



International Masters' Program

Project Management

Module 1

Fall / Spring



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Project Management

Favorite quote

EVERY MOUNTAIN TOP
IS WITHIN REACH IF YOU
JUST KEEP CLIMBING.

- BARRY FINLAY -



Project Management

Ground rules

- Be respectful of those talking or presenting
- Be ON TIME
- Being late is a sign of disrespect to the trainer and your peers
- After 10 minutes delay, you will not be accepted in class
- Inform me by Email 30 minutes before class if you will be late with reason
- Pls, No cell phones during class
- Laptops or tablets are tolerated only if you take notes
- Do not be shy, participate actively
- One discussion at a time
- Collaborate with your peers even if they are from a different nationality. This is an international program. So collaborate.



Project Management

Course Schedule

Module 1

- Course description, schedule and objectives
- Definition of a project and project management
- Project Management Institute PMI organization
- Definition of Process groups and Knowledge areas
- Role and characteristics of a Project leader

Module 2

- From idea to project: feasibility study and business case
- Importance of Project Integration
- Definition and examples of project charter
- Scope management activities, scope control

Module 3

- Time and cost management, definition of the Gantt and Network (PERT) diagrams, identification of dependencies
- Practical examples with demos of Project Management Software
- Estimation techniques, Budget preparation
- Definition and practice of Earned value technique



Project Management

Course Schedule

Module 4

- Importance of quality management in a project, quality techniques (Six Sigma, Fishbone diagram, Pareto analysis)
- Preparation of the Human Resource Management plan
- Stages of the development of a team
- Management of the communication process in a project
- Know how to identify and measure the risks of a project

Module 5

- Understand the project's supply management process
- Understand the complexity of managing relationships with suppliers
- Know how to identify the stakeholders of a project and manage their expectations and their commitments
- Understand the issues and dilemmas that a project manager may encounter every day
- Understand the code of ethics that a project manager must subscribe

Module 6

- Ethics and Code of conduct
- Online Quiz exam with 100 questions

Project Management

Tools For the Class

- Microsoft Teams
- OneDrive
- Office (Word, Excel, PowerPoint)
- Project management software tool
 - MS Project 2019
 - ProjectLibre

Project Management

Exam

- Participation in the 6 modules/ 9 sessions of 2 hours each (30% of your score)
- Exercises, intermediate Quizzes and homework 20%
- Quiz 100 questions in 2 hours 50%

Project Management

The definition of Project from different dictionaries

- **Merriam-Webster** defines a project as "a planned undertaking: such as a planned piece of work that has a specific purpose (such as to find information or make something new) and that usually requires a lot of time"
- **Cambridge Dictionary** describes a project as "a piece of planned work or an activity that is completed over a period of time and intended to achieve a particular aim".
- **Oxford English Dictionary** defines it as "an individual or collaborative enterprise that is carefully planned to achieve a particular aim".

Project Management

Industry definition of a project

In project management studies, a project is defined as a temporary endeavor undertaken to create a unique product, service, or result.

This definition emphasizes three core characteristics:

- **Temporary nature** – A project has a defined start and end date.
- **Uniqueness** – The outcome or deliverable is unique, meaning it is not part of routine operations.
- **Progressive elaboration** – Details may be progressively refined as the project advances.

According to the *PMBOK Guide* by the Project Management Institute (PMI) describes a project as a "*temporary endeavor with a beginning and an end and is undertaken to create a unique product, service, or result.*"

Project Management

Real-Life Analogy: *The Martian* (2015)

A great movie analogy is *The Martian*, where NASA and a team of scientists undertake a project to rescue astronaut Mark Watney, stranded on Mars.



<https://youtu.be/ej3ioOneTy8?t=131>

Project Management

Real-Life Analogy: *The Martian* (2015)

This mission qualifies as a project in project management terms:

- **Temporary:** The mission had a clear start and end point, which is completed once Mark is rescued.
- **Unique Outcome:** The mission's goal was specific and unprecedented—bringing a lone astronaut back from Mars.
- **Complex Planning and Collaboration:** Each phase was carefully planned, from developing life-support solutions to launching a rescue mission.

Throughout The Martian, the NASA team faced unforeseen challenges and they adjusted their approach, which makes this a real-world scenario project managers often encounter.

Project Management

The steps of the project

Goal Definition:

The mission's objective is to bring Watney back safely. This is a clear, singular goal that guides every decision.

So just like they followed it through we have Major questions to ask:

- How do we get there?
- What does it require?
- How long will it take?
- How much will it cost?
- What are the risks?
- How should the project be executed, monitored, and controlled?

Project Management

Get to WORK

**Planning is not the
only thing, the right
ACTION is needed to
back it up and
achieve the GOAL
successfully**

“ The more time you
spend contemplating
what you should have
done... you lose valuable
time planning what you
can and will do.

– Lil Wayne



Project Management

Characteristic features of a project

- are unique in nature,
- have a clearly defined timescale,
- have a specific, limited, and approved budget,
- have well-identified resources,
- involve an element of risk,
- are usually intended to achieve beneficial change.

Project Management

Result of a project

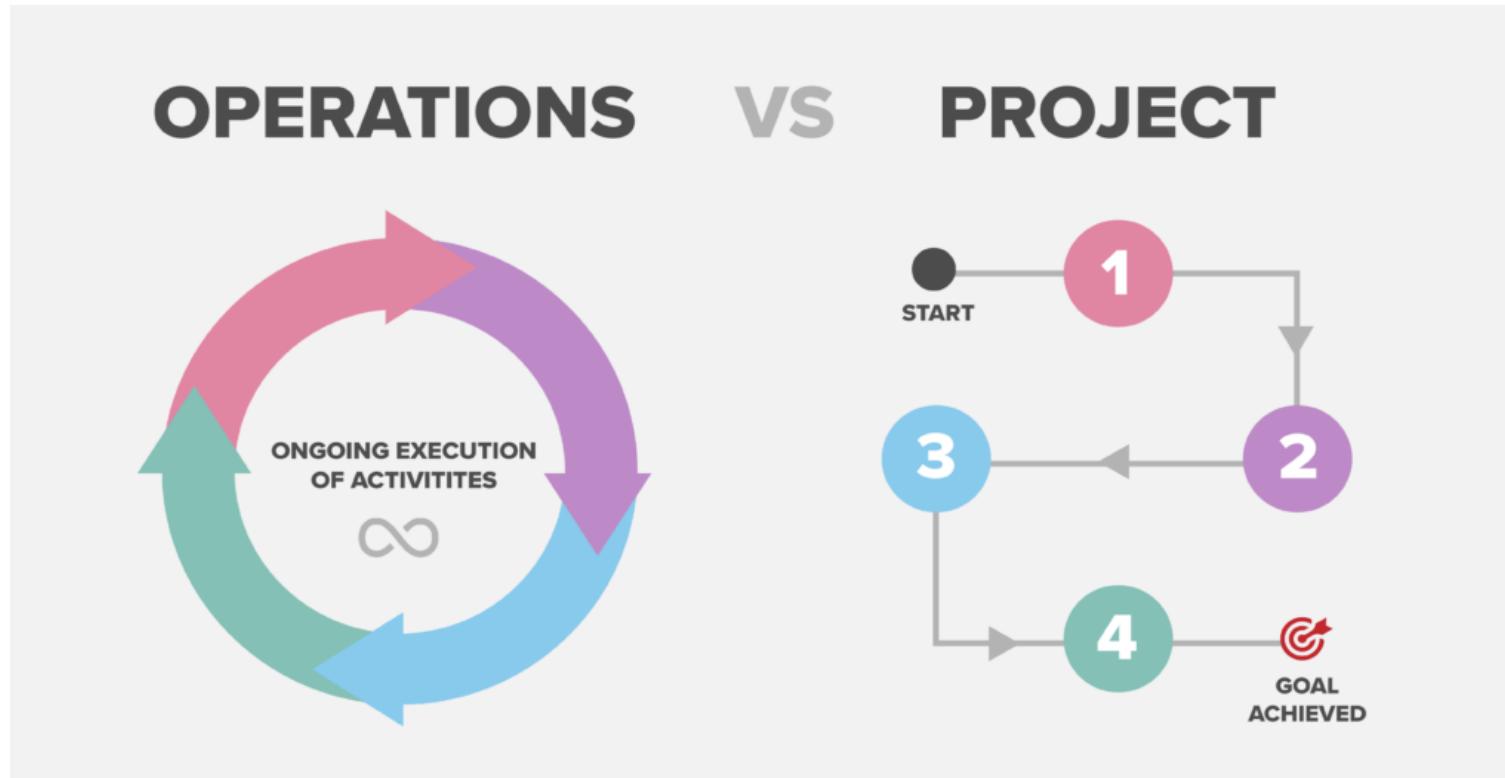
- Every project results in a product, service or outcome.
- The most common project results are tangible products (like software, buildings, or manufactured items), services (like a new system implemented within an organization), or outcomes (like improved processes or knowledge gained).

For example,

- a project to develop a new software application results in the final application ready for user deployment.

Project Management

Project versus Operational



Project Management

Project versus Operational

Projects and operations are both essential to organizational success, but they differ significantly in their purpose, scope, and characteristics.

Aspect	Project	Operations
Purpose	Unique, specific goals	Ongoing, supporting core functions
Duration	Temporary, defined start and end	Continuous, indefinite
Uniqueness	Unique deliverables	Repetitive, routine tasks
Change	Drives change	Maintains stability
Risk	Higher, due to unknowns	Lower, focuses on predictability
Resources	Temporary and variable	Dedicated and stable
Outcome	Specific deliverable or result	Continuous quality and efficiency
Examples	Product development, event planning	Customer service, production

Project Management

What makes Projects different?

- **Change** - Projects are the means by which we introduce change
- **Temporary** - Once the change has been implemented, business as usual resumes and the project ends
- **Cross-functional** - Projects often cross functional divisions and different organizations
- **Unique** - Every project is unique on some way: a different team, a different customer, a different location
- **Uncertainty** - Projects introduce risks, threats and opportunities over and above those found during business as usual

Project Management



What is project management?

- Project management is the application of knowledge, skills, tools, and techniques to project activities in order to meet specific project objectives.
- It involves organizing, planning, executing, monitoring, and completing a project to achieve defined goals within set constraints, typically of time, budget, and resources.

