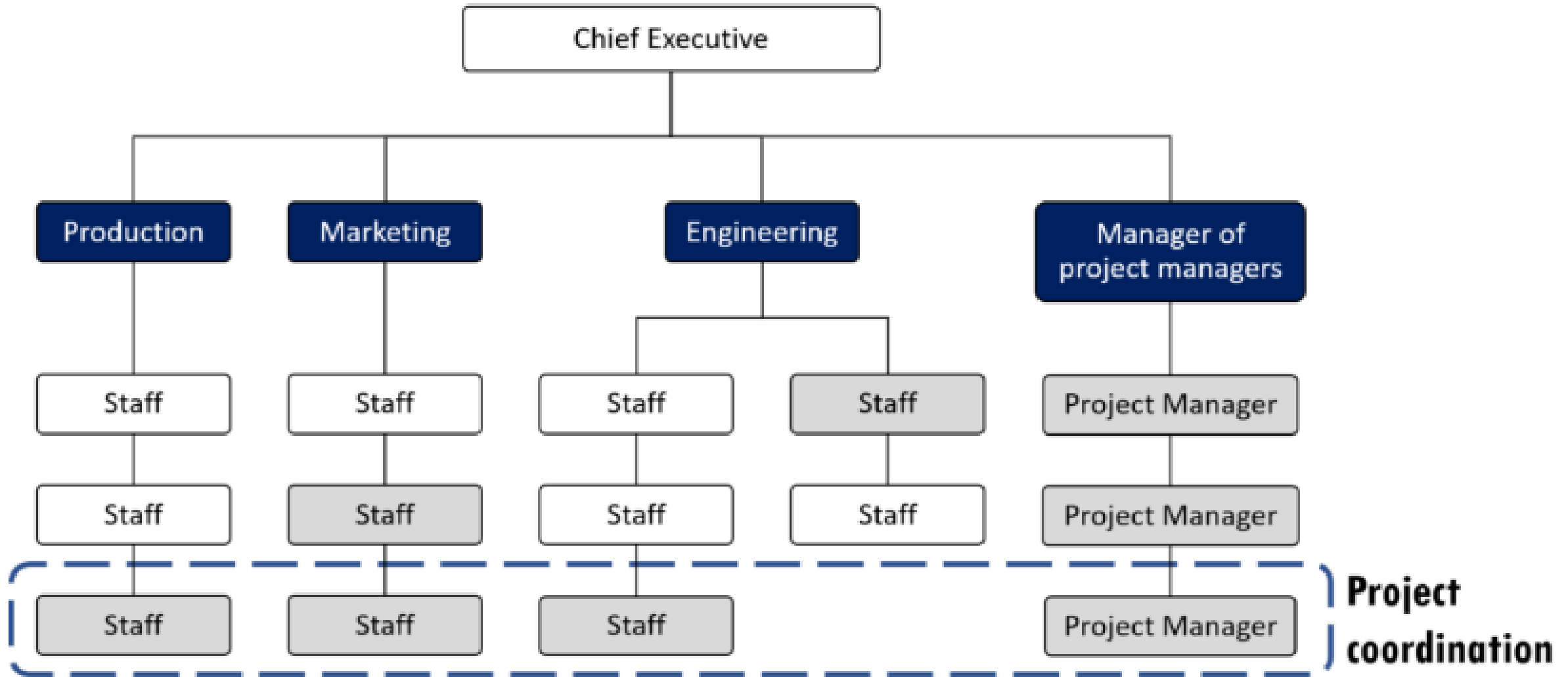
ORGANIZATIONAL STRUCTURE

✓ **Matrix – strong**

- **Work Groups Arranged by:** By job function, with project manager as a function

