



The organizational context of Project, Programme and Portfolio management

interfaces to other organizational structures

Summary Part 1



Part 1.1

Project and Project Management

Part 1.2

Relationship among components

Part 1.3

Project environment

Part 1.4

Project life cycle

Part 1.5

Project's Stakeholders

Part 1.6

Organizational System

Part 1.7

Role of PM

Note

- ▶ Throughout the course “project management” is often used to include “**project management, program management, and portfolio management**”.
- ▶ It should be assumed that “project management” includes **all three** unless the context clearly implies just projects are being discussed.
- ▶ Additionally, the abbreviation **PPPM** is also used throughout this document to refer to Project, Programme and Portfolio Management.”

Projects drive change

- Projects drive change in organizations. From a business perspective, a project is aimed at moving an organization from **one state** to **another state** in order to achieve an increase in business value



An eye to the the strategy

- ▶ It's incumbent upon us as project management professionals to **begin thinking more strategically**, embrace the tools and techniques of digitalization and automation, and position ourselves to play a more active role in driving business transformation. But to truly orchestrate the required business transformation, it's imperative for PMOs to move beyond the tactical and eventually adopt an enterprise PMO mindset to gain transparency across all enterprise portfolios.
- ▶ you can begin to treat projects as business investments and take more responsibility for optimizing spend and maximizing business value across the portfolio.
- ▶ Gartner Insights: PPM's Role in Driving Real Business Transformation by Vlad Vecerzan, June 21, 2016

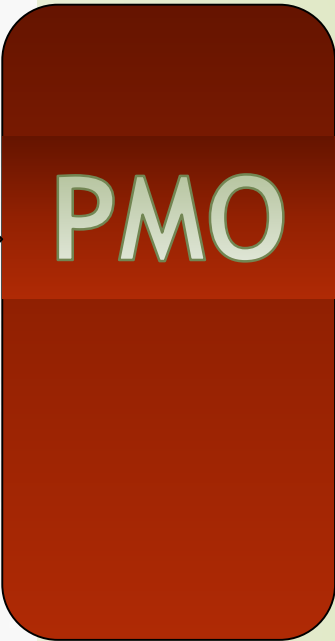
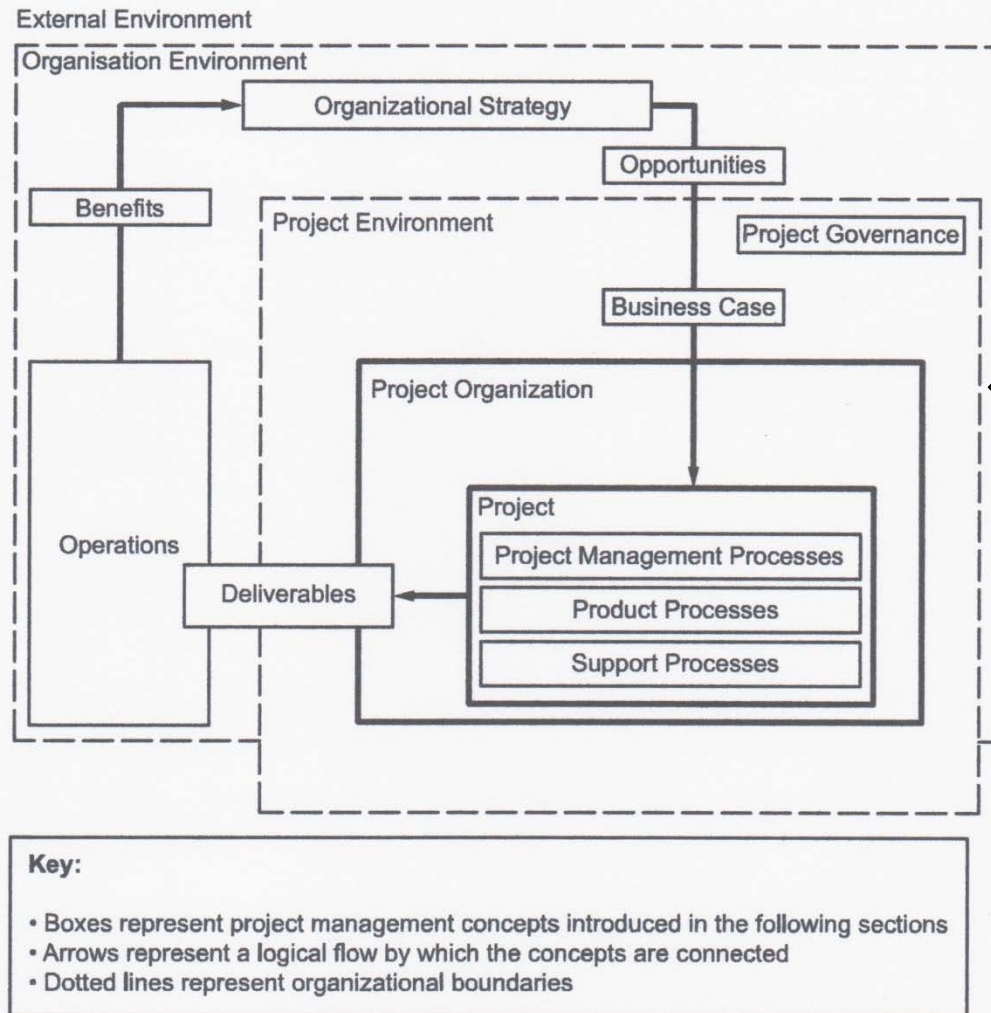


Figure 1 — Overview of project management concepts and their relationships

Project

► A project

- **is a temporary endeavor** undertaken to create a unique product, service, or result. (PMI 1996)
- **consists of a unique set of processes** consisting of coordinated and controlled activities with start and end dates, performed to achieve project objectives. Achievement of the project objectives requires the provision of deliverables conforming to specific requirements. A project may be subject to multiple constraints, as described in 3.11. (ISO21500:2013)
- **consists of a unique set of coordinated activities**, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined time, cost and performance parameters. (APM/BS 2000)

Deliverable

- ▶ **A unique product** that can be either a component of another item, an enhancement or correction to an item, or a new end item in itself
- ▶ **A unique service or a capability** to perform a service
- ▶ **A unique result**, such as an outcome or document
- ▶ **A unique combination** of one or more products, services, or results





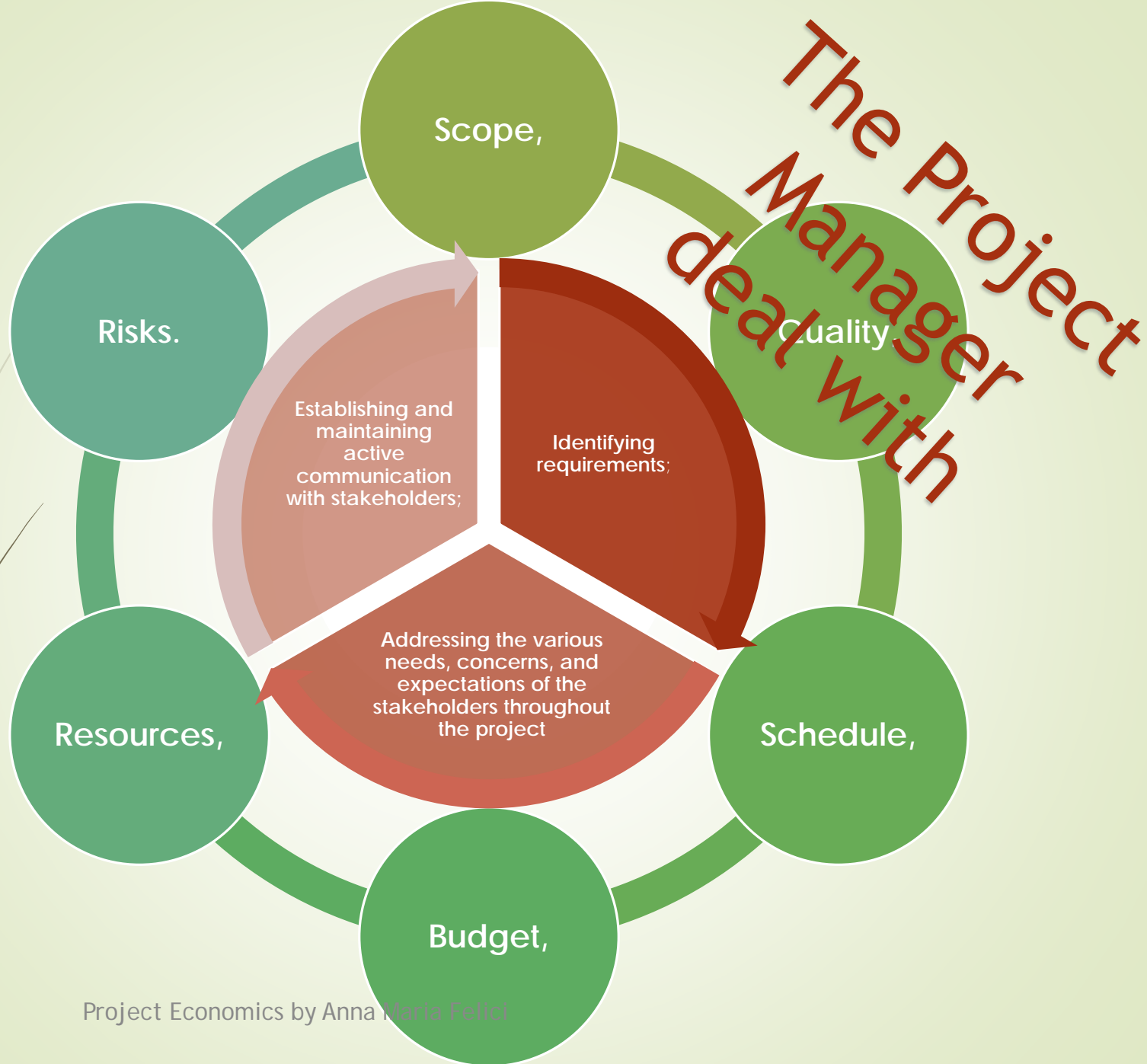
Project Management

- ▶ Project management is the application of **knowledge, skills, tools, and techniques** to project activities to meet project requirements.
- ▶ Project management is accomplished through the appropriate application and integration of the **project management processes** identified for the project.

Project differences

- ▶ While many projects are similar; the deliverables provided by the project, the **stakeholders** influencing the project, the **resources** used, and the way **processes are tailored** to provide these deliverables may differ.



