

# Chapter 9: Project Human Resource Management

Information Technology Project  
Management, Eighth Edition

Note: See the text itself for full citations.



# Learning Objectives

- ▶ Explain the importance of good human resource management on projects, including the current state of the global IT workforce and future implications for it
- ▶ Define project human resource management and understand its processes
- ▶ Summarize key concepts for managing people by understanding theories of motivation, influence, and power; how people and teams can become more effective; emotional intelligence; and leadership

# Learning Objectives

- ▶ Discuss human resource management planning and be able to create a human resource plan, project organizational chart, responsibility assignment matrix, and resource histogram
- ▶ Understand important issues involved in project staff acquisition and explain the concepts of resource assignments, resource loading, and resource leveling
- ▶ Assist in team development with training, team-building activities, and reward systems
- ▶ Explain and apply several tools and techniques to help manage a project team and summarize general advice on managing teams
- ▶ Describe how project management software can assist in project human resource management

# The Importance of Human Resource Management

- ▶ Many corporate executives have said, “People are our most important asset”
- ▶ People determine the success and failure of organizations and projects

# The Global IT Workforce

- ▶ Although there have been ups and downs in the IT labor market, there will always be a need for good IT workers
- ▶ By the end of 2014, there were almost 3 billion Internet users and 2.3 billion mobile-broadband subscriptions
- ▶ By 2020, ICT spending is projected to grow to nearly \$5 trillion
- ▶ Project management was number two on Computerworld's hottest skill list for 2015
- ▶ PMI estimates demand for 15.7 million project management jobs from 2010 to 2020

# Implications for the Future of IT Human Resource Management

- ▶ Proactive organizations are addressing workforce needs by
  - improving benefits
  - redefining work hours and incentives
  - finding future workers

# Global Issues

- ▶ In 2013 Yahoo's CEO issued a memo stating that employees could no longer work from home, causing quite a stir throughout the world
- ▶ Diebold's CEO took the opposite approach and started recruiting employees who wanted to work from home, luring the best and brightest workers from Yahoo and other companies cutting back on telecommuting
- ▶ The Huffington Post believes that telecommuting has won, and even Yahoo has softened its stance

# What Went Wrong?

- ▶ A 2014 report by CompTIA found a gap between skills that employers wanted and what they actually found in the IT workforce
- ▶ 68 percent of IT firms report having a very challenging time finding new staff
- ▶ 58 percent of businesses are concerned about the quality and quantity of IT talent available for hire
- ▶ The number one strategy to handle understaffing is requiring workers to put in more hours

# What is Project Human Resource Management?

- ▶ Making the most effective use of the people involved with a project
- ▶ Processes include
  - **Planning human resource management:** identifying and documenting project roles, responsibilities, and reporting relationships
  - **Acquiring the project team:** getting the needed personnel assigned to and working on the project
  - **Developing the project team:** building individual and group skills to enhance project performance
  - **Managing the project team:** tracking team member performance, motivating team members, providing timely feedback, resolving issues and conflicts, and coordinating changes to help enhance project performance

# Figure 9-1. Project Human Resource Management Summary

## Planning

Process: **Plan human resource management**

Output: Human resource plan



## Executing

Process: **Acquire project team**

Outputs: Project staff assignments, resource calendars, project management plan updates

Process: **Develop project team**

Outputs: Team performance assessments, enterprise environmental factors updates



## Monitoring and Controlling

Process: **Manage project team**

Outputs: Change requests, project management plan updates, project documents updates, enterprise environmental factors updates, and organizational process assets updates



Project Start

Project Finish



# Keys to Managing People

- ▶ Psychologists and management theorists have devoted much research and thought to the field of managing people at work
- ▶ Important areas related to project management include
  - motivation theories
  - influence and power
  - Effectiveness
  - Emotional intelligence
  - Leadership