- **Project Manager's Authority :** Moderate or High

- **Project Manager's Role :** Full-time designated job role

- **Resource Availability :** Moderate or High

- **Who Manages the Project Budget? :** Project manager

- **Project Management Administrative Staff :** Full-time

ORGANIZATIONAL STRUCTURE

Matrix – strong
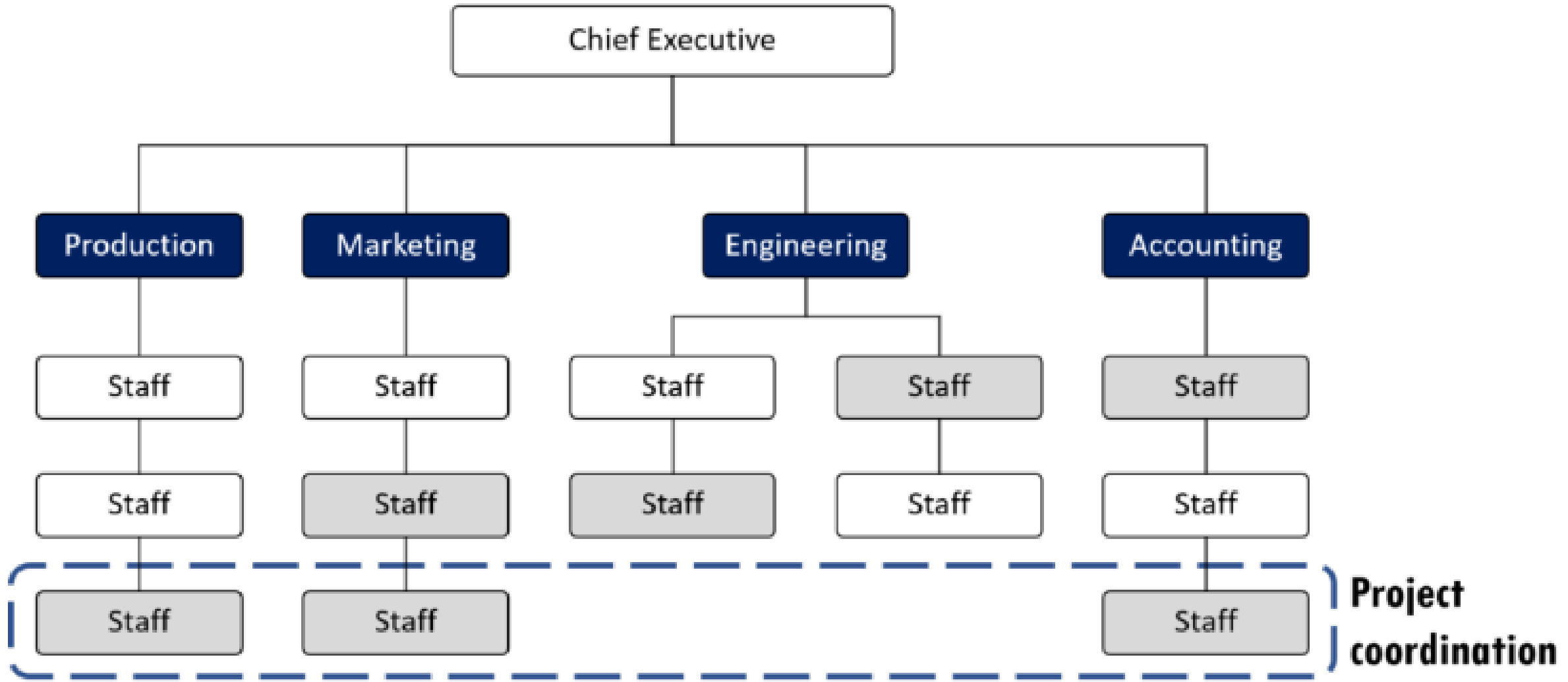
ORGANIZATIONAL STRUCTURE

✓ **Matrix – Weak**

- **Work Groups Arranged by:** By job function

- **Project Manager's Authority :** Low

- **Project Manager's Role :** Part-time; done as part of another job and not a designated job role like coordinator

