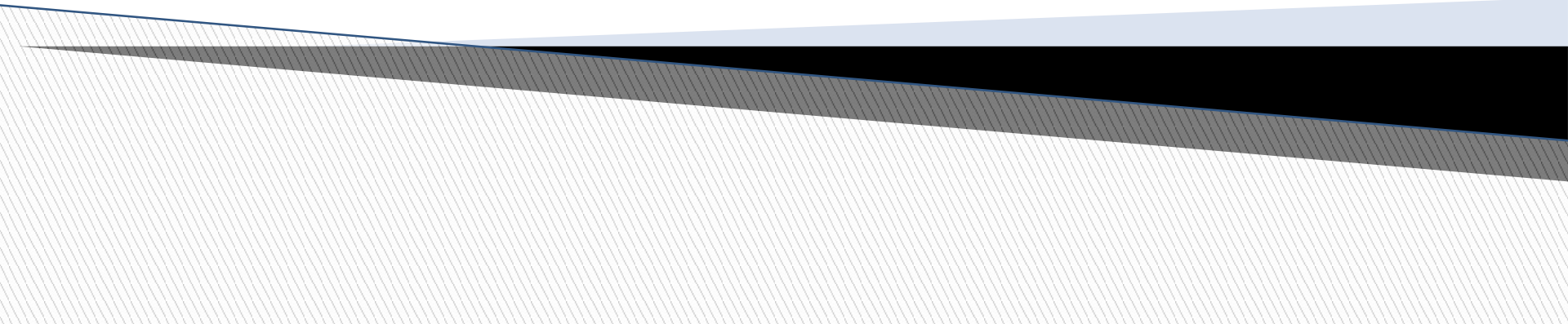


# **Session 8:**

# **Planning Project Resources**

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# Learning Objectives

- ▶ List several planning processes and outputs for project resource, communications, and stakeholder management
- ▶ Explain the project resource management planning and estimate activity resources processes, and create a resource management plan, team charter, resource requirements, and a resource breakdown structure

## Project Resource Management Overview

### 9.1 Plan Resource Management

- .1 Inputs
  - .1 Project charter
  - .2 Project management plan
  - .3 Project documents
  - .4 Enterprise environmental factors
  - .5 Organizational process assets
- .2 Tools & Techniques
  - .1 Expert judgment
  - .2 Data representation
  - .3 Organizational theory
  - .4 Meetings
- .3 Outputs
  - .1 Resource management plan
  - .2 Team charter
  - .3 Project documents updates

### 9.4 Develop Team

- .1 Inputs
  - .1 Project management plan
  - .2 Project documents
  - .3 Enterprise environmental factors
  - .4 Organizational process assets
- .2 Tools & Techniques
  - .1 Colocation
  - .2 Virtual teams
  - .3 Communication technology
  - .4 Interpersonal and team skills
  - .5 Recognition and rewards
  - .6 Training
  - .7 Individual and team assessments
  - .8 Meetings
- .3 Outputs
  - .1 Team performance assessments
  - .2 Change requests
  - .3 Project management plan updates
  - .4 Project documents updates
  - .5 Enterprise environmental factors updates
  - .6 Organizational process assets updates

### 9.2 Estimate Activity Resources

- .1 Inputs
  - .1 Project management plan
  - .2 Project documents
  - .3 Enterprise environmental factors
  - .4 Organizational process assets
- .2 Tools & Techniques
  - .1 Expert judgment
  - .2 Bottom-up estimating
  - .3 Analogous estimating
  - .4 Parametric estimating
  - .5 Data analysis
  - .6 Project management information system
  - .7 Meetings
- .3 Outputs
  - .1 Resource requirements
  - .2 Basis of estimates
  - .3 Resource breakdown structure
  - .4 Project documents updates