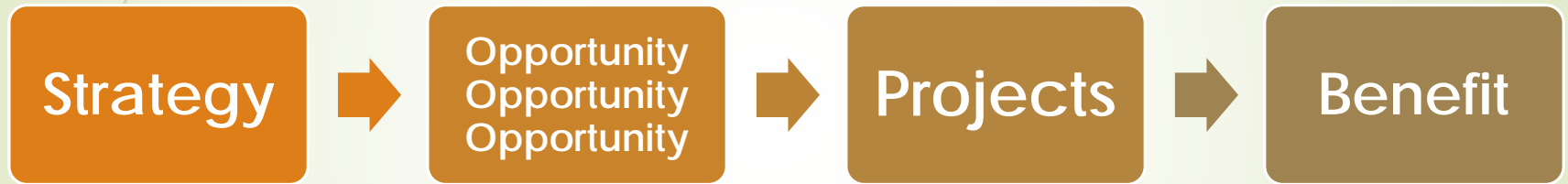


Organizational context according to PMI®



Value creation Framework

Identify *Select* *Contribute*





Opportunities

- ▶ Projects are often utilized as a means of achieving an organization's strategic plan and are typically authorized as a result of one or more of the following strategic considerations
 - ▶ Market demand
 - ▶ Strategic opportunity/business need
 - ▶ Social need
 - ▶ Environmental considerations
 - ▶ Customer request
 - ▶ Technological advance
 - ▶ Legal requirements
 - ▶
- ▶ Project initiation

Benefit

- ▶ In many cases the expected benefits may not be realised until after deliverables handover and project closeout.
- ▶ benefits realisation is **not a project manager responsibility**
- ▶ The project manager should consider the benefit and their realization as they influence decision making throughout the project life cycle



Business Value

- Business value in projects refers to the benefit that the results of a specific project provide to its stakeholders





Relationship among components

PPPM and Governance

17



18

A Project is not an isle

Why Do Organizations Need Portfolio Management?



The projects an organization has today demonstrate where it is now.



The portfolio shows where the organization is going.

A portfolio should be a true measure of an organization's **Intent**, **direction** and **progress**. And portfolio management helps create a blueprint toward that vision.

Program

- ▶ A project may or may not be part of a program or a portfolio, but a program or portfolio will always have projects.
- ▶ **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. **PMBOK**
 - ▶ A **temporary structure** of interrelated programme components that provides advantages of being managed together, contributes to/achieves programme objective(s) and realises benefit(s). **ISO21503**

Being part of a program may include

- ▶ **Splitting** a big problem into smaller pieces more controllable
- ▶ **Resolving** resource constraints and/or conflicts that affect multiple projects within the program;
- ▶ **Aligning** organizational/strategic direction that impacts and affects program goals and objectives;
- ▶ **Resolving** issues and change management within a shared governance framework;
- ▶ **Addressing** program or project risks that can impact multiple projects; and
- ▶ **Managing** program benefits realization by effectively sequencing and integrating project interdependencies.

Portfolio

- ▶ **A portfolio** is defined as
 - ▶ A portfolio refers to projects, programs, subportfolios, and operations managed as a group to achieve strategic objectives. **PMBOK**
 - ▶ Collection of portfolio components grouped together to facilitate their management to meet strategic objectives **ISO21502**

Being part of a portfolio may include

- ▶ allows organizations to **have an overall view** of how the strategic goals are reflected in the portfolio;
- ▶ institute appropriate **governance**; and
- ▶ **authorize** human, financial, or material resources.
- ▶ These resources will be allocated based on **expected performance and benefits**.



Governance

- ▶ **Governance** is defined as
 - ▶ Organizational governance is a structured way to provide control, direction, and coordination through people, policies, and processes to meet organizational strategic and operational goals.. PMBOK
 - ▶ authorizing, directing, empowering, monitoring and limiting management ISO21504

Governance includes

- ▶ Providing **guidance** and oversight of project management execution,
- ▶ **Engaging** the appropriate resources,
- ▶ **Ensuring** appropriate stakeholder engagement
- ▶ **Validating** project and product requirements and the quality of the results.



Governance includes

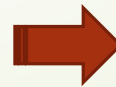
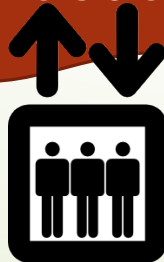
- ▶ **Monitoring** of project performance and results
- ▶ Process for **control gate** or phase reviews;
- ▶ Process to identify, escalate, and resolve **risks and issues**;
- ▶ Roles, responsibilities, and authorities;
- ▶ Project **decision-making processes**; and
- ▶ Process for review and approval for **changes** to budget, scope, quality, and schedule that are beyond the authority of the project manager.

Project and Operation

Project



Deliverable



Stakeholder

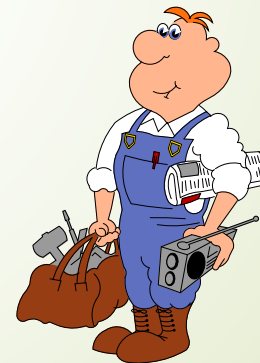


Maintenance



Operations

- ▶ Operations are **an organizational function** performing the ongoing execution of activities that produce the same product or provide a repetitive service.
- ▶ When a project delivers **a new product or service**, organizations have to **redesign their ongoing business operations** to accommodate their inclusion in the business



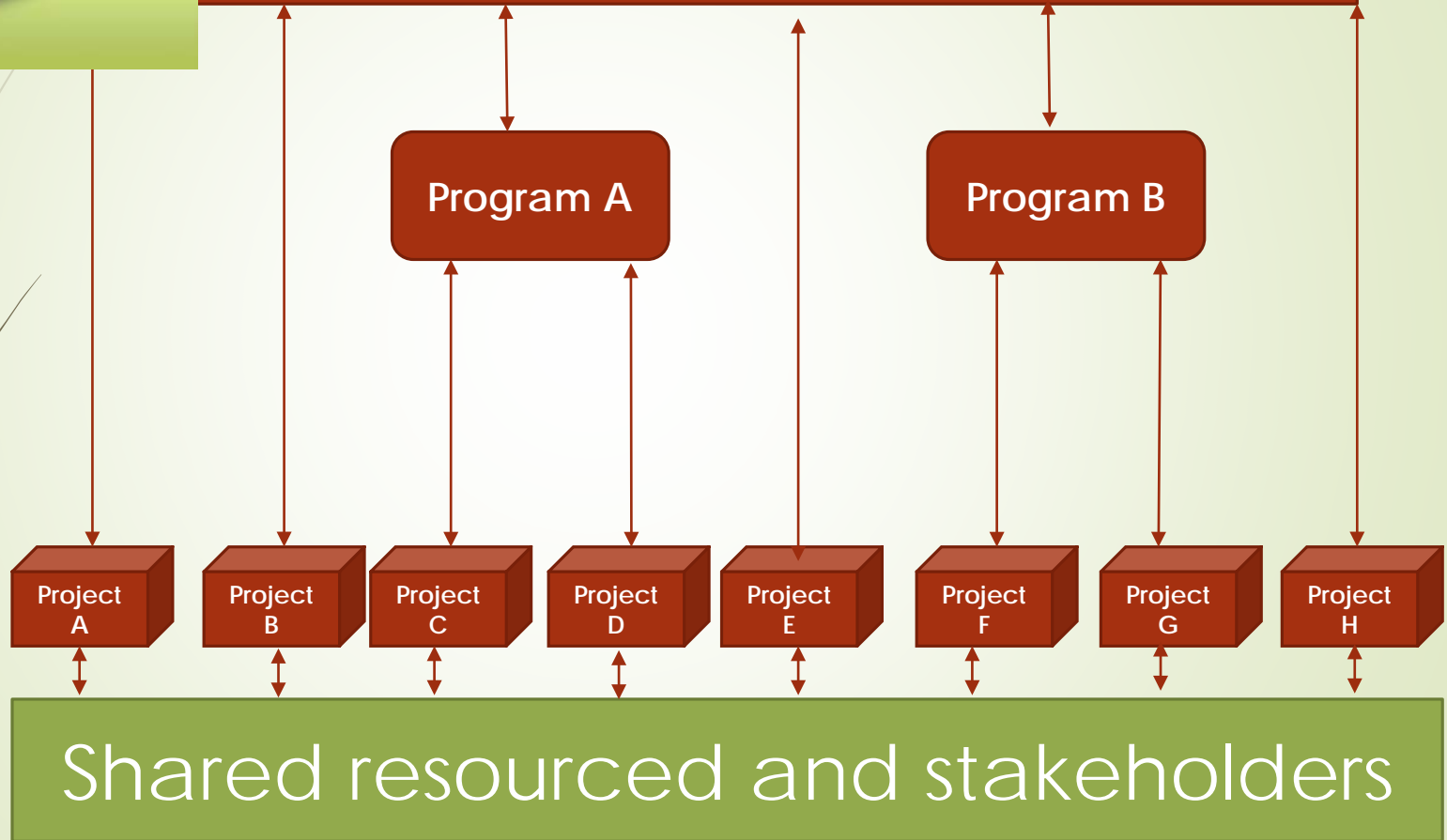
Operations

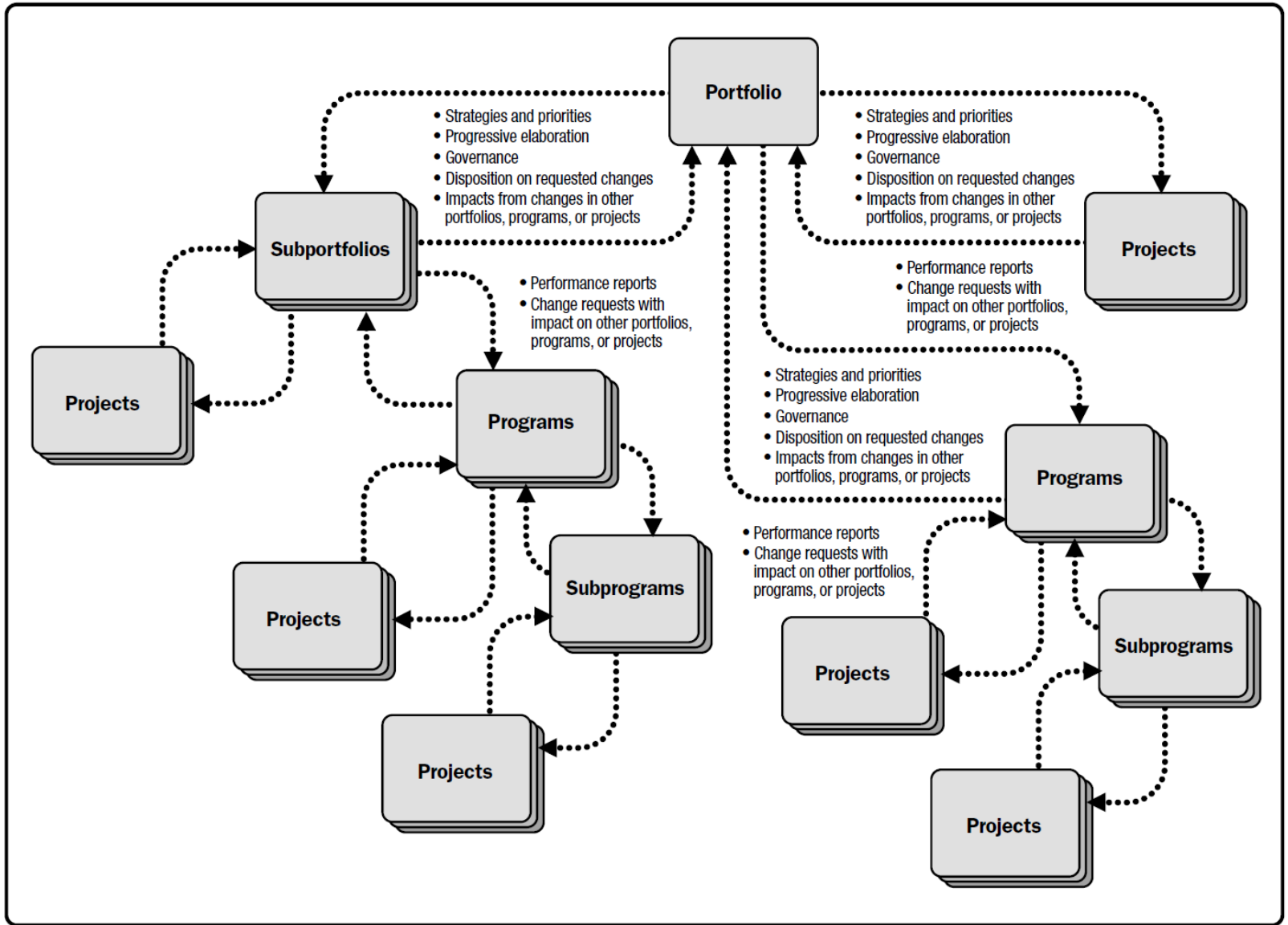
- ▶ Projects can intersect with operations at various points during the product life cycle, such as:
 - ▶ At each closeout phase;
 - ▶ When developing a new product, upgrading a product, or expanding outputs;
 - ▶ While improving operations or the product development process; or
 - ▶ Until the divestment of operations at the end of the product life cycle.





