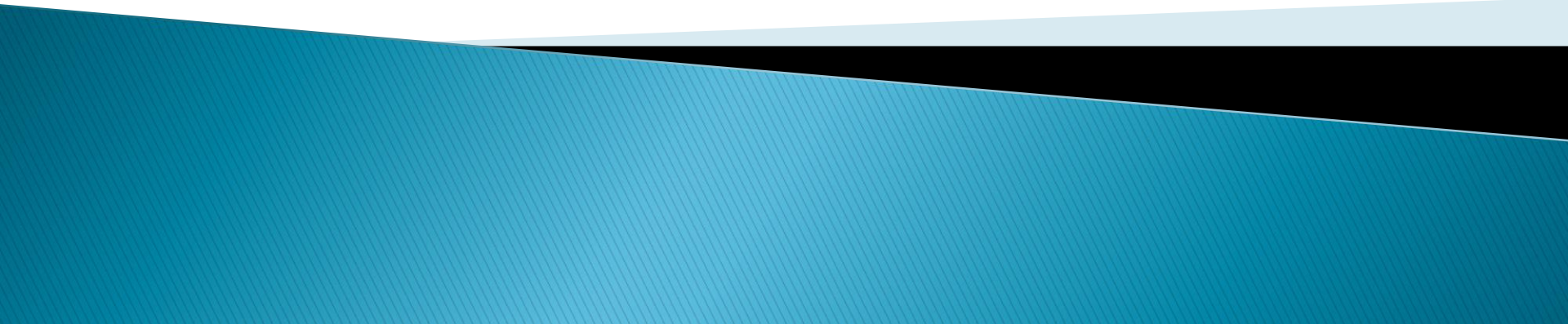


# **Lecture 9: Project Human Resource Management**



# 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

# 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

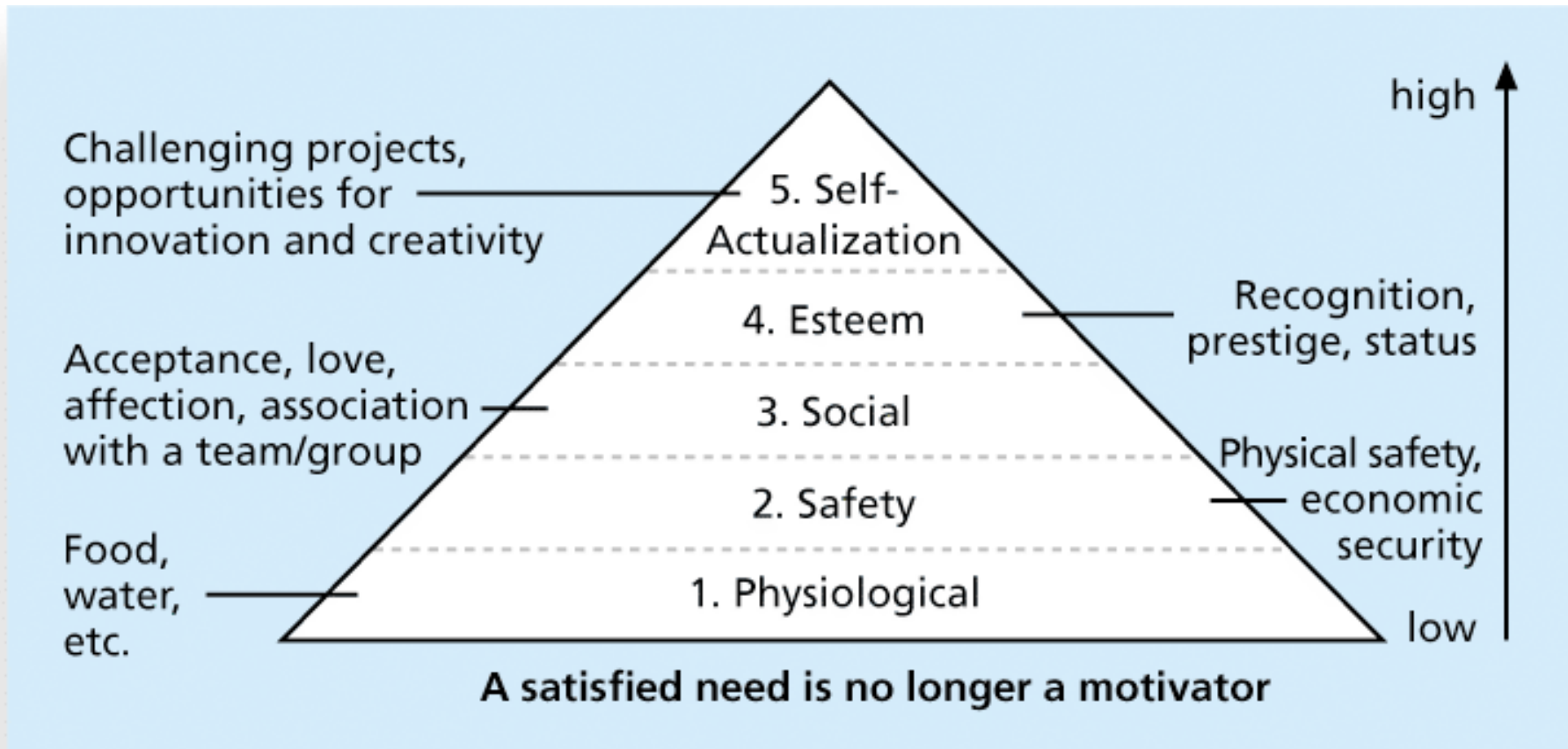
