



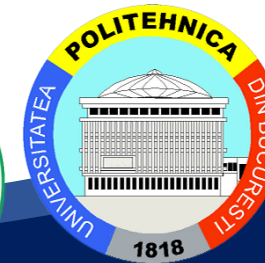
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Project team management in a new era of digitalization

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Curriculum Development
of Master's Degree Program in

Industrial Engineering for Thailand Sustainable Smart Industry

Introduction to Teamwork

What is a team?

Team Game

Advantages and Difficulties

Success factors

Project management

Knowledge Area Resources (H) - Processes (PMBOK)

Team Development phases

Belbin Team Roles

What is a Team?

Cooperative process that develops from a **common and shared objective**.
(Harris & Harris, 1996)

TEAM / GROUP



TEAM VS GROUP

Groups	Teams
- People work together	- People trust each other
- Feelings are not part of the job	- Feelings are openly expressed
- The conflict is settled	- The conflict is debated
- Trust and openness are measured	- People support each other
- Information is given on a “only what is necessary” basis	- Information is freely shared
- The objectives are personal and unclear	- Members have common goals

Miguel, Rocha & Röhrich, 2008 (p. 249)



State – Problem:

- Individual Response(10min)
- Response Group 2-3 elements(15min)
- NASA response
- Comparison of results (Individual and Group)
- Results analysis

0-20	Excelente
20-30	Good
30-40	Medium
40-50	Weak
> 50	Insufficient

TEAMWORK



Advantages and Difficulties

- Greater speed and efficiency in achieving the objectives
- Enrichment of decisions
- Division of tasks
- "We" instead of "Me"- ...



- Occurrences of parasitism: some work others do not
- Internal disputes
- Demanding at the level of communication- ...



Factors for a Successful Team

(Tarricone & luca, 2002)



Commitment - established towards the team, in order to achieve the goals shared by all its elements.



Interdependence - the team members have to ensure conditions to work effectively as a team, with each other and not each in isolation. The contributions generated, when integrated and combined as a whole, allow to reach higher levels of performance.



Interpersonal relationships - interactions should be developed based on trust, respect, and honesty in individual sense (each element) and collective (the team). The creation of group identity and sense of belonging depends, particularly on this factor.



Communication - the nature of the dialogue produced is decisive for the success of the team, as it is essential to know how to listen to the concerns and needs of each element, as well as how to accept the criticisms and suggestions given. Open communication produces positive and constructive feedback and is essential for conflict resolution and decision making.



Group composition - the team must be properly formed so that rules, positions, tasks, and responsibilities are clarified beforehand.



Leadership and Responsibility - the elements must be individually responsible for the team's performance and the quality of the tasks performed. During the process it is crucial to maintain effective leadership, capable of guaranteeing a position in problem solving and decision making.