- **Resource Availability :** Low

- **Who Manages the Project Budget? :** Functional manager

- **Project Management Administrative Staff :** Part-time

ORGANIZATIONAL STRUCTURE
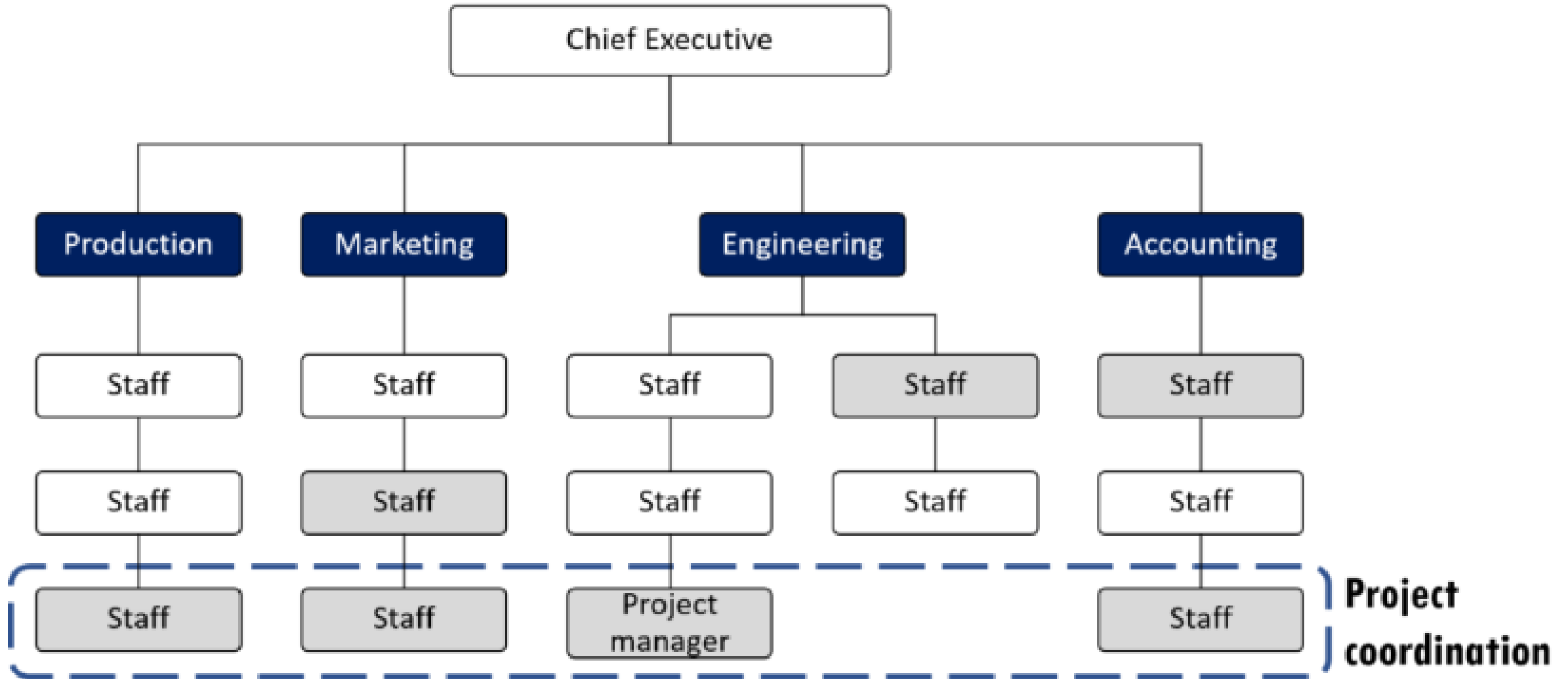

Matrix – weak

ORGANIZATIONAL STRUCTURE

✓ **Matrix – Balanced**

- **Work Groups Arranged by:** By job function

- **Project Manager's Authority :** Low or Moderate

- **Project Manager's Role :** Part-time; done as part of another job and not a designated job role like coordinator