Portfolio





Project Success

- ▶ Is measured by product and project quality, timeliness, budget compliance, and degree of customer satisfaction
- ▶ Prior to initiate a project a BUSINESS CASE is developed
 - ▶ Objectives
 - ▶ Required Investments
 - ▶ Financial and quantitative criteria to use for Project Success
- ▶ Business Value
- ▶ Benefit Realization



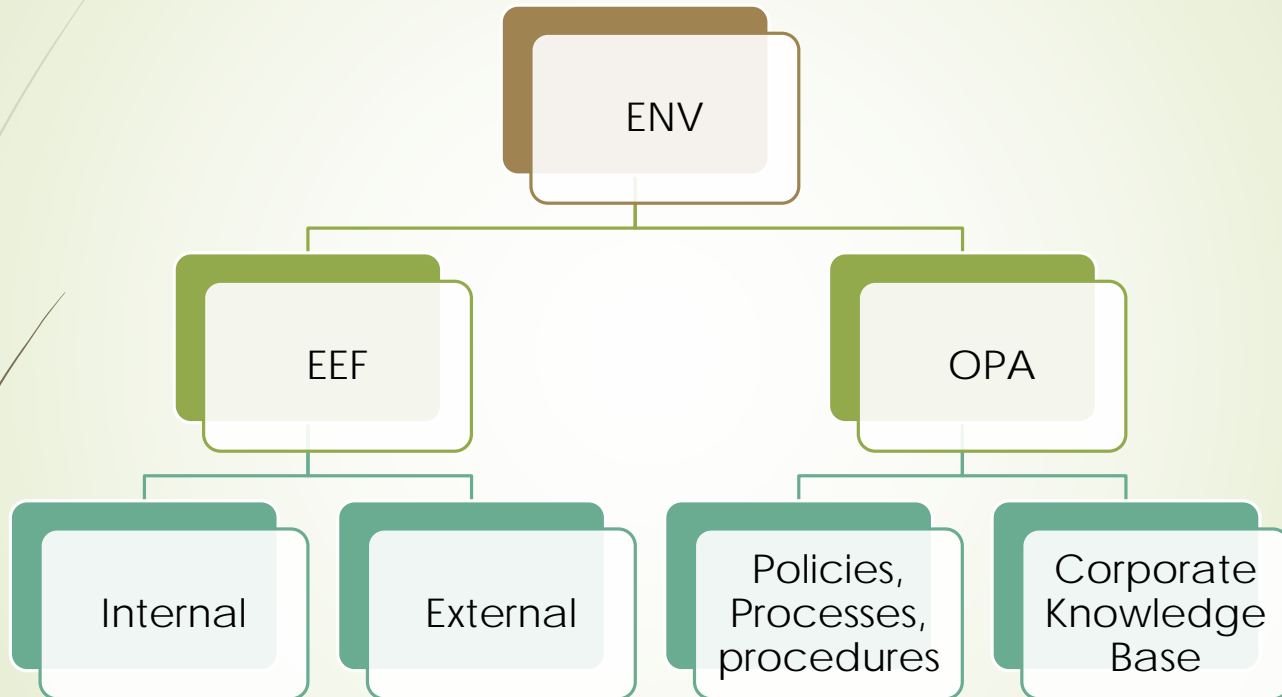
Key concepts

- ▶ Project drive
- ▶ Project vs strategy
- ▶ Strategy address benefits to enhance
- ▶ To have an overall view of where the organization is going we need ...
- ▶ To provide control we need
- ▶ To mantain benefit we need to include the outcome in business and redesign.....



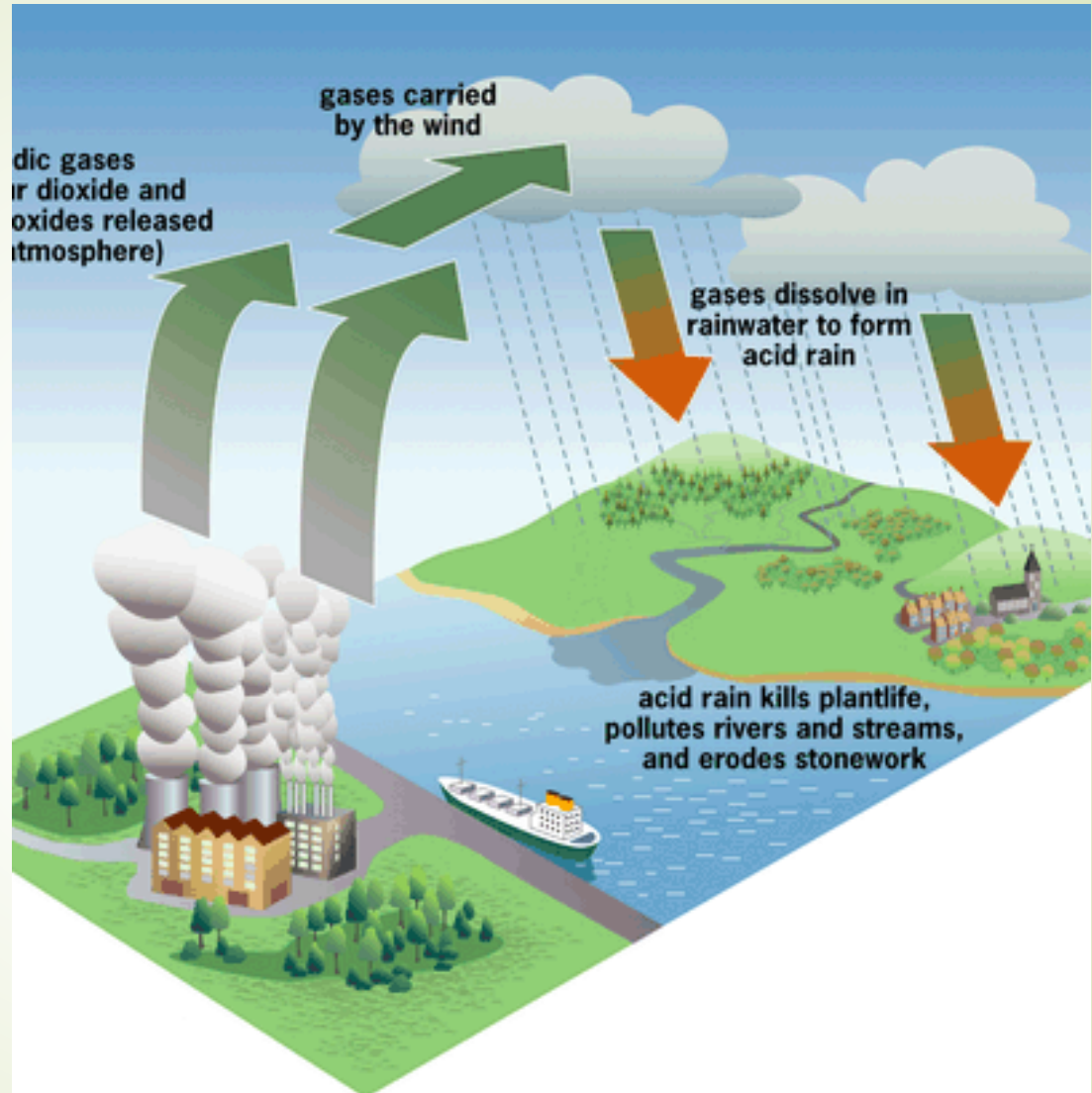
Project Environment

Environmental Influences



Environmental Factors

- Enterprise environmental factors (EEFs) refer to conditions, **not under the control of the project team**, that influence, constrain, or direct the project.



EEF Internal

- Organizational culture, structure, and governance.
- Geographic distribution of facilities and resources.
- Infrastructure.
- Information technology software.
- Human resources management policies and procedures
- Resource policies, procedures and availability
- Employee capability.
- Security policies, procedures and protocols.



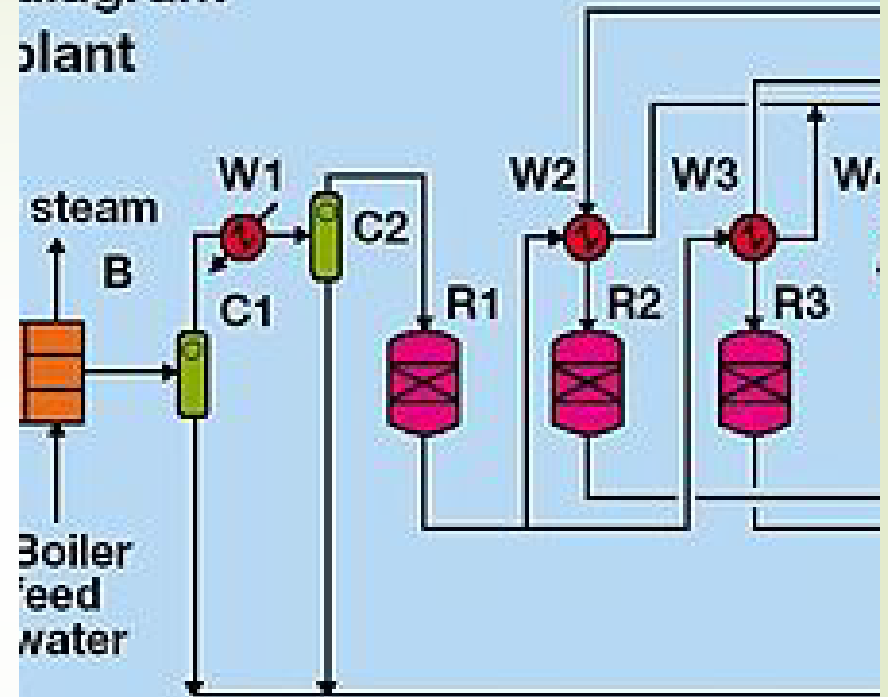
EEF External

- ▶ Marketplace conditions
- ▶ Social and cultural influences and issues.
- ▶ Stakeholder expectations and risk appetites.
- ▶ Legal restrictions.
- ▶ Commercial databases..
- ▶ Academic research
- ▶ Government or industry standards.
- ▶ Financial considerations.
- ▶ Physical environmental elements