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TEAMWORK

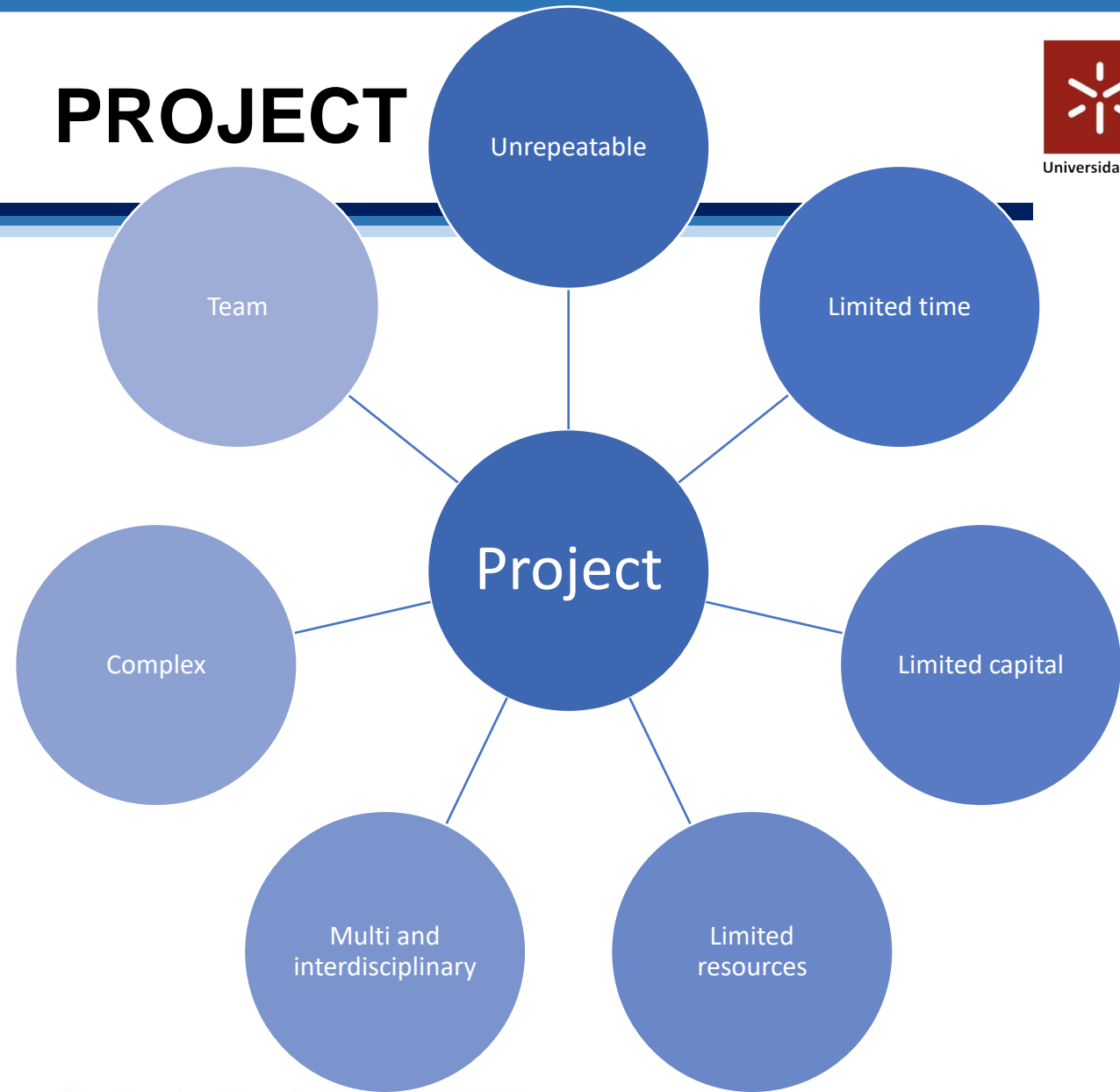
Project management



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PROJECT

- Features?



PMBOK – Processes

Project Management Process Groups

Knowledge Area Processes	Initiating	Planning	Execution	Monitoring and Controlling	Closing
Project Integration Management	Project Charter	Develop project management plan.	Direct and Manage Project Work; Manage Project Knowledge.	Monitor and control project work; Perform Integrated Change Control.	Close Project or Phase.
Project Scope Management		Plan Scope Management; Collect Requirements; Define Scope; Create Work Breakdown Structure.		Validate Scope; Control Scope.	
Project Time Management		Plan Schedule Management; Define Activities; Sequence Activities; Estimate Activity Resources; Estimate Activity Durations; Develop Schedule.		Control Schedule.	
Project Cost Management		Plan Cost Management; Estimate Costs; Determine Budgets.		Control Costs.	
Project Quality Management		Plan Quality Management.	Manage Quality	Control Quality.	
Project Resource Management		Plan Resource Management; Estimate Activity Resources.	Acquire Resources; Develop Team; Manage Team.	Control Resources	
Project Communications Management		Plan Communications Management.	Manage Communications.	Monitor Communications.	
Project Risk Management		Plan Risk Management; Identify Risks; Perform Qualitative Risk Analysis; Plan Risks Responses.	Implement Risk Responses	Monitor Risks.	
Project Procurement Management		Plan Procurement Management.	Conduct Procurements.	Control Procurements.	Close Procurements.
Project Stakeholder Management	Identify Stakeholders	Plan Stakeholder Engagement.	Manage Stakeholder Engagement.	Monitor Stakeholder Engagement.	

Knowledge Area Processes	Planning	Execution	Monitoring and Controlling
Project Resource Management	Plan Resource Management; Estimate Activity Resources.	Acquire Resources; Develop Team; Manage Team.	Control Resources

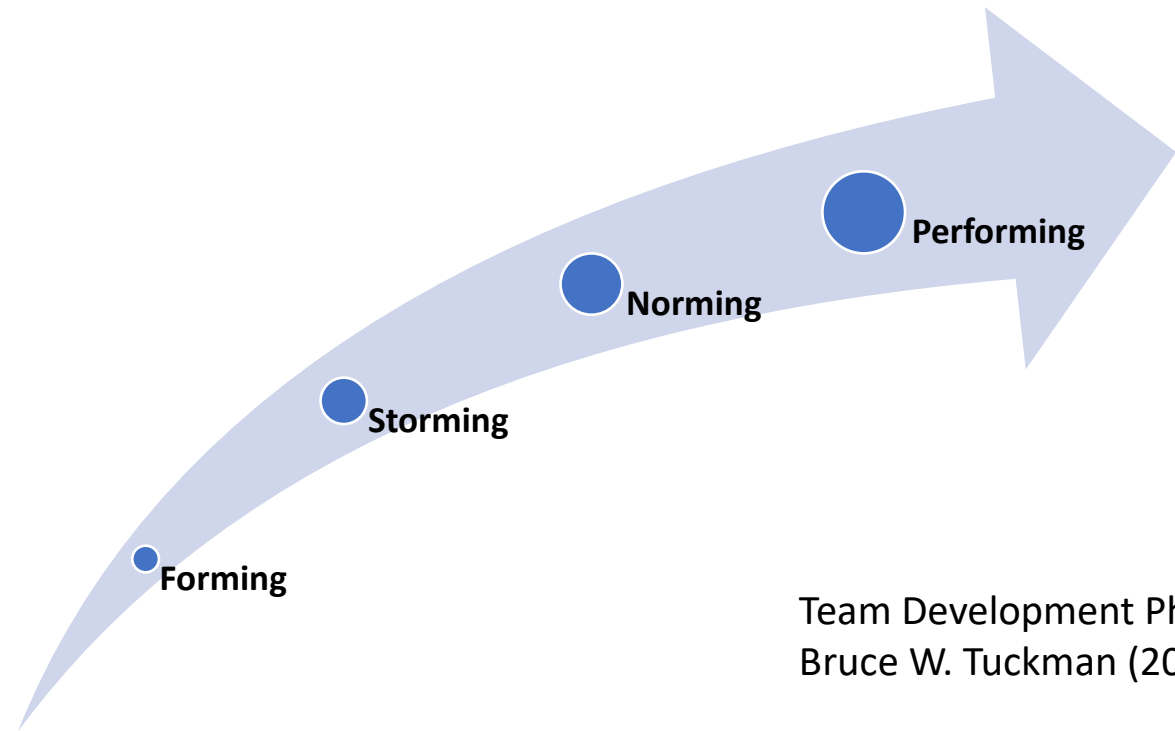


Project Resource Management, including Team Management (project management)