### 9.5 Manage Team

- .1 Inputs
  - .1 Project management plan
  - .2 Project documents
  - .3 Work performance reports
  - .4 Team performance assessments
  - .5 Enterprise environmental factors
  - .6 Organizational process assets
- .2 Tools & Techniques
  - .1 Interpersonal and team skills
  - .2 Project management information system
- .3 Outputs
  - .1 Change requests
  - .2 Project management plan updates
  - .3 Project documents updates
  - .4 Enterprise environmental factors updates

### 9.3 Acquire Resources

- .1 Inputs
  - .1 Project management plan
  - .2 Project documents
  - .3 Enterprise environmental factors
  - .4 Organizational process assets
- .2 Tools & Techniques
  - .1 Decision making
  - .2 Interpersonal and team skills
  - .3 Pre-assignment
  - .4 Virtual teams
- .3 Outputs
  - .1 Physical resource assignments
  - .2 Project team assignments
  - .3 Resource calendars
  - .4 Change requests
  - .5 Project management plan updates
  - .6 Project documents updates
  - .7 Enterprise environmental factors updates
  - .8 Organizational process assets updates

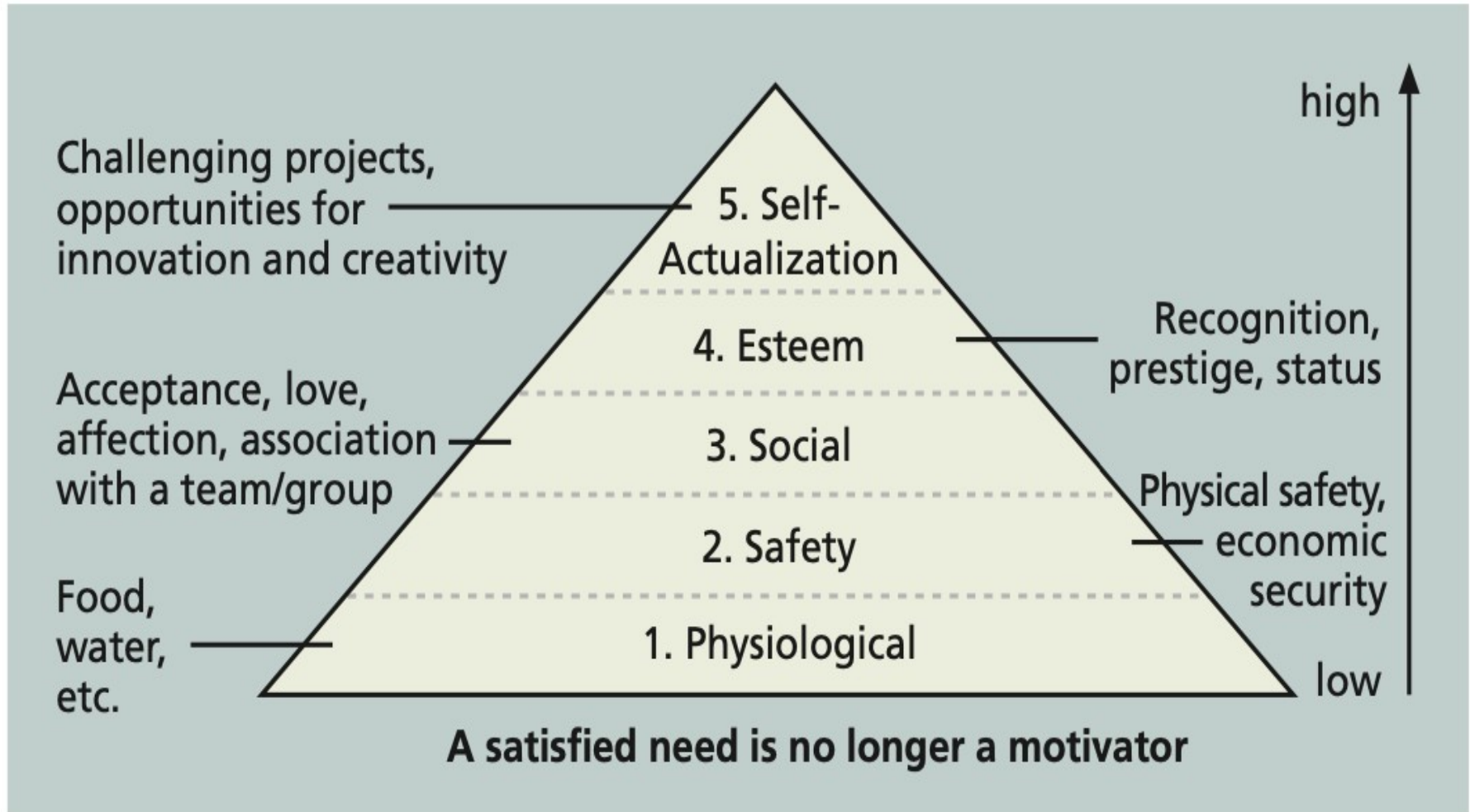
### 9.6 Control Resources

- .1 Inputs
  - .1 Project management plan
  - .2 Project documents
  - .3 Work performance data
  - .4 Agreements
  - .5 Organizational process assets
- .2 Tools & Techniques
  - .1 Data analysis
  - .2 Problem solving
  - .3 Interpersonal and team skills
  - .4 Project management information system
- .3 Outputs
  - .1 Work performance information
  - .2 Change requests
  - .3 Project management plan updates
  - .4 Project documents updates

# Project Resource Management

- ▶ ***“People are our most important asset.”*** People determine the success and failure of organizations and projects
- ▶ ***Project resource management*** is concerned with making effective use of the people involved with a project as well as physical resources (materials, facilities, equipment, and infrastructure)
- ▶ The main outputs produced as part of project resource management planning are:
  - ***Project resource management plan***
  - ***Team charter***