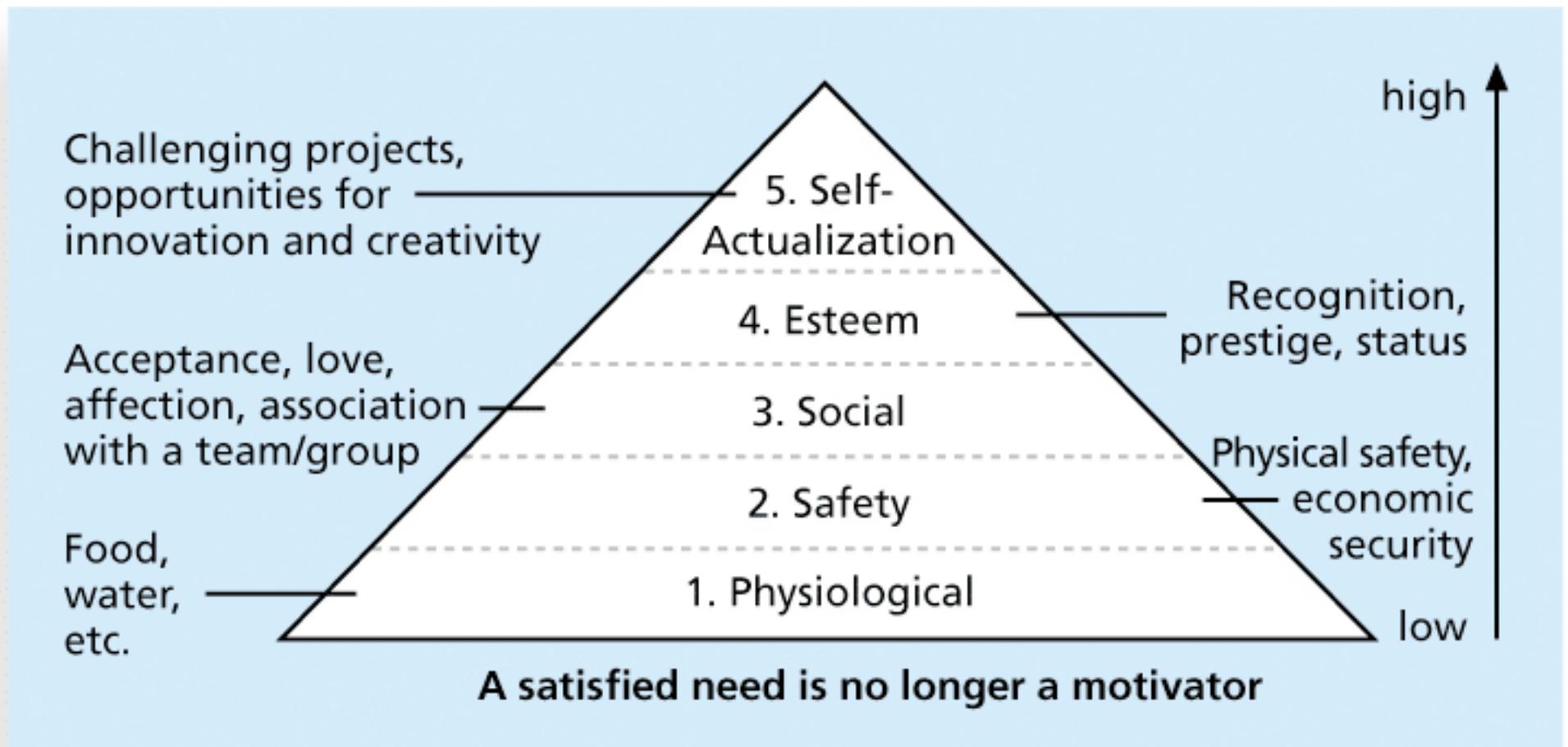
# Intrinsic and Extrinsic Motivation

- ▶ **Intrinsic motivation** causes people to participate in an activity for their own enjoyment
- ▶ **Extrinsic motivation** causes people to do something for a reward or to avoid a penalty
- ▶ For example, some children take piano lessons for intrinsic motivation (they enjoy it) while others take them for extrinsic motivation (to get a reward or avoid punishment)

# Maslow's Hierarchy of Needs

- ▶ Abraham Maslow argued that humans possess unique qualities that enable them to make independent choices, thus giving them control of their destiny
- ▶ Maslow developed a **hierarchy of needs** which states that people's behaviors are guided or motivated by a sequence of needs

# Figure 9-2. Maslow's Hierarchy of Needs



# Herzberg's Motivational and Hygiene Factors

- ▶ Frederick Herzberg wrote several famous books and articles about worker motivation. He distinguished between
  - motivational factors: achievement, recognition, the work itself, responsibility, advancement, and growth, which produce job satisfaction
  - hygiene factors: cause dissatisfaction if not present, but do not motivate workers to do more. Examples include larger salaries, more supervision, and a more attractive work environment

# Table 9-1: Examples of Herzberg's Hygiene Factors and Motivators

<b>HYGIENE FACTORS</b>	<b>MOTIVATORS</b>
Larger salaries	Achievement
More supervision	Recognition
More attractive work environment	Work itself
Computer or other required equipment	Responsibility
Health benefits	Advancement
Training	Growth

# Media Snapshot

- ▶ RSA Animate used its popular whiteboard drawing technique to summarize key points from Pink's book in a YouTube video called "Drive: The surprising truth about what motivates us"
- ▶ Pink suggests that managers focus on the following three motivators:
  - Autonomy
  - Mastery
  - Purpose

# McClelland's Acquired-Needs Theory

- ▶ Specific needs are acquired or learned over time and shaped by life experiences, including:
  - Achievement (nAch): Achievers like challenging projects with achievable goals and lots of feedback
  - Affiliation (nAff): People with high nAff desire harmonious relationships and need to feel accepted by others, so managers should try to create a cooperative work environment for them
  - Power: (nPow): People with a need for power desire either personal power (not good) or institutional power (good for the organization). Provide institutional power seekers with management opportunities

# McGregor's Theory X and Y

- ▶ Douglas McGregor popularized the human relations approach to management in the 1960s
- ▶ Theory X: assumes workers dislike and avoid work, so managers must use coercion, threats and various control schemes to get workers to meet objectives
- ▶ Theory Y: assumes individuals consider work as natural as play or rest and enjoy the satisfaction of esteem and self-actualization needs
- ▶ Theory Z: introduced in 1981 by William Ouchi and is based on the Japanese approach to motivating workers, emphasizing trust, quality, collective decision making, and cultural values

# Thamhain and Wilemon's Ways to Have Influence on Projects

1. Authority: the legitimate hierarchical right to issue orders
2. Assignment: the project manager's perceived ability to influence a worker's later work assignments
3. Budget: the project manager's perceived ability to authorize others' use of discretionary funds
4. Promotion: the ability to improve a worker's position
5. Money: the ability to increase a worker's pay and benefits

# Thamhain and Wilemon's Ways to Have Influence on Projects (cont'd)

6. Penalty: the project manager's ability to cause punishment
7. Work challenge: the ability to assign work that capitalizes on a worker's enjoyment of doing a particular task
8. Expertise: the project manager's perceived special knowledge that others deem important
9. Friendship: the ability to establish friendly personal relationships between the project manager and others

# Ways to Influence that Help and Hurt Projects

- ▶ Projects are more likely to *succeed* when project managers influence with
  - expertise
  - work challenge
- ▶ Projects are more likely to *fail* when project managers rely too heavily on
  - authority
  - money
  - penalty

# Power

- ▶ **Power** is the potential ability to influence behavior to get people to do things they would not otherwise do
- ▶ Types of power include
  - Coercive
  - Legitimate
  - Expert
  - Reward
  - Referent

# Covey and Improving Effectiveness

- ▶ Project managers can apply Covey's 7 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

