

Chapter 6:

Project Human Resource Management

**Information Technology Project
Management, Sixth 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 the theories of Abraham Maslow, Frederick Herzberg, David McClelland, and Douglas McGregor on motivation, H. J. Thamhain and D. L. Wilemon on influencing workers, and Stephen Covey on how people and teams can become more effective

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
- Project human resource management is a **vital component of project management**

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
- The Digital Planet 2010 study predicts that ICT spending will have an annual growth rate of more than 6 percent each year through 2013, when it will reach almost \$5 trillion
- Thirty-three percent of the world's population is online, and 45 percent of Internet users are below the age of 25

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
 - As Ethiopia continues to develop its IT sector, it will be important for companies to **prioritize human resource management.**

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- This includes recruiting and retaining top talent, providing opportunities for professional development and training, and creating a positive and supportive work environment.
- Additionally, with the **increasing use of automation** and artificial intelligence, companies must also consider the implications for their workforce and how to best prepare and reskill employees for the changing technological landscape.
- Overall, effective human resource management will be critical for the success of Ethiopia's IT industry in the future.

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

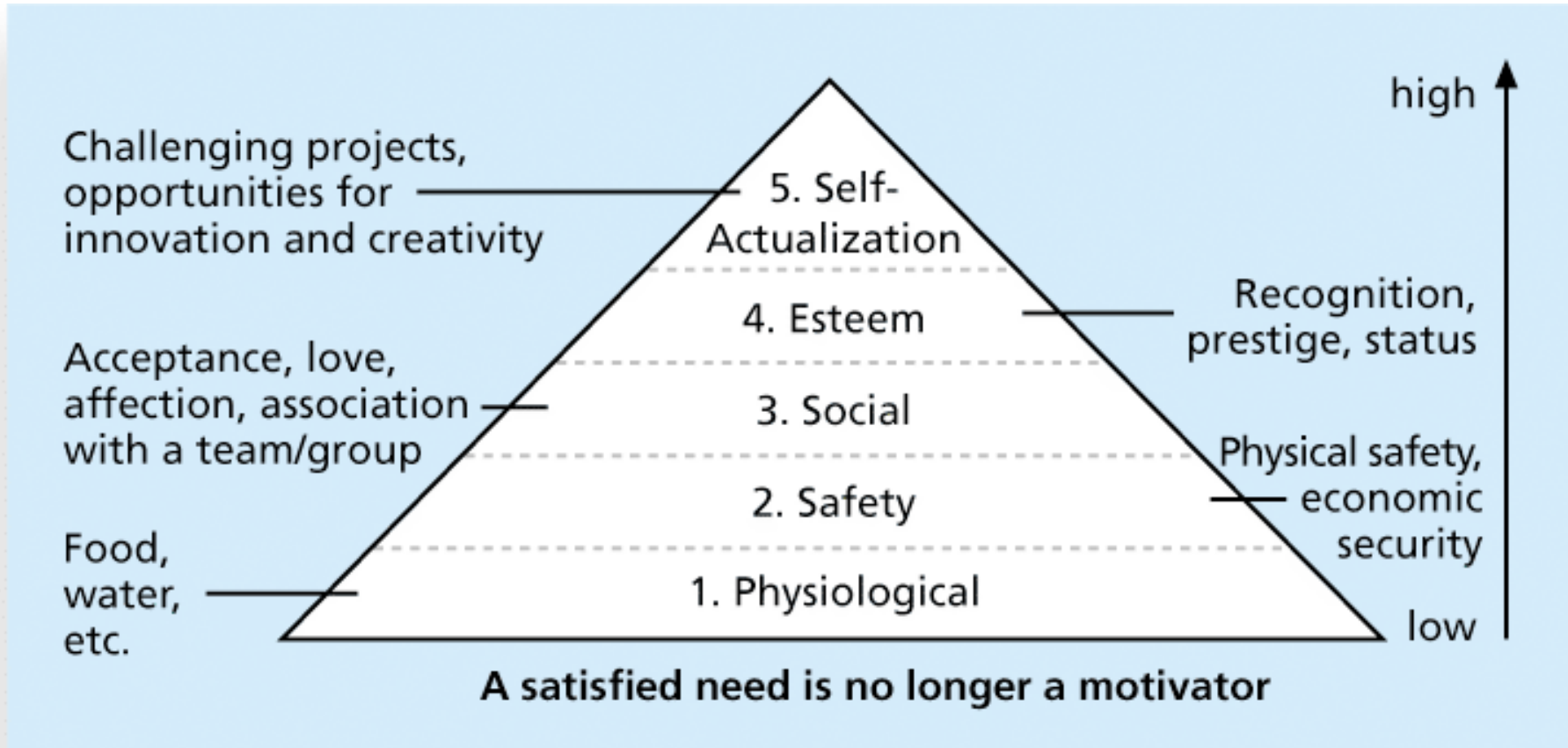
Intrinsic and Extrinsic Motivation

- **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

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

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
- There are **five** main types of power, based on French and Raven's classic study, "**The Bases of Social Power**".

