

# Project Resource Management

# The Importance of Resource Management

- People determine the success and failure of organizations and projects
  - Most project managers agree that managing human resources effectively is one of the toughest challenges they face
  - Managing people is a vital component of project resource management

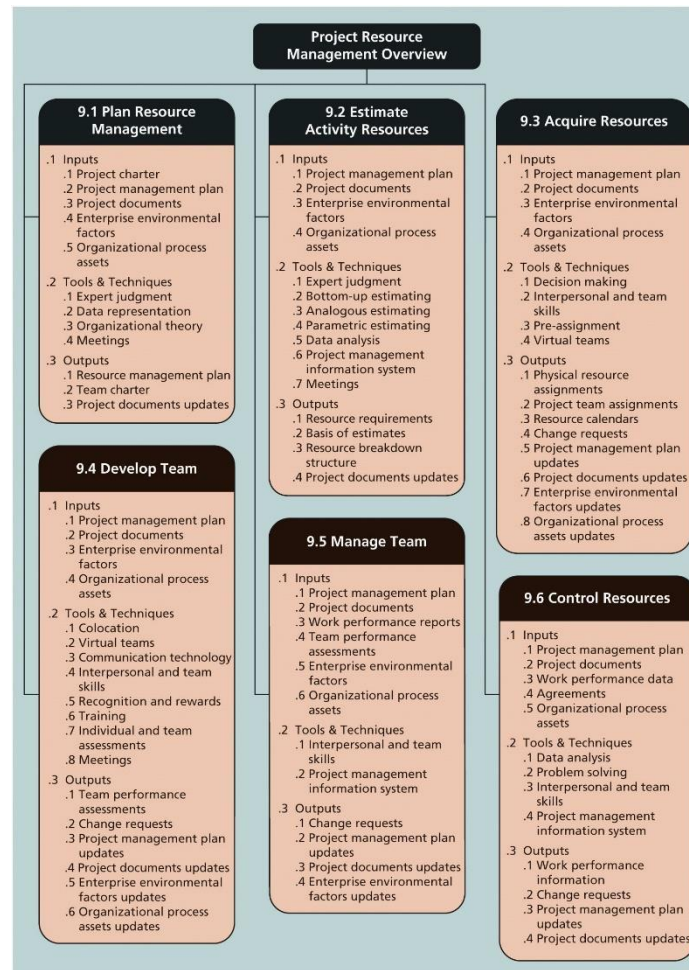
# Implications for the Future of IT Human Resource Management

- Proactive organizations are addressing human resource needs
  - Improving benefits
  - Redefining work hours and incentives
  - Finding future workers

# What is Project Resource Management? (1 of 2)

- Making the most effective use of the human and physical resources involved with a project
  - Planning resource management
  - Estimating activity resources
  - Acquiring resources
  - Developing the project team
  - Managing the project team
  - Controlling resources

# What is Project Resource Management? (2 of 2)



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**FIGURE 9-1** Project resource management overview

# Keys to Managing and Leading People

- Psychologists and management theorists have devoted much research and thought to the field leading people at work
  - Motivation theories
  - Influence and power
  - Effectiveness
  - Emotional intelligence
  - Leadership

# Motivation Theories

- Intrinsic motivation causes people to participate in an activity for their own enjoyment
  - Example: some people love to read, write, or play an instrument because it makes them feel good
- Extrinsic motivation causes people to do something for a reward or to avoid a penalty
  - Example: some young children would prefer not to play an instrument, but they do because they receive a reward or avoid a punishment for doing so

# Influence and Power (1 of 3)

- Thamhain and Wilemon: ways to have influence on projects
  - Authority: legitimate hierarchical right to issue orders
  - Assignment: ability to influence a worker's later work assignments
  - Budget: ability to authorize others' use of discretionary funds
  - Promotion: ability to improve a worker's position
  - Money: ability to increase a worker's pay and benefits
  - Penalty: ability to cause punishment
  - Work challenge: ability to assign work that capitalizes on a worker's enjoyment of doing a particular task
  - Expertise: perceived special knowledge that others deem important
  - Friendship: ability to establish friendly personal relationships between the project manager and others



# Influence and Power (2 of 3)

- Ways to influence
  - Project managers who use work challenges and expertise to influence people projects are more likely to succeed
  - Projects are more likely to fail when project managers rely too heavily on authority, money, or penalty

# Influence and Power (3 of 3)

- Power is the potential ability to influence behavior to get people to do things they would not otherwise do
  - Power is much stronger than influence, because it is often used to force people to change their behavior
- Types of power
  - Coercive
  - Legitimate
  - Expert
  - Reward
  - Referent

# Covey and Improving Effectiveness (1 of 2)

- Project managers can apply Covey's seven habits to improve effectiveness on projects
  - Be proactive
  - Begin with the end in mind
  - Put first things first
  - Think win/win
  - Seek first to understand, then to be understood
  - Synergize
  - Sharpen the saw