# Empathic Listening and Rapport

- ▶ Good project managers are **empathic listeners** - they listen with the intent to understand
- ▶ Before you can communicate with others, you have to have **rapport** – a 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
- ▶ **Emotional intelligence (EI)** is knowing and managing one's own emotions and understanding the emotions of others for improved performance
- ▶ 71 percent of U.S. hiring managers say they value EI more than IQ

# 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
- ▶ Daniel Goleman, author of *Emotional Intelligence* and *Primal Leadership*, describes six leadership styles:
  1. Visionary
  2. Coaching
  3. Affiliative
  4. Democratic
  5. Pacesetting
  6. Commanding

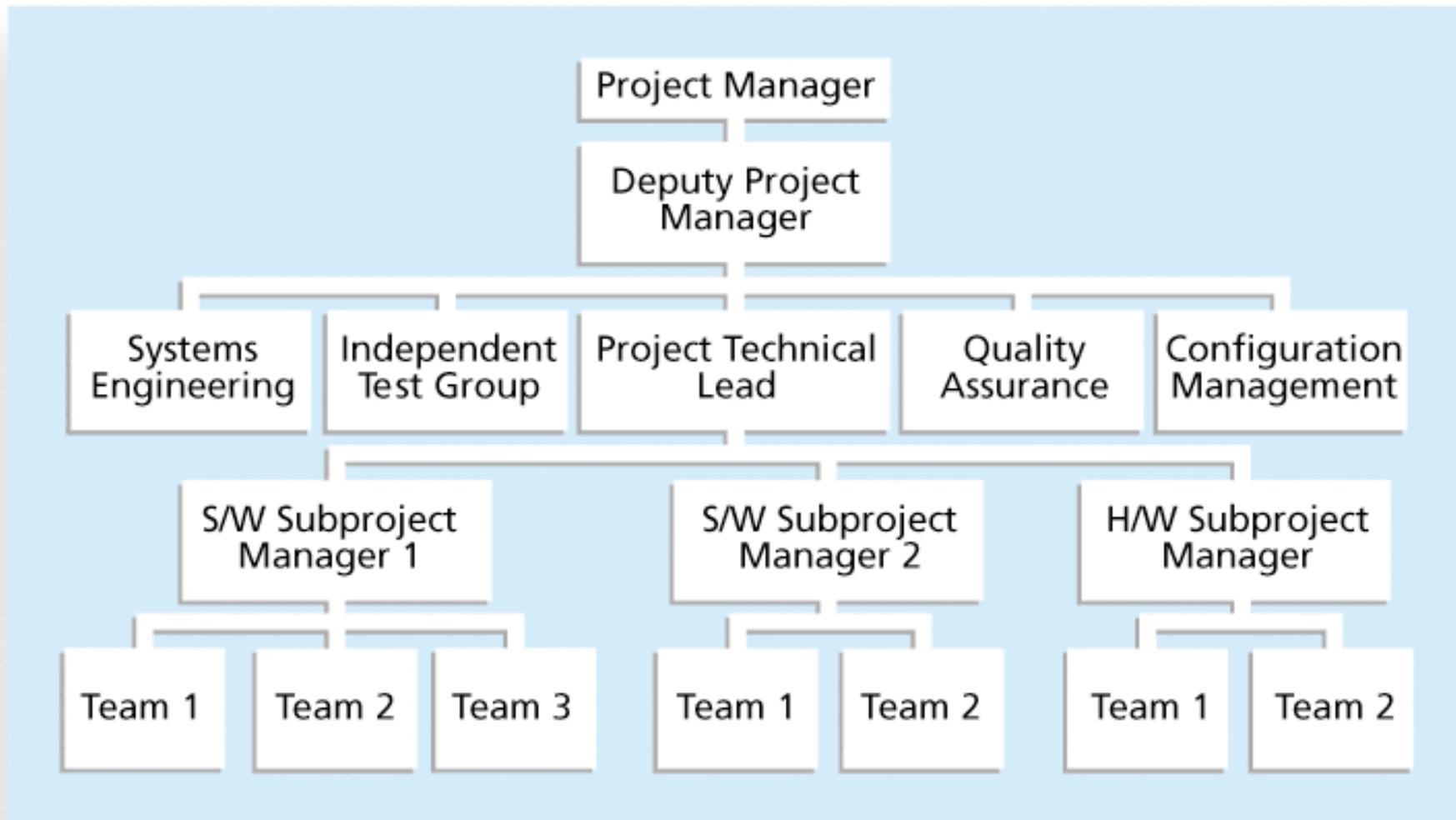
# What Went Right?

- ▶ PMI introduced the PMI Talent Triangle in 2015 to emphasize the need for more than technical skills for project managers
- ▶ The Talent Triangle includes:
  - Technical project management
  - Strategic and business management
  - Leadership