Project resource management includes processes to identify, acquire and manage resources necessary for the successful completion of the project. These processes help to ensure that the right resources will be available to the project manager and his team at the right time and place.

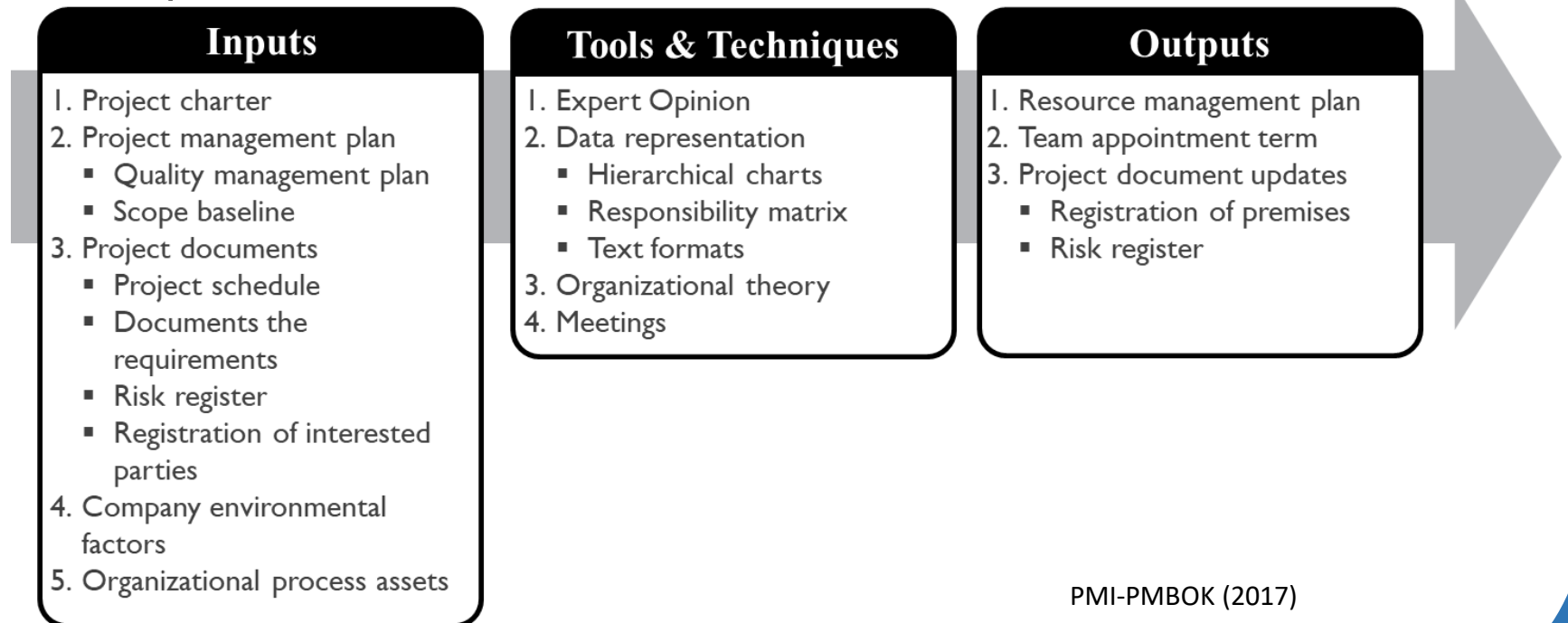
- **Resource Planning;**
- **Get the project team;**
- **Develop the project team;**
- **Manage the project team.**



Team Development Phases
Bruce W. Tuckman (2001)

