



PMP® Certification Training

Lesson 10: Project Resource Management

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This course is based on the Project Management Institute, *A Guide to the Project Management of Body of Knowledge (PMBOK® Guide)* – Sixth Edition.

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Objectives

- ▷ Define Project Resource Management
- ▷ Differentiate between functional manager and project manager
- ▷ Describe the Project Resource Management processes
- ▷ Identify the stages of team formation, powers of project manager, and conflict management techniques
- ▷ Explain organization theories and leadership styles

Project Resource Management

The definition of ***Project Resource Management** is as follows:

Project resource management includes the processes to identify, acquire, and manage the resources needed for the successful completion of the project.

- Project team is composed of people with assigned roles and responsibilities for completing the project.
- Physical resources are any tools, equipment, or property necessary for the project.
- Team resources include people (employees and contractors) working together to manage the project effort.

*Definition taken from the Glossary of the Project Management Institute, *A Guide to the Project Management Body of Knowledge, (PMBOK® Guide)* – Sixth Edition, Project Management Institute, Inc., 2017, Page 307

Functional Manager vs. Project Manager

The differences between functional and project managers are as follows:

Functional Manager

- Functional manager handles a business function; Example: HR, Engineering, etc.
- Functional managers are subject matter experts.
- Organization structure and the organization's products define the roles and responsibilities of a functional manager.
- Functional manager is the owner of resources and assigns specific individuals to the project team.

Project Manager

- Project managers are accountable and responsible for a project and its quality.
- Project managers are not technical experts.
- Organization's structure defines the degree of authority of a project manager.
- Project managers need to negotiate with the functional managers to procure project resources.
- Project managers are responsible for product quality and credit the team with project success.



If a company initiates a project of securing the ISO 9001:2008 certification, the project will require team members from different departments. The project manager has to request the functional managers to assign team members from their teams. Resources are released back to their functions once the project is completed.

Project Resource Management Processes

| Knowledge Areas | | Project Integration Management | Project Scope Management | Project Schedule Management | Project Cost Management | Project Quality Management | Project Resource Management | Project Communications Management | Project Risk Management | Project Procurement Management | Project Stakeholder Management |
|-----------------------------------|----------------------------|---|--|---|--|-----------------------------|---|-------------------------------------|--|----------------------------------|--------------------------------------|
| Project Management Process Groups | Initiating | 4.1 Develop Project Charter | | | | | | | | | 13.1 Identify Stakeholders |
| | Planning | 4.2 Develop Project Management Plan | 5.1 Plan Scope 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS | 6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule | 7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget | 8.1 Plan Quality Management | 9.1 Plan Resource Management 9.2 Estimate Activity Resources | 10.1 Plan Communications Management | 11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Response | 12.1 Plan Procurement Management | 13.2 Plan Stakeholder Engagement |
| | Executing | 4.3 Direct and Manage Project Work 4.4 Manage Project Knowledge | | | | 8.2 Manage Quality | 9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team | 10.2 Manage Communications | 11.6 Implement Risk Response | 12.2 Conduct Procurements | 13.3 Manage Stakeholder Engagement |
| | Monitoring and Controlling | 4.5 Monitor and Control Project Work 4.6 Perform Integrated Change Control | 5.5 Validate Scope 5.6 Control Scope | 6.6 Control Schedule | 7.4 Control Costs | 8.3 Control Quality | 9.6 Control Resource | 10.3 Monitor Communications | 11.7 Monitor Risks | 12.3 Control Procurements | 13.4 Monitor Stakeholder Engagements |
| | Closing | 4.7 Close Project or Phase | | | | | | | | | |

Table 1-4. Project Management Process Group and Knowledge Area Mapping

Plan Resource Management

“Plan Resource Management is the process defining how to estimate, acquire, manage, and use team and physical resources.” This process is part of the Planning Process Group.