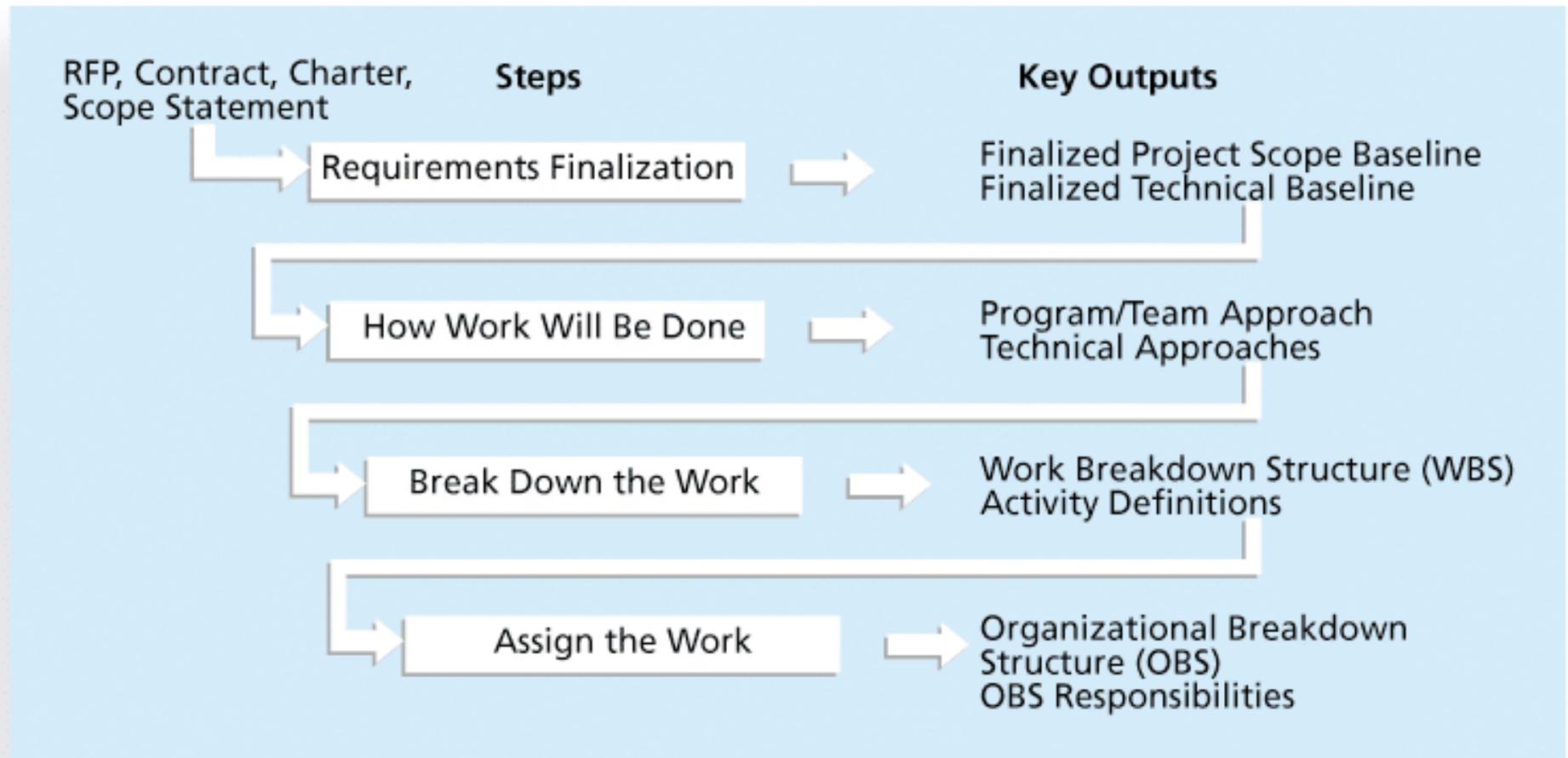
# Developing the Human Resource Plan

- ▶ Involves identifying and documenting project roles, responsibilities, and reporting relationships
- ▶ Contents include
  - project organizational charts
  - staffing management plan
  - responsibility assignment matrixes
  - resource histograms

# Figure 9-3. Sample Organizational Chart for a Large IT Project



# Figure 9-4. Work Definition and Assignment Process



# Responsibility Assignment Matrices

- ▶ A **responsibility assignment matrix (RAM)** is a matrix that maps the work of the project as described in the WBS to the people responsible for performing the work as described in the OBS
- ▶ Can be created in different ways to meet unique project needs

# Figure 9-5. Sample Responsibility Assignment Matrix (RAM)

WBS activities  $\longrightarrow$

OBS units  $\downarrow$

	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

# Table 9-2. Sample RACI Chart

	Group A	Group B	Group C	Group D	Group E
Test Plans	R	A	C	C	I
Unit Test	C	I	R	A	I
Integration Test	A	R	I	C	C
System Test	I	C	A	I	R
User Acceptance Test	R	I	C	R	A