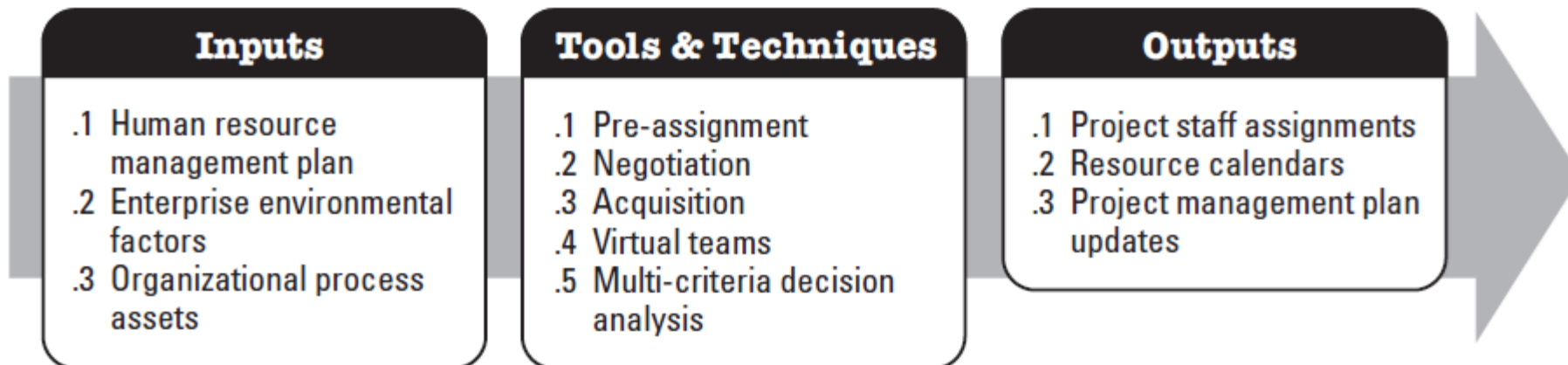


- Planning Resource Management is the process of defining how to estimate, acquire, manage and use physical and team resources. It may include the identification and documentation of the following items in a project:
 - Skills and competencies required
 - Roles (functions)
 - Responsibilities
 - Hierarchies



PMI-PMBOK (2017)

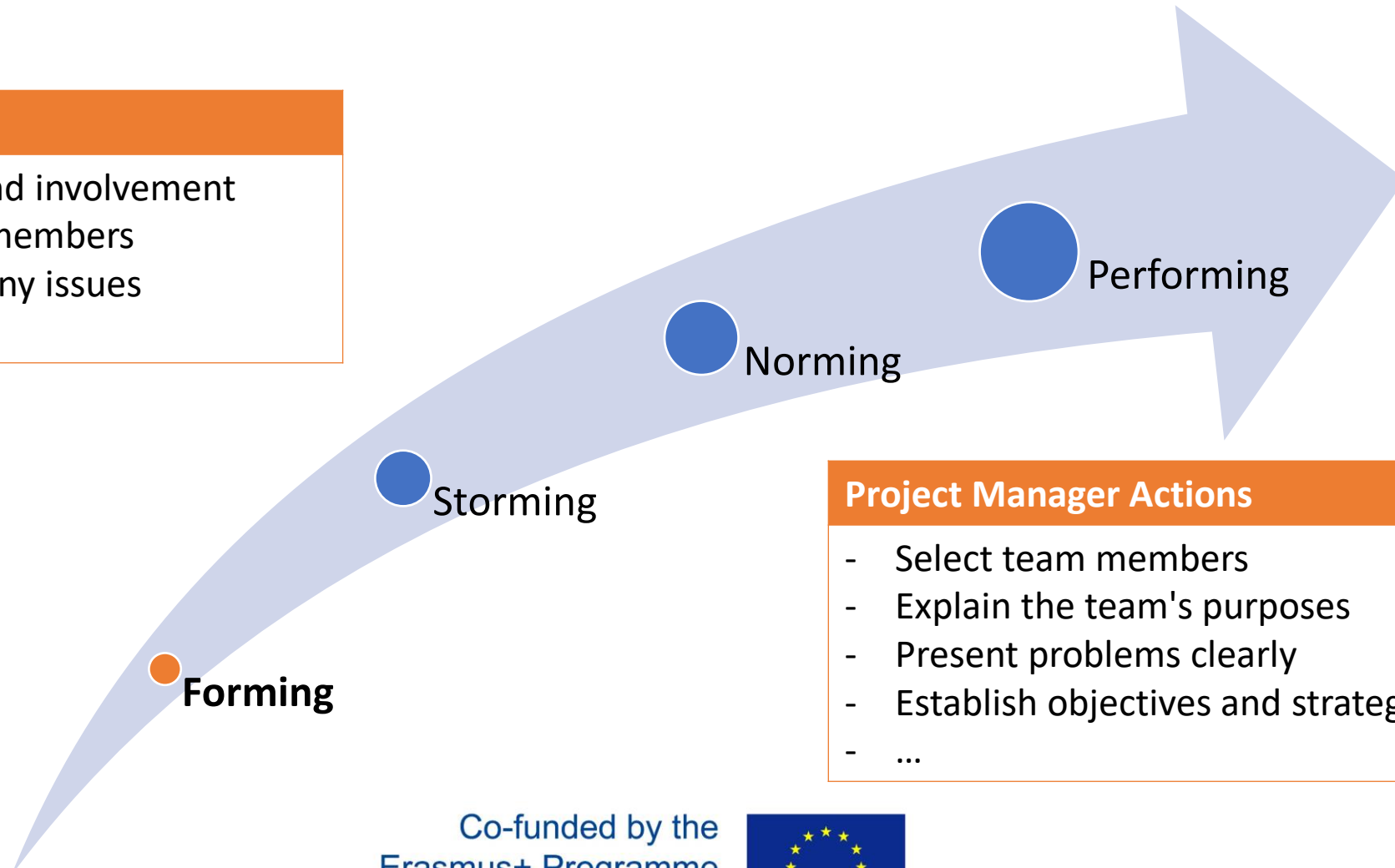
- Process responsible for:
 - Confirmation of availability of human resources to carry out the activities related to the project.
 - Obtaining the necessary team to complete the project activities.