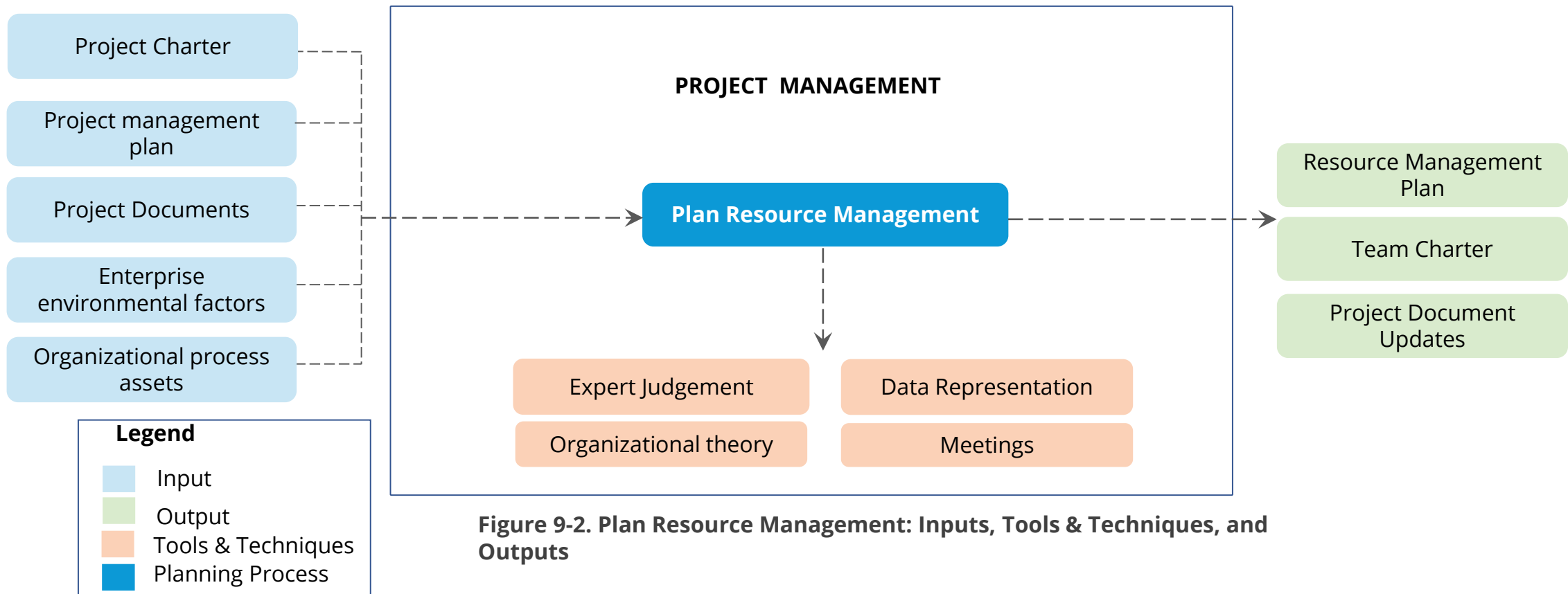
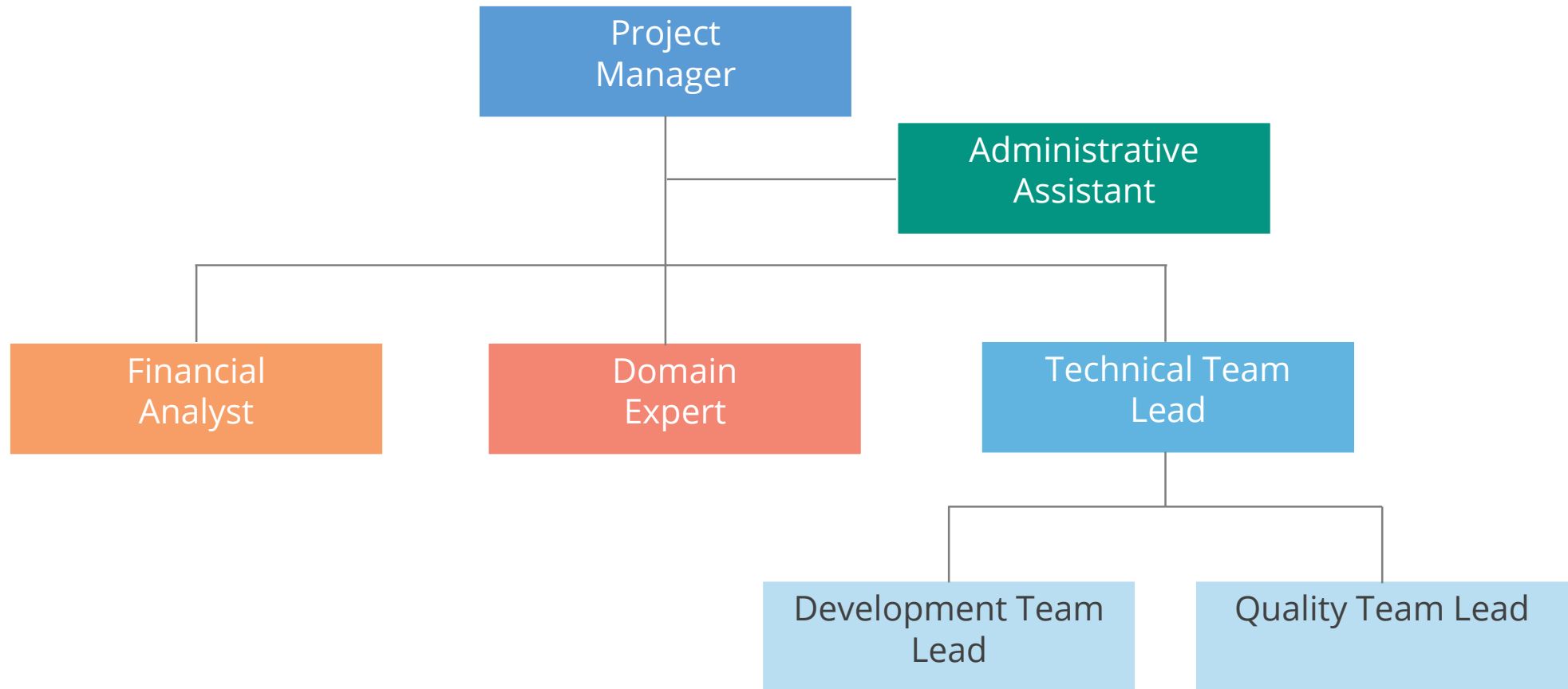