# Covey and Improving Effectiveness (2 of 2)

- Good project managers are empathic listeners
  - They listen with the intent to understand
- Before you can communicate with others, you have to have rapport
  - Relation of harmony, conformity, accord, or affinity
- Mirroring is the matching of certain behaviors of the other person
  - A technique to help establish rapport
- IT professionals need to develop empathic listening and other people skills to improve relationships with users and other stakeholders

# Emotional Intelligence

- Howard Gardner's book *Frames of Mind: The Theory of Multiple Intelligences* introduced the concept of using more than one way to think of and measure human intelligence
  - Gardner suggested the need to develop both interpersonal intelligence (capacity to understand the motivations, intentions, and desires of others) and intrapersonal intelligence (capacity to understand oneself, one's feelings, and motivations)
  - Emotional intelligence (EI) is knowing and managing one's own emotions and understanding the emotions of others for improved performance

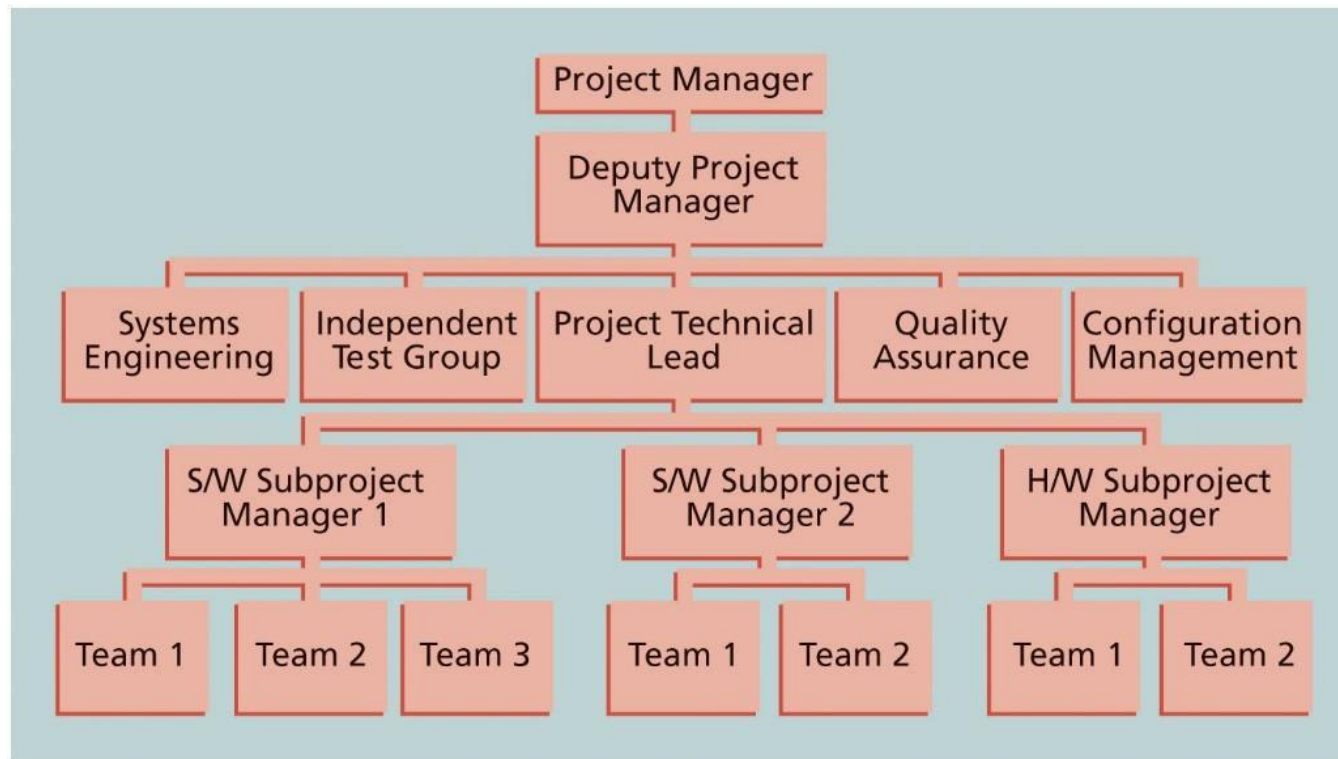
# Leadership

- There is no one best way to be a leader
  - Most experts agree that the best leaders are able to adapt their style to needs of the situation
  - It is important to understand and pay attention to concepts of motivation, influence, power, effectiveness, emotional intelligence, and leadership in all project processes