Organizational Process Assets

- Organizational process assets (OPAs) are the plans, processes, policies, procedures, and knowledge bases specific to and used by the performing organization.

diagram
plant



Air

combustion chamber

R1-R3

Reac

ste heat boiler

W1-W6

Heat

arators



PROJECT LIFE CYCLE

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Project life cycle

- Is the series of phases that the project passes through from his initiation to his closure

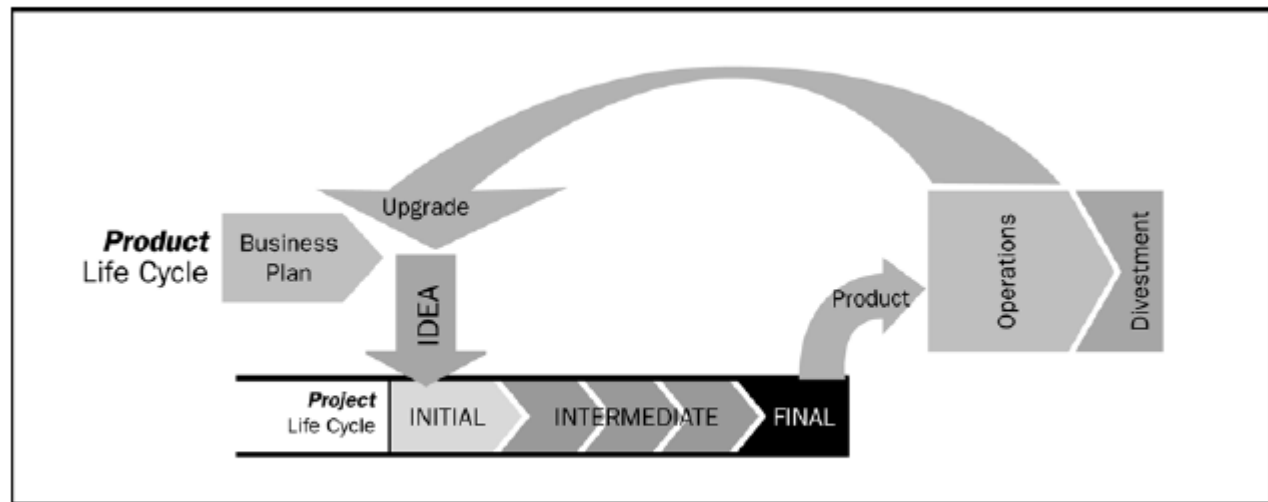


Figure 2-4. Relationship Between the Product and the Project Life Cycles

Project life cycle vs product life cycle

- ▶ the standard **project life** cycle comes to an end when the project close-out phase is complete.
- ▶ The **product life** cycle begins at the moment the product begins to be used, sold or placed in operation, thus producing the benefits that justified the project in the first place.
- ▶ There may be some **overlap** between the standard project close-out phase and the initiation of the product usage and thus its product life cycle.

A network diagram illustrating project stakeholders. It features a central hub-and-spoke structure of light blue circles connected by thin lines. Each circle contains a silhouette of a person in business attire. The silhouettes are in various shades of blue and black, representing different individuals within the network. The background is a light blue gradient.

Project Stakeholders

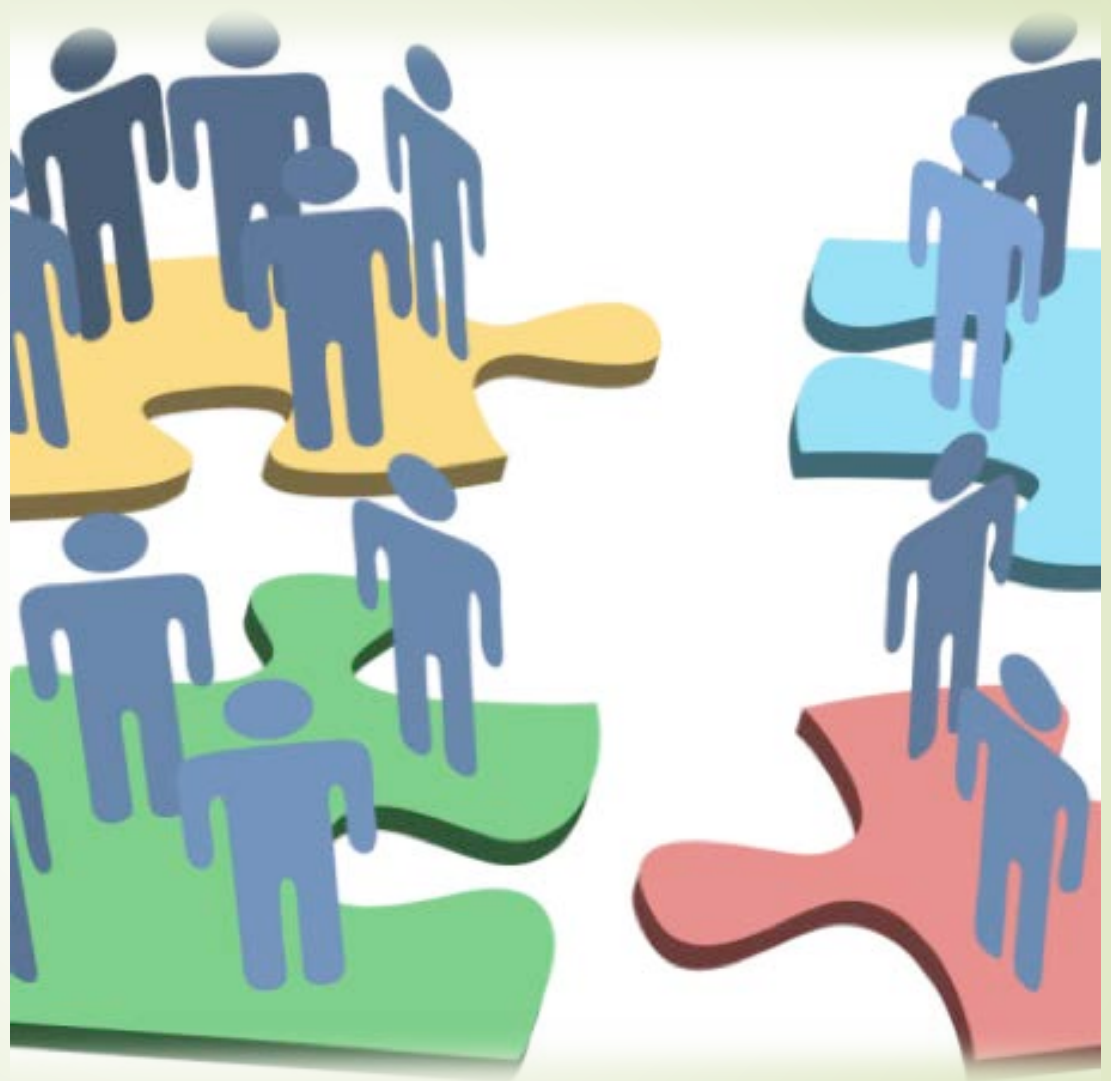
Stakeholders

An individual, group or organization that may affect, be affected by or perceive itself to be affected by a decision, activity, outcome of a project

44

Stakeholders

- What is a stakeholder?
- Who can be stakeholders?
- The ethics of stakeholder engagement
- Building relationships through communication