R = responsibility

A = accountability, only one A per task

C = consultation

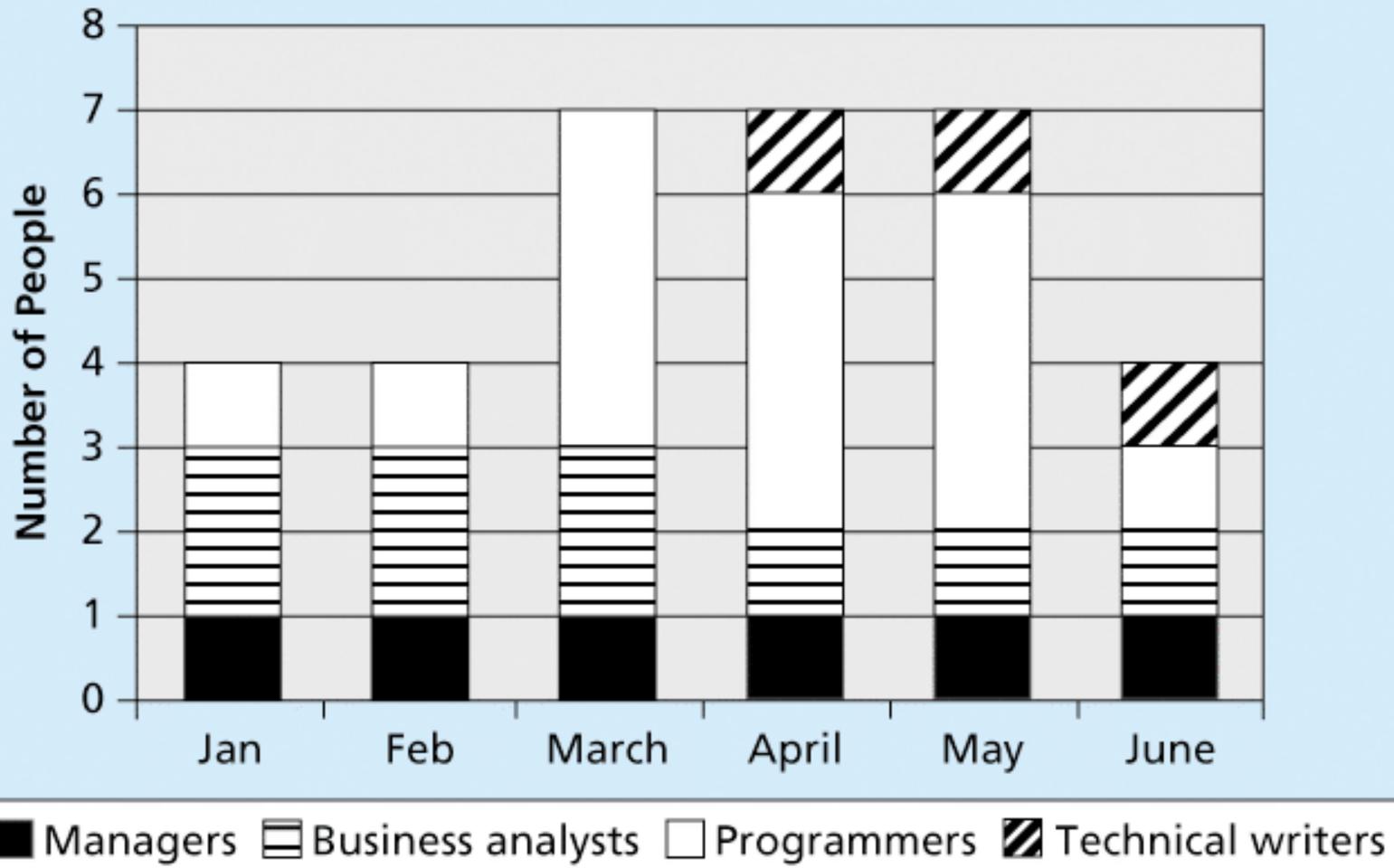
I = informed

Note that some people reverse the definitions of responsible and accountable.

# Staffing Management Plans and Resource Histograms

- ▶ A **staffing management plan** describes when and how people will be added to and taken off the project team
- ▶ A **resource histogram** is a column chart that shows the number of resources assigned to a project over time

# Figure 9-6. Sample Resource Histogram



# Acquiring the Project Team

- ▶ Acquiring qualified people for teams is crucial
- ▶ The project manager who is the smartest person on the team has done a poor job of recruiting!
- ▶ It's important to assign the appropriate type and number of people to work on projects at the appropriate times

# Resource Assignment

- ▶ Staffing plans and good hiring procedures are important, as are incentives for recruiting and retention
  - Some companies give their employees one dollar for every hour a new person they helped hire works
  - Some organizations allow people to work from home as an incentive
- ▶ Enrollment in U.S. computer science and engineering programs has dropped almost in half since 2000, and one-third of U.S. workers were over the age of 50 by 2010
- ▶ CIO's researchers suggest that organizations rethink hiring practices and incentives to hire and retain IT talent