Figure 9-2. Plan Resource Management: Inputs, Tools & Techniques, and Outputs

Organization Charts and Role Descriptions

A Project manager has to ensure that an organizational chart is prepared for every project to identify the roles and reporting relationships.



Responsibility Assignment Matrix

Responsibility Assignment Matrix (RAM) is used to define project responsibilities among the project team.

RACI charts are a form of RAM. RACI stands for:

- Responsible
- Accountable
- Consulted
- Informed

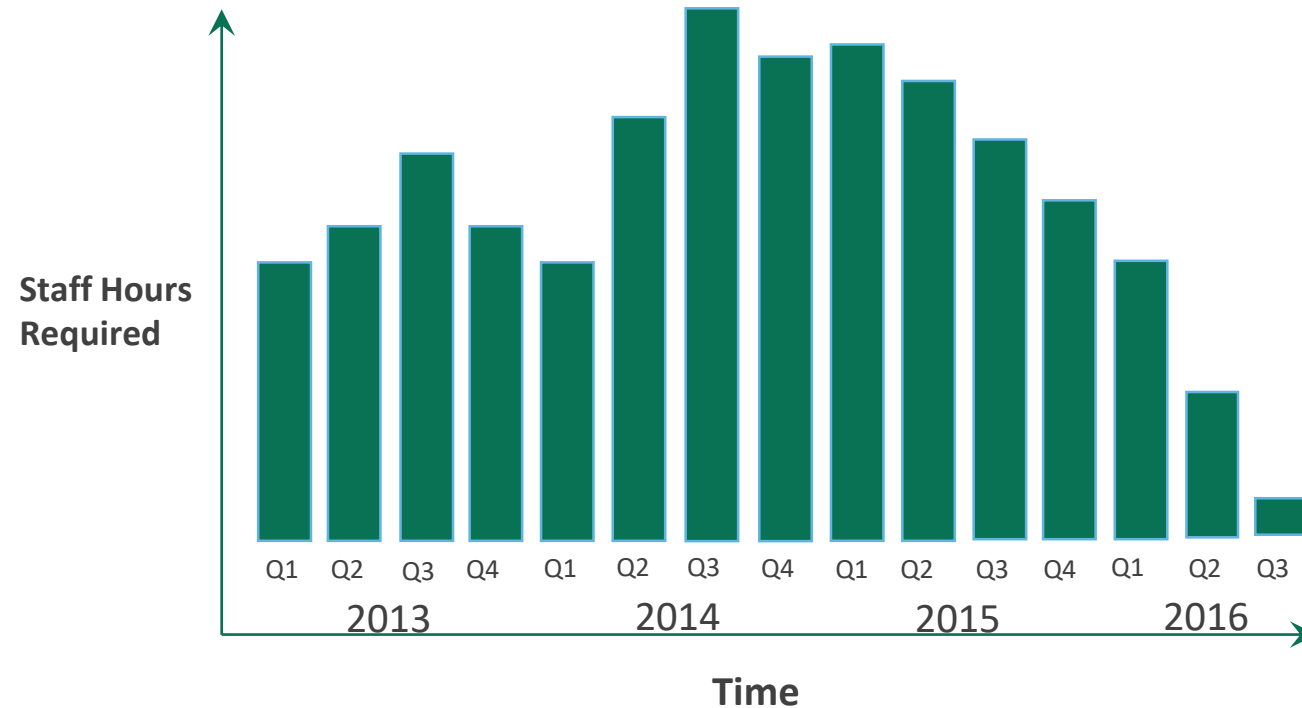
For every project deliverable, RACI charts identify who is responsible, accountable, consulted, and needs to be informed.