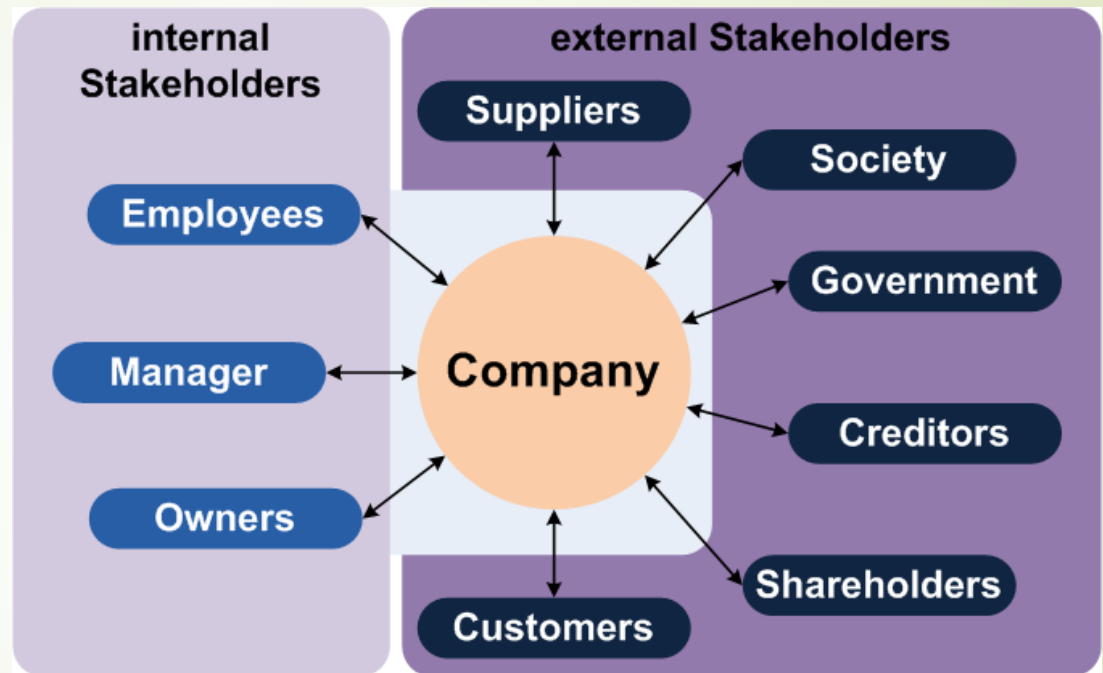
Stakeholders

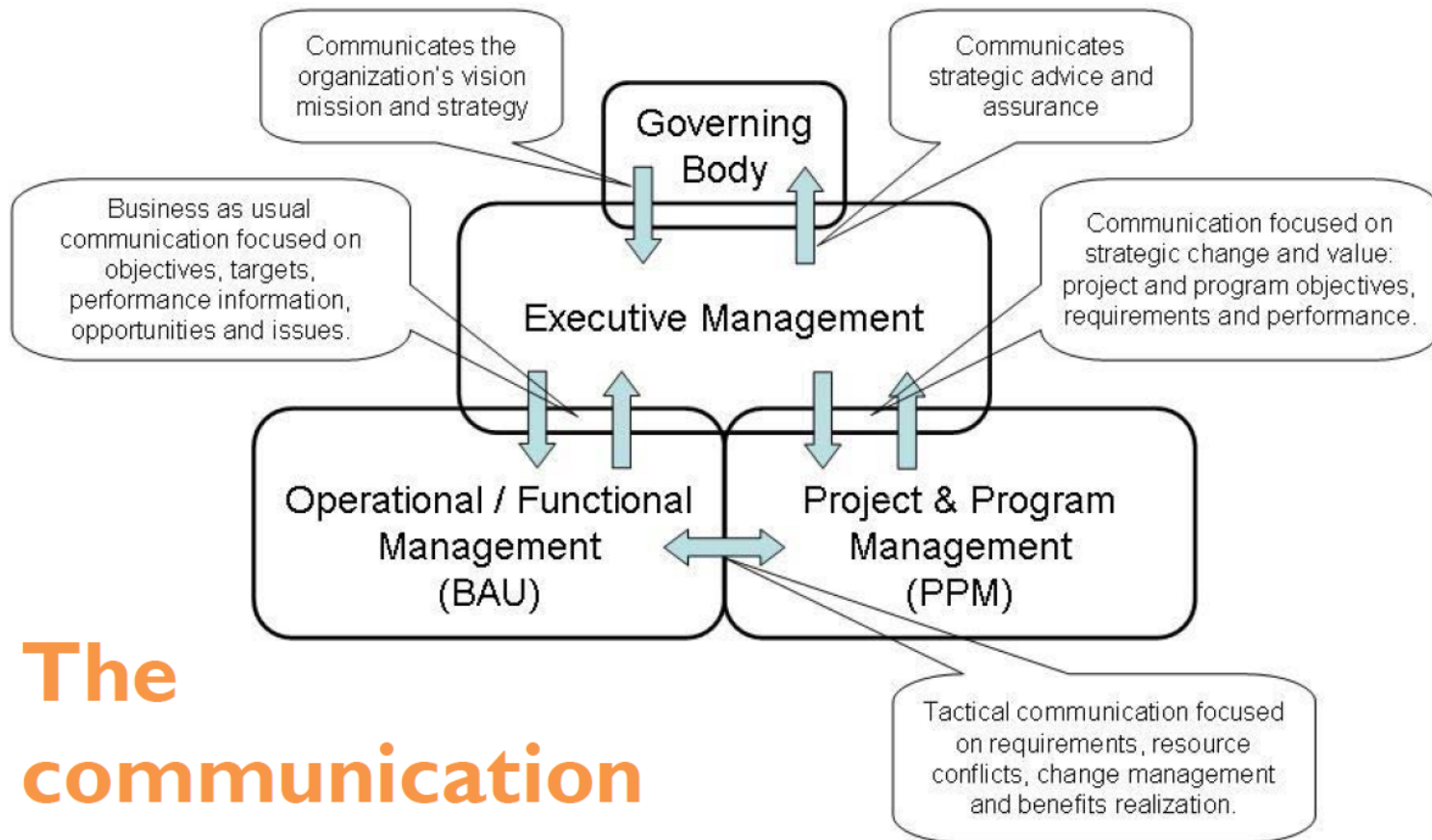
- ▶ The decisions must be made in the best interests of ALL an organization's stakeholders.
- ▶ Honesty, integrity, openness, responsibility, accountability and ethical standards essential qualities for good governance.
- ▶ OECD, APM, Chartered Institute of Internal Auditors, Cadbury



A stakeholder has a stake

- ▶ Interest
- ▶ Rights
- ▶ Ownership
- ▶ Knowledge
- ▶ Impact
- ▶ Contribution



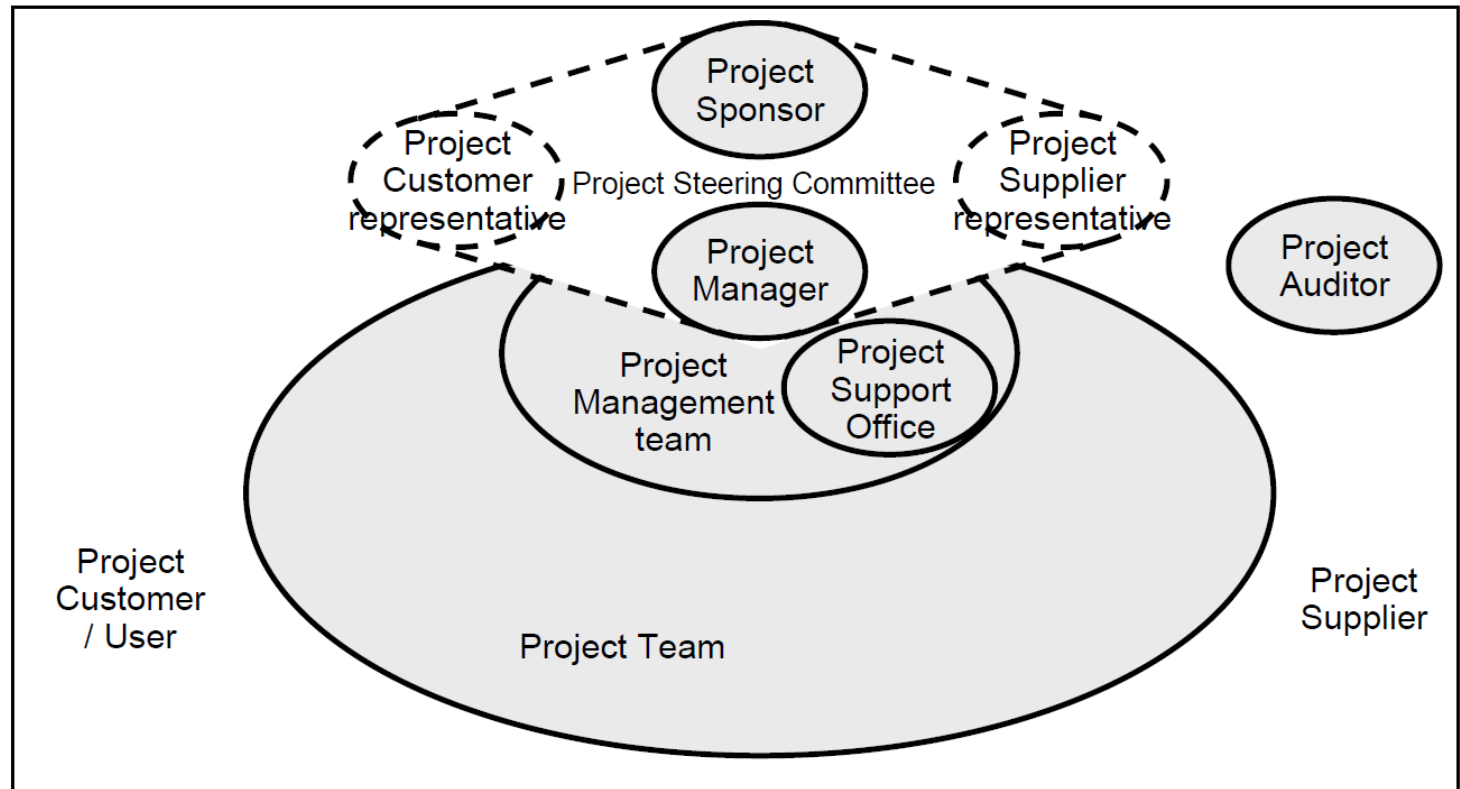


The communication ecosystem

Stakeholders

- ▶ Many organizations face **challenging policy decisions** about which corporate stakeholders to actively engage.
- ▶ Ideally organizations would **positively engage** with all stakeholders, but constraints on corporate resources make this practically difficult.
- ▶ **The perceived salience of organizational stakeholders** helps to guide organizations in prioritizing stakeholder engagement, but in complex organizational stakeholder environments, organizations need to engage not only with highly salient stakeholders but also will non-obviously salient stakeholders.

A typical Project Organization



Key Concepts

- ▶ Environmental factors are
- ▶ Organizational Process assets are
- ▶ Stakeholders have to



Projects and Organizational Systems

Type of Organizations

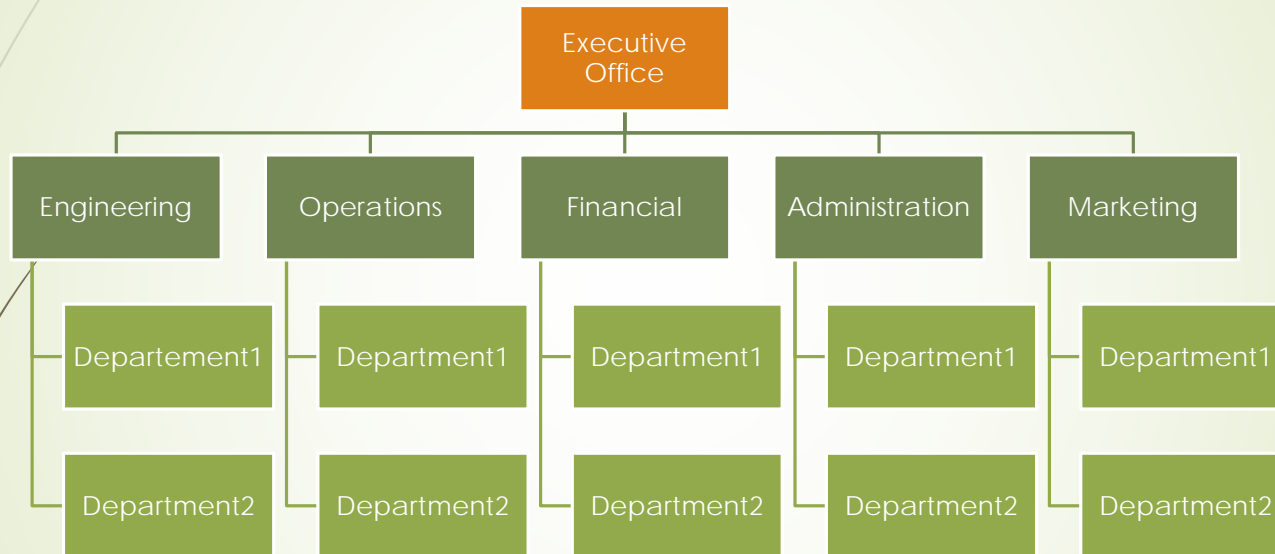
► **Project-Driven :**

- i.e. construction or aerospace, all work is characterized through projects
- Each project a separate cost center with profit and loss statement
- Strong methodology

► **No Project Driven**

- I.e. low technology manufacturing; projects exist merely to support product lines or functional lines
- Priority resources are assigned to the revenue-producing functional line activities rather than projects