# Intrinsic and Extrinsic Motivation

- ▶ **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

# 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



# 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



# 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

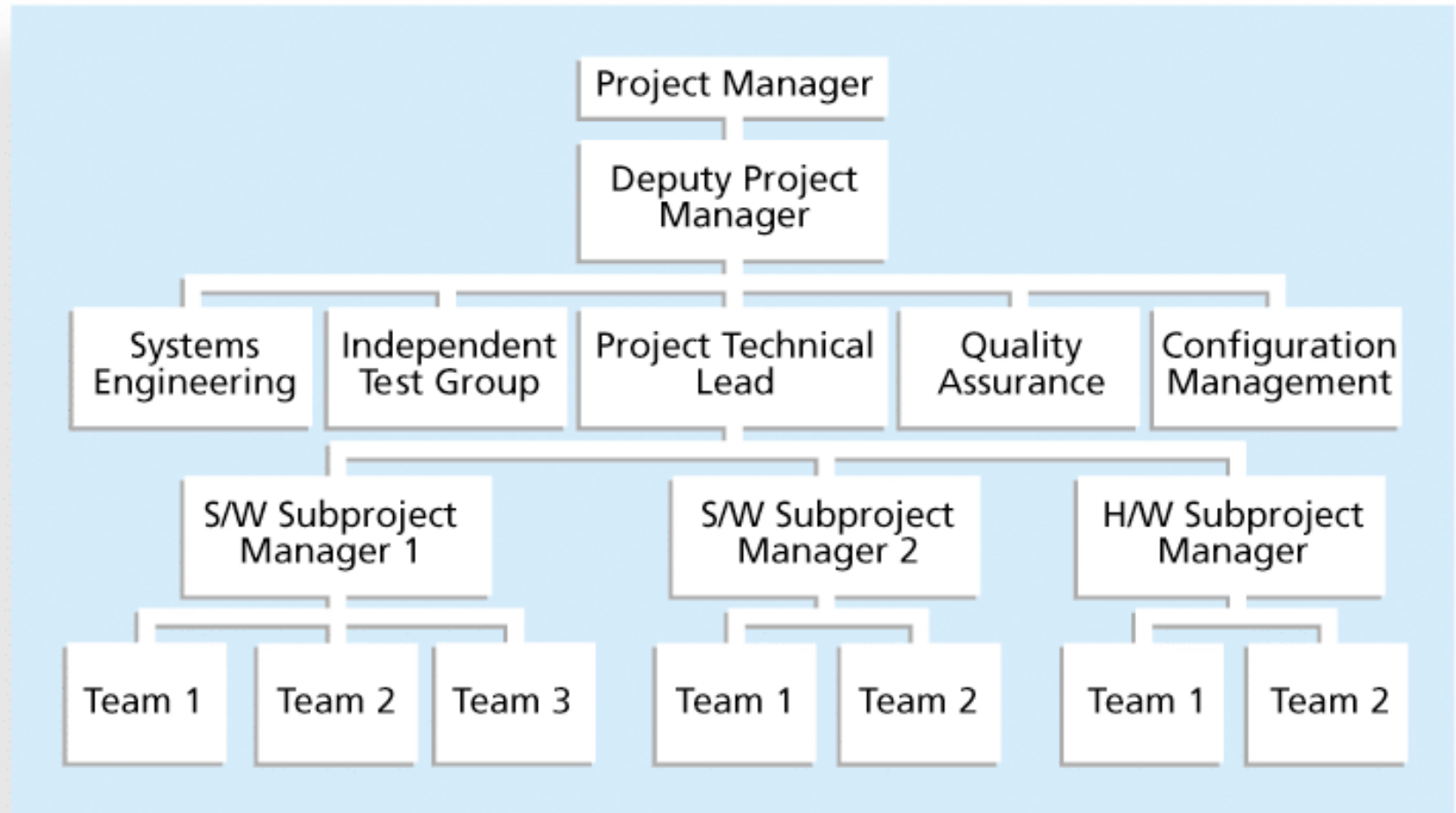
# What Went Right?