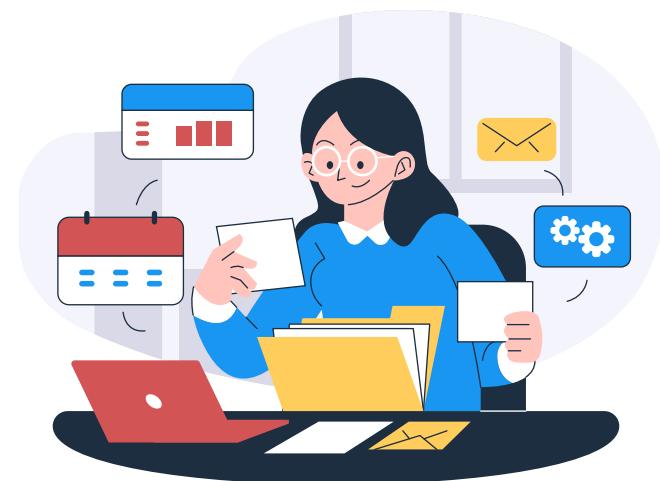


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Examples of Project Management

Project management is widely applied across industries:

- **Construction:** Overseeing the building of infrastructure projects, managing schedules, resources, and safety standards.
- **IT and Software Development:** Implementing new technologies, developing software, and managing releases.
- **Event Planning:** Coordinating events by managing logistics, budgeting, and timelines.



Project Management

Exercise : Identify the projects Wooclap

- Building of a new house
- Implementation of the new payroll software
- A movie's making
- Increase sales compared to last year
- Installation of new machines to modernize a plant
- New marketing campaign
- Operation of a customer service desk
- Implementation of a new software solution for a customer service
- Production of pharmaceutical drugs
- Maintenance of an electrical production unit



Project Management

1,2,3,5 et 8

- Building of a new house
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Project Management

La gestion de projet dans le monde PMI Organisation

- Project Management Institute (PMI)
 - Fondé en 1969
 - Association professionnelle sans but lucratif
 - Plus de 700 000 membres à travers le monde répartis dans 175 pays
 - Plus de 260 000 chefs de projets certifiés
- PMI élabore et publie des standards relatifs à la gestion de projet et propose différentes certifications dans ce domaine la plus connu étant la certification PMP
- Le PMI édite le PMBoK : Project Management Body of Knowledge qui est la Bible en gestion de projet



Project Management

Project management in the PMI Organization world

- Project Management Institute (PMI) is a leading global association for project management professionals and has developed the *Project Management Body of Knowledge (PMBOK® Guide)*, a comprehensive set of standards and guidelines widely adopted in the project management industry.
- The Project Management Institute (PMI) was established in 1969, founded by industry pioneers who recognized the need for a structured approach to managing complex projects.
- As of 2023, PMI has nearly 700,000 members across more than 200 countries, making it a cornerstone in the field of project management globally.



Project Management

Project management in the PMI Organization world

As of the end of December 2023, there are approximately 1,454,550 active Project Management Professional (PMP) certification holders worldwide, according to the Project Management Institute (PMI).

For more details about PMP certification and the number of holders, you can refer to the blog post on vCare Project Management's website [vCare](#)

You can copy and paste the link below in your browser.

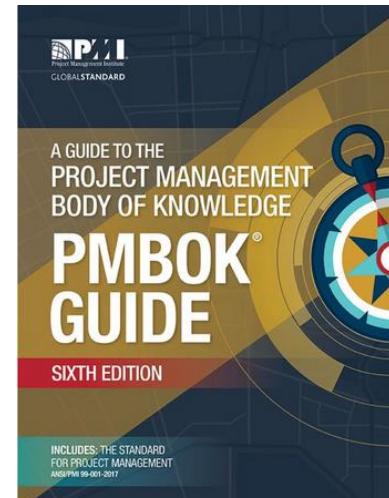
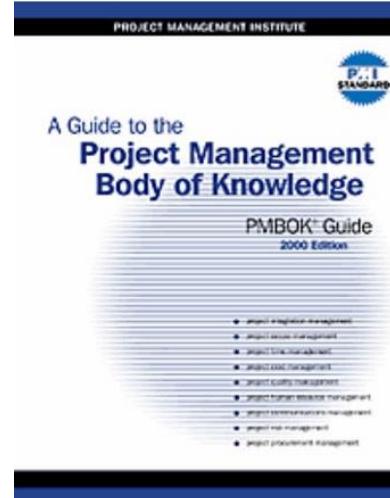
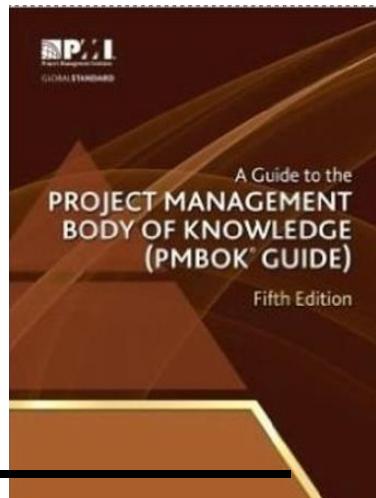
[ps://blog.vcareprojectmanagement.com/2024/04/10/how-many-people-in-the-world-are-pmp-certified/](http://blog.vcareprojectmanagement.com/2024/04/10/how-many-people-in-the-world-are-pmp-certified/)



Project Management

Standards et normes de gestion de projet

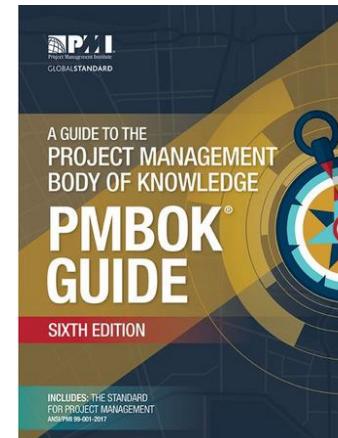
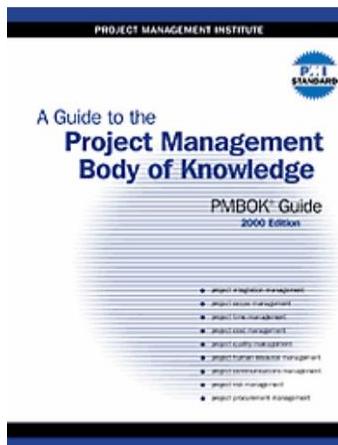
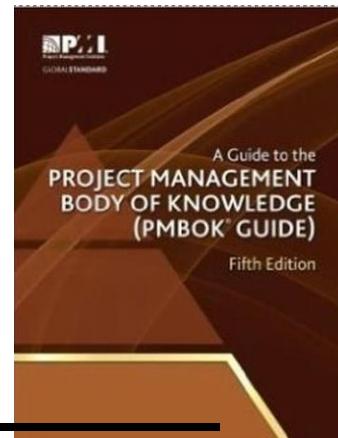
- Guide PMBOK est une norme mondiale qui fournit :
 - la structure de base pour la gestion de projet
 - la compréhension de l'environnement dans lequel opèrent les projets
 - une vue généralisée de la façon dont différents processus de gestion de projet souvent interagissent
 - 4ème édition publiée en 2008, 5ème édition en 2013, 6ème édition en 2017



Project Management

The PMBOK® Guide and Knowledge Areas

- PMI's PMBOK® Guide divides project management into **10 knowledge areas** and **5 process groups**. These are designed to standardize project management practices and improve outcomes across various types of projects.



Project Management

The PMBOK® Guide and Knowledge Areas

- **Integration Management:** Ensures that all aspects of the project are properly coordinated.
- **Scope Management:** Defines and controls what is included and excluded in the project.
- **Schedule Management:** Involves planning, defining, and managing timelines.
- **Cost Management:** Controls budgeting and spending.
- **Quality Management:** Ensures deliverables meet set standards and customer expectations.
- **Resource Management:** Focuses on allocating and managing personnel and materials.
- **Communications Management:** Facilitates clear and consistent information flow.
- **Risk Management:** Identifies, assesses, and mitigates project risks.
- **Procurement Management:** Manages external suppliers and contractors.
- **Stakeholder Management:** Engages and manages relationships with stakeholders.



Project Management

The PMI Process Groups

- **Initiating:** Defines and authorizes the project, ensuring alignment with organizational goals.
- **Planning:** Establishes the roadmap for how the project's scope, cost, timeline, and resources will be managed.
- **Executing:** Carries out the project plan, coordinating people and resources to produce deliverables.
- **Monitoring and Controlling:** Tracks progress and makes adjustments to ensure the project remains on course.
- **Closing:** Finalizes all activities, formally completes the project, and documents lessons learned.



Project Management

The PMI Process Groups

PMI offers a range of certifications based on these standards, aimed at different experience levels and specializations in project management.

Some of the most popular certifications include:

- **Project Management Professional (PMP®)**: The industry-leading certification for experienced project managers.
- **Certified Associate in Project Management (CAPM®)**: Aimed at entry-level project managers.
- **Program Management Professional (PgMP®)**: For managers overseeing multiple related projects.
- **Agile Certified Practitioner (PMI-ACP®)**: Focuses on agile project management methodologies.



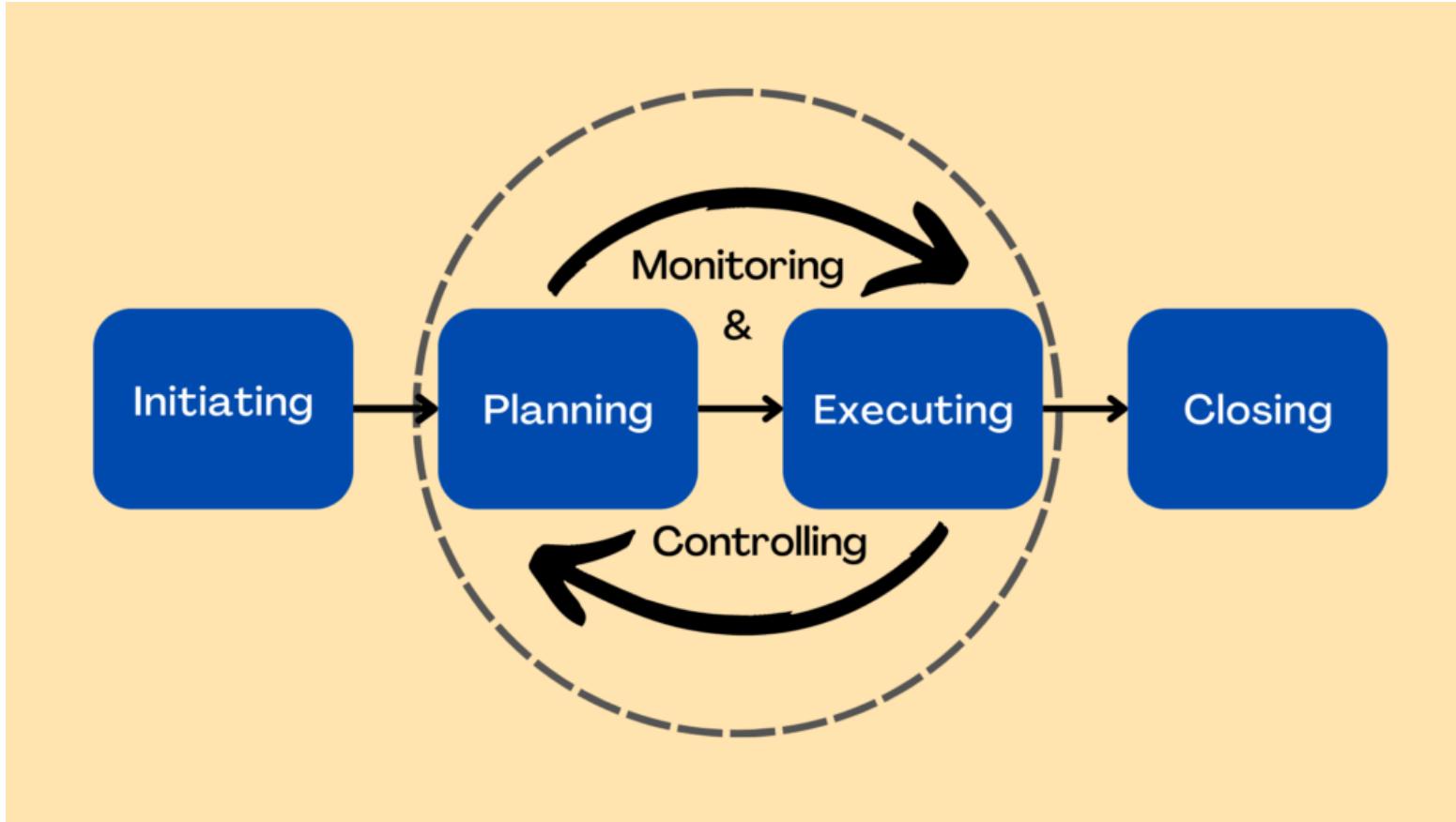
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Top 6 Certifications every Professional should pursue