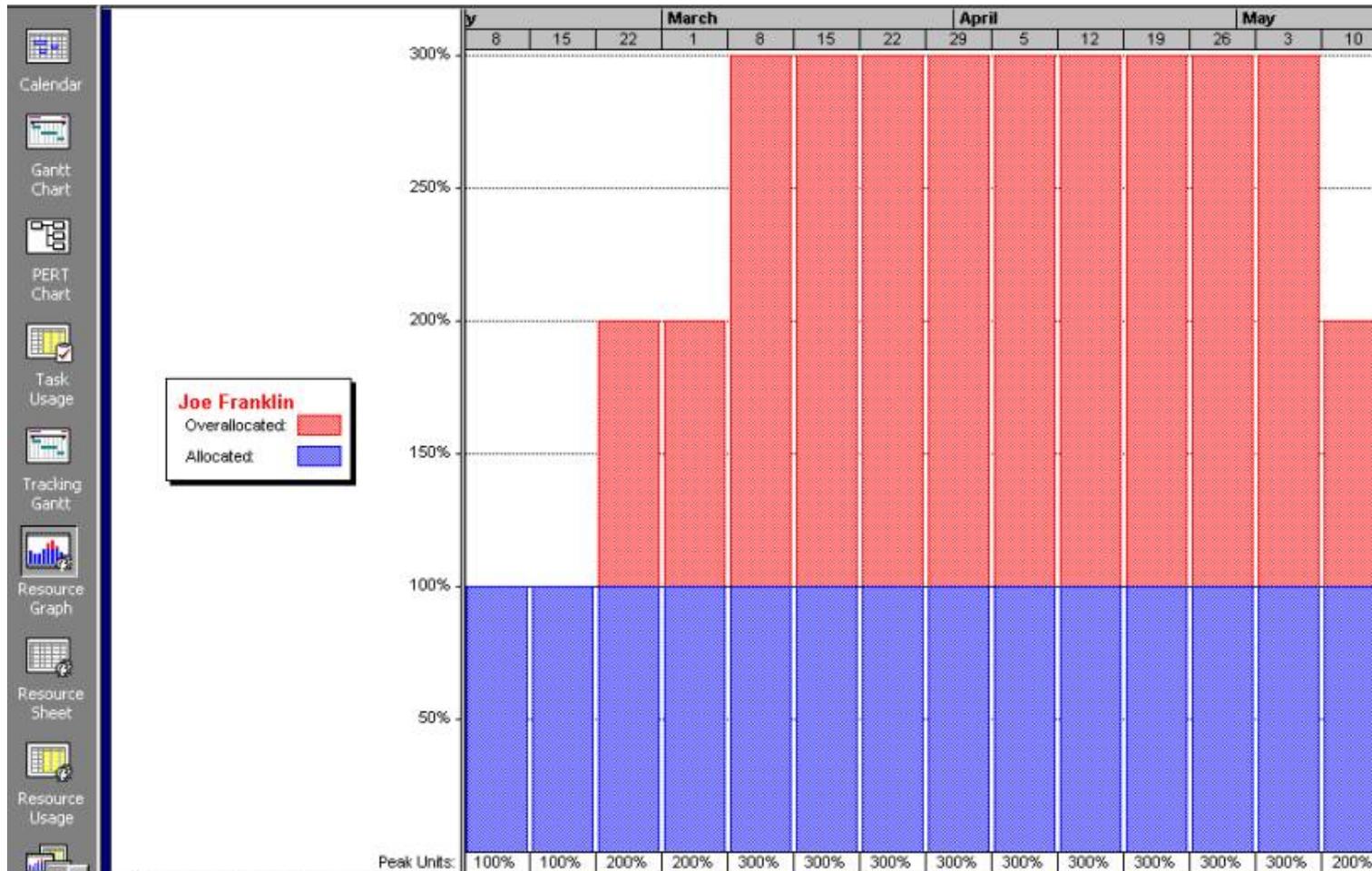
# Best Practice

- ▶ Best practices can be applied to include the best places for people to work
  - For example, Fortune Magazine lists the “100 Best Companies to Work For” in the United States every year, with Google taking the honors for the sixth time in 2015
  - Working Mothers Magazine lists the best companies in the U.S. for women based on benefits for working families
  - The Timesonline ([www.timesonline.co.uk](http://www.timesonline.co.uk)) provides the Sunday Times list of the 100 Best Companies to Work For, a key benchmark against which UK companies can judge their Best Practice performance as employers

# 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 are available are assigned to perform work at a given time

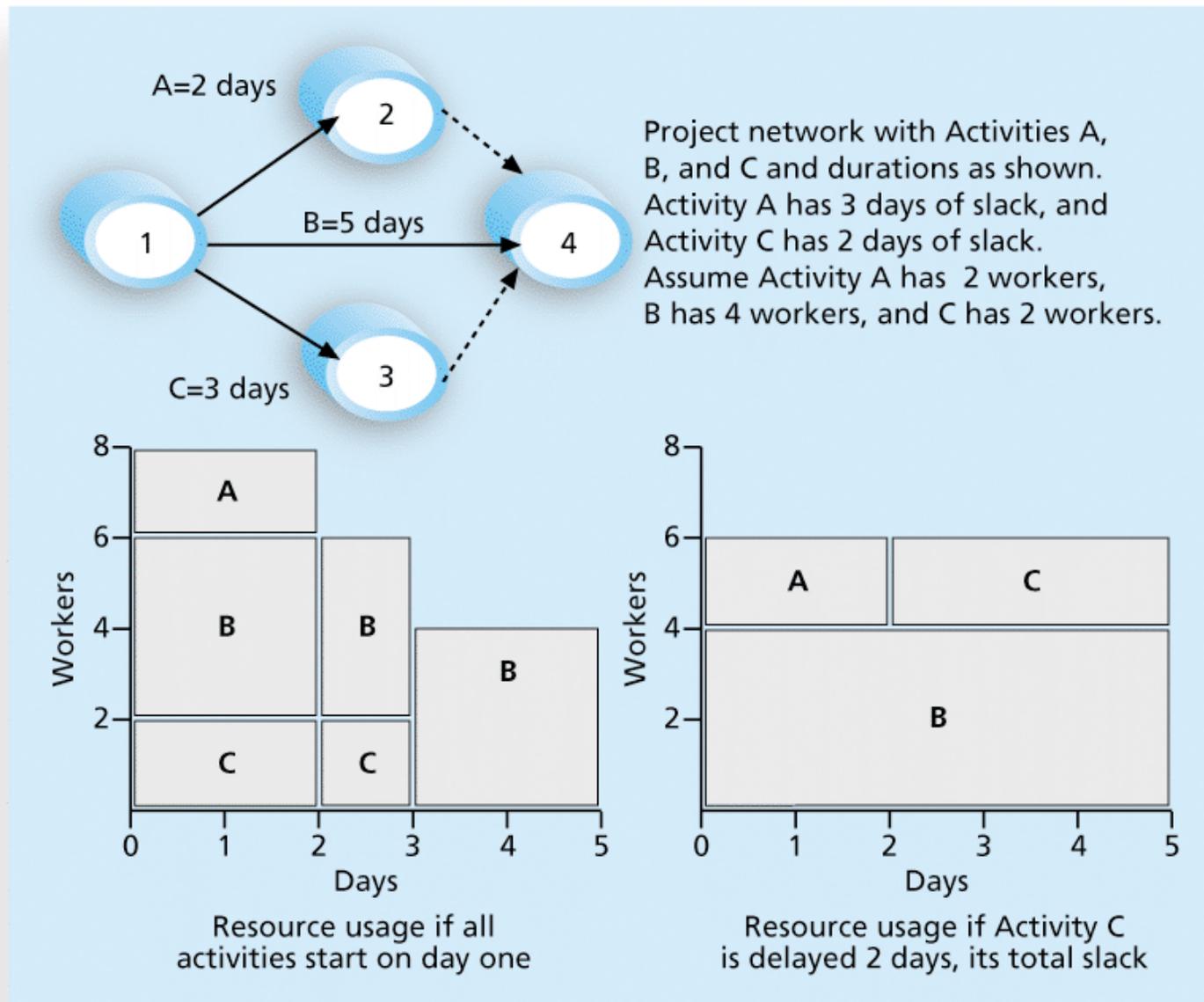
# Figure 9-7. Sample Histogram Showing an Overallocated Individual



# Resource Leveling

- ▶ **Resource leveling** is a technique for resolving resource conflicts by delaying tasks
- ▶ The main purpose of resource leveling is to create a smoother distribution of resource usage and reduce overallocation

# Figure 9-8. Resource Leveling Example



# Benefits of Resource Leveling

- ▶ When resources are used on a more constant basis, they require less management
- ▶ It may enable project managers to use a just-in-time inventory type of policy for using subcontractors or other expensive resources
- ▶ It results in fewer problems for project personnel and accounting department
- ▶ It often improves morale