There can only be one Accountable (A) in each row of a RACI.

| Activity | John | Kris | Sally | Ting |
|--------------------------|------|------|-------|------|
| Project Plan | A | R | R | R |
| Configuration Management | C | A | R | R |
| Test Plan | C | R | A | R |
| Design | C | I | R | A |
| Team Budget | C | A | R | R |
| Customer Liaison | A | C | R | I |
| Team Building | R | R | A | C |
| Activity | A | R | R | R |

Resource Histogram

Resource histograms are used to represent the resources required through the life of a project.



- For long term projects, staffing requirements can vary over different project phases.
- Based on these estimates, a project manager can develop the resource hiring strategy.

Estimate Activity Resources

“Estimate Activity Resources is the process of estimating team resources and the type and quantities of materials, equipment, and supplies necessary to perform project work.” This process belongs to the Planning Process Group.

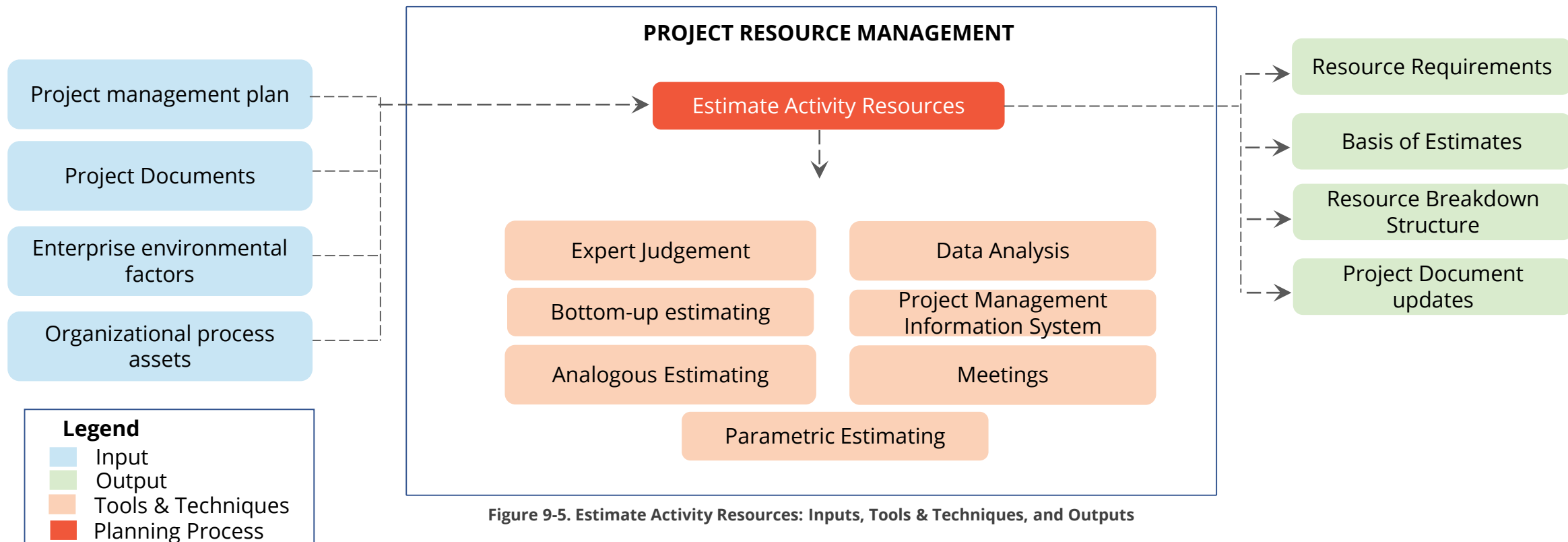


Figure 9-5. Estimate Activity Resources: Inputs, Tools & Techniques, and Outputs

Acquire Resources

“Acquire Resources is the process of obtaining team members, facilities, equipment, materials, supplies, and other resources necessary to complete the project work.” This process belongs to the Executing Process Group.