- **Resource Availability :** Low or Moderate

- **Who Manages the Project Budget? :** Mixed

- **Project Management Administrative Staff :** part-time

ORGANIZATIONAL STRUCTURE

Matrix – balanced

ORGANIZATIONAL STRUCTURE

✓ **Project-oriented (composite, hybrid)**

- **Work Groups Arranged by:** Project

- **Project Manager's Authority :** High to almost total

- **Project Manager's Role :** Full-time designated job role

- **Resource Availability :** High to almost total

- **Who Manages the Project Budget? :** Project manager

- **Project Management Administrative Staff :** Full-time

ORGANIZATIONAL STRUCTURE

✓ **Hybrid**

- **Work Groups Arranged by:** Mix of other types

- **Project Manager's Authority :** Mixed

  Project Manager's Role : Mixed

- **Resource Availability :** Mixed

- **Who Manages the Project Budget? :** Mixed

- **Project Management Administrative Staff :** Mixed

ORGANIZATIONAL STRUCTURE

✓ **PMO (Project Management office)**

- **Work Groups Arranged by:** Mix of other types

- **Project Manager's Authority :** High to almost total

  Project Manager's Role : Full-time designated job role

- **Resource Availability :** High to almost total

- **Who Manages the Project Budget? :** Project Manager

- **Project Management Administrative Staff :** Full - Time
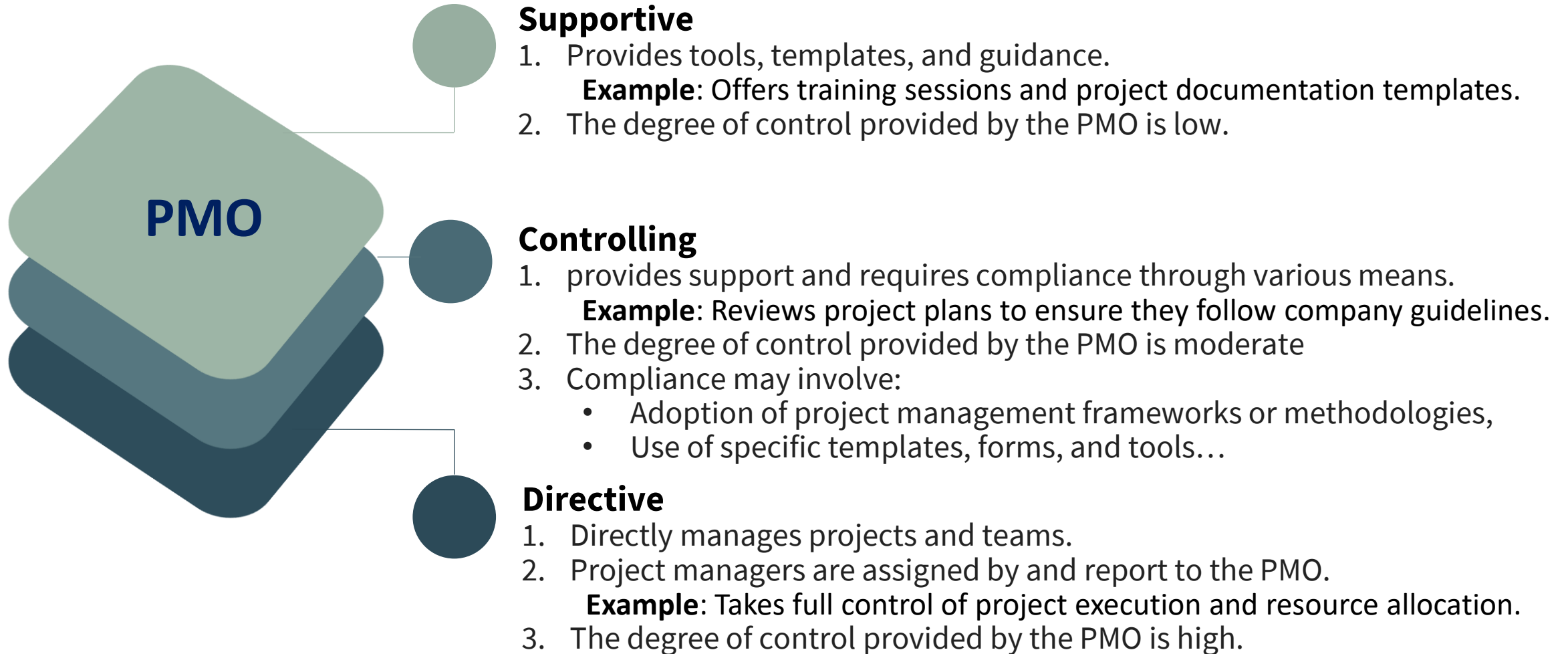
PROJECT MANAGEMENT OFFICE

✓ PMO is an organizational structure that standardizes project governance and shares resources, tools, and methodologies.

✓ **Key Responsibilities of a PMO:**
- Manage shared resources across projects
- Develop and implement project management standards and best practices
- Provide coaching, mentoring, and training
- Monitor compliance with project management policies
- Manage project documentation and templates
- Coordinate communication across projects

PROJECT MANAGEMENT OFFICE

✓ **types of PMOs in organizations:**

PMO

Supportive
1. Provides tools, templates, and guidance.
   Example: Offers training sessions and project documentation templates.
2. The degree of control provided by the PMO is low.