PMI-PMBOK (2017)

Team Symptoms

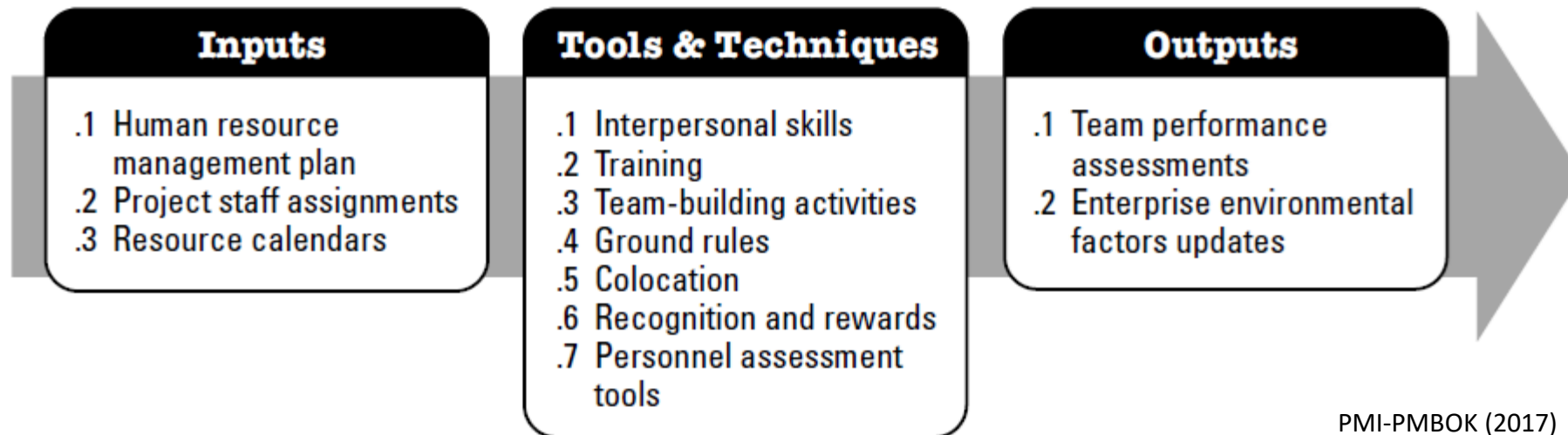
- Reduced trust and involvement
- Socialization of members
- There will be many issues
- ...



Project Manager Actions

- Select team members
- Explain the team's purposes
- Present problems clearly
- Establish objectives and strategies
- ...

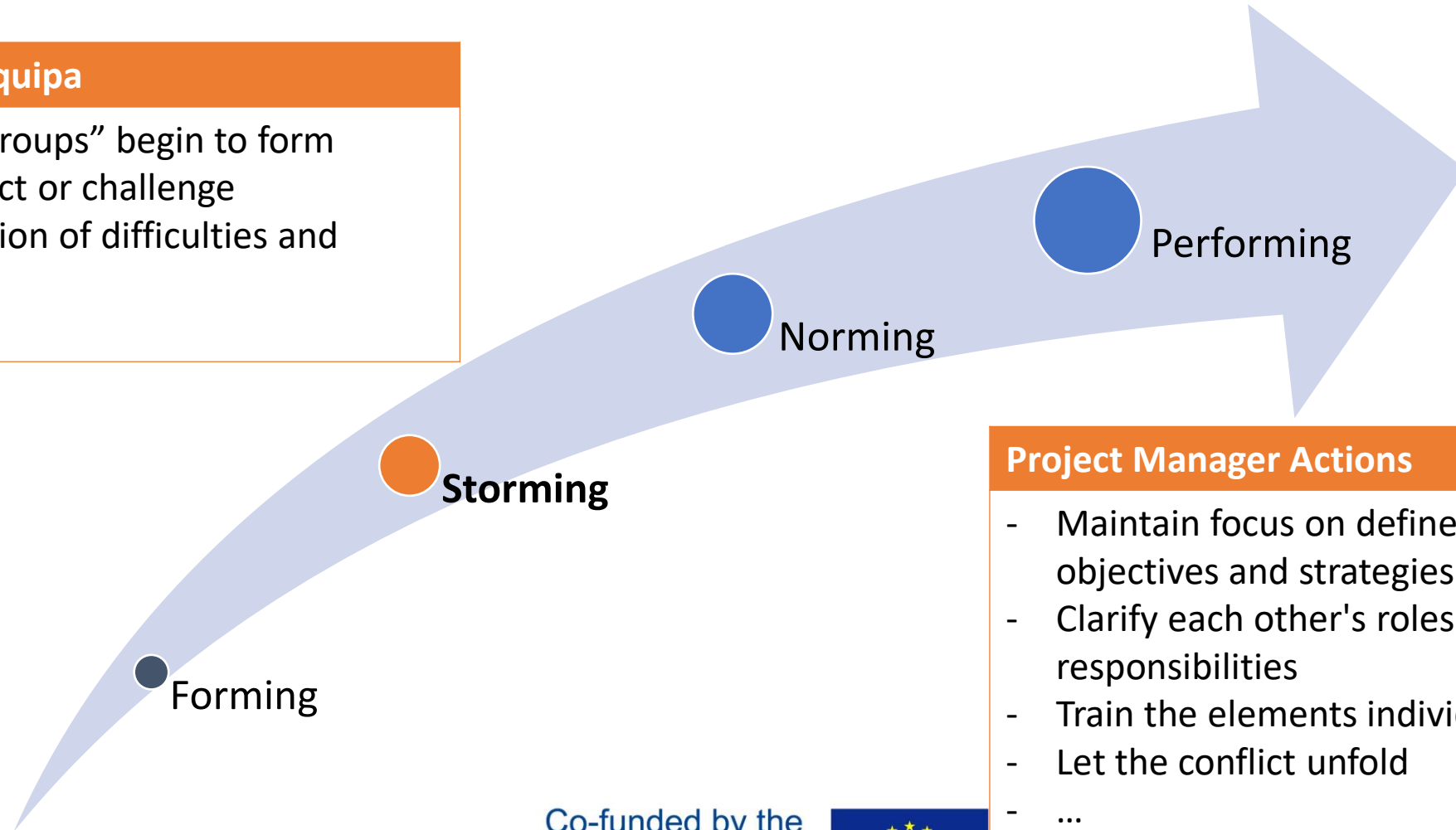
- Process responsible for improvement:
 - skills.
 - interaction between team members.
 - of the team's global environment to improve project performance.