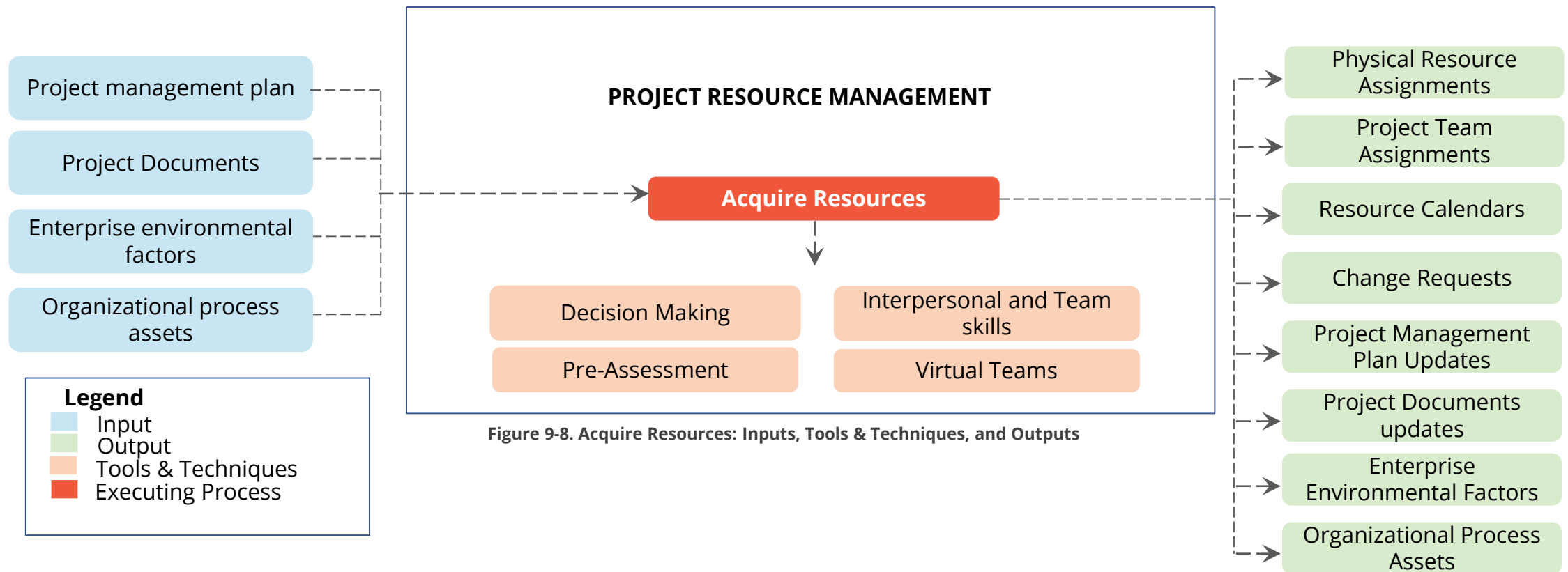


Figure 9-8. Acquire Resources: Inputs, Tools & Techniques, and Outputs

Develop Team

“Develop Team is the process of improving competencies, team member interaction, and overall team environment to enhance project performance.” This process belongs to the Executing Process Group.