# Developing the Resource Management Plan and Team Charter (1 of 3)

- Involves identifying and documenting project resources, roles, responsibilities, skills, and reporting relationships
  - Can be separated into a human resource management plan and a physical resource management plan
- Contents include:
  - Project organizational charts
  - Responsibility assignment matrixes
  - Staffing management plan and resource histograms
  - Team charters

# Developing the Resource Management Plan and Team Charter (2 of 3)



**FIGURE 9-3** Sample organizational chart for a large IT project



# Developing the Resource Management Plan and Team Charter (3 of 3)

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)

# Estimating Activity Resources

- Tools that can assist in resource estimating
  - Expert judgment
  - Various estimating approaches
  - Data analysis
  - Project management software
  - Meetings

# Acquiring Resources

- During the late 1990s, the IT job market became extremely competitive
  - Today, many organizations again face a shortage of IT staff
- Regardless of the current job market, acquiring qualified IT professionals is critical

# Resource Assignment

- After developing resource requirements, project managers must work with other people in their organizations to assign them to their projects or to acquire additional human or physical resources needed for the project
  - Organizations that do a good job of staff acquisition have good staffing plans
  - It is very important to consider the needs of individuals and the organization when making recruiting and retention decisions

# Resource Loading

- Resource loading refers to the amount of individual resources an existing schedule requires during specific time periods
  - Helps project managers develop a general understanding of the demands a project will make on the organization's resources and individual people's schedules
- Overallocation means more resources than available are assigned to perform work at a given time

# Resource Leveling

- Resource leveling is a technique for resolving resource conflicts by delaying tasks
  - Main purpose is to create a smoother distribution of resource usage
- Benefits of resource leveling
  - When resources are used on a more constant basis, they require less management
  - May enable project managers to use a just-in-time inventory type of policy for using subcontractors or other expensive resources
  - Results in fewer problems for project personnel and accounting department
  - Often improves morale

# Developing the Project Team (1 of 2)

- The main goal of team development is to help people work together more effectively to improve project performance
  - It takes teamwork to successfully complete most projects
- Tuckman model describes five stages of team development
  - Forming
  - Storming
  - Norming
  - Performing
  - Adjourning

# Developing the Project Team (2 of 2)

- Training
  - Project managers often recommend that people take specific training courses to improve individual and team development
- Team-building activities
  - Physical challenges
  - Psychological preference indicator tools

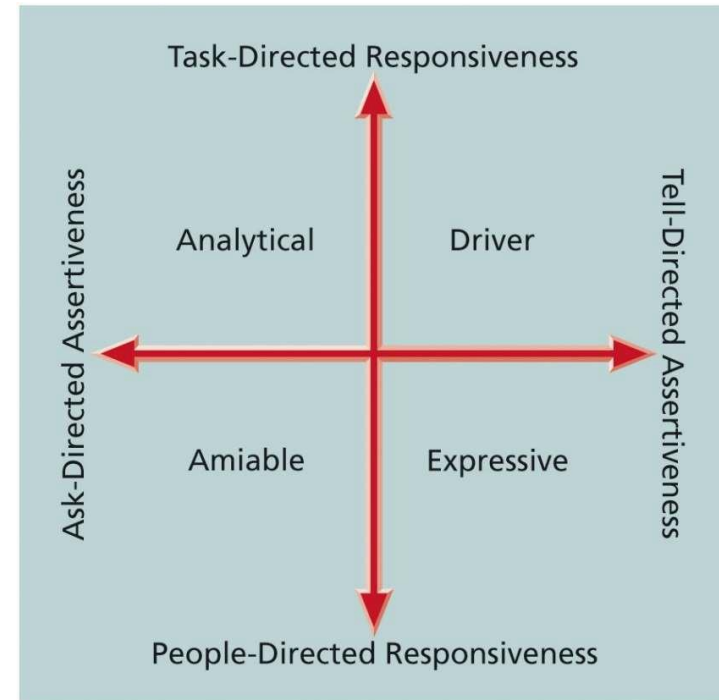


# The Meyers-Briggs Type Indicator

- Popular tool for determining personality preferences and helping teammates understand each other
- Four dimensions
  - Extrovert/Introvert (E/I)
  - Sensation/Intuition (S/N)
  - Thinking/Feeling (T/F)
  - Judgment/Perception (J/P)
- Intuitive/Thinking types (i.e., NTs or rationals) are attracted to technology fields