Traditional Organization

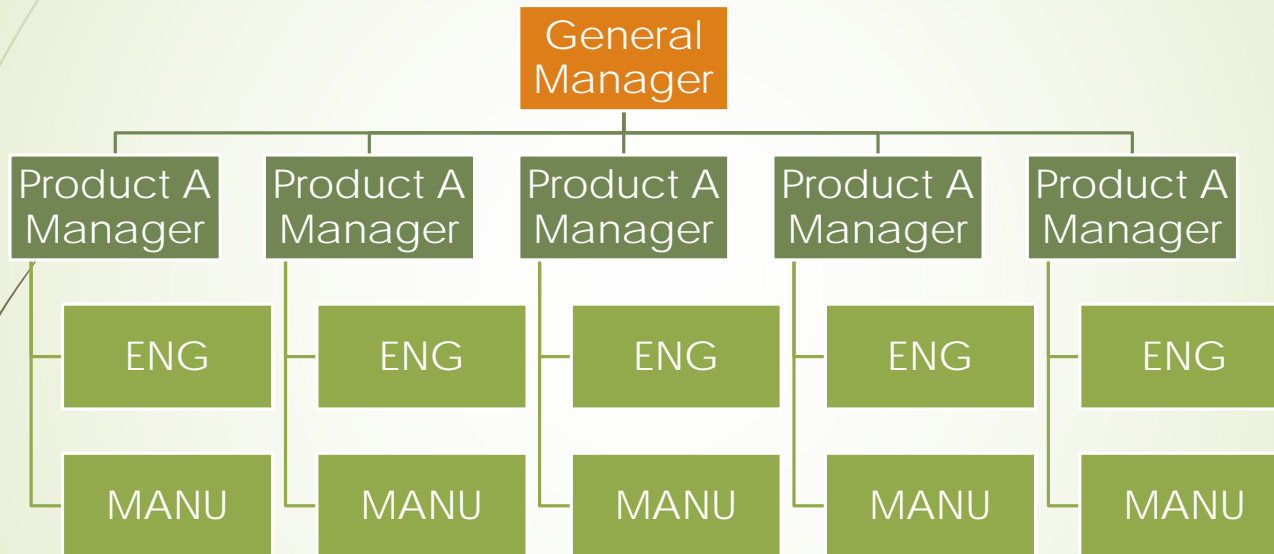


group people performing similar activities into *departments*

Functional Organization for Project Management

Advantages	Disadvantages
Easier Budgeting and cost control are possible	No one individual is directly responsible for project
Better technical control is possible	Coordination becomes complex and additional lead time is required for approval of decision
Continuity in the functional disciplines	Decision normally favor the strongest functional group
Good control over personnel	Motivation and innovation are decreased
Communication channels are vertical	Response to customer needs is slow

Project Organization

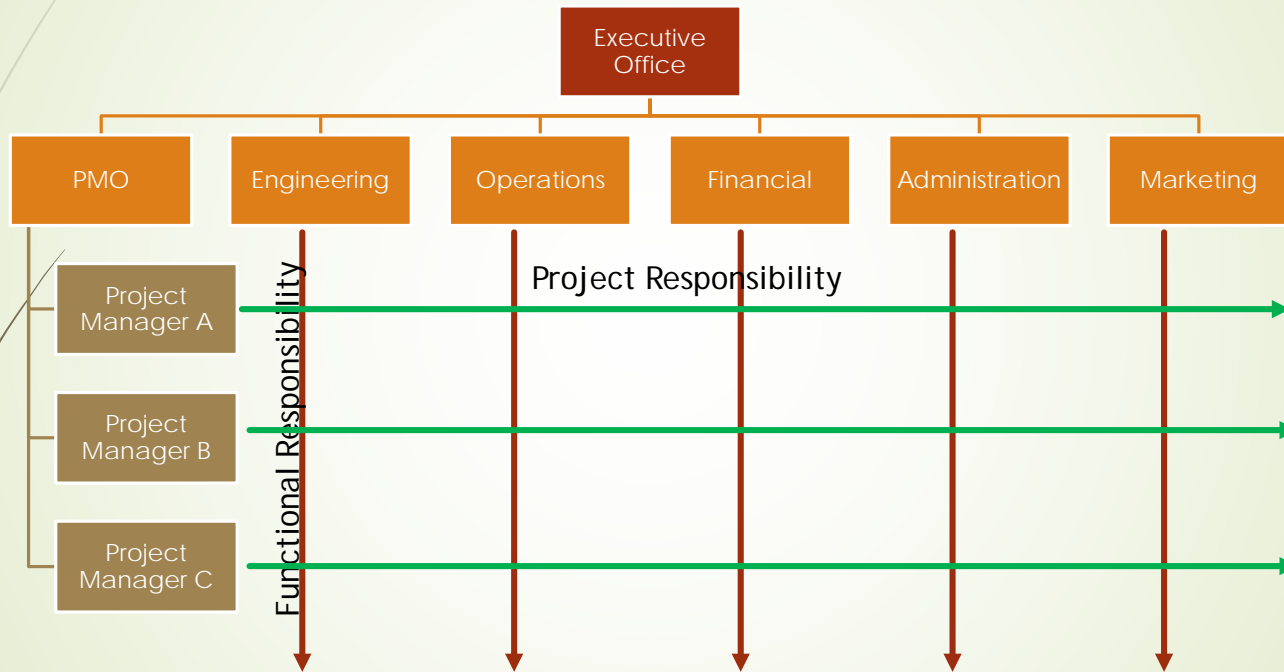


group people into *project teams* on temporary assignments

Project Organization for Project Management

Advantages	Disadvantages
Provides complete line authority over the project	Cost of maintaining this form in a multiproduct company would be prohibitive due to a duplication of effort, facilities and personnel
Participants work directly for the project manager	Tendency to retain personnel after they are needed: Upper level Management must balance workloads as projects start up and are phase out
Personnel demonstrate loyalty to the project	Control of functional specialists requires top level coordination
Flexibility in determining time cost and performances trade-off	Lack of opportunities for technical interchanges between projects
Communication channels are strong	Lack of career continuity and opportunities for project personnel

Matrix Organization



create a dual hierarchy in which *functions and projects* have equal prominence

Matrix Organization for Project Management

Advantages	Disadvantages
The project manager maintains maximum project control over all resources	Multidimensional information flow
Policies and procedures can be set up independently for each project	Potential for continuous conflict and conflict resolution
Rapid responses are possible to changes, conflict resolution and project needs	More effort and time are needed initially to define policies and procedures, compared to the traditional form
A strong technical base can be developed	Employee and managers are more susceptible to role ambiguity
Because key people can be shared the program cost is minimized	Balance of power between functional and project organizations must be watched

PMO

- ▶ the **organizational entity**, staffed with skilled professional personnel, that provides services in core and supporting areas during the planning and execution of a project
- ▶ The typical PMO process comprises **four distinct phases**, each involving a particular set of tasks:
 - ▶ 1. Project Planning The estimation of the size of the project and the time and resources it will demand.
 - ▶ 2. Project Scheduling The decomposition of the project into fine-grained details with the purpose of setting milestones and key performance indicators.
 - ▶ 3. Risk Analysis The preparation for potential problems, weighing their probabilities, impact and counter-measures.
 - ▶ 4. Project Tracking The monitoring of project execution against the defined plan and schedule.
- ▶ During the term of a project, the project manager's **major challenge** is to ensure that project team members are focused on the target and are all on the same page

PMO

- ▶ Successful PMOs make a strategic impact on organizations by performing the following tasks:
 1. linking all projects to strategic and operational business plans;
 2. making sure that every project supports the right business goals;
 3. requiring that every project have an effective manager or leader in charge;
 4. implementing and maintaining an appropriate methodology;
 5. grouping similar projects and managing them in a similar manner; and
 6. implementing, leading and coordinating project portfolio management.

New Organizational Structures

- ▶ Four major factors that cause the onset of the organizational revolution has been identified:
 - ▶ The technology revolution
 - ▶ Competition and profit squeeze
 - ▶ The high cost of Marketing
 - ▶ The unpredictability of consumer demand



Organizational structures

Category	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Management focus	Make and sell	Efficiency of operations	Expansion of market	Consolidation of organization	Problem solving and innovation
Organization structure	Informal	Centralized and functional	Decentralized and geographical	Line-staff and product groups	Matrix of teams
Top management style	Individualistic and entrepreneurial	Directive	Delegative	Watchdog	Participative
Control system	Market results	Standards and cost centers	Reports and profit centers	Plans and investment centers	Mutual goal setting
Management reward emphasis	Ownership	Salary and merit increases	Individual bonus	Profit sharing and stock options	Team bonus

Organizational Structure Type	Project Characteristics					
	Work Groups Arranged by:	Project Manager's Authority	Project Manager's Role	Resource Availability	Who Manages the Project Budget?	Project Management Administrative Staff
Organic or Simple	Flexible; people working side-by-side	Little or none	Part-time; may or may not be a designated job role like coordinator	Little or none	Owner or operator	Little or none
Functional (centralized)	Job being done (e.g., engineering, manufacturing)	Little or none	Part-time; may or may not be a designated job role like coordinator	Little or none	Functional manager	Part-time
Multidivisional (may replicate functions for each division with little centralization)	One of: product; production processes; portfolio; program; geographic region; customer type	Little or none	Part-time; may or may not be a designated job role like coordinator	Little or none	Functional manager	Part-time
Matrix—strong	By job function, with project manager as a function	Moderate to high	Full-time designated job role	Moderate to high	Project manager	Full-time
Matrix—weak	Job function	Low	Part-time; done as part of another job and not a designated job role like coordinator	Low	Functional manager	Part-time
Matrix—balanced	Job function	Low to moderate	Part-time; embedded in the functions as a skill and may or may not be a designated job role like coordinator	Low to moderate	Mixed	Part-time
Project-oriented (composite, hybrid)	Project	High to almost total	Full-time designated job role	High to almost total	Project manager	Full-time
Virtual	Network structure with nodes at points of contact with other people	Low to moderate	Full-time or part-time	Low to moderate	Mixed	Could be full-time or part-time
Hybrid	Mix of other types	Mixed	Mixed	Mixed	Mixed	Mixed
PMO	Standardized project governance	High to almost total	Full-time designated job role	High to almost total	Project manager	Full-time

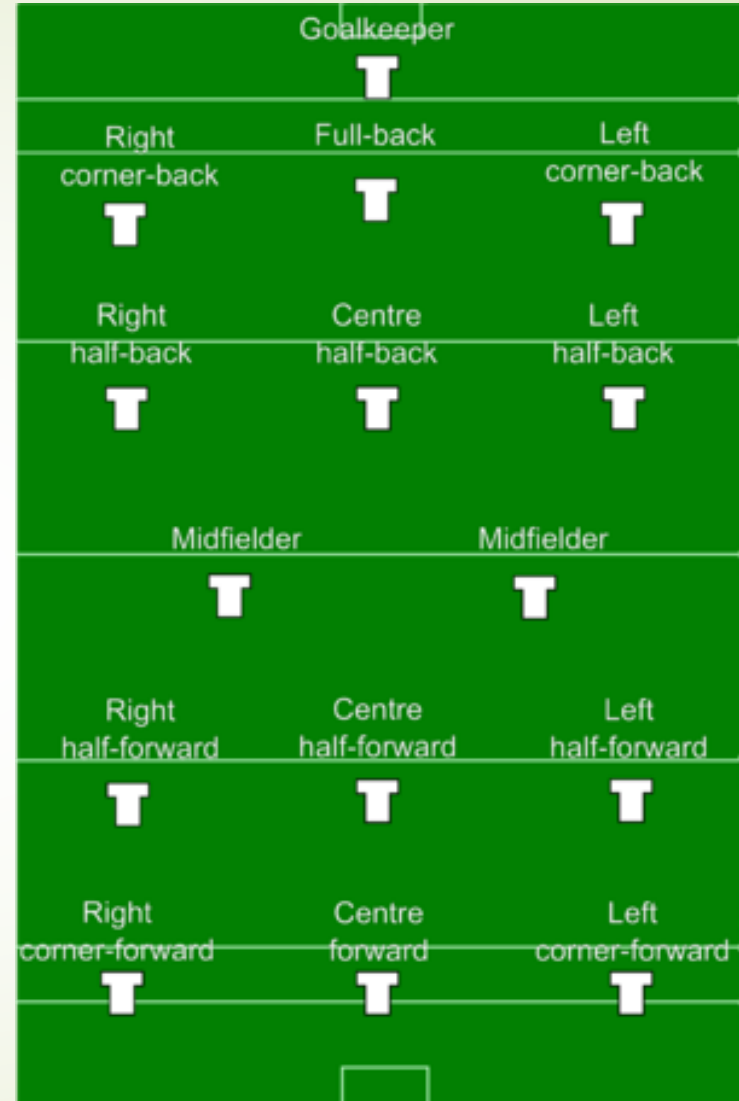
PMO refers to a portfolio, program, or project management office or organization.