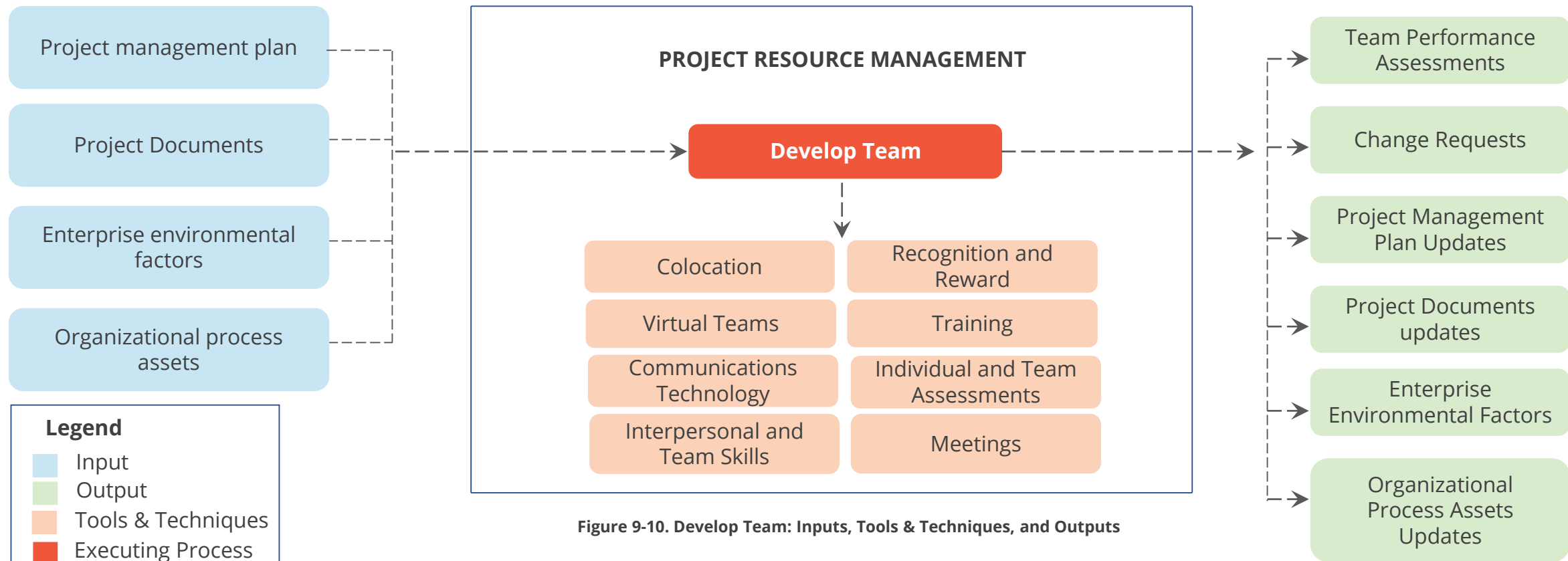


Figure 9-10. Develop Team: Inputs, Tools & Techniques, and Outputs



Questions that test a project manager's role in developing a project team can be expected in the exam.

Manage Team

“Manage Team is the process of tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance.” This process belongs to the Executing Process Group.