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Process groups



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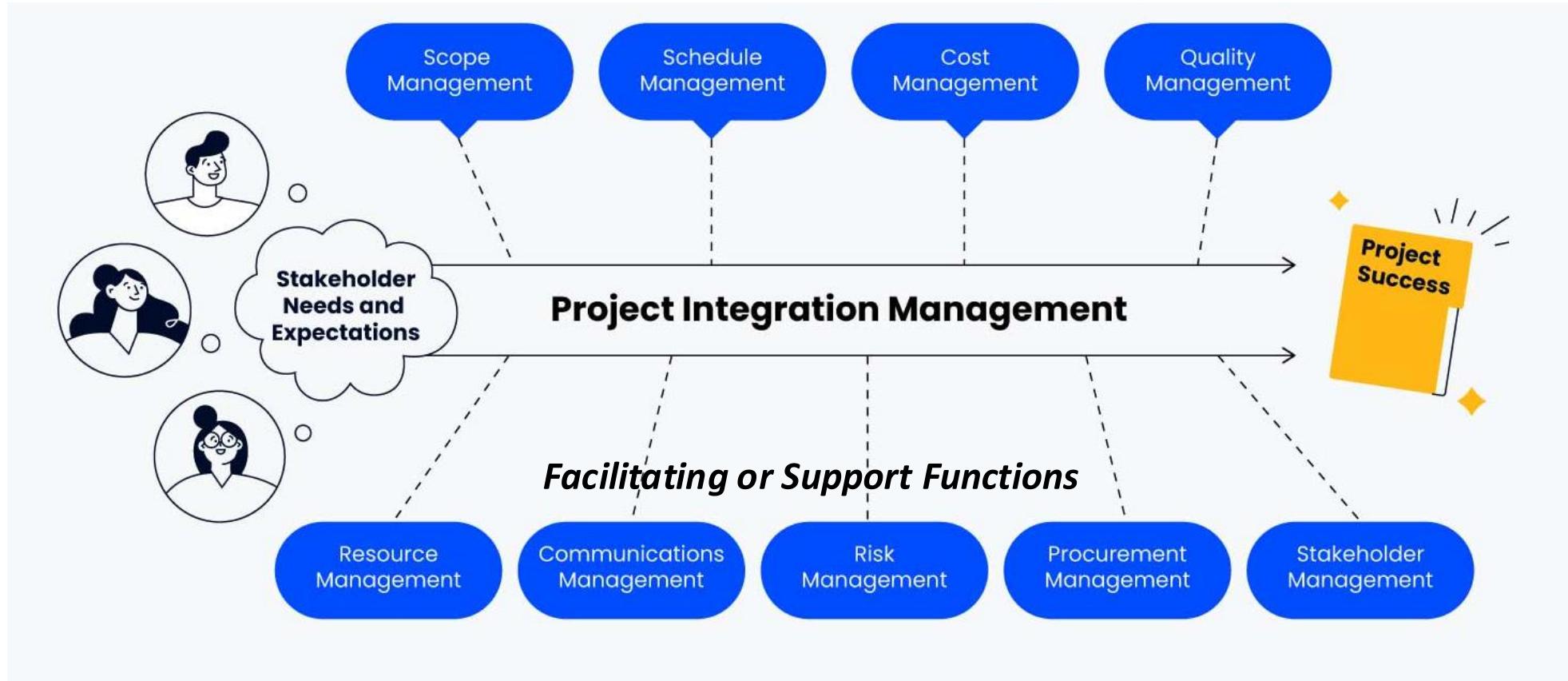
5 Process groups and Artifacts



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Knowledge areas

Core Functions



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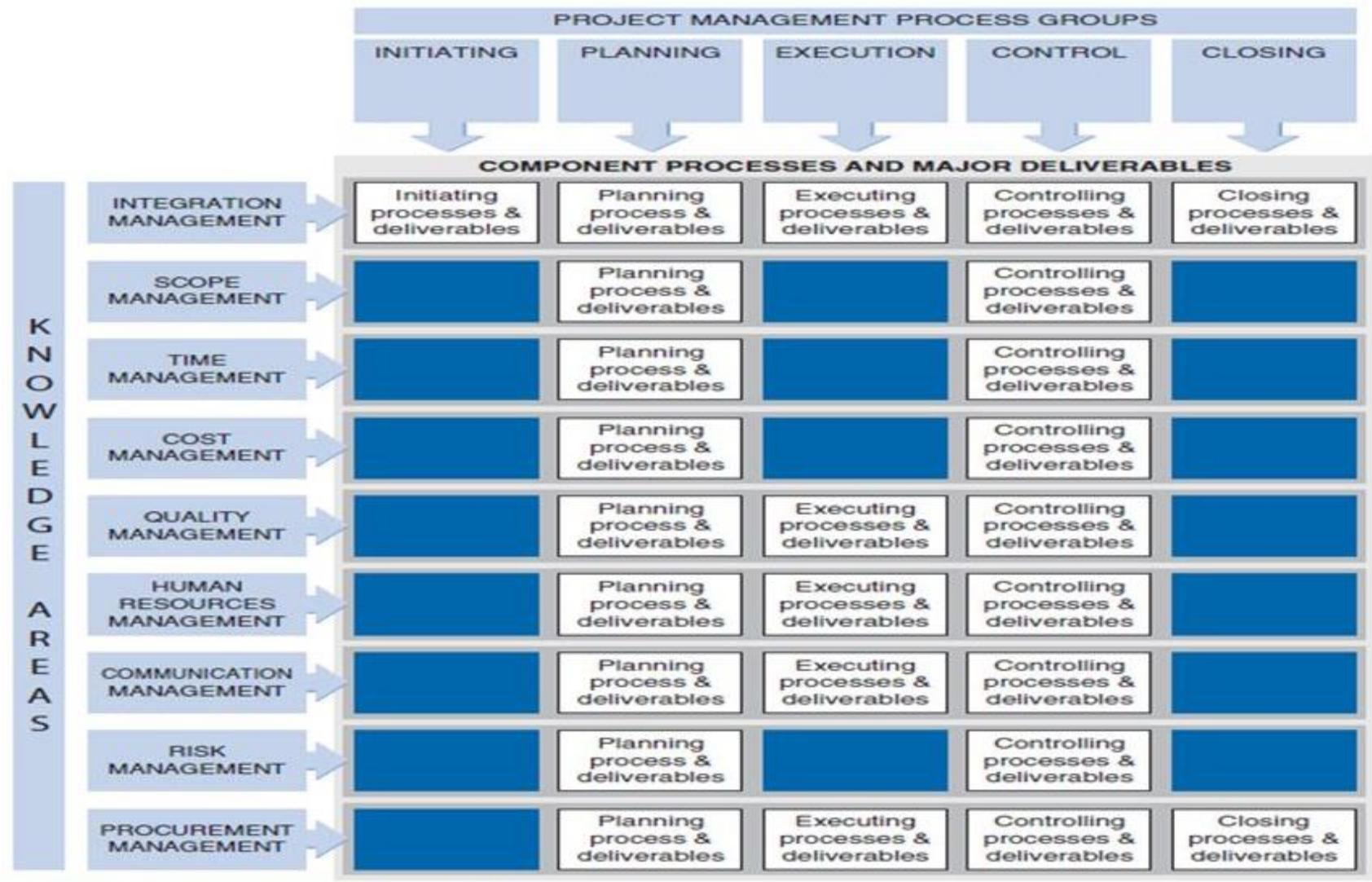
Sources for further reading

For more detailed descriptions of each process group and their interactions, you can refer to:

- **PMBOK® Guide:** The official Project Management Body of Knowledge provides comprehensive insights into each process group and their associated activities.
- **MindTools:** This resource offers practical insights into project management processes and techniques.
- **Project Management Docs:** A site dedicated to project management resources, including templates and diagrams.