# Maslow's Hierarchy of Needs



**FIGURE 9-2** Maslow's hierarchy of needs

# Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs is a psychological theory proposed by Abraham Maslow in 1943.

It suggests that human beings have different levels of needs, which are arranged in a pyramid structure. Maslow believed that only after fulfilling the needs at the lower levels can a person pursue the higher levels of the hierarchy.

- 1. Physiological Needs:** Basic needs for survival, such as food, water, warmth, sleep, and shelter.
- 2. Safety Needs:** This includes physical safety, financial security, health, and protection from danger.
- 3. Love and Belongingness Needs:** Relationships, friendships, family connections, and a sense of belonging in a community.
- 4. Esteem Needs:** This level involves the desire for respect, self-esteem, recognition, and the respect of others.
- 5. Self-Actualization:** Realization of one's full potential. This can include personal growth, creativity, and the pursuit of one's passions and goals.

# McClelland's Acquired-Needs Theory

- 1. Need for Achievement (nAch):** The desire to accomplish challenging goals, succeed in tasks, and seek personal success. People with a high need for achievement are motivated by difficult tasks and personal accomplishment.
- 2. Need for Affiliation (nAff):** The need for social connections, forming relationships, and being liked by others. Individuals with a high need for affiliation are motivated by teamwork, collaboration, and maintaining harmonious relationships.
- 3. Need for Power (nPow):** The desire to influence, control, and lead others. People with a high need for power are motivated by leadership roles, decision-making opportunities, and the ability to impact others, either for personal or organizational benefit.

# Herzberg's Motivation-Hygiene Theory

There are two distinct sets of factors that influence employee motivation and job satisfaction:

- 1. Motivators (Satisfiers):** They lead to job satisfaction and motivation. They are related to the nature of the work.
- 2. Hygiene Factors (Dissatisfiers):** These are factors that do not necessarily motivate employees but can cause dissatisfaction if they are absent or inadequate. They are related to the work environment.