- ▶ 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

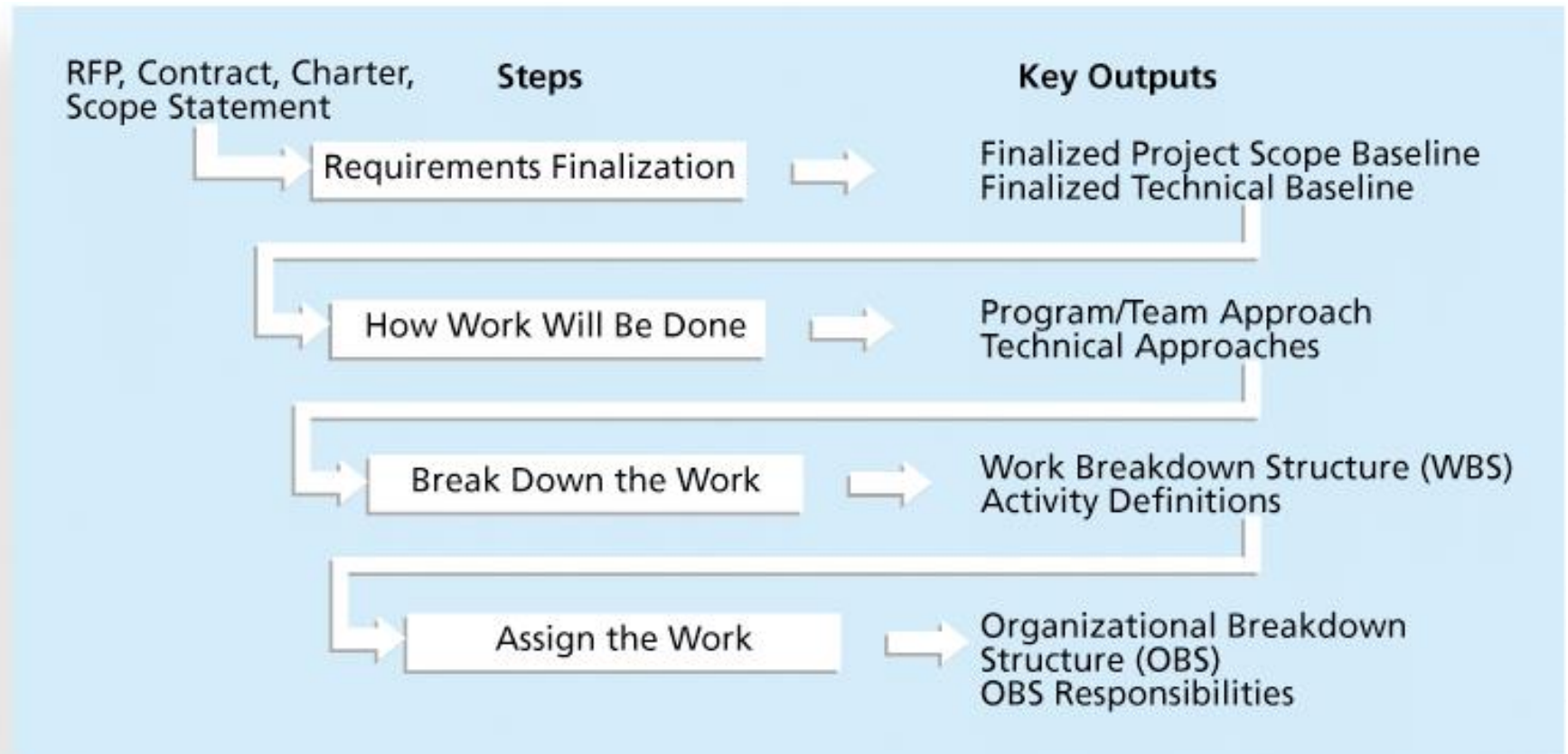
# Developing the Human Resource Plan

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

# Sample Organizational Chart for a Large IT Project



# 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



# Sample Responsibility Assignment