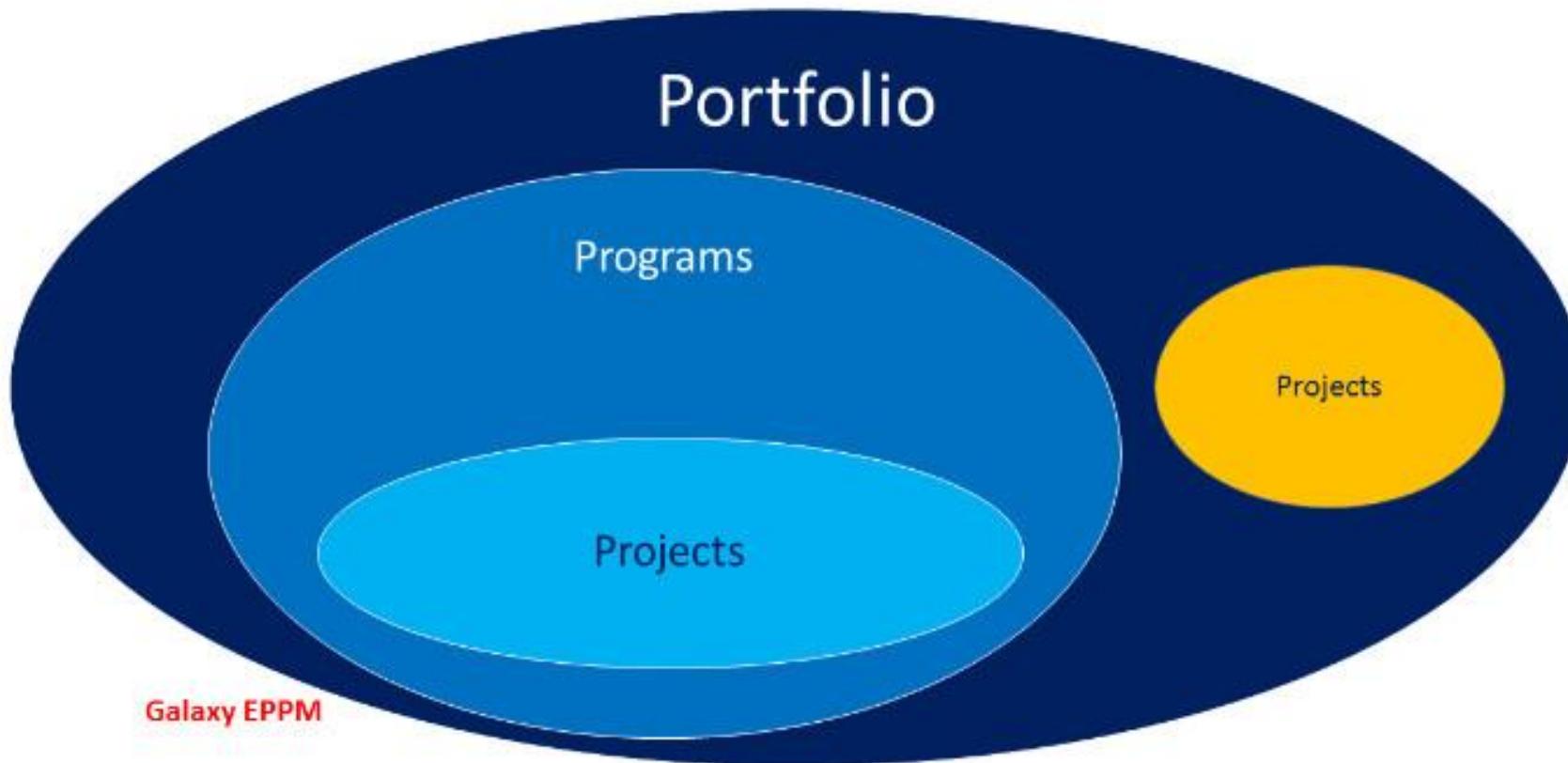


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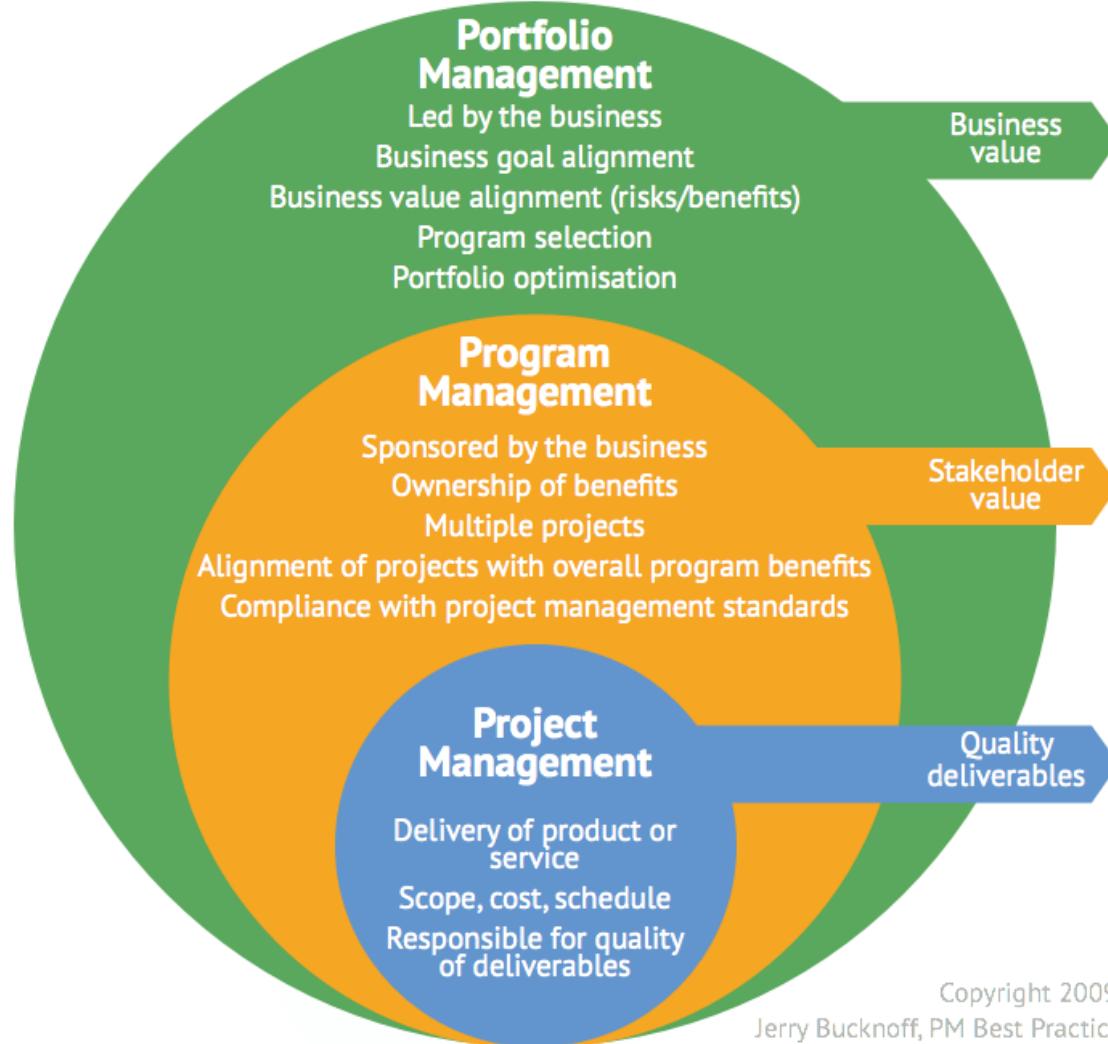
Project Management

Portfolio, Program, and subproject



Project Management

Portfolio, Program, and subproject



Project Management

Portfolio, Program, and subproject

The Project Management Institute has defined the definitions of project, program, and portfolio as described below.

Project: A temporary endeavor undertaken to create a unique product, service, or result.

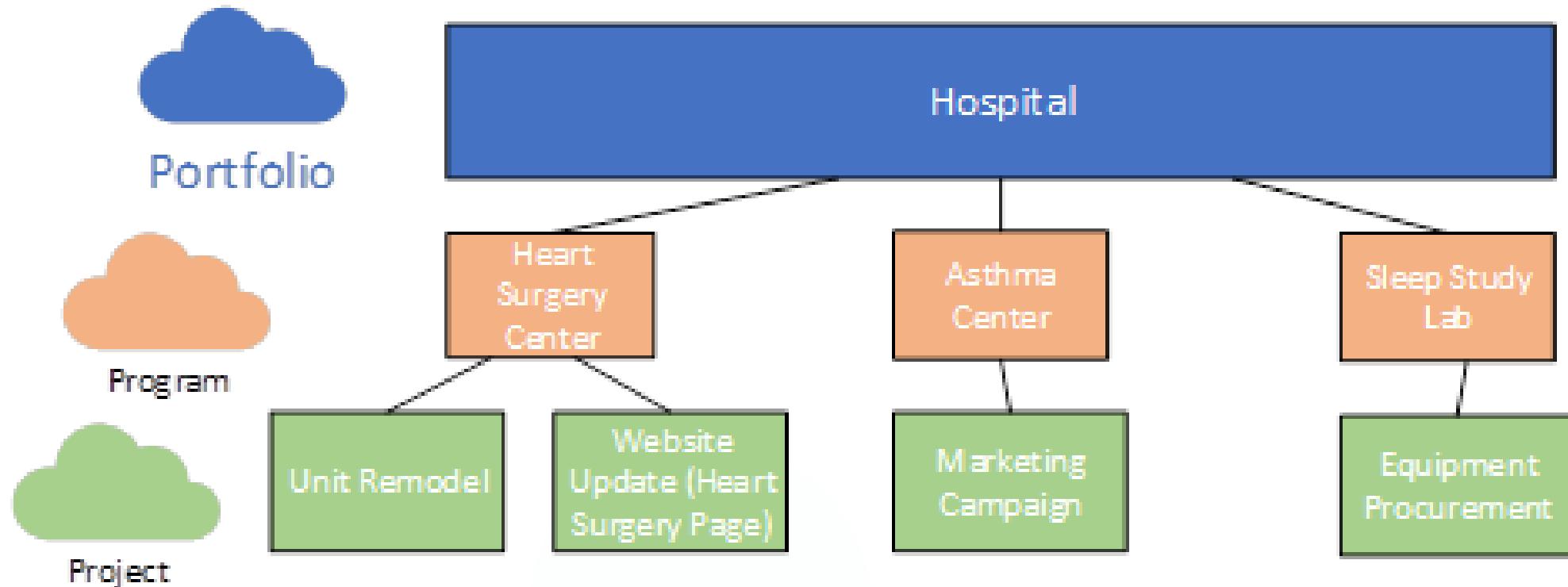
Program: A program is a group of related projects, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from managing them individually.

Portfolio: A portfolio is a collection of projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives.

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Portfolio, Program, and subproject

Consider the fictional example below to illustrate how this could look:



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Portfolio, Program, and subproject

The hospital is made up of several unique programs that serve to meet the overall strategic goals of the hospital. Each program will have its own projects in motion to meet the objectives of the program.

For example, the sleep study lab may need to purchase new equipment to modernize the treatment options. The associated project could consist of identifying the new equipment to be purchased, managing the procurement, and equipment installation activities. Once the equipment is installed, the project is complete.



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Portfolio, Program, and subproject

Portfolio management consists of selecting the right programs and projects needed to meet the objectives of the overall portfolio. This could include optimizing organizational costs and resources across programs and projects.