**TABLE 9-1** Examples of Herzberg's hygiene factors and motivators

Hygiene Factors	Motivators
Larger salaries	Achievement
More supervision	Recognition
More attractive work environment	Work itself
Computer or other required equipment	Responsibility
Health benefits	Advancement
Training	Growth



# Daniel Pink's Motivators

**1. Autonomy:** People like to be self-directed and have freedom in their work.

- Example: An Australian software company, Atlassian, lets people decide what they want to work on, and with whom, for one day every quarter. Workers show the results of their work that day in a fun meeting. This one day of total autonomy has produced a large number of new products and fixes to problems.

**2. Mastery:** People like to improve their skills, such as playing an instrument, participating in a sport, writing software, and mastering work-related activities.

- Example: Wikipedia were created because people enjoyed the challenge and mastery involved.

**3. Purpose:** People want to work for a good purpose, more than just a paycheck. They want to feel like their work contributes to something meaningful, whether it's making a difference in society, helping others, solving problems, or advancing a cause they believe in.

- When the profit motive is separated from the purpose motive, people notice and do not perform as well. Many great products were created for a purpose.

# McGregor's Theory X and Theory Y

## Theory X

### - Assumption:

- Employees inherently dislike work and will avoid it if they can.
- They lack ambition, prefer to be directed, and avoid responsibility.
- They need to be closely supervised and controlled to ensure productivity.
- Motivation is driven mainly by external factors like rewards and punishments.
- People prefer to avoid decision-making and will not seek opportunities for personal growth or development unless forced.

### - Management style:

- Managers focus on closely monitoring employees, enforcing rules, and using rewards or punishments to motivate performance.
- This approach tends to lead to a more hierarchical, rigid, and less innovative work environment.

### Organizational Structure:

- Top-down chain of command
- Centralized decision-making
- Limited collaboration
- Strict roles and responsibilities

# McGregor's Theory X and Theory Y ... Theory Y

## - Assumptions:

- Work can be as natural as play, and people find fulfillment in work if they are given the right environment and conditions.
- Employees are self-motivated, responsible, and capable of taking initiative.
- People can be trusted to make decisions and seek opportunities for personal and professional growth.
- Employees want to contribute to the success of the organization and will do so if they are provided with opportunities for development and challenge.

## - Management style:

- Managers believe in empowering employees, encouraging collaboration, and providing opportunities for self-direction and creativity.
- They create a more participative, flexible, and open work culture, fostering trust and innovation.

## - Organizational Structure:

- Flat hierarchy
- Decentralized decision-making
- Collaboration and teamwork
- Empowerment and creativity

# William Ouchi's Theory Z

**Theory Z** is based on the Japanese approach to motivating workers, which emphasizes trust, quality, collective decision making, and cultural values.

- **Trust and support:** Employees are trusted to do their best work as long as management shows consistent support and concern for their well-being.
- **Collective decision-making:** It emphasizes teamwork and collaboration, where decisions are made collectively rather than being imposed by top-level management.
- **Job rotation and skill broadening:** Instead of specializing in a single task, employees rotate through various roles, broadening their skills and making a more flexible workforce.
- **Continuous training:** Employees are encouraged to constantly develop new skills through ongoing training and development, ensuring they can adapt to changing work environments.

## - **Organizational Structure:**

- Team-based structure
- Collaborative decision-making
- Focus on development
- Long-term employment

# Influence and power to achieve project success

Robert Tannenbaum and D. Merton Yukl highlight the importance of the various influence bases available to project managers, as well as the relationship between influence and power.

## - Influence Bases:

1. **Authority:** The legitimate right to issue orders.
2. **Assignment:** The ability to influence future work assignments.
3. **Budget:** The ability to allocate discretionary funds.
4. **Promotion:** The ability to improve a worker's position.
5. **Money:** The ability to increase a worker's pay and benefits.
6. **Penalty:** The ability to impose punishments or penalties.
7. **Work Challenge:** The ability to assign tasks that align with a worker's interests, thus tapping into intrinsic motivation.
8. **Expertise:** The perceived special knowledge or expertise that others find valuable.
9. **Friendship:** The ability to develop friendly personal relationships with others.