Matrix (RAM)

**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**

# 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

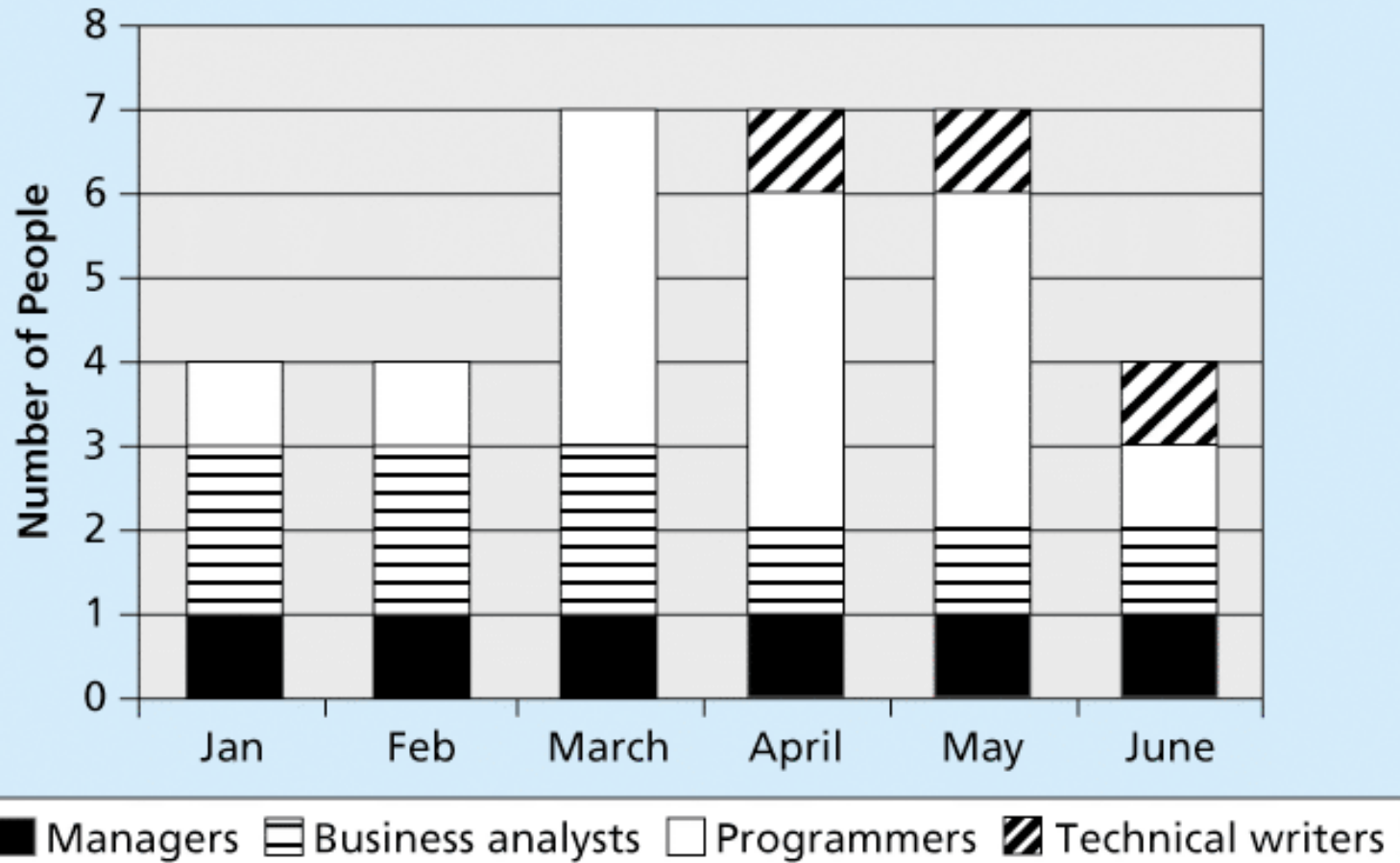
I = informed

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

# 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

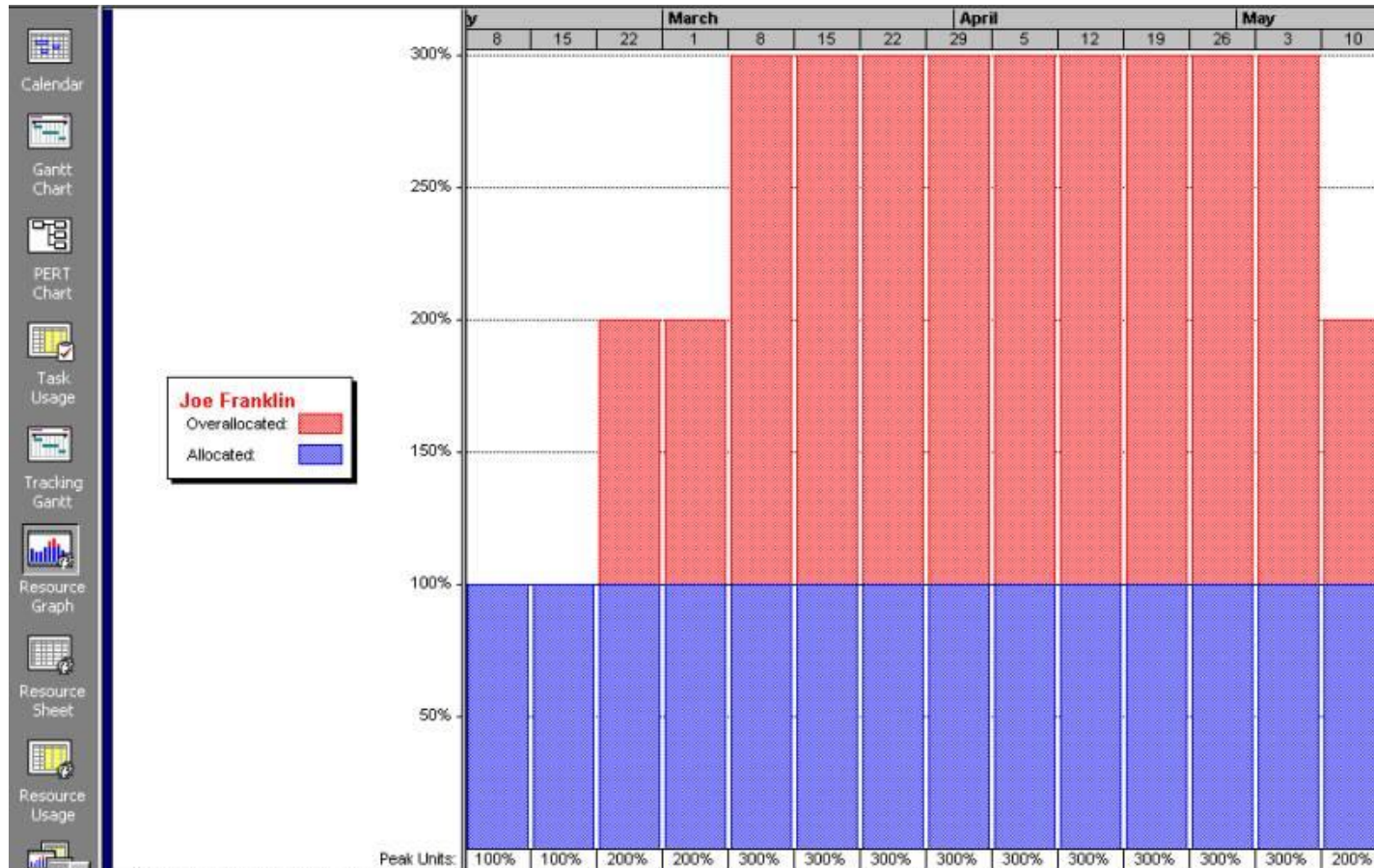
- ▶ Best practices can be applied to include the best places for people to work
  - For example, Fortune Magazine lists the “100 Best Companies to Work For” in the United States every year, with Google taking the honors for the sixth time in 2015
  - Working Mothers Magazine lists the best companies 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