Controlling
1. provides support and requires compliance through various means.
   Example: Reviews project plans to ensure they follow company guidelines.
2. The degree of control provided by the PMO is moderate
3. Compliance may involve:
   - Adoption of project management frameworks or methodologies,
   - Use of specific templates, forms, and tools…

Directive
1. Directly manages projects and teams.
2. Project managers are assigned by and report to the PMO.
   Example: Takes full control of project execution and resource allocation.
3. The degree of control provided by the PMO is high.

COMPARISON TABLE

| Structure Type	Work Group Arrangement	PM Authority	PM Role	Resource Availability	Budget Managed By	PM Admin Staff
Organic / Simple	Side-by-side (informal)	Little / None	Part-time (may vary)	Little / None	**Owner**	Little / None
Functional	By job function (e.g., engineering, sales)	Little / None	Part-time (coordinator)	Little / None	**Functional Manager**	Part-time
Multi-divisional	By product/region/customer type	Little / None	Part-time	Little / None	**Functional Manager**	Part-time
Matrix – Weak	By job function	Low	Part-time (non-role)	Low	**Functional Manager**	Part-time
Matrix – Balanced	By job function	Low / Moderate	Part-time (non-role)	Low / Moderate	**Mixed**	Part-time
Matrix – Strong	By job + project (PM is a function)	Moderate / High	Full-time	Moderate / High	**Project Manager**	Full-time
Project-Oriented	By project	High / Total	Full-time	High / Total	**Project Manager**	Full-time
Hybrid	Mix of multiple types	Mixed	Mixed	Mixed	**Mixed**	Mixed
PMO (Project Mgmt Office)	Mix (PMO governs projects)	High / Total	Full-time	High / Total	**Project Manager**	Full-time

COMPARISON TABLE

✓ **Ask these questions:**
- Who controls the team and budget? (PM or functional manager?)
- Is the PM full-time or just coordinating part-time?
- Are resources dedicated or shared?
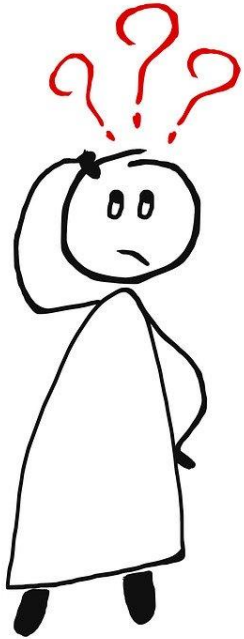- Are we organized by function, project, region, etc.?
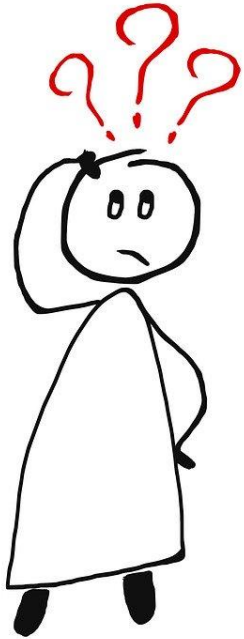
You are the Project Managers of XYZ consultants. The Project team members are from Finance and HR departments. The team members report to Finance and HR Managers respectively, and you have limited control over them. What type of organizational structure does XYZ consultants follow?

A project manager is trying to complete a SW development project, but can not get enough attention for the project. Resources are focused on completing process-related work and the PM has little authority to properly assign resources. What form of organization must the PM be working in?

Role of a Project Manager (PM)

Conductor who directs the performance with movements of the hands and arms, often made easier for the musicians

ROLE OF A PROJECT MANAGER (PM)

Membership and roles:

- ✓ A large project and an orchestra each comprise many members, each playing a different role.
- ✓ A large orchestra may have more than 100 musicians who are led by a conductor.
- ✓ These musicians may play 25 different kinds of instruments
- ✓ Similarly, a large project may have more than 100+ project members led by a project manager.
- ✓ Team members may fulfill many different roles, such as design, manufacturing, and facilities management.

ROLE OF A PROJECT MANAGER (PM)

Responsibility for team:

✓ **Shared Responsibility:** Both the project manager and conductor are responsible for the team's output.

✓ **Holistic Approach:** They work together to plan, coordinate, and complete the team's tasks.

✓ **Vision & Objectives:** The leaders define the vision, mission, and objectives for successful completion.