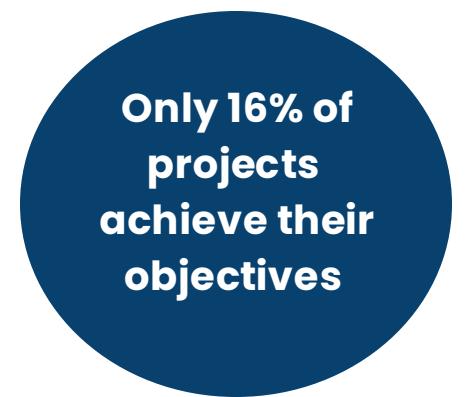
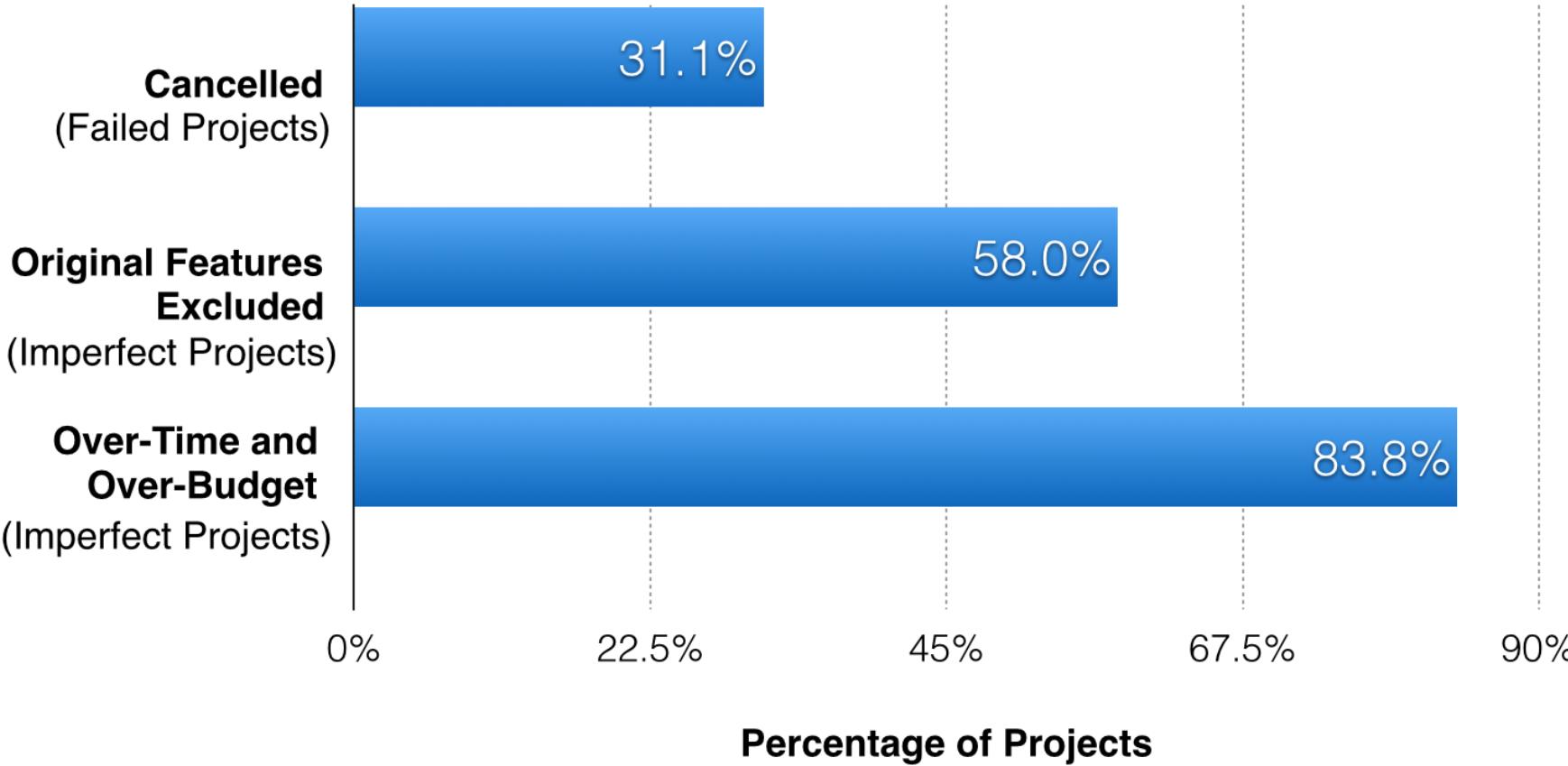
Program management involves coordinating and controlling interdependencies among the various related projects.

Project management is the work involved in completing the scope of the individual projects (unit remodel, website update, marketing campaign, etc.). Each project could potentially have a unique project team and manager. At the project level, the project manager would not necessarily be concerned with the projects in different programs, but a program or portfolio manager would.

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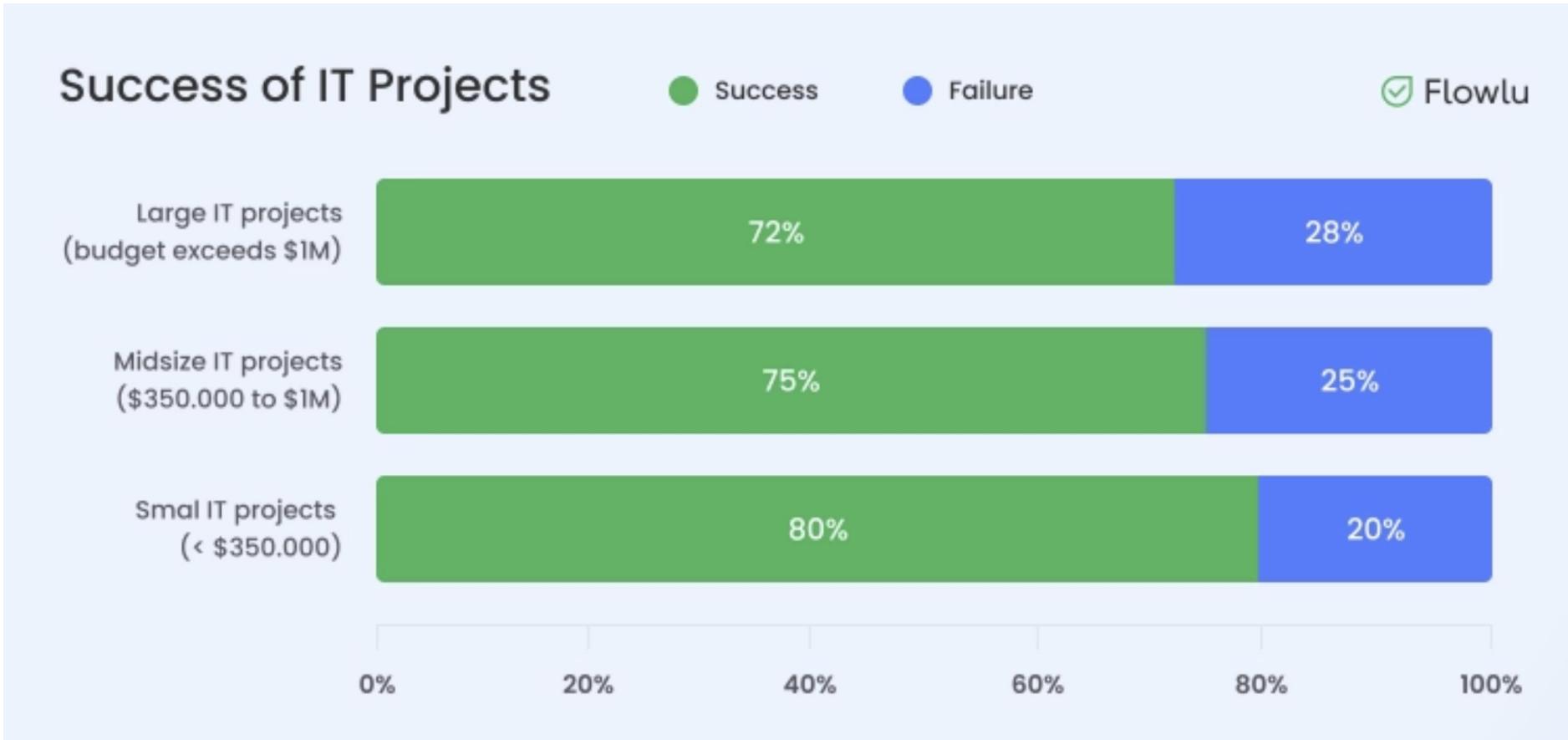
Overview of Project Success and Failures