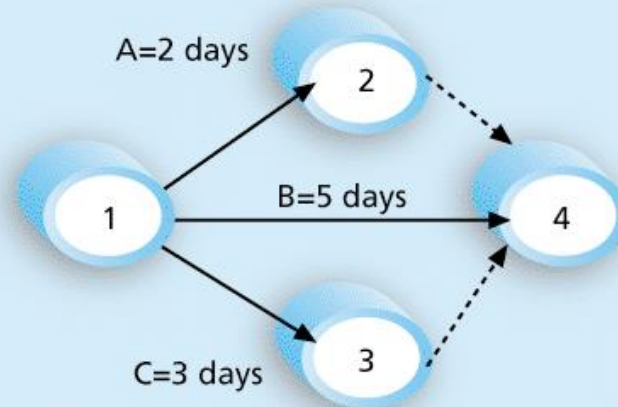
# Sample Histogram Showing an Overallocated Individual



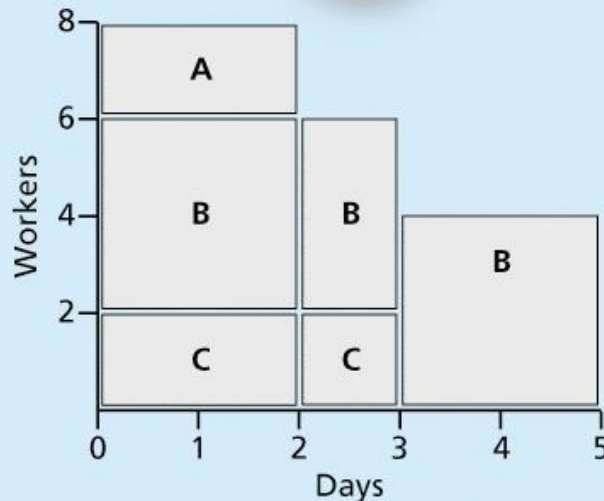
# Resource Leveling

- ▶ **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

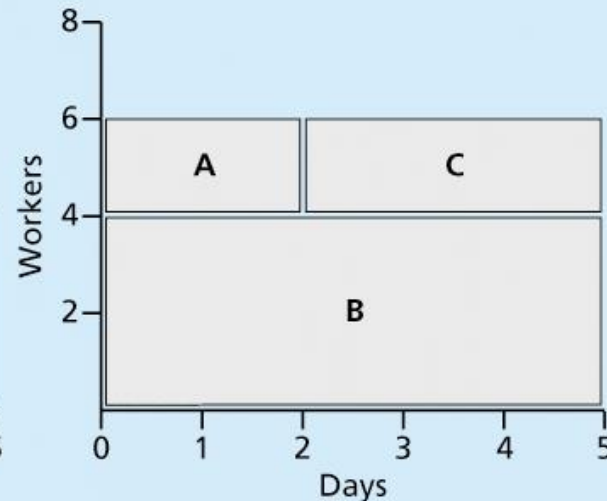
# Resource Leveling Example



Project network with Activities A, B, and C and durations as shown. Activity A has 3 days of slack, and Activity C has 2 days of slack. Assume Activity A has 2 workers, B has 4 workers, and C has 2 workers.