# Developing the Project Team

- ▶ 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 of Team Development

- ▶ Forming
- ▶ Storming
- ▶ Norming
- ▶ Performing
- ▶ Adjourning

# Training

- ▶ Training can help people understand themselves, each other, and how to work better in teams
- ▶ Team building activities include
  - physical challenges
  - psychological preference indicator tools

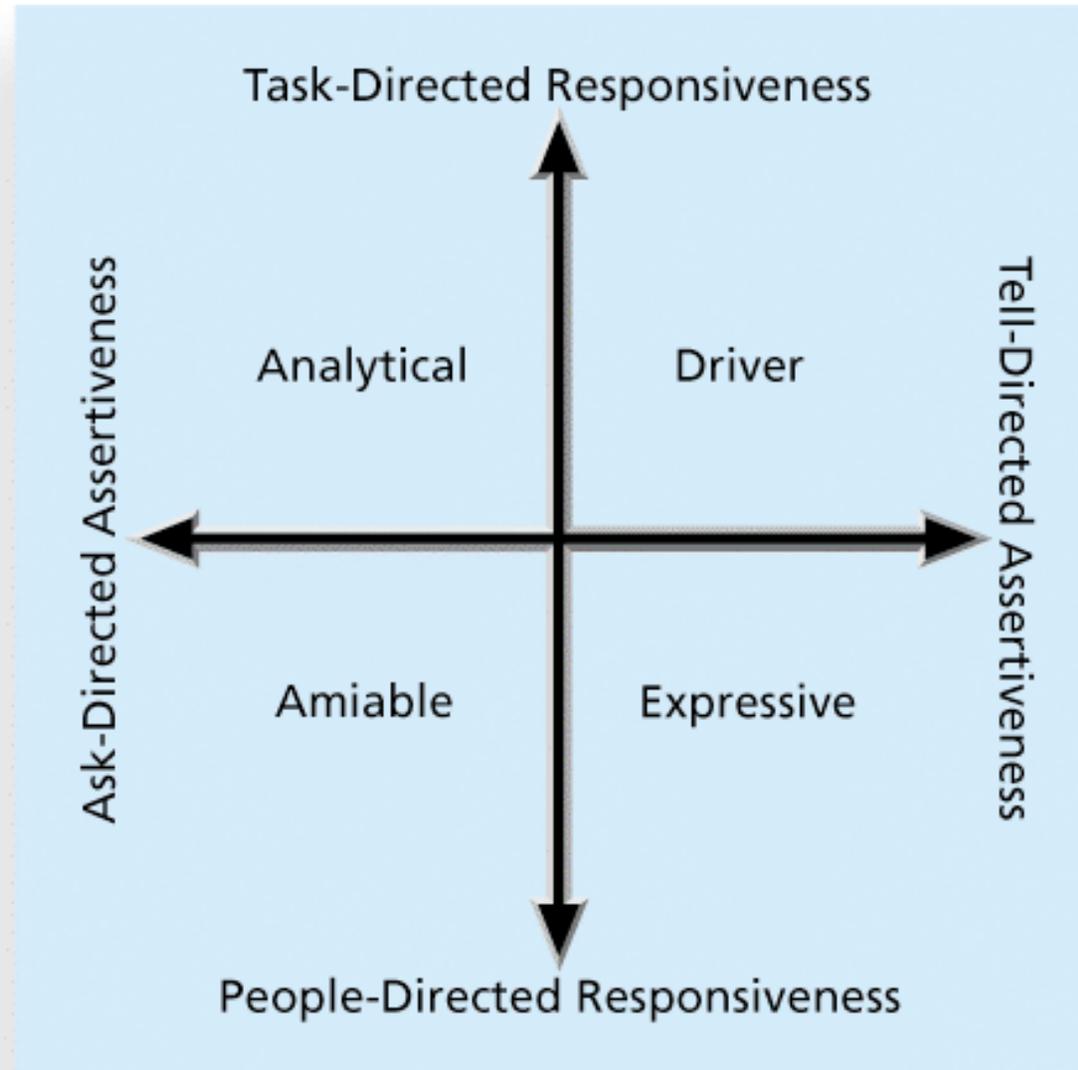
# Meyers-Briggs Type Indicator (MBTI)

- ▶ MBTI is a popular tool for determining personality preferences and helping teammates understand each other
- ▶ Four dimensions include:
  - Extrovert/Introvert (E/I)
  - Sensation/Intuition (S/N)
  - Thinking/Feeling (T/F)
  - Judgment/Perception (J/P)
- ▶ NTs or rationals are attracted to technology fields
- ▶ IT people vary most from the general population in not being extroverted or sensing

# Social Styles Profile

- ▶ People are perceived as behaving primarily in one of four zones, based on their assertiveness and responsiveness:
  - Drivers
  - Expressives
  - Analyticals
  - Amiables
- ▶ People on opposite corners (drivers and amiables, analyticals and expressives) may have difficulties getting along