## - Power Types:

10. **Coercive Power:** Based on punishment or threats.
11. **Legitimate Power:** Power derived from a position of authority.
12. **Expert Power:** Power based on specialized knowledge.
13. **Reward Power:** Power derived from offering rewards such as money, status, or recognition.
14. **Referent Power:** Power based on personal charisma and respect.

# Influence and power to achieve project success ...

- New project managers often overemphasize authority and neglect more effective forms of influence, such as work challenge or reward power.
- Effective project management requires understanding when and how to use various influence bases and types of power.
- People respond better to a project manager who offers challenging work, provides positive reinforcement, and uses expertise to guide the team.

# Covey and Improving Effectiveness

## Seven Habits of Highly Effective People (Stephen Covey)

1. **Be Proactive:** Individuals can choose how to respond to any situation. Project managers must anticipate issues and plan accordingly, encouraging their team to adopt a proactive mindset.
2. **Begin with the End in Mind:** Focus on their values and goals. By creating a mission statement, project managers can ensure the team remains aligned with the project's overall purpose and objectives.
3. **Put First Things First:** Prioritizing important but not urgent tasks. Project managers should focus on long-term planning, stakeholder relationships, and mentoring team members, rather than just reacting to urgent issues.
4. **Think Win/Win:** All parties in a conflict work together to find mutually beneficial solutions. Project managers should aim for this approach but use win/lose when necessary in competitive situations.
5. **Seek First to Understand, Then to Be Understood:** The habit of empathic listening is critical for effective communication. Project managers must listen attentively to stakeholders' needs and perspectives before offering their own views, helping to address concerns and align on expectations.
6. **Synergize:** Synergy is about the power of collaborative work, where the team's collective output exceeds individual contributions. Project managers can foster synergy by valuing diversity and encouraging collaboration, leading to better project outcomes.
7. **Sharpen the Saw:** Covey emphasizes the importance of self-renewal in physical, mental, spiritual, and social aspects. Project managers must ensure they and their teams take time for self-care, learning, and recharging to avoid burnout.