Resource usage if all activities start on day one



Resource usage if Activity C is delayed 2 days, its total slack

# 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)

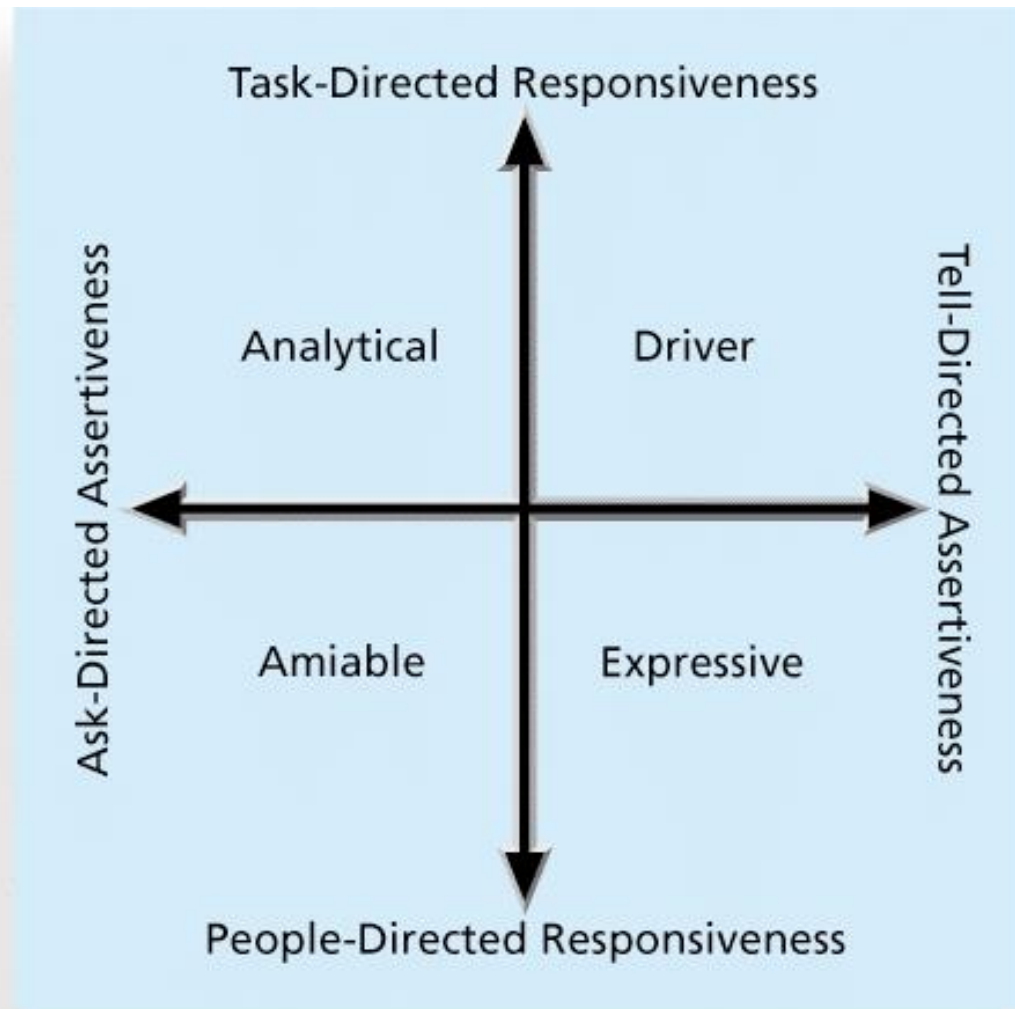
- ▶ MBTI is a popular tool for determining personality preferences and helping teammates understand each other
- ▶ Four dimensions include:
  - Extrovert/Introvert (E/I)
  - Sensation/Intuition (S/N)
  - Thinking/Feeling (T/F)
  - Judgment/Perception (J/P)
- ▶ NTs or rationals are attracted to technology 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