Common Project Issues



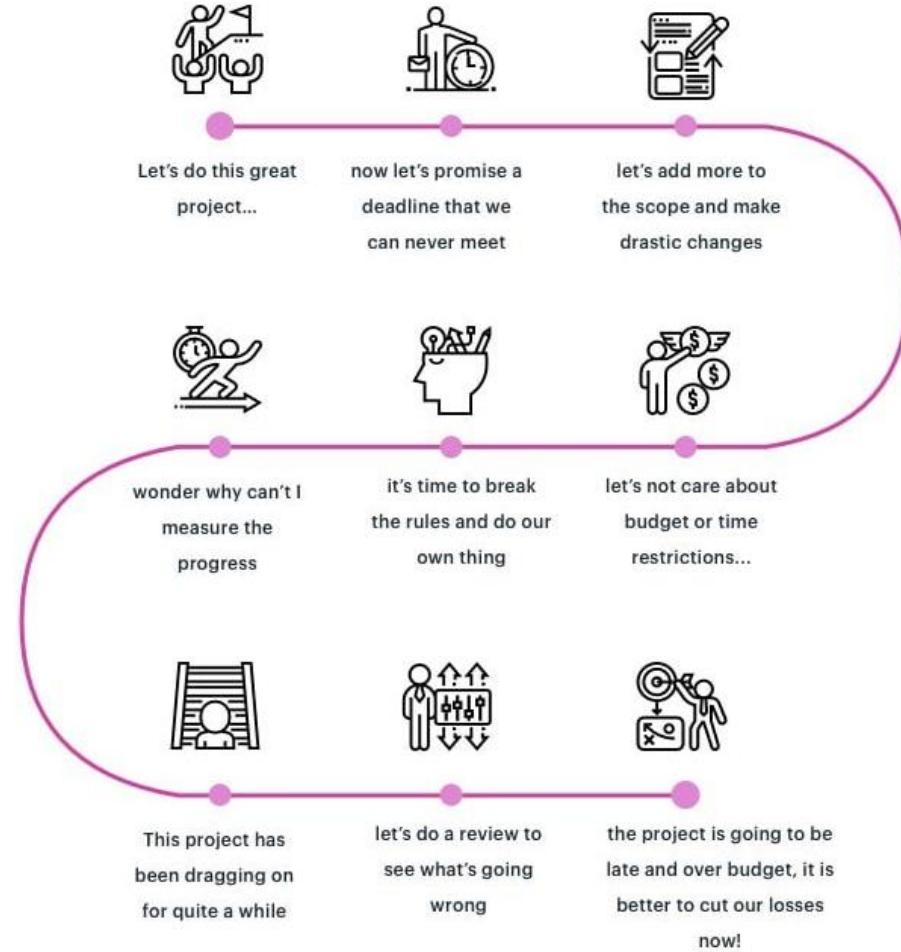
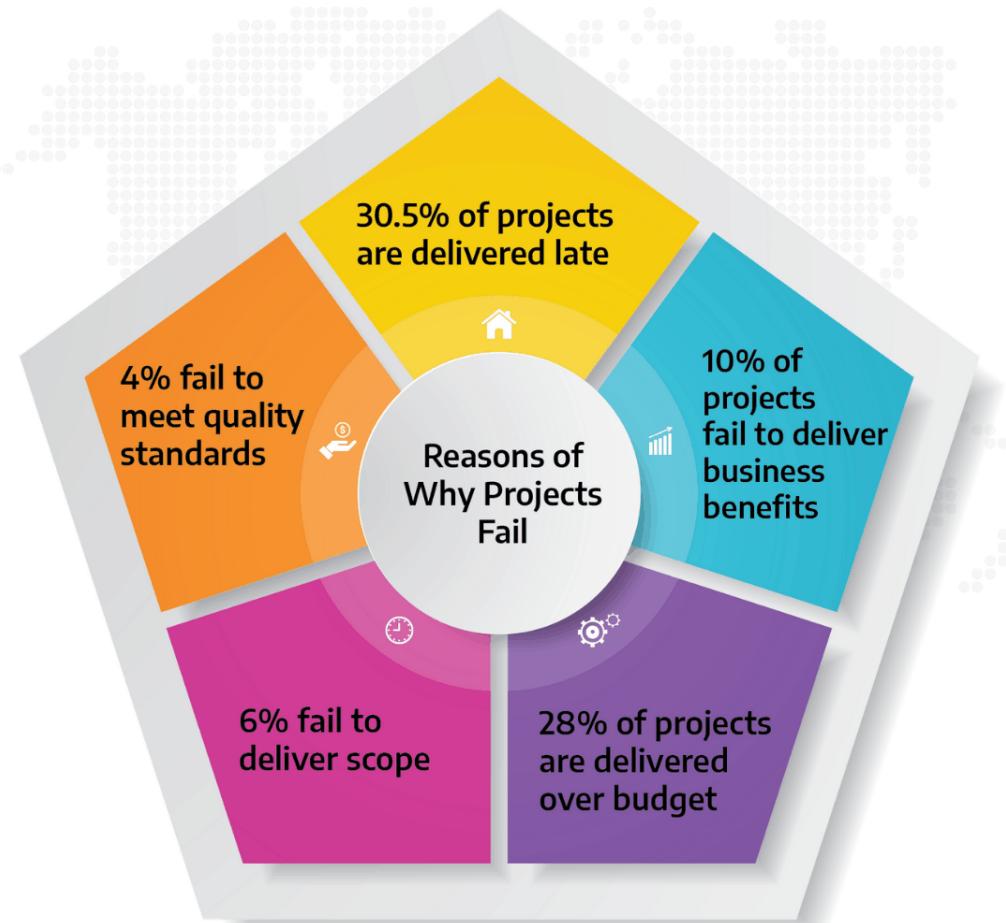
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Overview of Project Success and Failures



Project Management

Reasons why Projects Fail



Project Management

Reasons why Projects Fail



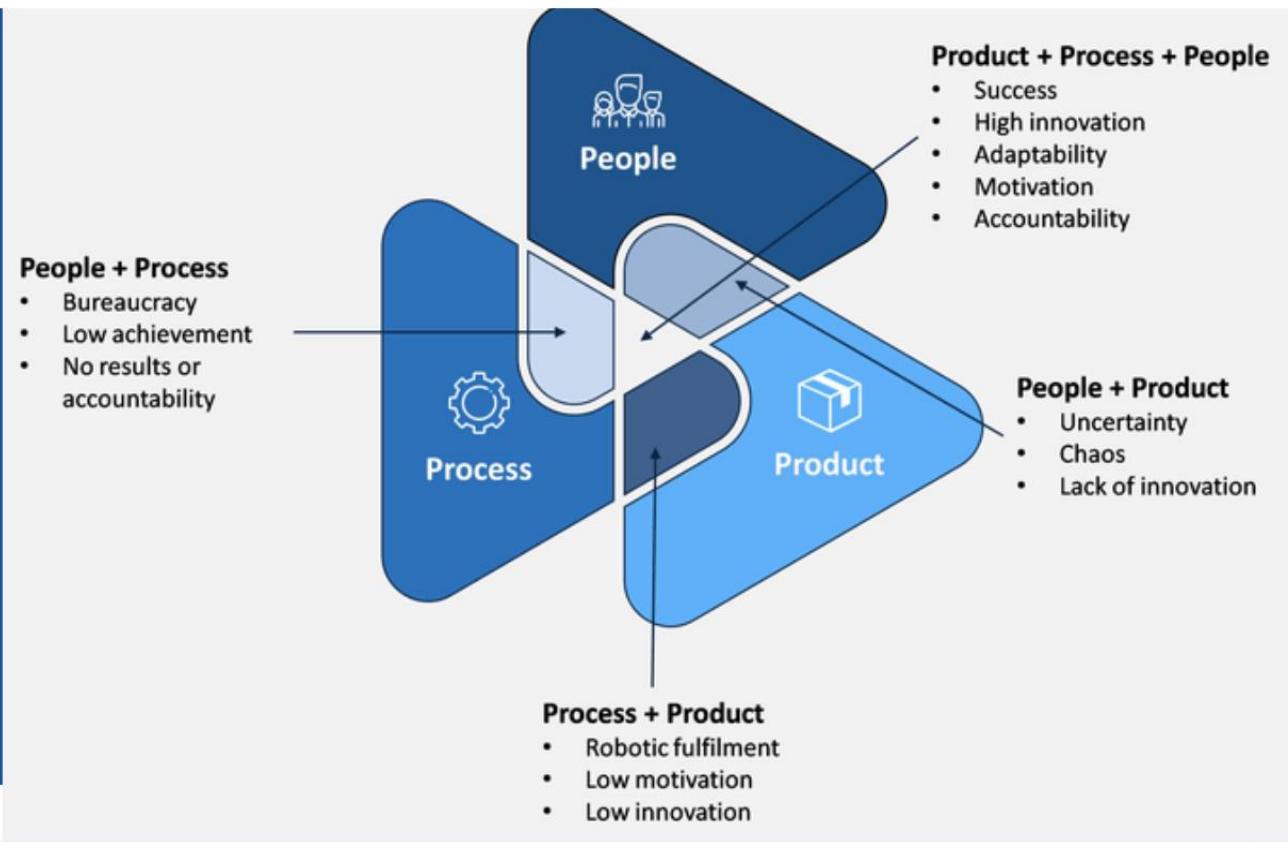
...If you fail to plan, you plan to fail

Project Management

The 3 Ps of Project Management

At the heart of effective project management are the ‘Three Ps,’ which are

- people,
- processes, and
- products.



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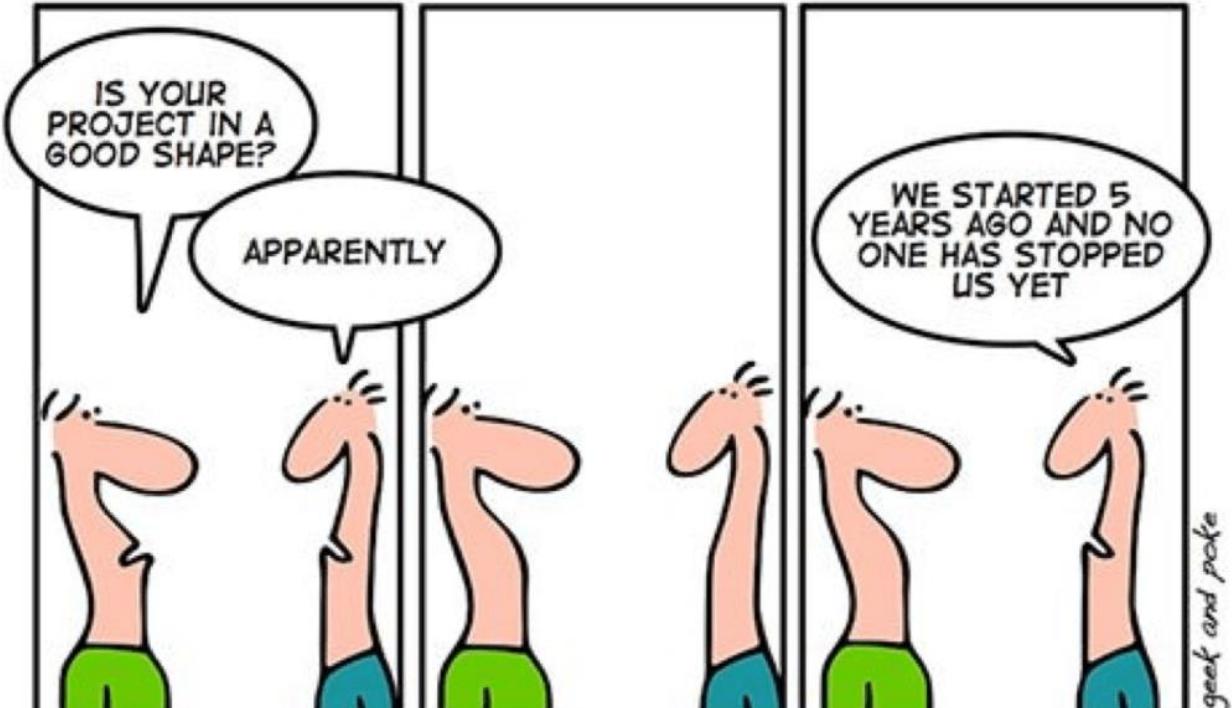
The project manager

- According to the Project Management Institute (PMI), a **project manager (PM)** is the person responsible for leading a project from initiation through planning, execution, monitoring, and closing.
- PMI defines the project manager as the one accountable for overseeing all project activities to meet the objectives and deliver value to stakeholders.
- This role requires both technical and soft skills, as project managers must navigate complex project requirements, manage teams, communicate with stakeholders, and adapt to changing circumstances.