# Team Management Plan

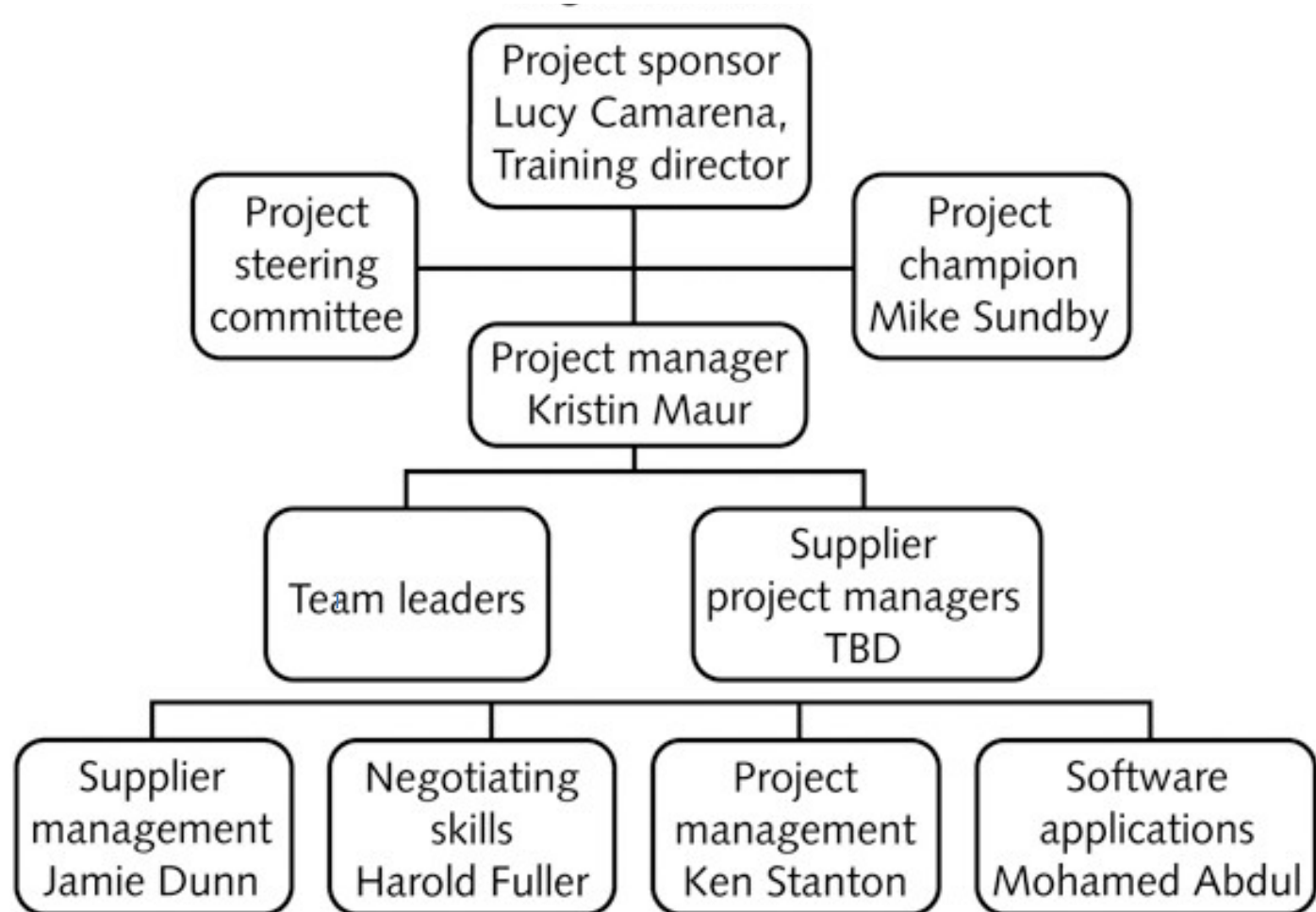
- ▶ Key components include:
  - Project organizational chart
  - Responsibility assignment matrix
  - Resource histogram
  - Staffing management plan



# Project Organizational Charts

- ▶ Similar to a company's organizational chart, a ***project organizational chart*** is a graphical representation of how authority and responsibility is distributed within the project
- ▶ The size and complexity of the project determines how simple or complex the organizational chart is

# Sample Project Organizational Chart



# Responsibility Assignment Matrix (RAM)

- ▶ **A responsibility assignment matrix (RAM)** maps the work of the project as described in the work breakdown structure (WBS) to organizational breakdown structure (OBS) responsible for performing the work.

**WBS activities** →

**OBS units** ↓

	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8
Systems Engineering	R	R P					R	
Software Development			R P					
Hardware Development				R P				
Test Engineering	P							
Quality Assurance					R P			
Configuration Management						R P		
Integrated Logistics Support							P	
Training								R P

**R = Responsible organizational unit**  
**P = Performing organizational unit**

**FIGURE 9-5** Sample responsibility assignment matrix (RAM)

# RACI

- ▶ For smaller projects, it is best to assign WBS activities to individuals; for larger projects, it is more effective to assign the work to organizational units or teams
- ▶ **RACI charts** are a type of RAM that show
  - **Responsibility** (who does the task),
  - **Accountability** (who signs off on the task or has authority for it),
  - **Consultation** (who has information necessary to complete the task), and
  - **Informed** (who needs to be notified of task status/results) roles for project stakeholders

# Sample RACI

Tasks	Kristin	Jamie	Mohamed	Supplier A
Needs assessment	A	R	C	I
Research of existing training	I	R, A	C	I
Partnerships	R, A	I	I	C
Course development	A	C	C	R
Course administration	I	A	R	
Course evaluation	I	A	R	I
Stakeholder communications	R, A	C	C	C