PMI-PMBOK (2017)

Sintomas na Equipa

- “Selected Groups” begin to form
- Avoid conflict or challenge
- Externalization of difficulties and problems
- ...



Project Manager Actions

- Maintain focus on defined objectives and strategies
- Clarify each other's roles and responsibilities
- Train the elements individually
- Let the conflict unfold
- ...

Belbin Team Roles

What is my role in the team?





Raymond Meredith Belbin (1926) – Psychology research
Teamwork – Belbin Associates (1988) - <http://www.belbin.com/>

Management Teams: Why They Succeed or Fail

Nine roles - team dynamics



Team Roles – BELBIN

Plant

Contribution

Creative, imaginative, think outside the box, generate ideas and solve complex problems.

Possible Limitations

Ignores procedures, weak communication.

Team Roles – BELBIN

Resource Investigator

Contribution

Enthusiastic, communicative, explores the possibilities and creates a network.

Possible Limitations

Very optimistic, he loses interest when the initial enthusiasm passes.

Team Roles – BELBIN

Co-ordinator

Contribution

Mature, confident, identifies talents, clarifies objectives, delegates efficiently.

Possible Limitations

It can be manipulative, it tends to reduce its own workload.

Team Roles – BELBIN

Shaper

Contribution

Challenging, dynamic, reacts well under pressure, has the courage to lead and overcome obstacles.

Possible Limitations

It is authoritarian, provocative and hurts people's feelings.

Monitor Evaluator

Contribution

Sober, strategist and discernment.
Analyze all options and judge accurately.

Possible Limitations

Problems to lead and inspire people. It can be too critical.

Team Roles – BELBIN

Teamworker

Contribution

Cooperative, perceptive and diplomatic.
Listens and resolves conflicts.

Possible Limitations

Undecided in confrontational situations.
Avoid direct confrontations.

Team Roles – BELBIN

Implementer

Contribution

Efficient, reliable, tactical. It transforms ideas into actions and organizes the work that must be done.

Possible Limitations

Sometimes it can be inflexible and slow to respond to change.

Completer Finisher

Contribution

Careful, anxious, contentious. Search for errors, polished and perfectionist.

Possible Limitations

You may have difficulty completing the activities.