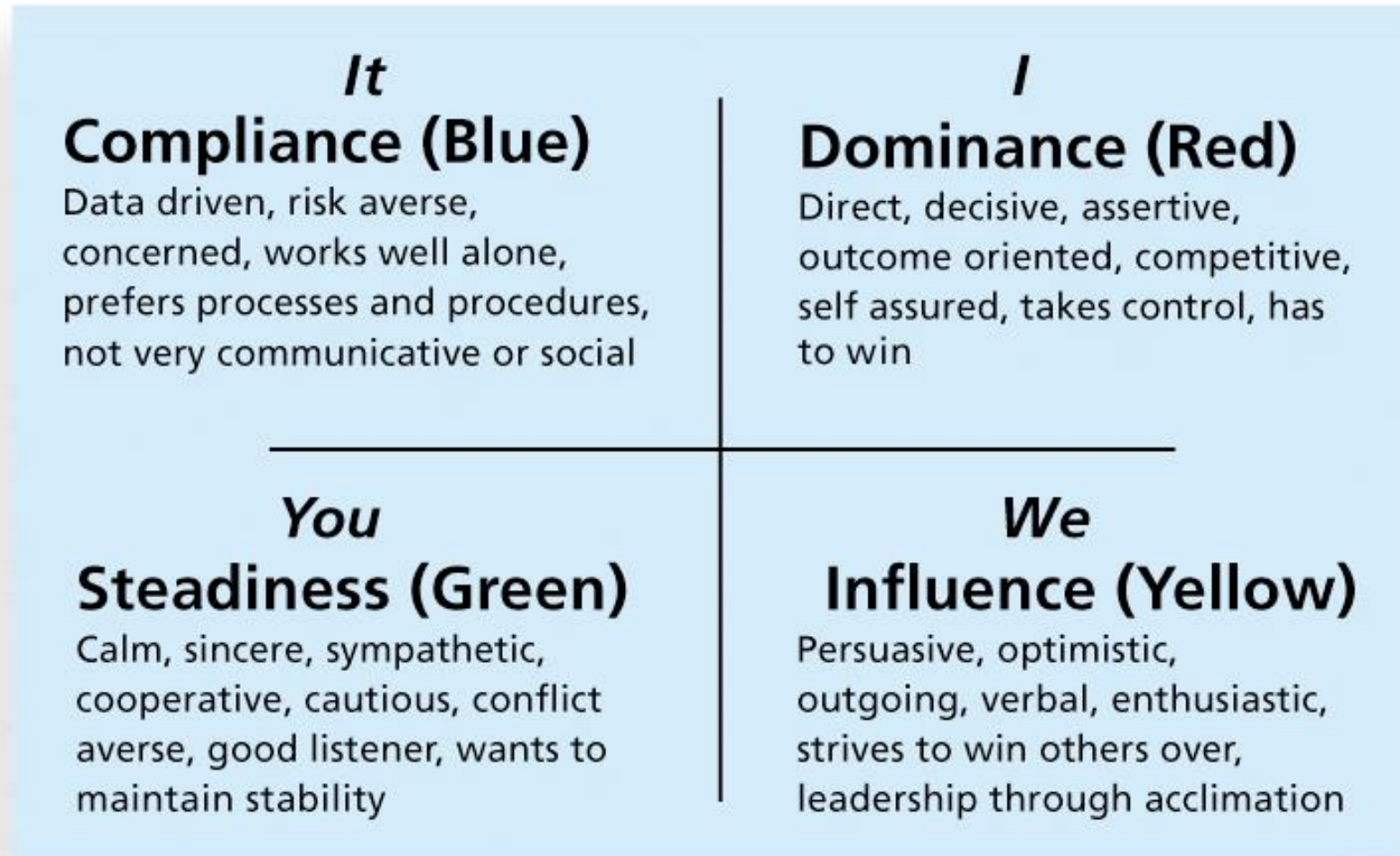
# Social Styles



# 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

# 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



# Conflict Handling Modes

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

# 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

# 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