✓ **Communication & Motivation:** They use their interpretation to motivate and guide the team towards success.

ROLE OF A PROJECT MANAGER (PM)

Knowledge and skills:

✓ Doesn't need to perform every project role but must have project management and technical knowledge

✓ Leads through planning, coordination, and clear communication (written plans, schedules, meetings, and verbal/nonverbal cues).

ROLE OF A PROJECT MANAGER (PM)

Responsible and accountable:

- ✓ Make sure the project is completed within Schedule and within budget

- ✓ Determine and deliver required level of quality

- ✓ Select Appropriate process for the project

- ✓ Identifies and analyses constrains and assumptions

- ✓ Leads and directs project planning effort

- ✓ Identifies dependencies between activities

- ✓ Assist project team during execution

- ✓ Reports Project progress on time

Project Manager is accountable for project success or failure
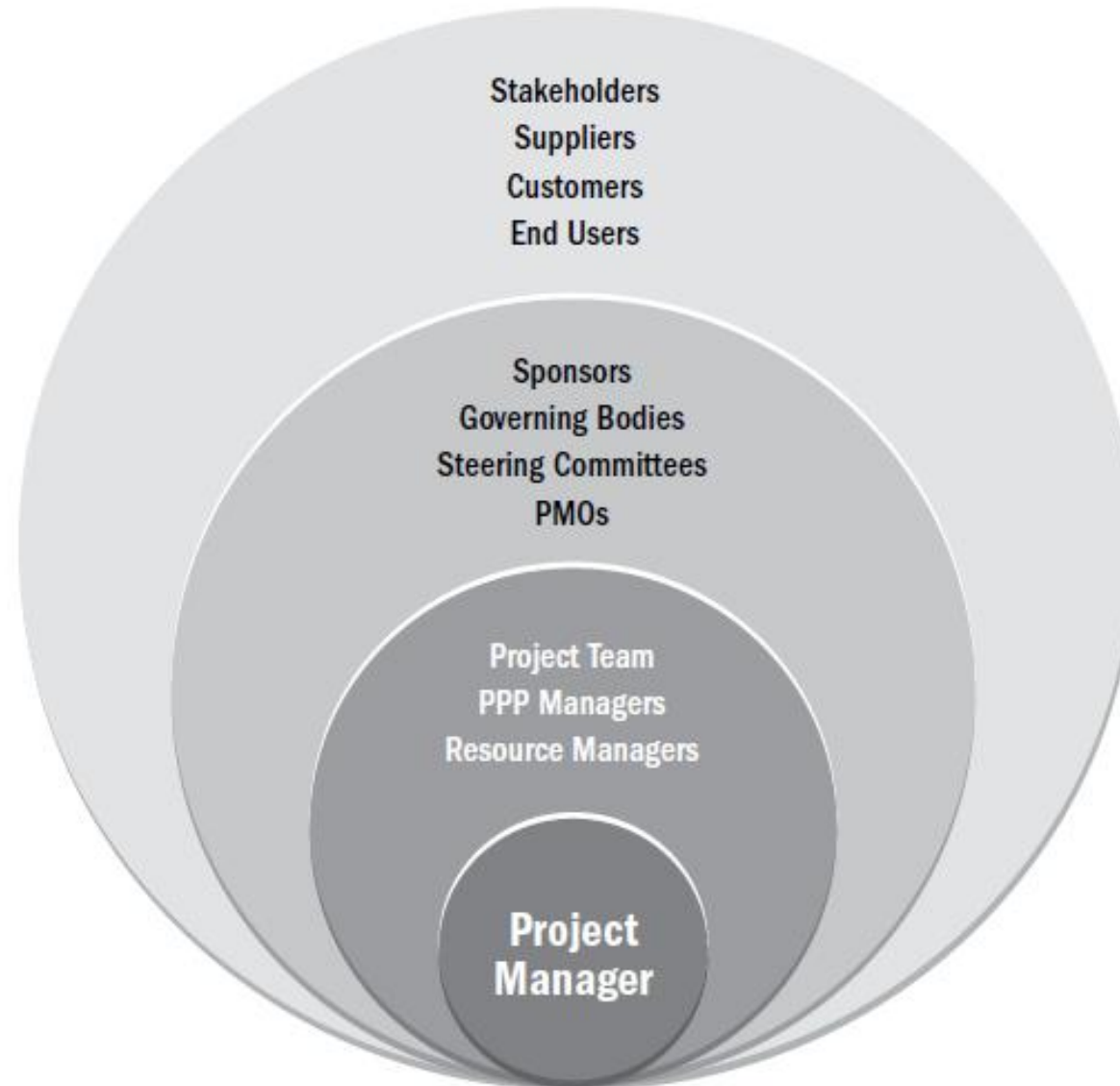
PROJECT MANAGER (PM)

The project manager is the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.