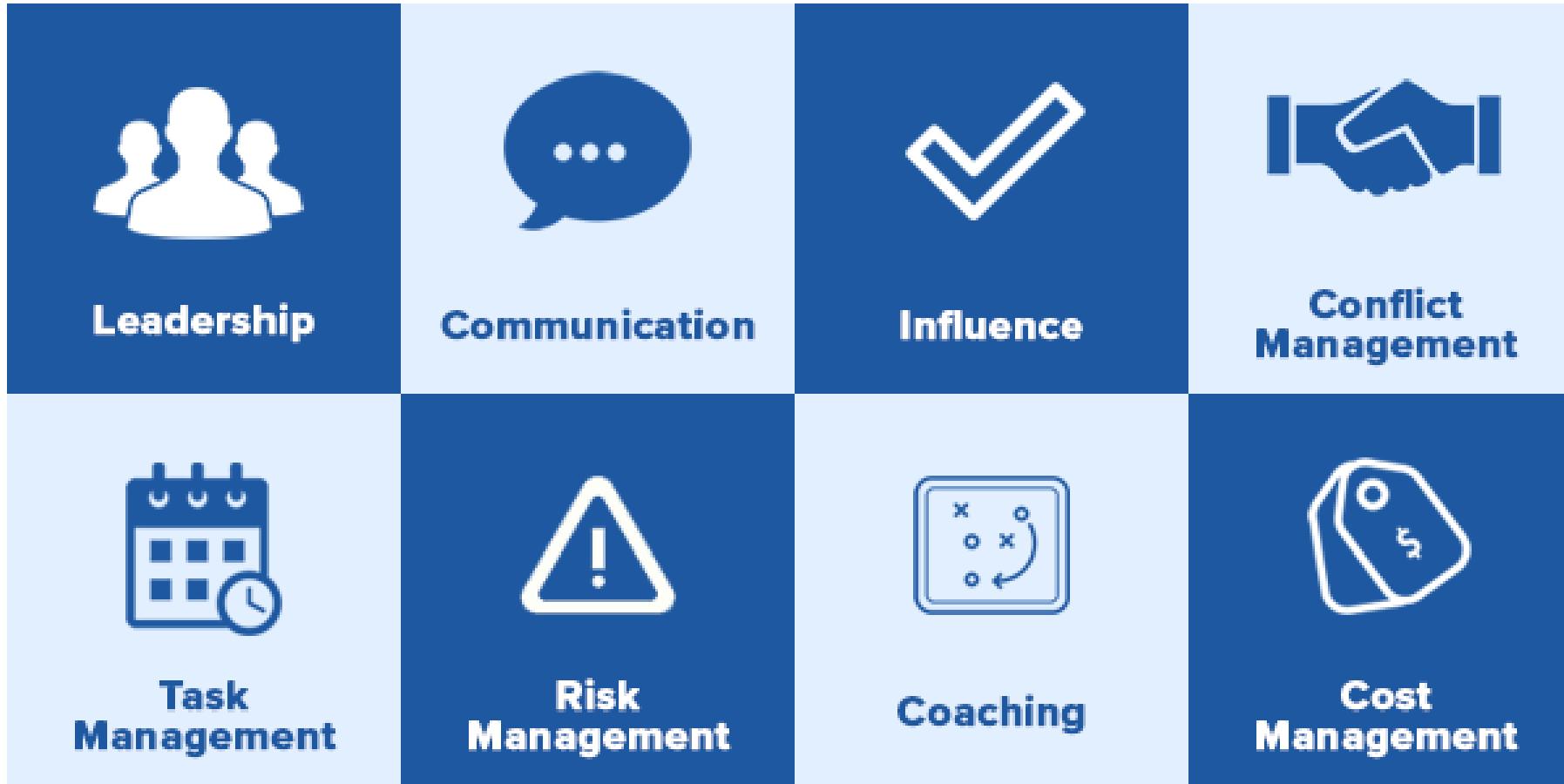
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The project manager



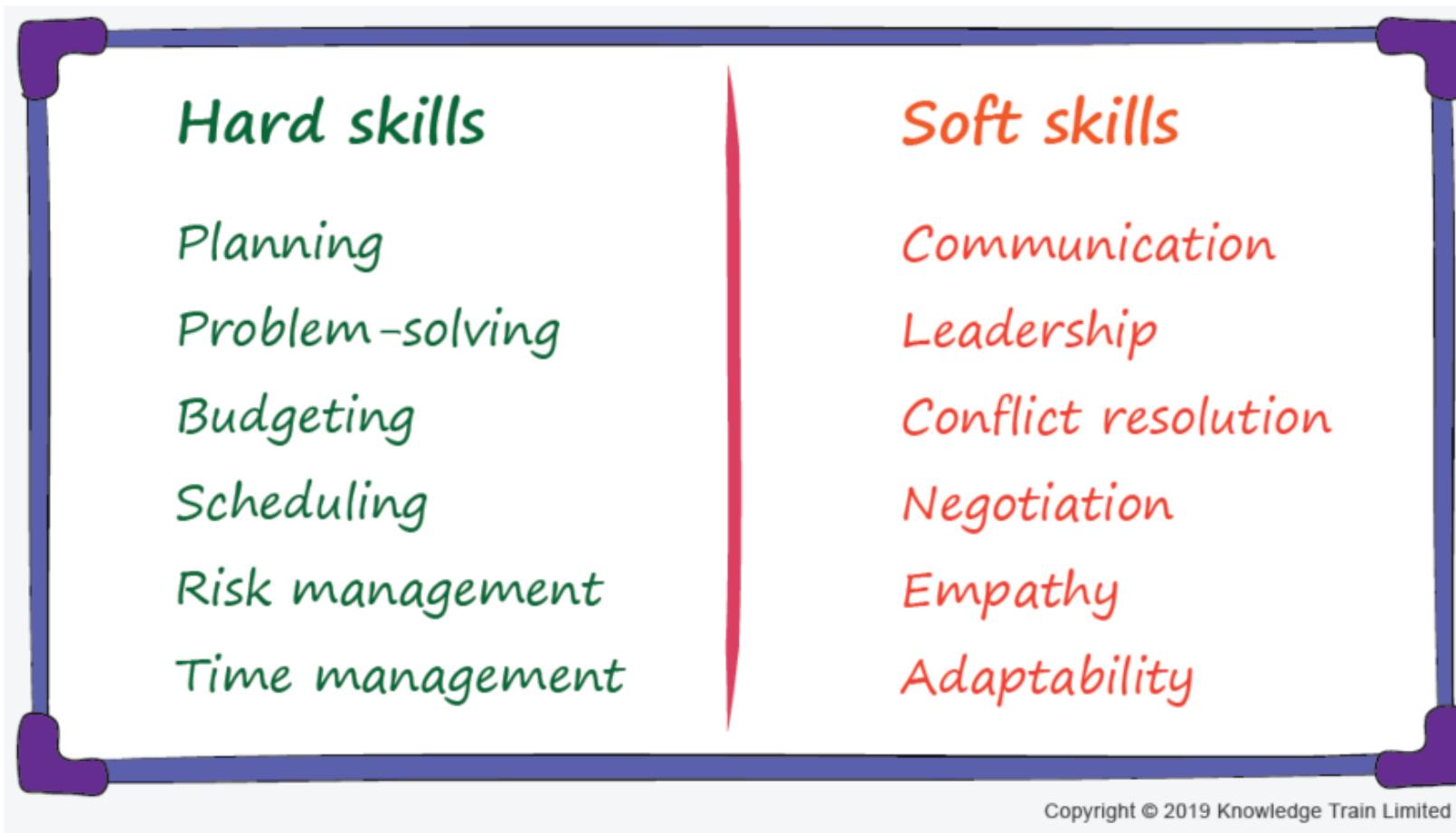
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Most Essential Skills for a PM



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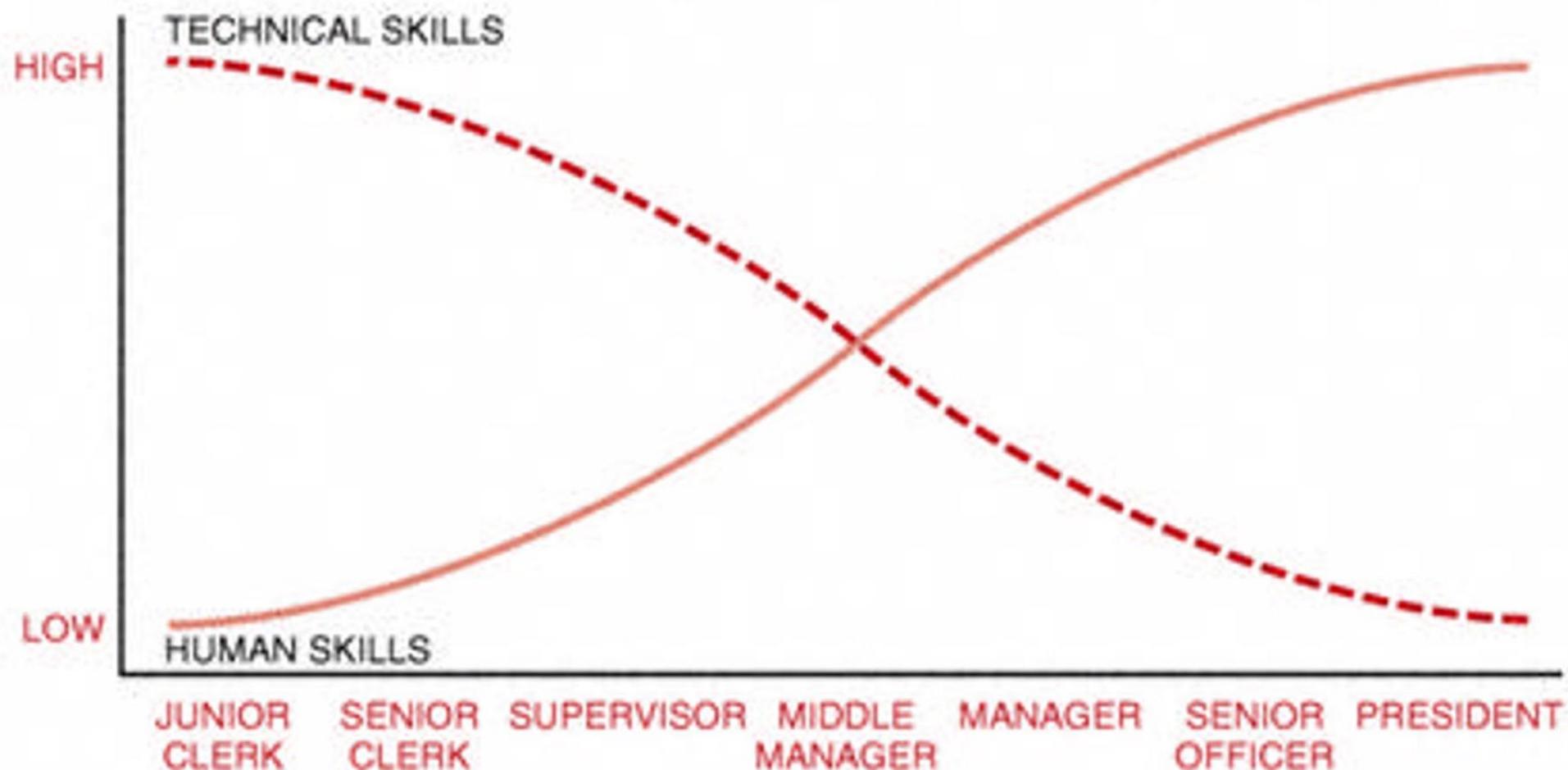
Most Essential Skills for a PM



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Compétences interpersonnelles (Annexe G: PMBoK V4)



Project Management

Your basic role and goal as a PM

- The basic role of a **Project Manager (PM)** is to plan, execute and oversee projects to completion, ensuring they meet the objectives, timeline, and budget set forth by the stakeholders.
- The PM is responsible for coordinating resources, managing risks, and facilitating communication between teams to keep the project on track and deliver value.