# The Social Styles Profile

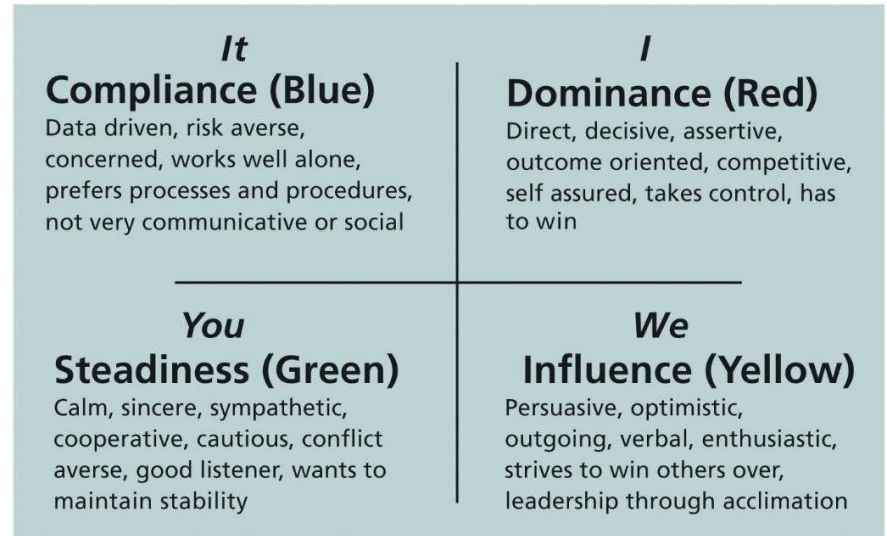
- People are perceived as behaving primarily in one of four zones, based on their assertiveness and responsiveness
  - Drivers
  - Expressives
  - Analyticals
  - Amiables



**FIGURE 9-9** Social styles

# DISC Profile

- Four-dimensional model of normal behavior
  - Dominance
  - Influence
  - Steadiness
  - Compliance



**FIGURE 9-10** The DISC profile

# Reward and Recognition Systems

- Team-based reward and recognition systems can promote teamwork
  - Focus on rewarding teams for achieving specific goals
    - If management rewards teamwork, they will promote or reinforce the philosophy that people work more effectively in teams
- Project managers must continually assess their team's performance
  - When they find areas in which individuals or the entire team can improve, it's their job to find the best way to develop their people and improve performance

# Managing the Project Team

- Project managers must lead their teams in performing various project activities
- After assessing team performance and related information, the project manager must make several decisions
  - Changes to be requested
  - Corrective or preventive actions
  - Updates needed

# Tools and Techniques for Managing Project Teams (1 of 4)

- Several tools and techniques are available to assist in managing project teams
  - Interpersonal and team skills
  - Project management information systems
  - Conflict management

# Tools and Techniques for Managing Project Teams (2 of 4)

- Conflict handling modes
  - Confrontation: directly face a conflict using a problem-solving approach
  - Compromise: use a give-and-take approach
  - Smoothing: de-emphasize areas of difference and emphasize areas of agreement
  - Forcing: win-lose approach
  - Withdrawal: retreat or withdraw from an actual or potential disagreement
  - Collaborating: decision makers incorporate different viewpoints and insights to develop consensus and commitment

# Tools and Techniques for Managing Project Teams (4 of 4)

- Conflict can be good
  - Conflict often produces important results, such as new ideas, better alternatives, and motivation to work harder and more collaboratively
  - Groupthink: conformance to the values or ethical standards of a group; can develop if there are no conflicting viewpoints
  - Research suggests that task-related conflict often improves team performance, but emotional conflict often depresses team performance



# General Advice on Managing Teams (1 of 2)

- Five dysfunctions of teams
  - Absence of trust
  - Fear of conflict
  - Lack of commitment
  - Avoidance of accountability
  - Inattention to results

# General Advice on Managing Teams (2 of 2)

- General advice
  - Be patient and kind with your team
  - Fix the problem instead of blaming people
  - Establish regular, effective meetings
  - Allow time for teams to go through the basic team-building stages
  - Limit the size of work teams to three to seven members
  - Plan some social activities to help project team members and other stakeholders get to know each other better
  - Stress team identity
  - Nurture team members and encourage them to help each other
  - Acknowledge individual and group accomplishments
  - Take additional actions to work with virtual team members

# Controlling Resources

- Ensuring physical resources assigned to the project are available as planned
  - Also involves monitoring the planned versus actual resources utilization and taking corrective actions as needed

# Using Software to Assist in Resource Management

- Software can help in producing a simple responsibility assignment matrix or resource histograms
- Software includes several features related to human resource management
  - Assigning and tracking resources
  - Leveling resources
  - Resource usage reports
  - Overallocated resource reports
  - To-do lists

# Considerations for Agile/Adaptive Environments

- Teams are important on all types of projects, as is collaboration, problem solving, and knowledge sharing
  - On agile projects, team members are usually fully dedicated to a single team
    - Relationships are based on trust, and collaboration is continuously improved using regular feedback

# Chapter Summary

- Project resource management includes the processes required to make the most effective use of the people involved with a project
  - Planning resources
  - Estimating activity resources
  - Acquiring resources
  - Developing the team
  - Managing the team
  - Controlling resources