Role of Project Manager

Role of the Project Manager

- Is the person assigned by the performing organization to **lead the team** responsible for achieving project objectives
- **Organise, lead and manage** the realisation of project activities and delivery of the project result in accordance with the triple constraints agreed with the project sponsor, taking into account the stakes and interests of the stakeholders to the project.



Role of the Project Manager

- ▶ The project manager's reporting relationships are based on the organizational structure and project governance.
- ▶ The Project Manager may report to a functional Manager or may be one of several Project Manager who report to a Program or Portfolio Manager who is ultimately responsible for enterprise-wide projects

Table 2-1. Influence of Organizational Structures on Projects

Organization Structure Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Who manages the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Project Manager

- ▶ **Knowledge** about project management, the environment, technical aspects, and other information needed to manage the project effectively;
- ▶ **Skills** needed to effectively manage the project team, coordinate the work, collaborate with stakeholders, solve problems, and make decisions;
- ▶ **Abilities** to develop and manage scope, schedules, budgets, resources, plans, presentations, and reports; and
- ▶ **Other attributes** required to successfully lead the project, such as personality, attitude, ethics, and leadership.



STRATEGIC & BUSINESS MANAGEMENT

Business oriented skills; applies to all certifications

- ▶ Benefits management and realization
- ▶ Business acumen ▶ Business models and structures ▶ Competitive analysis
- ▶ Customer relationship and satisfaction ▶ Industry knowledge and standards ▶ Legal and regulatory compliance
- ▶ Market awareness and conditions ▶ Operational functions (e.g. finance, marketing)
- ▶ Strategic planning, analysis, alignment

LEADERSHIP

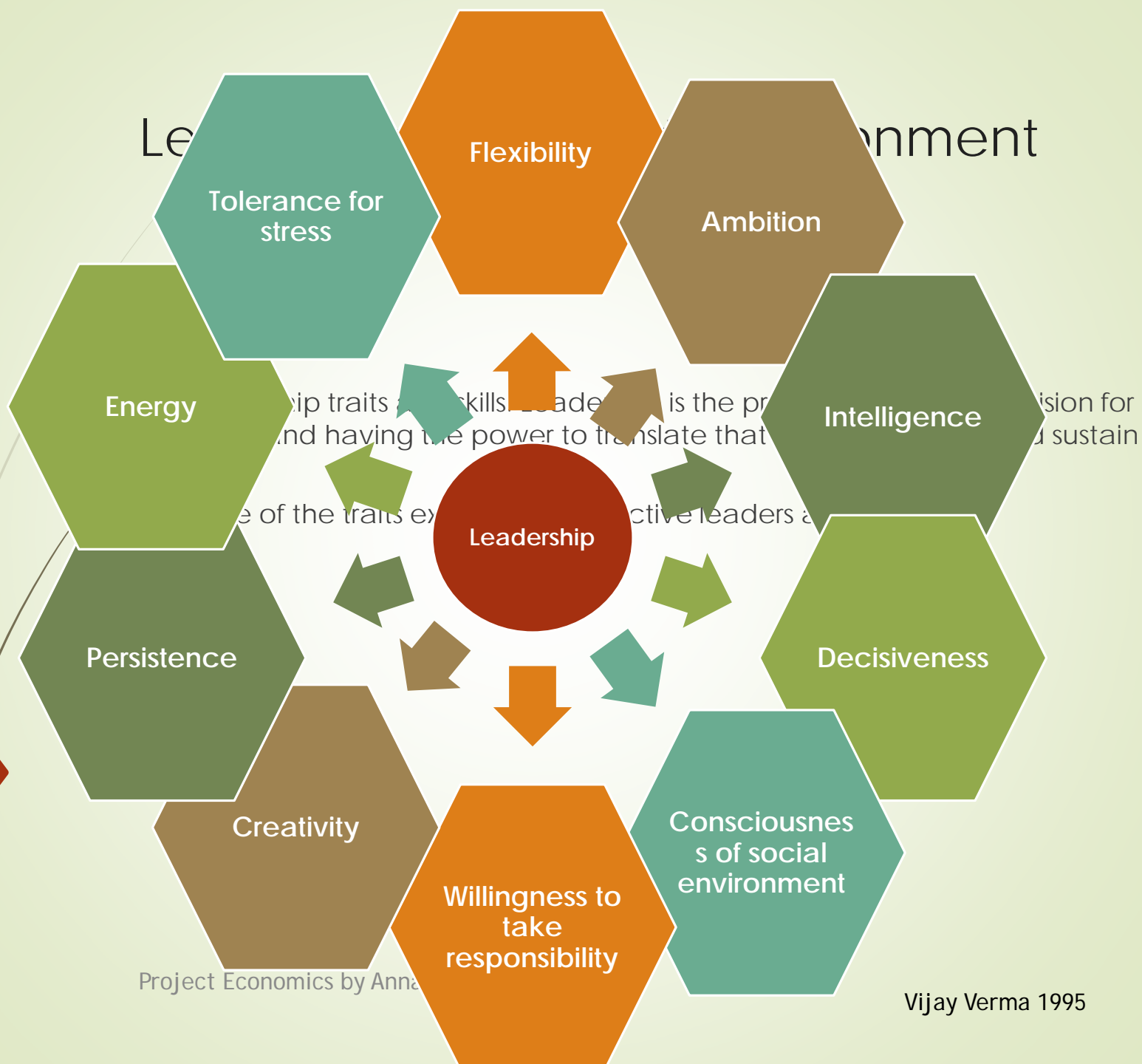
Competency in guiding and motivating; applies to all certifications

- ▶ Brainstorming ▶ Coaching and mentoring ▶ Conflict management
- ▶ Emotional intelligence
- ▶ Influencing
- ▶ Interpersonal skills
- ▶ Listening
- ▶ Negotiation
- ▶ Problem Solving
- ▶ Team building

- ▶ Agile practices
- ▶ Data gathering and modeling ▶ Earned value management ▶ Governance (project, program, portfolio)
- ▶ Lifecycle management (project, program, portfolio, product)
- ▶ Performance management (project, program, portfolio) ▶ Requirements management and traceability ▶ Risk management ▶ Schedule management
- ▶ Scope management (project, program, portfolio, product) ▶ Time, budget, and cost estimation

TECHNICAL

Domain expertise, certification-specific



Le

onment

Flexibility

Tolerance for stress

Ambition

Energy

Leadership traits are skills. Leadership is the process of influencing others and having the power to translate that influence into action.

Intelligence

vision for and sustain

Leadership

Some of the traits exhibited by effective leaders are:

Persistence

Decisiveness

Creativity

Consciousness of social environment

Willingness to take responsibility

Leadership principles

- Have a vision and the courage and commitment to make it a reality
- Develop technical proficiency
- Know yourself; seek self-improvement
- Know your people and look after them
- Communicate effectively; keep people informed
- Emphasize long-term productivity
- Encourage teamwork and participation
- Make sound, timely decisions
- Empower team members
- Match skills with resources
- Listen effectively; encourage new ideas
- Give positive feedback and recognition
- Seek responsibility and accept accountability.

Leadership behaviour

- ▶ 1. **Understand** the problems, opportunities, and expectations of a project manager;
- ▶ 2. **Recognize** that project teams will have conflicts, but that this is a natural part of group development;
- ▶ 3. **Understand** who the stakeholders are and what their agendas are;
- ▶ 4. **Realize** that organizations are very political, and use politics to your advantage;
- ▶ 5. **Realize** that project management is "leader-intensive," but that you must be flexible;
- ▶ 6. **Understand** that project success is defined by four components: budget, schedule, performance criteria, and customer satisfaction;



more

Leadership behaviour

- ▶ 7. **Realize** that you must build a cohesive team by being a motivator, coach, cheerleader, peacemaker, and conflict resolver;
- ▶ 8. **Notice** that your team will develop attitudes based on the emotions that you exhibit-both positive and negative;
- ▶ 9. **Always ask** "what-if " questions, and avoid becoming comfortable with the status of the project;
- ▶ 10. **Do not get bogged down** in minutiae and lose sight of the purpose of the project;
- ▶ 11. **Manage** your time efficiently;
- ▶ 12. Above all, **plan, plan, plan.**



Role of leadership in complex projects

- ▶ Projects operate in an unstructured environment and are becoming more complex in terms of technology, the interrelationships between stakeholders, evolving project scope, and organizational expectations.
- ▶ In this context, existing tools, routines, and methodologies to manage and deliver projects may not be sufficient to resolve the complexity that emerges during the project life span.
- ▶ The resolution of complex issues requires access to a different style of leadership, covering a broad range of experience and knowledge and the ability to apply that knowledge to the specific requirements of the project.