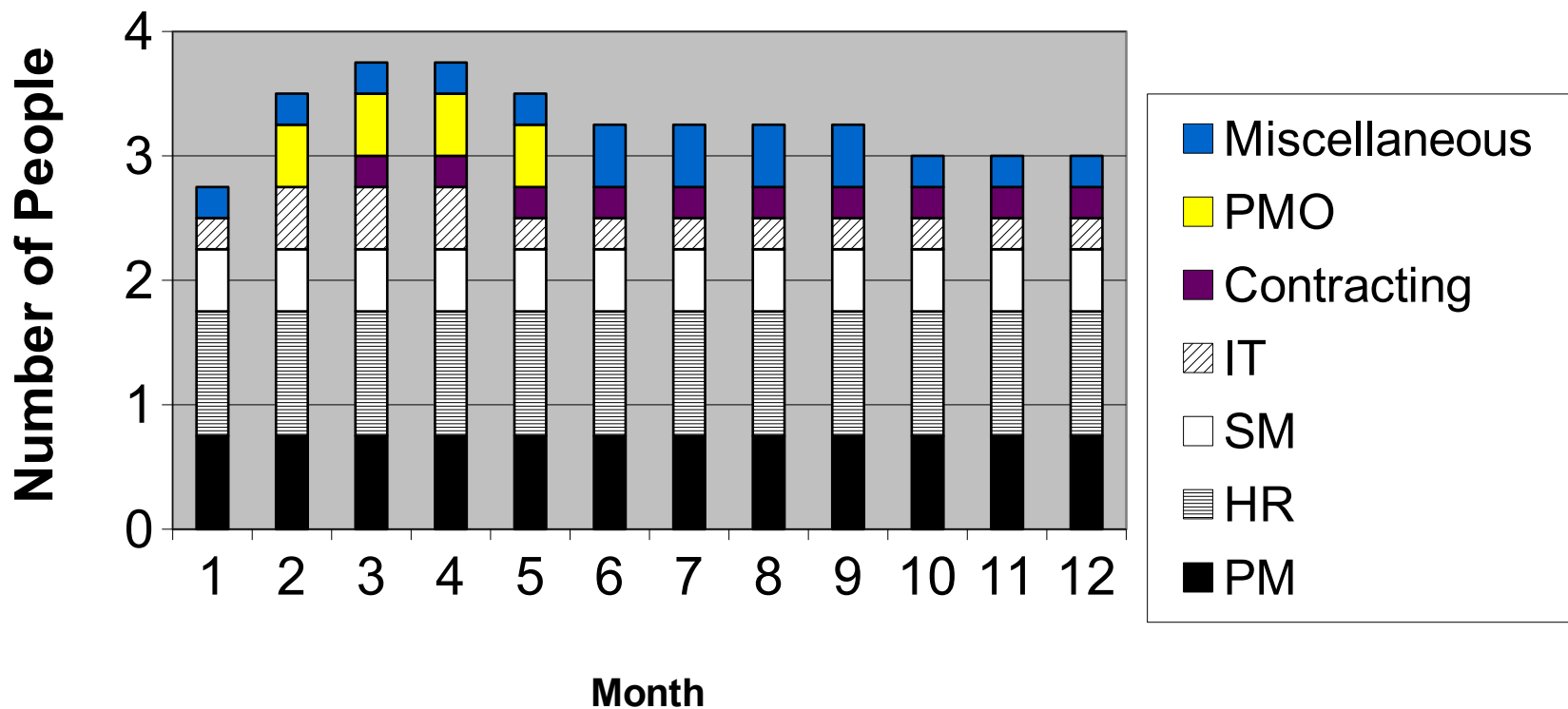
R: Responsible    A: Accountable    C: Consulted    I: Informed

# Resource Histograms

- ▶ A **resource *histogram*** is a column chart that shows the number of resources required for or assigned to a project over time
- ▶ In planning project staffing needs, senior managers often create a resource histogram in which columns represent the number of people needed in each skill category. By stacking the columns, you can see the total number of people needed each month
- ▶ After resources are assigned to a project, you can view a resource histogram for each person to see how his/her time has been allocated