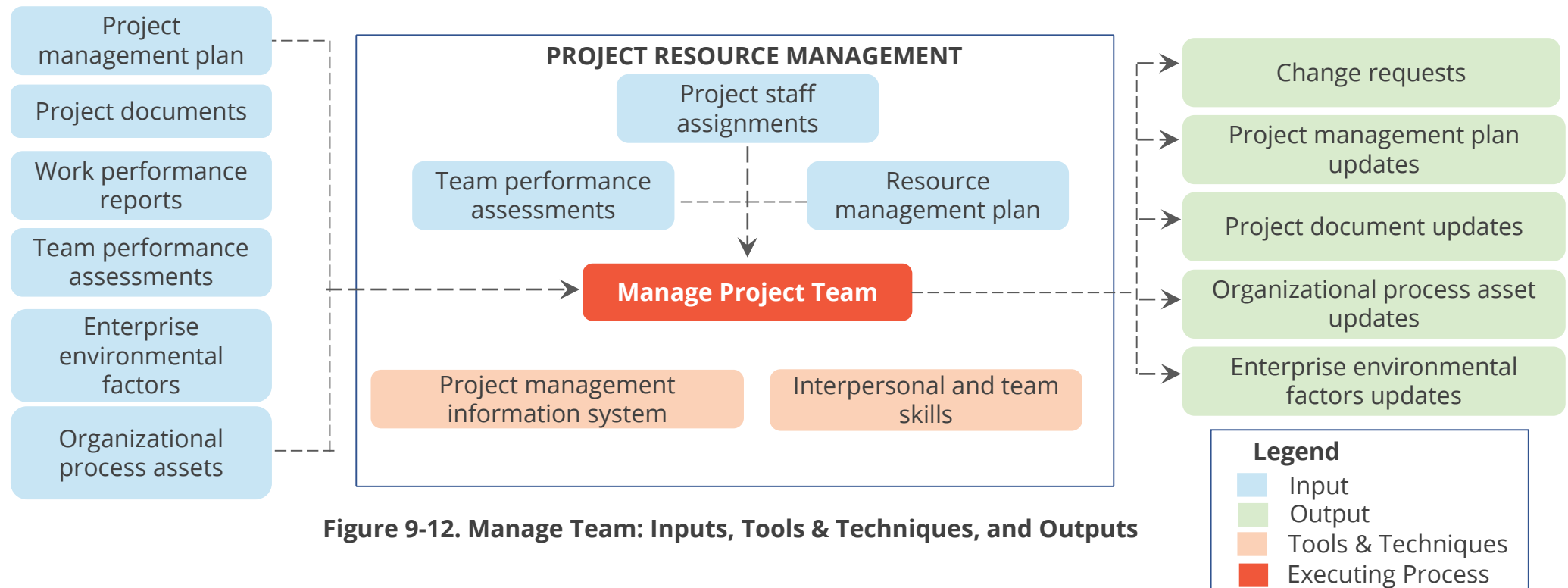


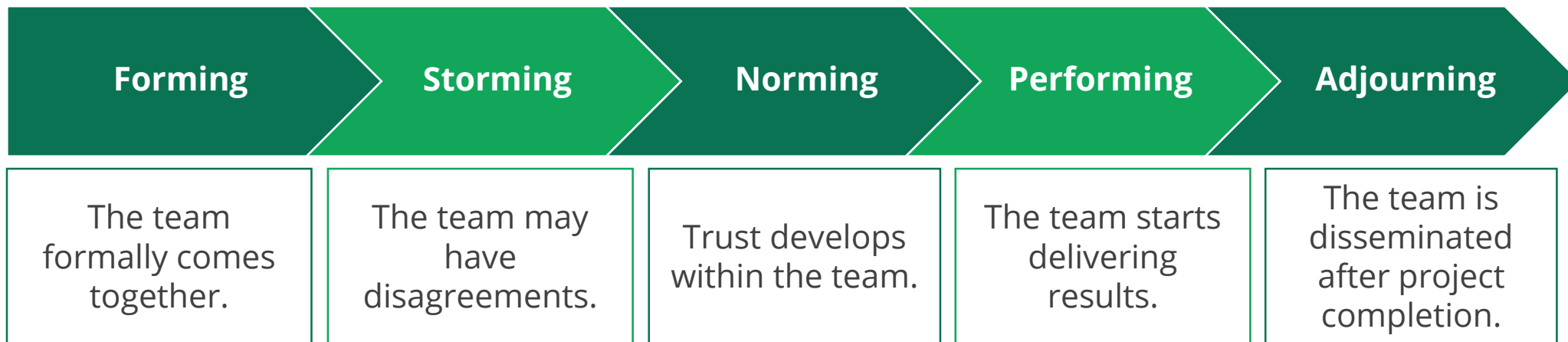
Figure 9-12. Manage Team: Inputs, Tools & Techniques, and Outputs



Questions that test a project manager's skill in managing a project team can be expected in the exam.

Team Dynamics

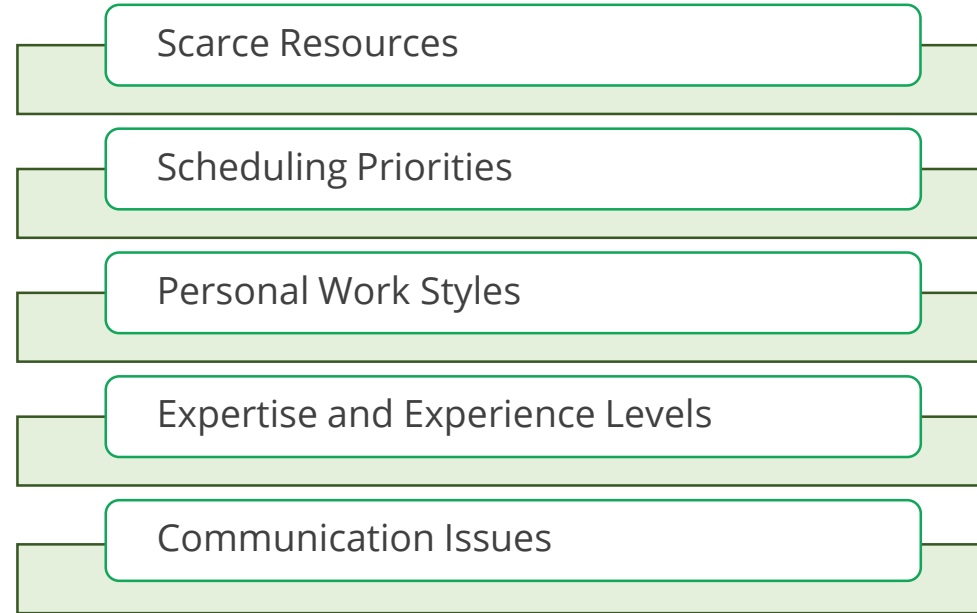
Dr. Bruce Tuckman's (1965) Stages of team formation are as follows:



Conflict Management

Conflict is an inevitable consequence of organizational interactions. If conflicts are managed well, they can create opportunities for improvement.

The sources of conflict are as follows:



The best way to resolve conflict is to discuss and clarify with the parties involved in it.



Business scenario based questions on conflict management can be expected in the exam.

Conflict Management (Contd.)

A project manager needs to be actively involved in the project processes to minimize and avoid conflicts.

The following are some measures that a project manager can take to avoid conflicts:

- Provide all details of the project and keep the team informed of the exact project status.
- Assign the work such that there are no overlapping tasks.
- Motivate the team and ensure everyone gets to work on interesting and challenging assignments.

Conflict Resolution Techniques

The five conflict resolution techniques are as follows:

Withdraw or Avoid

Resolution to the conflict is deferred to a later time.

Compromise or Reconcile

A certain degree of satisfaction is brought to all the parties involved.

Smooth or Accommodate

Areas of agreement are emphasized to reduce the conflict.

Force or Direct

Directions are given by a person in authority to resolve the conflict.

Collaborate or Problem Solve

All the parties are asked to jointly look for a resolution.