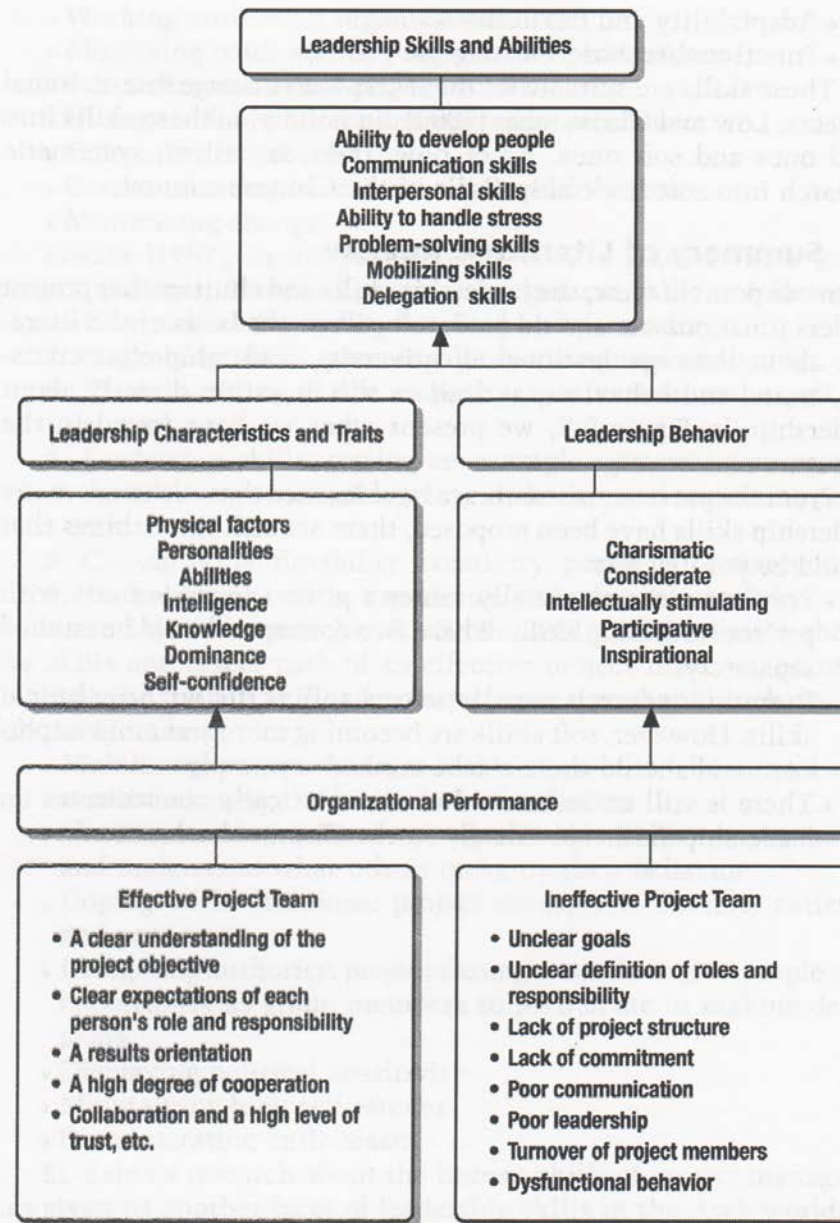
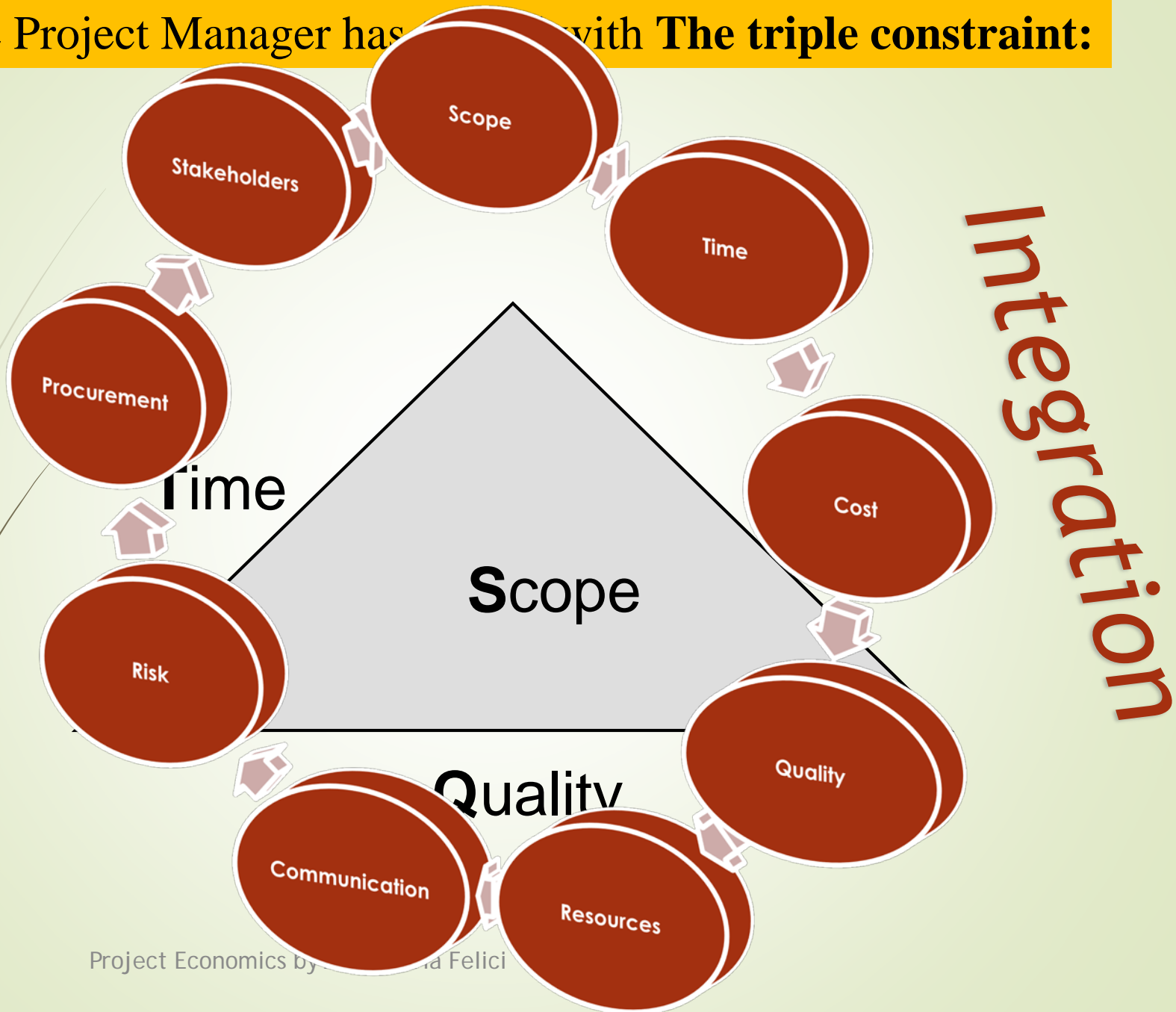


Figure 2-2 Summary of literature review about leadership

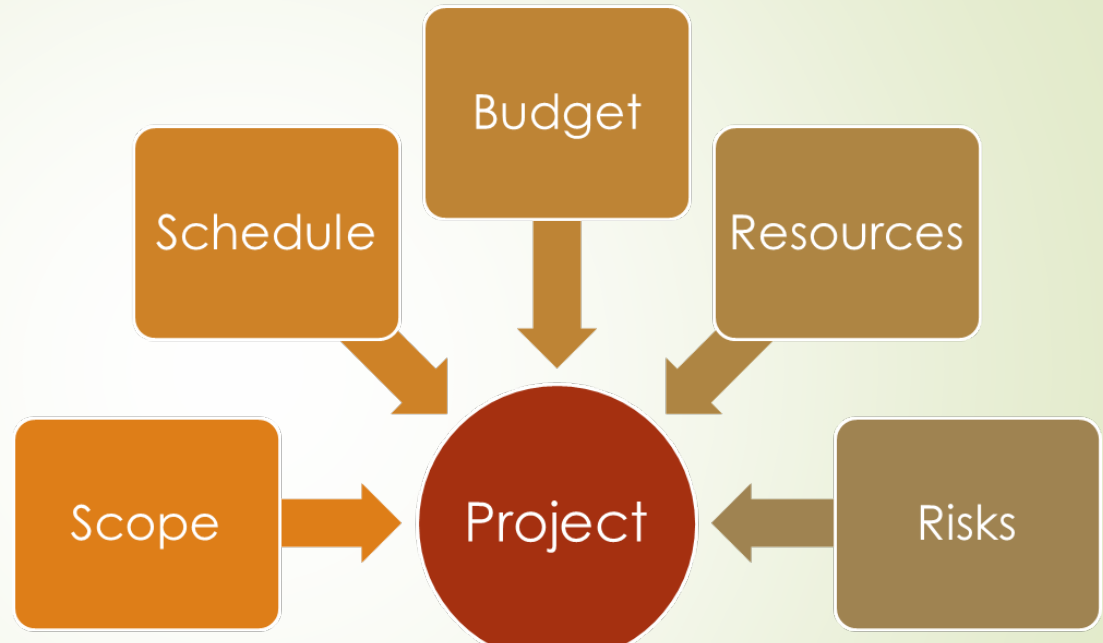
Phase	Emphasys on	Leadership style
Feasibility Study (Pre-formulation)	Sense of vision Conceptual, sees "Big Picture" Analytical	Visionary Creates future Empowerment Expansive
Conceptual (Formulation)	Listening Analysis Alignment	Analytical Listener Change Master Convergence
Development	Participative/acceptance and commitment Cooperative	Team builder Power and influence Integrator
• Execution	Re-alignment	Decision-maker Balances work and fun Trustworthiness Team and synergy
Completion	Transfer of product	Administrator and information Closure

The Project Manager has to deal with **The triple constraint:**



Competing constraints

- To be successful, the project manager will need to **tailor** the project approach, life cycle, and project management processes to meet the project and product requirements.



Key Concepts

- ▶ The organizations are project
- ▶ The authority of PM is based on
- ▶ PMO is.....
- ▶ Leadership behaviour is

And now.....



Exercise: Meeting to write the business case

- ▶ Define roles
- ▶ Define the meeting's owner
- ▶ Define the agenda
- ▶ Define the output of the meeting
- ▶ Define the time
- ▶ Manage the meeting
- ▶ Keep people involved

Summary Part 1



Part 1.1

Project and Project Management

Part 1.2

Relationship among components

Part 1.3

Project environment

Part 1.4

Project life cycle

Part 1.5

Project's Stakeholders

Part 1.6

Organizational System

Part 1.7

Role of PM



- PMI Central Italy Chapter Past President, PMIEF Liaison
- Componente (2016-2017) del TDG Technical Development Group of ISO/TC 258 Project, Programme, Portfolio management and Governance
- Rappresentante Italiano UNI ISO21501-2-3-4-5 Project Program Portfolio and Governance a Vienna, Toronto, Buenos Aires per Programme Management e Governance
- Capo della delegazione Italiana a Misbach e Tokio ISO PC/236 ISO 21500 del Project Management WorkGroup
- Componente gruppo di lavoro UNI/CT 040/GL 21 "Project management nella pubblica amministrazione"
- Componente del gruppo UNI CT040/GL13 - Project Management misto Servizi/Gestione per la qualità e tecniche di supporto' per la norma U83.00.078.0 2015-05-04: Attività professionali non regolamentate Project Manager Definizione dei requisiti di conoscenza, abilità e competenza
- Content provider PMBOK Guide IV /V/VI edition PMBOK guide PMI
- Componente Gruppo di Lavoro PMI OPM3
- Professore a contratto di Project Management Faculty of Science and Technology of the Free University of Bozen/Bolzano



Mob.: +39-335-246215

e-mail

annamaria.felici@pmi-rome.org

felici.annamaria@gmail.com

skype [anna_maria_felici](#)

Governare la complessità di Anna Maria Felici