Project Management

Planning & Strategy

imagine
device
evaluate
anticipate
plan

Conflict Resolution

arbitrate
resolve
negotiate

Keywords for the role of a PM

Leadership & Organization

head
lead
manage
organise
direct
plan
coordinate

Supervision & Monitoring

supervise
react
measure
control
monitor
decide

Communication

write
communicate
interface

mobilize
activate

Project Management

A bad project manager vs good project manager

True Project Leader:

- Coaches project team
- Depends on goodwill
- Generates enthusiasm
- Says “we”
- Fixes the breakdown
- Shows how it’s done
- Develops people
- Gives credit
- Asks politely
- Says “Let’s go!”

Bad Project Manager:

- Drives project team
- Depends on authority
- Inspires fear
- Says “I”
- Places blame for the breakdown
- Knows how it’s done
- Uses people
- Takes credit
- Commands
- Says “Go!”

Project Management

Five Ways to Describe a PM

- Here are a number of ways to describe a project manager using some unconventional terms.
 - Plain Talker (communicate clearly)
 - Risk Averter (manage risk)
 - Obstacle Remover (manage issues)
 - Morale Builder (manage staff)
 - Bottom Line-er (manage schedule and budget performance)

What do you get when you focus on the meat and potatoes of these five main responsibilities of a Project Manager? You become a plain talking, risk averting, obstacle removing, morale building, bottom line-er Project Manager! Who wouldn't want to have someone like that heading up their next project?

Project Management

More Unconventional Ways to Describe a PM

“The Plate Spinner”: Like a performer balancing spinning plates, a project manager juggles multiple tasks, timelines, and resources, ensuring everything stays on track without toppling over.

“The Bridge Builder”: The project manager’s role as a communicator and connector, bridging gaps between departments, stakeholders, and team members.

“The Puzzle Master”: With a knack for seeing the big picture, a project managers uses their problem-solving skills and their ability to make complex elements fit together seamlessly.

“The Compass”: Like a compass, Project managers serve as a guide, keeping teams aligned with project goals and objectives.

“The Air Traffic Controller”: Like an air traffic controller managing the flow of planes, a project manager coordinates numerous tasks and people, prioritizing and sequencing activities to prevent bottlenecks or conflicts.

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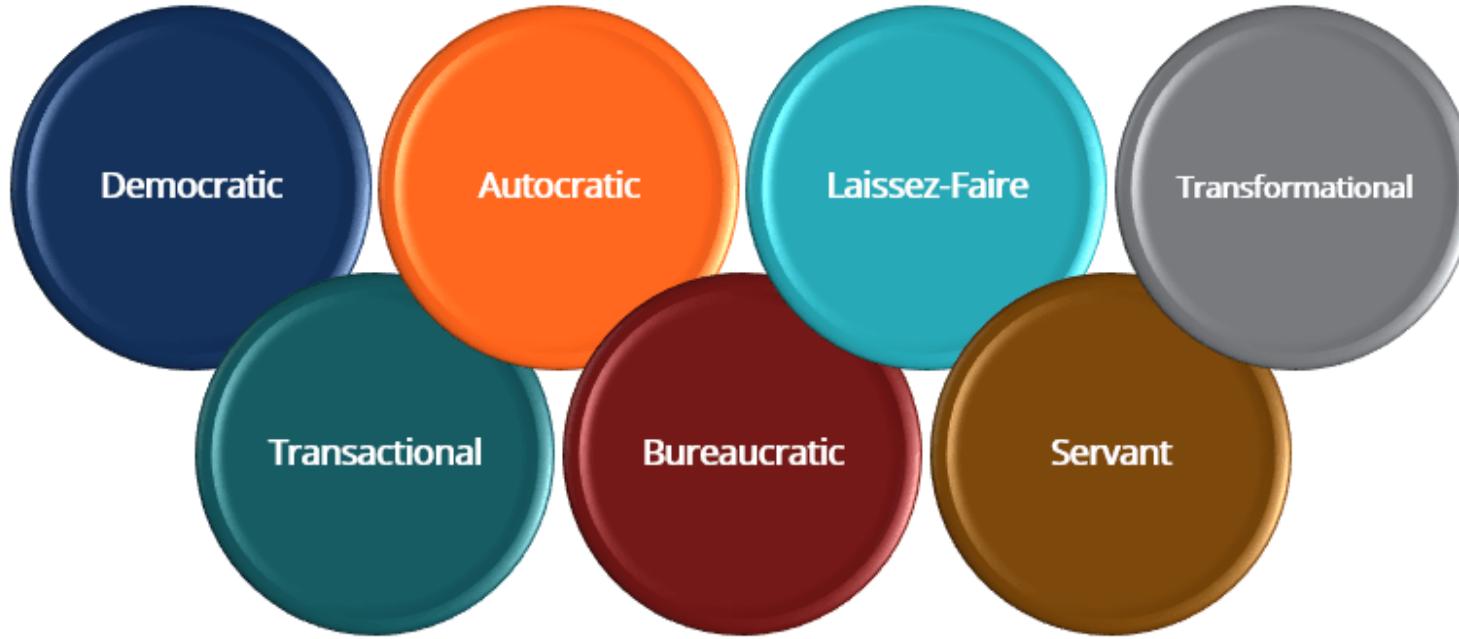
Leadership Styles for Project Managers

Leadership is a critical aspect of project management, as it directly influences the team's performance, motivation, and ultimately the success of the project.

A project manager's leadership style can shape the culture of the project, affect decision-making processes, and determine how challenges are handled.

Project Management

Leadership Styles for Project Managers



Recognizing the needs of the team and the nature of the project can help a project manager select the most appropriate leadership style to ensure project success.

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Leadership Styles for Project Managers

Transformational Leadership



Transformational leadership is centered around inspiring and motivating team members to exceed expectations by fostering an environment of innovation, enthusiasm, and trust. The focus is on developing their team and driving change by aligning the team's goals with a larger vision.

Examples of when to activate such leadership:

- When driving innovation or change in a project.
- When team motivation is low and the project requires a clear, motivating direction.
- In projects requiring adaptability and flexibility.

Project Management

Leadership Styles for Project Managers

Transactional Leadership



Transactional leadership is based on a more traditional, hierarchical approach where leaders give clear directions and expect results in exchange for rewards or punishments.

Examples of when to activate such leadership:

- In projects that require strict adherence to rules, timelines, and processes.
- When managing large teams or complex tasks that need close monitoring.
- In projects with clear, measurable outcomes where performance needs to be consistently evaluated.

Project Management

Leadership Styles for Project Managers



Servant Leadership

Servant leadership flips the traditional leadership hierarchy by focusing on the well-being and development of the team first. A servant leader's primary goal is to serve their team, empowering them to perform at their best by removing obstacles, providing support, and fostering a sense of community.

Examples of when to activate such leadership:

- In projects where building long-term relationships and a collaborative team culture is important.
- When the team requires empowerment, support, and guidance.
- In environments that encourage personal growth and development.

Project Management

Leadership Styles for Project Managers



Autocratic Leadership

Autocratic leadership is characterized by a leader who makes decisions independently, without consulting the team. This style is effective in situations where quick decisions are needed, and there is a need for clear, direct control over the project's execution.

Examples of when to activate such leadership:

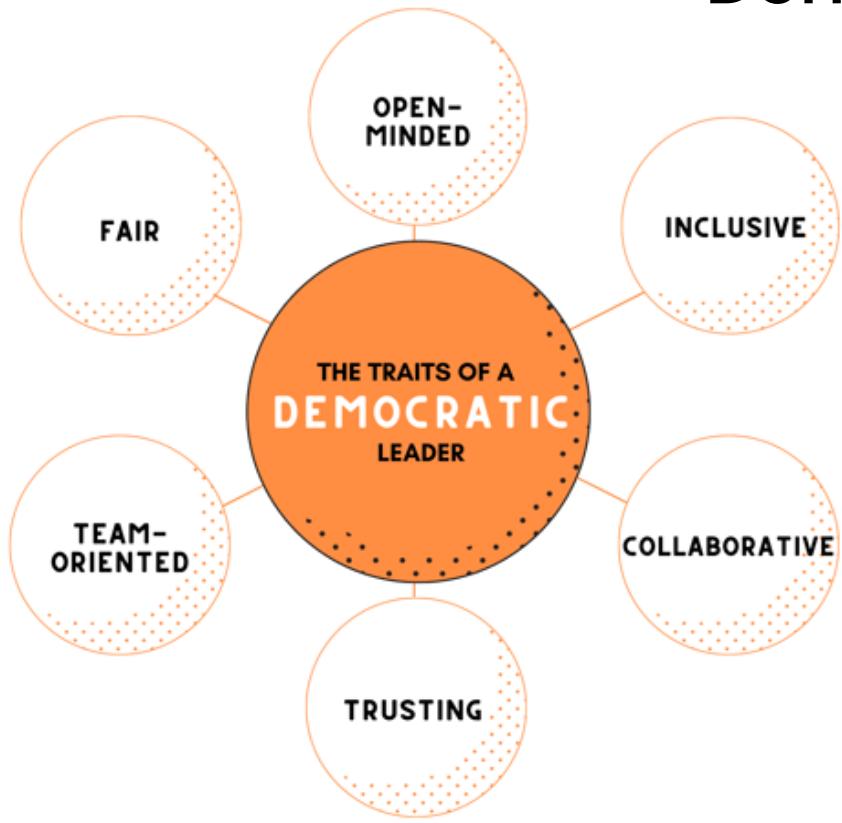
- In crises or high-stakes situations where decisions need to be made quickly.
- When the team lacks experience and needs strong guidance.
- In projects that require tight control and compliance with strict protocols.



Project Management

Leadership Styles for Project Managers

Democratic Leadership



Democratic leadership involves actively seeking input and feedback from team members before making decisions. This style is collaborative, with the leader facilitating decision-making and encouraging input from all team members.

Examples of when to activate such leadership:

- In projects that require creative problem-solving and innovation.
- When team collaboration and diverse perspectives are essential.
- In teams that are skilled and capable of self-management and decision-making.



Project Management

Being a team leader

Responsibilities of a team leader

- Providing direction and guidance
- Understanding the strengths and weaknesses of team members
- Organising tasks and setting goals
- Upholding the vision of the group
- Solving problems and resolving conflicts



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- Cours de gestion de projet, Michel Emery
- Project Management cases studies, Harold Kerzner
- S'entraîner au management de projet, Gerard Herniaux, Insep Editions
- Project 2013, Guide pratique pour les chefs de projet , Vincent Capitaine, Dunod