# Sample Resource Histogram

		Month											
Type of Resource	Meaning	1	2	3	4	5	6	7	8	9	10	11	12
PM	Project Manager	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
HR	Human Resources	1	1	1	1	1	1	1	1	1	1	1	1
SM	Supplier Management	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
IT	Information Technology	0.25	0.5	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Contracting	Contracting	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
PMO	Project Management Office	0	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0
Miscellaneous	Miscellaneous	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.25	0.25



# Staffing Management Plans

- ▶ A **staffing management plan** describes when and how people will be added to and removed from a project
- ▶ It describes the types of people needed to work on the project, the numbers needed for each type of person each month, and how these resources will be acquired, trained, rewarded, and reassigned after the project



# Team Charter

- ▶ Many companies believe in using **team charters** to help promote teamwork and clarify team communications.
- ▶ After core project team members have been selected, they meet to prepare a team charter to guide how the team will function.
- ▶ It is crucial to emphasize the importance of the project team throughout the project's life cycle, and the team charter should be updated as needed.

# Developing the Project Team

- ▶ **Training** to develop both individual and team skills.
- ▶ **Team-building activities** to enhance teamwork.
  - **Physical challenges** can help strangers bond but may worsen issues in dysfunctional teams.
  - **Psychological tools** Psychological tools focus on helping team members understand each other's differences and work more effectively together. (Myers-Briggs, The Social Styles Profile, DISC Profile, StrengthsFinder)
- ▶ **Reward and recognition systems** for motivating employees.
  - Common rewards include bonuses, trips, or other incentives for meeting or exceeding company or project goals.
  - Managers can recognize individuals who go above and beyond, such as working overtime to meet aggressive deadlines or helping teammates.
  - Project managers should avoid rewarding overtime simply for extra pay or poor planning. Instead, rewards should be linked to meaningful contributions that enhance the team's success.

# Managing the Project Team

- ▶ Tools and Techniques for Managing Project Teams include interpersonal and team skills, such as conflict management, decision-making, emotional intelligence, influencing, and leadership, as well as project management information systems.
- ▶ Conflicts are common in projects, and while some may be beneficial, many are undesirable. Project managers need to understand and proactively manage conflict.
- ▶ Blake and Mouton's managerial grid (1964) identifies five basic conflict-handling strategies, each categorized by:
  - the importance of the task (concern for production)
  - the importance of relationships (concern for people)

# Considerations for Agile/Adaptive Environments

1. **Team Structures:** Projects with high variability benefit from self-organizing teams with generalizing specialists.
2. **Collaboration:** Agile teams, for example, are fully dedicated and work in a trust-based, collaborative environment with frequent feedback loops.
3. **Resource Planning:** In agile environments, resource planning (both human and physical) is less predictable.
4. **Agile Teams:** On agile projects, teams are typically self-directed or led by a Scrum master.
5. **Human Resources:** People are the most valuable assets on any project.

# Summary

- ▶ **Project Resource Management:** Project managers must effectively manage human and physical resources, including planning, acquiring, developing, and controlling them throughout the project lifecycle.
- ▶ **Psychosocial Factors:** Understanding motivational theories and human behavior, like Maslow's and Herzberg's theories, is essential for creating environments that support team effectiveness and motivation.
- ▶ **Influence and Power:** Project managers use various influence bases and types of power (e.g., authority, expertise) to motivate teams, with success linked to work challenge and expertise rather than authority or penalty.
- ▶ **Effective Project Management:** Covey's seven habits, emotional intelligence, and leadership skills are crucial for project managers to guide teams, with tools like RACI charts helping define roles and responsibilities.
- ▶ **Team Development and Conflict Management:** Building strong teams requires training, team-building activities, and conflict management strategies, while project management software helps control resource utilization and performance.