Specialist

Contribution

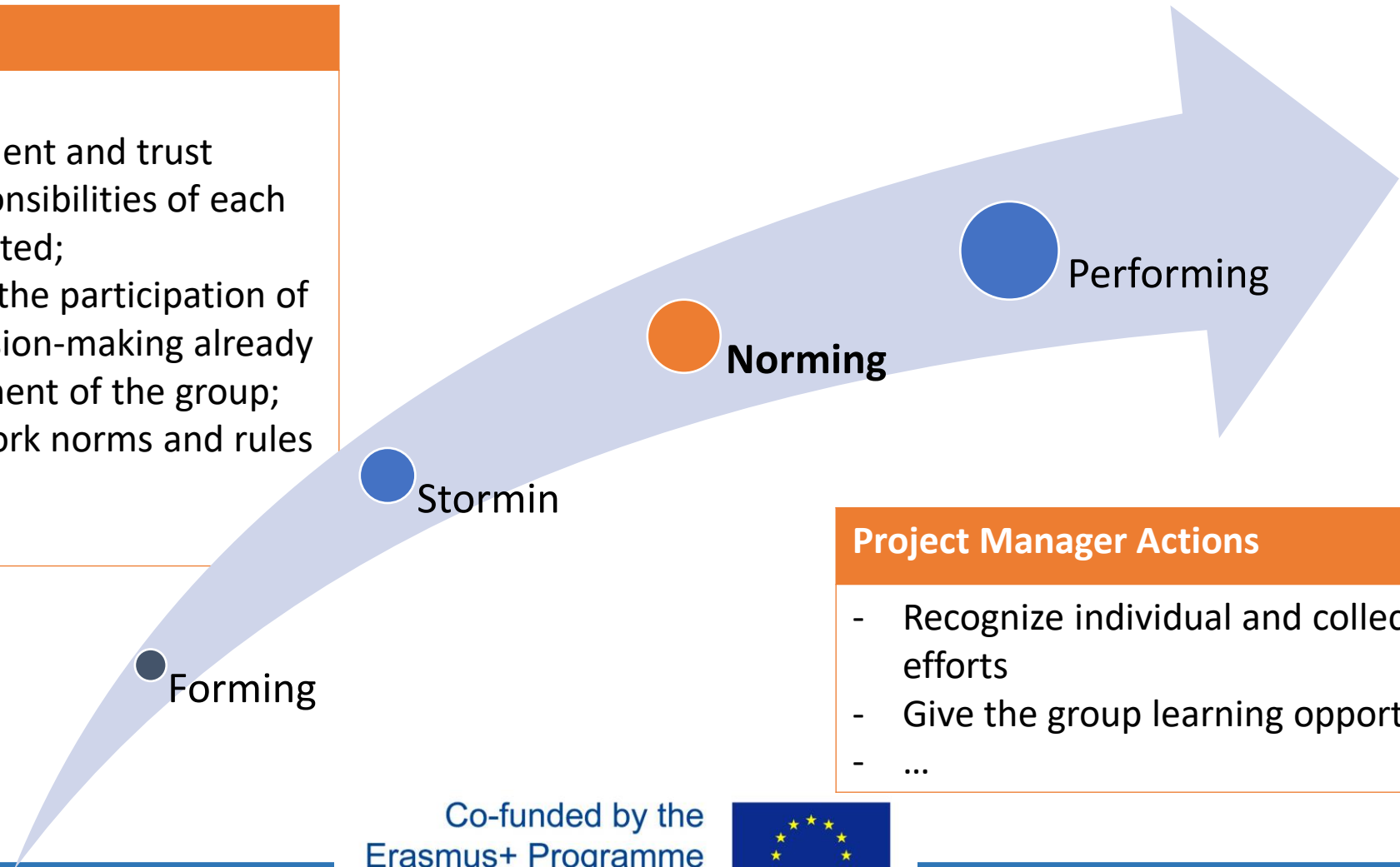
Resolute, dedicated. Likes the learning process and gathers knowledge and experience, being able to solve problems in key areas (expert).

Possible Limitations

Tendency to be extremely technical.

Team Symptoms

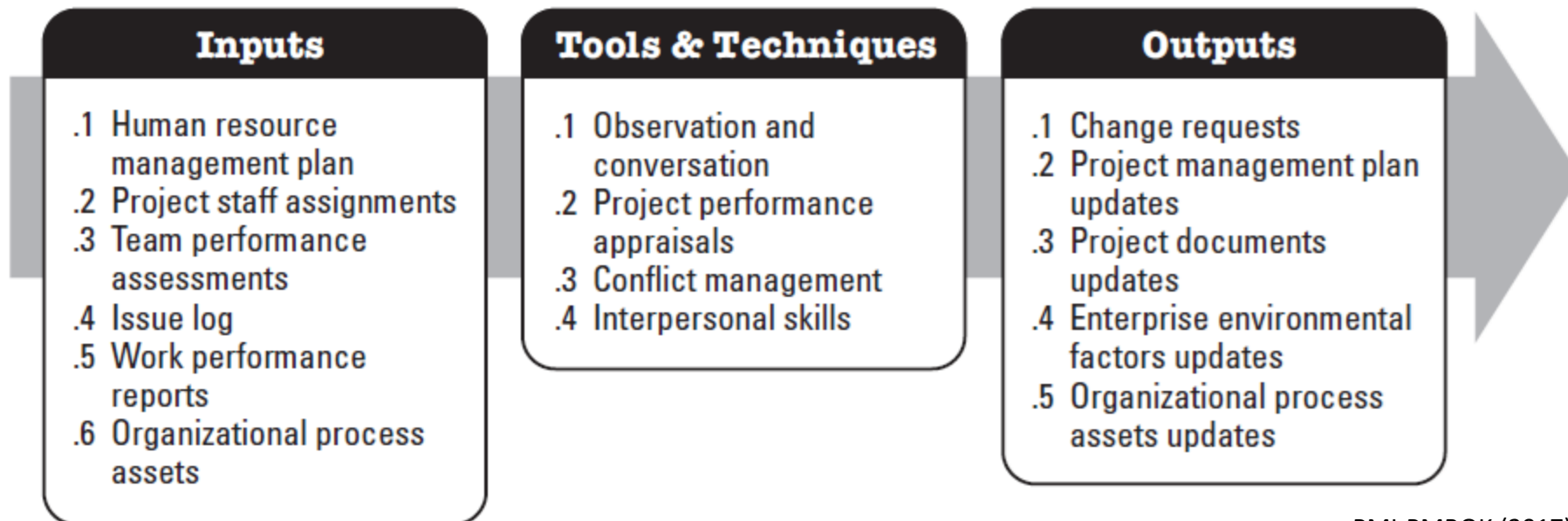
- Teamwork begins
- Increases commitment and trust
- The roles and responsibilities of each are clear and accepted;
- Behavior based on the participation of members and decision-making already happens by agreement of the group;
- Coexistence and work norms and rules are built
- ...



Project Manager Actions

- Recognize individual and collective efforts
- Give the group learning opportunities
- ...