How the project manager differ from functional or operational manager?

The **functional manager** focuses on providing management oversight for a functional or business unit. **Operations managers** are responsible for ensuring that business operations are efficient.
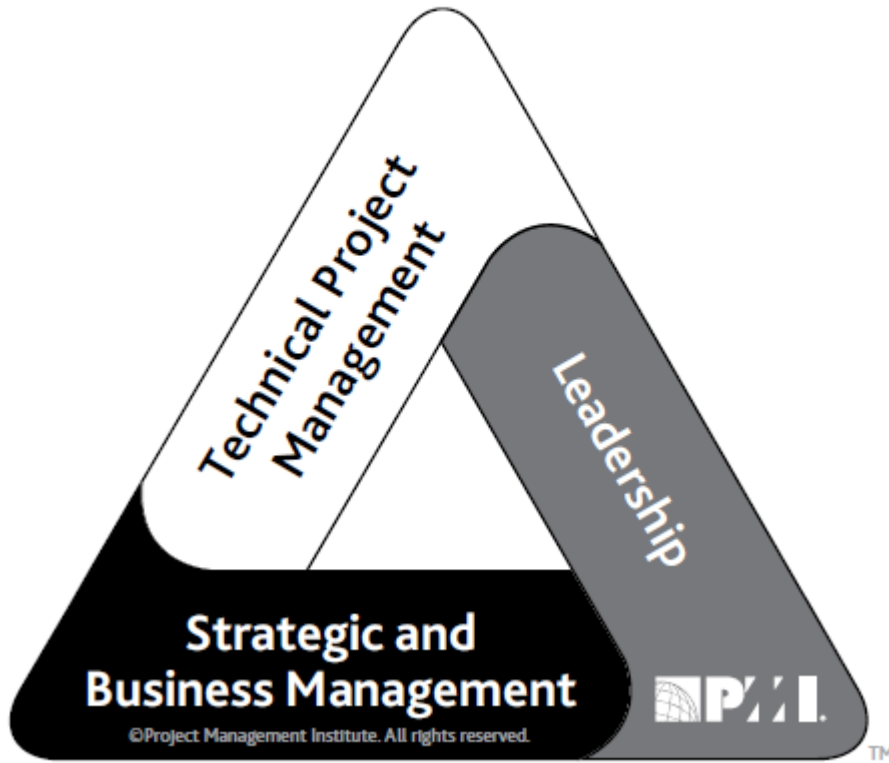
PROJECT MANAGER'S SPHERE OF INFLUENCE

PROJECT MANAGER COMPETENCY

The PMI Talent Triangle®

Technical project management. The knowledge, skills, and behaviors related to specific domains of project, program, and portfolio management. The technical aspects of performing one's role.

Leadership. The knowledge, skills, and behaviors needed to guide, motivate, and direct a team, to help an organization achieve its business goals.

Strategic and business management. The knowledge of and expertise in the industry and organization that enhanced performance and better delivers business outcomes.

LEADERSHIP

✓ Project managers may lead their teams in many ways. (LOTE)

✓ The leadership style a project manager selects may be a personal preference, or the result of the combination of multiple factors associated with the project.

- Leader characteristics (e.g., attitudes, moods, needs, values, ethics);

- Team member characteristics (e.g., attitudes, moods, needs, values, ethics);

- Organizational characteristics (e.g., its purpose, structure, and type of work performed); and

- Environmental characteristics (e.g., social situation, economic state, and political elements).