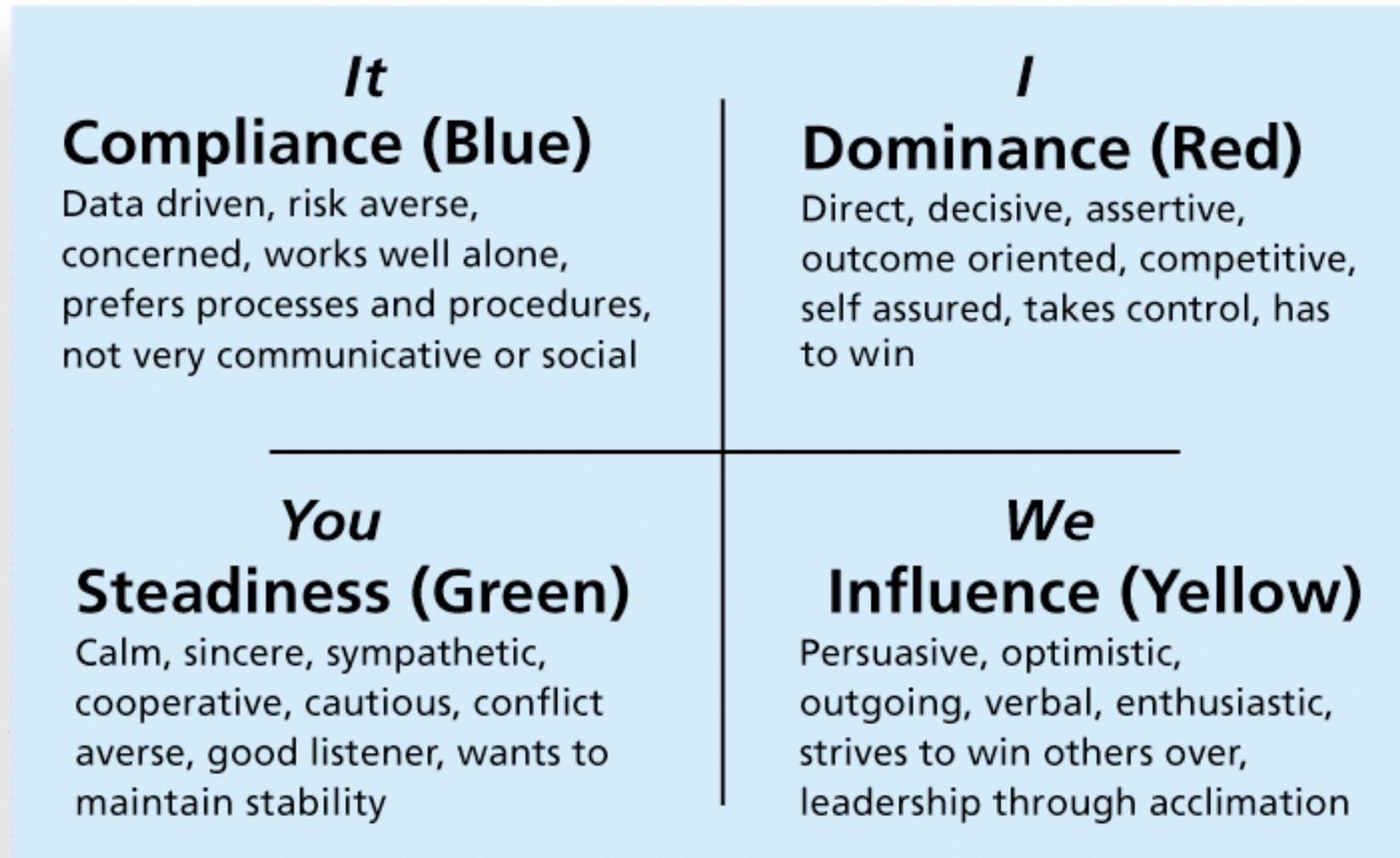
# Figure 9-9. Social Styles



# DISC Profiles

- ▶ Also uses a four-dimensional model of normal behavior
  - Dominance
  - Influence
  - Steadiness
  - Compliance
- ▶ People in opposite quadrants can have problems understanding each other

# 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
- ▶ Allow time for team members to mentor and help each other to meet project goals and develop human resources

# 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 decide
  - if changes should be requested to the project
  - if corrective or preventive actions should be recommended
  - if updates are needed to the project management plan or organizational process assets.

# Tools and Techniques for Managing Project Teams

- ▶ Observation and conversation
- ▶ Project performance appraisals
- ▶ Interpersonal skills
- ▶ Conflict management

# Conflict Handling Modes

1. **Confrontation:** Directly face a conflict using a problem-solving approach
2. **Compromise:** Use a give-and-take approach
3. **Smoothing:** De-emphasize areas of difference and emphasize areas of agreement
4. **Forcing:** The win-lose approach
5. **Withdrawal:** Retreat or withdraw from an actual or potential disagreement
6. **Collaborating:** Decision makers incorporate different viewpoints and insights to develop consensus and commitment

# Figure 9-11. Conflict Handling Modes

Relationship Importance	High	Smoothing/ Accommodating		Confrontation/ Problem-solving  Collaborating
	Medium		Compromise	
	Low	Withdrawal/ Avoidance		Forcing
		Low	Medium	High

Task Importance

# 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. Groupthink 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

# Five Dysfunctions of a Team

- ▶ Patrick Lencioni, author of several books on teams, says that “Teamwork remains the one sustainable competitive advantage that has been large untapped”\*
- ▶ The five dysfunctions of teams are
  1. Absence of trust
  2. Fear of conflict
  3. Lack of commitment
  4. Avoidance of accountability
  5. Inattention to results

\*Lencioni, Patrick, “Overcoming the Five Dysfunctions of a Team,” Jossey-Bass: San Francisco, CA (2005), p. 3.

# General Advice on Teams

- ▶ 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

# General Advice on Teams (cont'd)

- ▶ 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
- ▶ Take additional actions to work with virtual team members

# Using Software to Assist in Human Resource Management

- ▶ Software can help in producing RAMS and resource histograms
- ▶ Project management software includes several features related to human resource management such as
  - Assigning resources
  - Identifying potential resource shortages or underutilization
  - Leveling resources

# Project Resource Management Involves Much More Than Using Software

- ▶ Project managers must
  - Treat people with consideration and respect
  - Understand what motivates them
  - Communicate carefully with them
- ▶ Focus on your goal of enabling project team members to deliver their best work

# Chapter Summary

- ▶ Project human resource management includes the processes required to make the most effective use of the people involved with a project
- ▶ Main processes include
  - Plan human resource management
  - Acquire project team
  - Develop project team
  - Manage project team