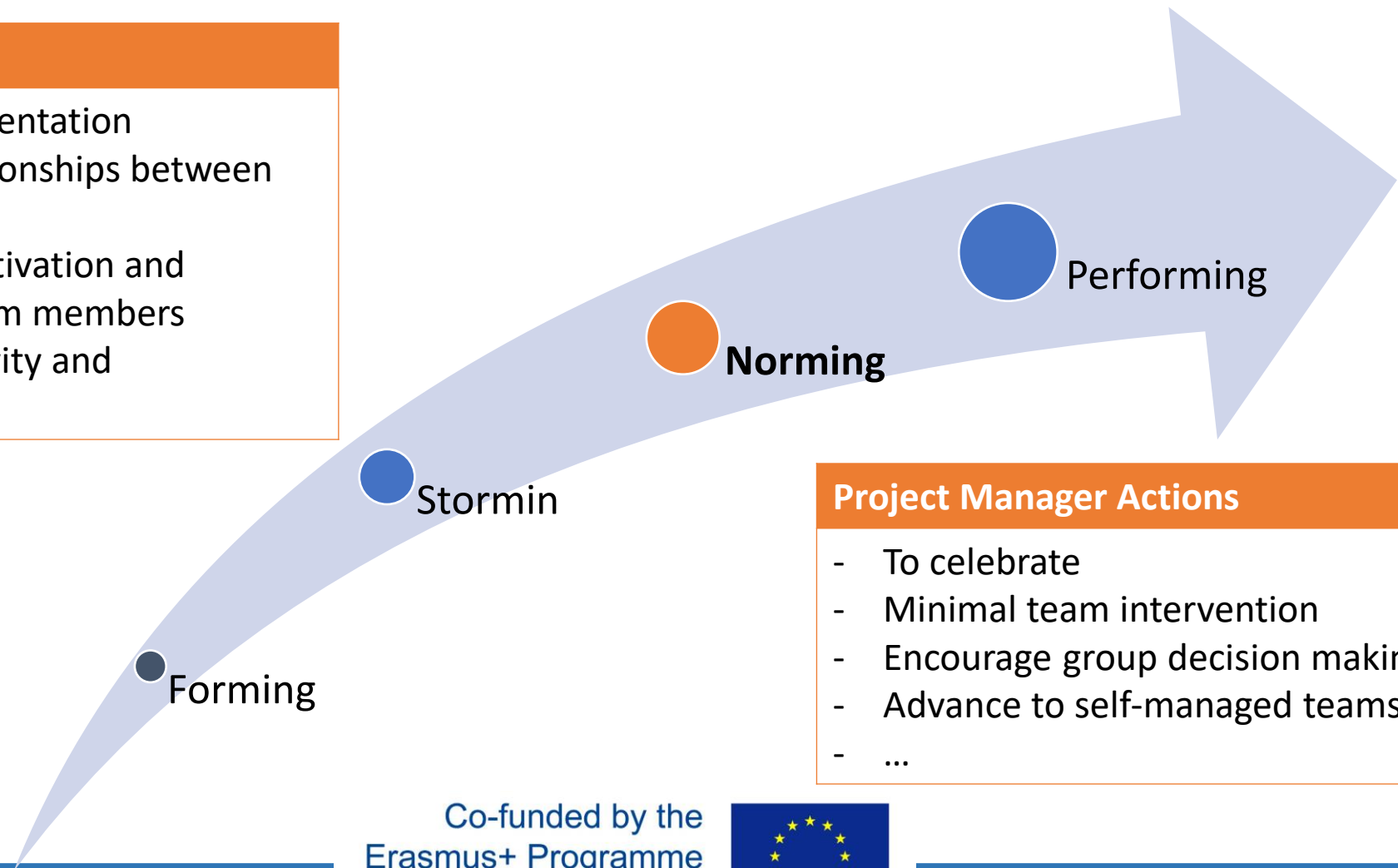
- Process responsible for:
 - Monitor the performance of team members; Provide feedback; Resolve issues; Manage changes to optimize project performance



PMI-PMBOK (2017)

Team Symptoms

- Goal / objective orientation
- Interpersonal relationships between team members
- Independence, motivation and competence of team members
- Increases productivity and satisfaction...



Project Manager Actions

- To celebrate
- Minimal team intervention
- Encourage group decision making
- Advance to self-managed teams
- ...

- **Peers - sharing a teamwork experience / situation**
 - Profile of team members
 - Team development phase
 - Project manager / leader actions

What about the end of the project?



Adjourning



Project Manager Actions

- Gradually separate your team and relocate, where possible, to other projects or teams
- Monitor the end of the team's work with the necessary evaluation activities...

1. Team as a fundamental element to consider in project management
2. Project success also depends on the success of the team
3. Each team has an identity and each member of the team has a profile
4. Develop and manage the team: role of the project manager / leader (competencies)

LEADERSHIP

COMMUNICATION

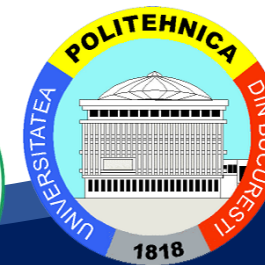
- PMI-PMBOK. (2017). *A guide to the project management body of knowledge (PMBOK guide) (5th ed.)*. Pennsylvania, USA: Project Management Institute (PMI).
- Tuckman, B. W. (2001). Developmental Sequence in Small Groups. *Group Facilitation: A Research and Applications Journal*, 71-72(3), 66-81.

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Thank You



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