LEADERSHIP STYLES

- ✓ **Laissez-faire** (e.g., allowing the team to make their own decisions and establish their own goals, also referred to as taking a hands-off style);
- ✓ **Transactional** (e.g., focus on goals, feedback, and accomplishment to determine rewards; *management by exception*);
- ✓ **Servant leader** (e.g., demonstrates a commitment to serve and put other people first; focuses on other people's growth, learning, development, autonomy, and well-being; concentrates on relationships, community and collaboration; leadership is secondary and emerges after service);
- ✓ **Transformational** (e.g., empowering followers through idealized attributes and behaviors, inspirational motivation, encouragement for innovation and creativity, and individual consideration);
- ✓ **Charismatic** (e.g., able to inspire; is high-energy, enthusiastic, self-confident; holds strong convictions);

LEADERSHIP STYLES

✓ **Transformational**

> **Jeff Bezos** is the most famous example of a transformational leader. Like many companies, Amazon operates under the instruction that ***the customer is king***, so Bezos and his team dedicated their first year of business to generating ***customer reviews***, a practice that was unheard of in e-commerce at the time.
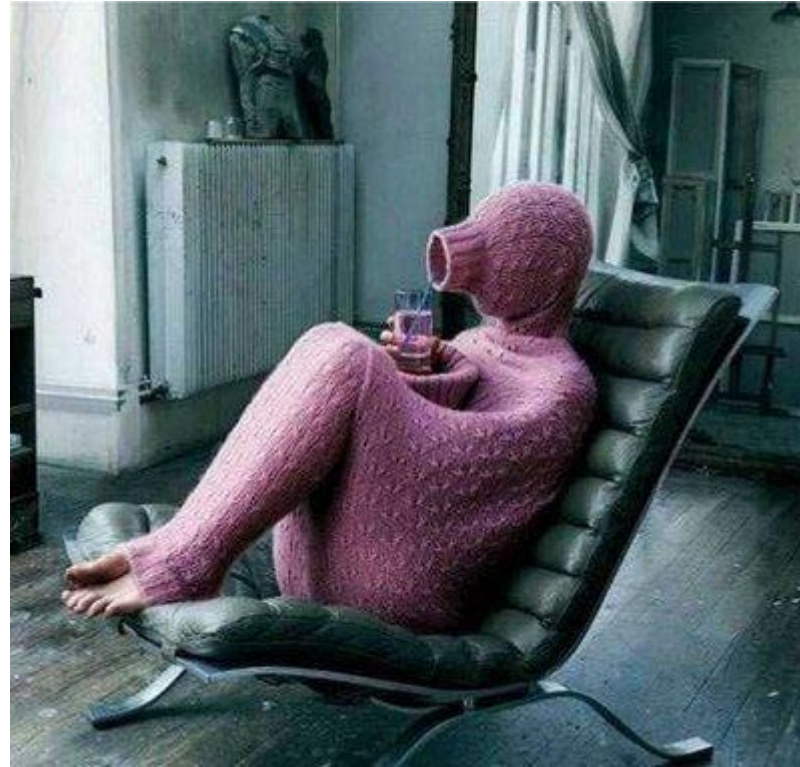
✓ **Charismatic**

> **Steve Jobs** is a great example. When he returned to Apple in 1997 as the chief executive officer, the company was nearly bankrupt, but he made several big changes fast. He:
> 1. Convinced Microsoft to invest $150m
> 2. Cut the number of Apple products by 70%
> 3. Cut around 3,000 jobs
> This led to an unbelievable $309m profit the following year.

PERSONALITY

✓ Personality refers to the individual differences in characteristic patterns of thinking, feeling, and behaving.

Personality characteristics or traits include but are not limited to:
✓ Authentic (e.g., accepts others for what and who they are, show open concern);
✓ Courteous (e.g., ability to apply appropriate behavior and etiquette);
✓ Creative (e.g., ability to think abstractly, to see things differently, to innovate);
✓ Cultural (e.g., measure of sensitivity to other cultures including values, norms, and beliefs);
✓ Emotional (e.g., ability to perceive emotions and the information they present and to manage them; measure of interpersonal skills);
✓ Intellectual (e.g., measure of human intelligence over multiple aptitudes);
✓ Managerial (e.g., measure of management practice and potential);
✓ Political (e.g., measure of political intelligence and making things happen);
✓ Service-oriented (e.g., evidence of willingness to serve other people);
✓ Social (e.g., ability to understand and manage people); and
✓ Systemic (e.g., drive to understand and build systems).

"leadership" and "personality" are synonymous, do you agree?