Business scenario based problems where a resolution technique has to be selected can be expected in the exam.

Business Scenario: Problem Statement



- Tanya is the project manager for a manufacturing project in a highly regulated industry.
- With the varying environment factors that govern the practices of the company, the room for error is very small. Tanya's project can have some major impact on several areas within the company.
- To strengthen the team's ability to deliver the project adequately without any infractions, the top players in those areas are selected to join Tanya's project team. This decision proves to be helpful.
- A conflict arises between a stakeholder and one of the team members regarding how a task can be completed without violating government regulations.
- Tanya has to meet with the team member and stakeholder to defuse the situation and resolve the conflict. What is the most effective approach?

Business Scenario: Solution



- Tanya should get all parties to focus on the end goal and persuade them to reach a consensus to meet their commitment.
- After redirecting their energy to the customer's needs and their points of agreement, Tanya should convince both sides to pull together and collaborate with one another to pick an approach that presents a win-win scenario.

Powers of the Project Manager

A project manager is vested with certain powers to facilitate project work from the team members.

Legitimate or Formal

- Formally assigns the tasks to the team members

Reward

- Can reward and recognize the team members based on their performance

Penalty

- Can penalize the team members for poor performance

Expert

- Can command authority by the virtue of their expertise in the domain

Referent

- Can be considered as a reference of higher authority to get the work done



Reward and expert are usually the best forms of authority to use. Penalty should be resorted to only as a last option.

Business Scenario: Problem Statement



- Robert is leading a major project initiative for his company. This project is very intense and critical to the business. It will require all hands on deck.
- Robert is task-driven and takes a no-nonsense approach. As a result, some project team members are afraid of him. They view Robert as someone who could damage their career, bonus potential, and work opportunities.
- Because of this mentality, Robert's next team meeting is unproductive, and there is debate around who is responsible for the activities. How should Robert handle this?

Business Scenario: Solution



- The fact that there are project team members who view Robert's power as an example of penalty power is a sign that the team is in need of some team building exercises.
- Team building will help the team get to know each another more and develop trust in each other.
- Then, Robert needs to evaluate his HR Management plan to see if he has a RACI chart for his project to help define who is responsible for what activities. This will aid in minimizing confusion within the project team.

Organizational Theories

A project manager needs to know what motivates the team members to design a reward and recognition plan.

The three popular motivation theories are as follows:

McGregor's Theory of X and Y

McGregor's theory indicates that there are two categories of managers, and this classification is based on what the managers think of their team members.

- **Theory X:** Managers who fall under this category believe that their team members need continuous monitoring. Further, they believe that though the team members are capable, they avoid work whenever possible.
- **Theory Y:** Managers under this category believe that their team members can work without supervision as they look forward to achieve something.

Organizational Theories (Contd.)

A project manager needs to know what motivates the team members to design a reward and recognition plan.

The three popular motivation theories are as follows:

Maslow's Hierarchy of Needs

According to Maslow's Hierarchy of Needs, people's needs change as they grow in their career. Maslow's hierarchy of needs are as follows:

- Physiological: breathing, food, water, sex, sleep, etc.
- Safety: safety of body, employment, resources, morality, family, health, property, etc.
- Social: friendship, family, intimacy, etc.
- Esteem: self-esteem, confidence, achievement, respect, etc.
- Self-actualization: morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts, etc.



Organizational Theories (Contd.)

A project manager needs to know what motivates the team members to design a reward and recognition plan.

The three popular motivation theories are as follows:

Herzberg's Theory

Herzberg's theory classifies factors as follows:

- Hygiene factors: Mandatory factors to motivate the team
 - Example: personal safety, fair compensation, working conditions, etc.
- Motivating agents: Additional factors that motivate people
 - Example: recognition, higher responsibility, etc.

Leadership Styles

A project manager needs to establish a leadership style that matches the needs of the team.

The three popular leadership styles are as follows:

Autocratic or Authoritarian Leadership



Leader gives clear direction and expects compliance.

Participative or Democratic Leadership



Leader offers guidance and encourages team participation.

Delegative or Laissez faire Leadership



Leader offers no guidance and lets the team be on their own.

McKinsey's 7-S Framework

McKinsey's 7-S framework recommends organizations to be aligned to seven elements to accomplish projects successfully.

The seven elements are categorized as follows:

Hard Elements

Hard elements will already be a part of the organizations working on projects.

The three hard elements are:

1. Strategy
2. Structure
3. Systems

Soft Elements

Soft elements are generally the leadership traits that a project manager needs to demonstrate.

The four soft elements are:

1. Shared values
2. Skills
3. Style
4. Staff