Power(cont'd)

1. **Coercive power:** This type of power involves the use of threats or punishment to influence others.
2. **Reward power:** This type of power involves the ability to offer rewards or incentives to influence others.
3. **Legitimate power:** This type of power is based on an individual's formal position or authority within an organization or society.
4. **Expert power:** This type of power is based on an individual's knowledge, skills, and expertise in a particular area.
5. **Referent power:** This type of power is based on an individual's personal characteristics, such as charisma, charm, and likability, that make them attractive to others

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: is the concept that the **whole is equal to more than the sum of its parts.**
 - Sharpen the saw: **to develop and renew their physical, spiritual, mental, and social/emotional selves.**

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

Developing the Human Resource Plan

- Involves identifying and documenting project roles, responsibilities, skills, 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

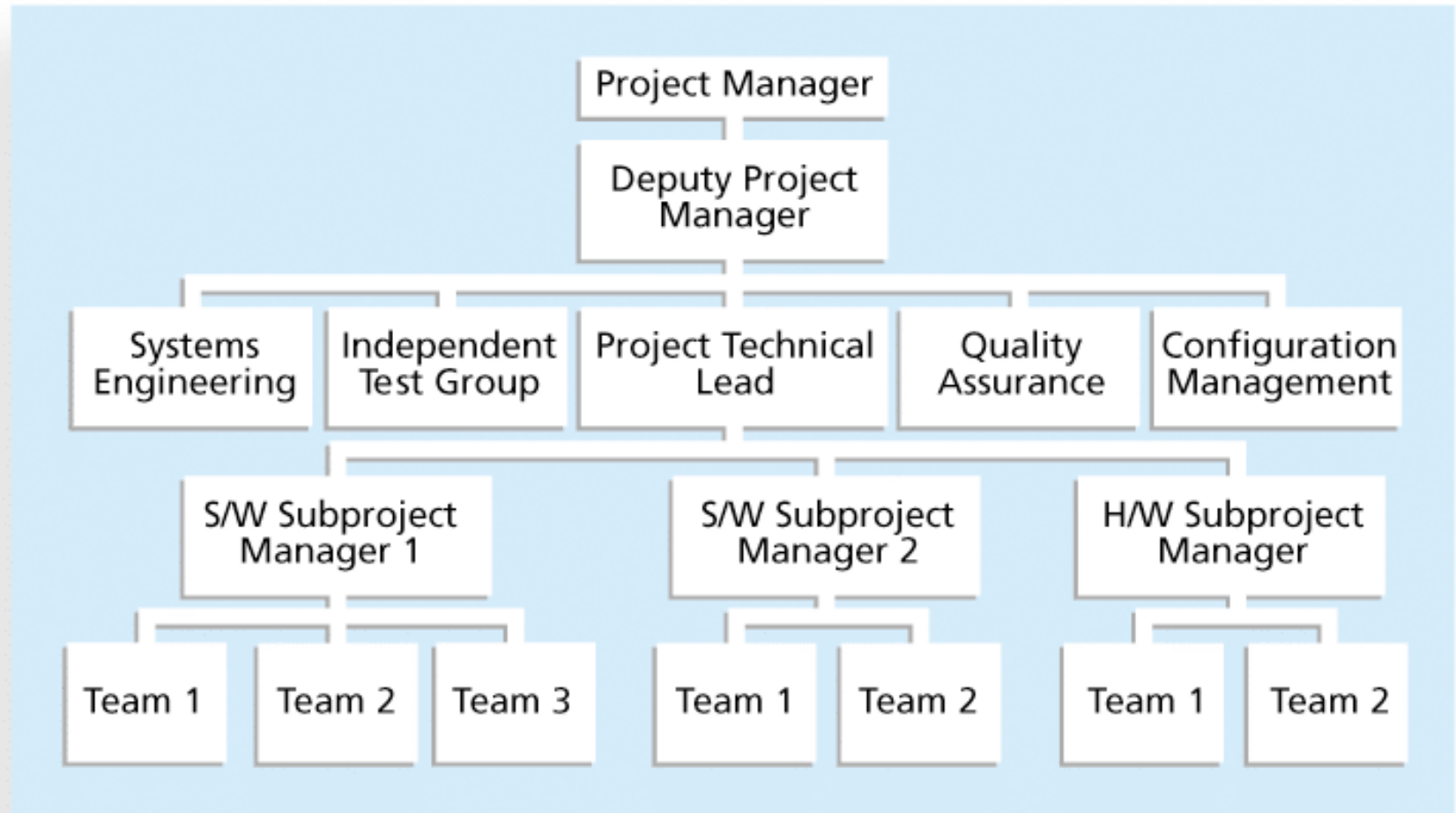
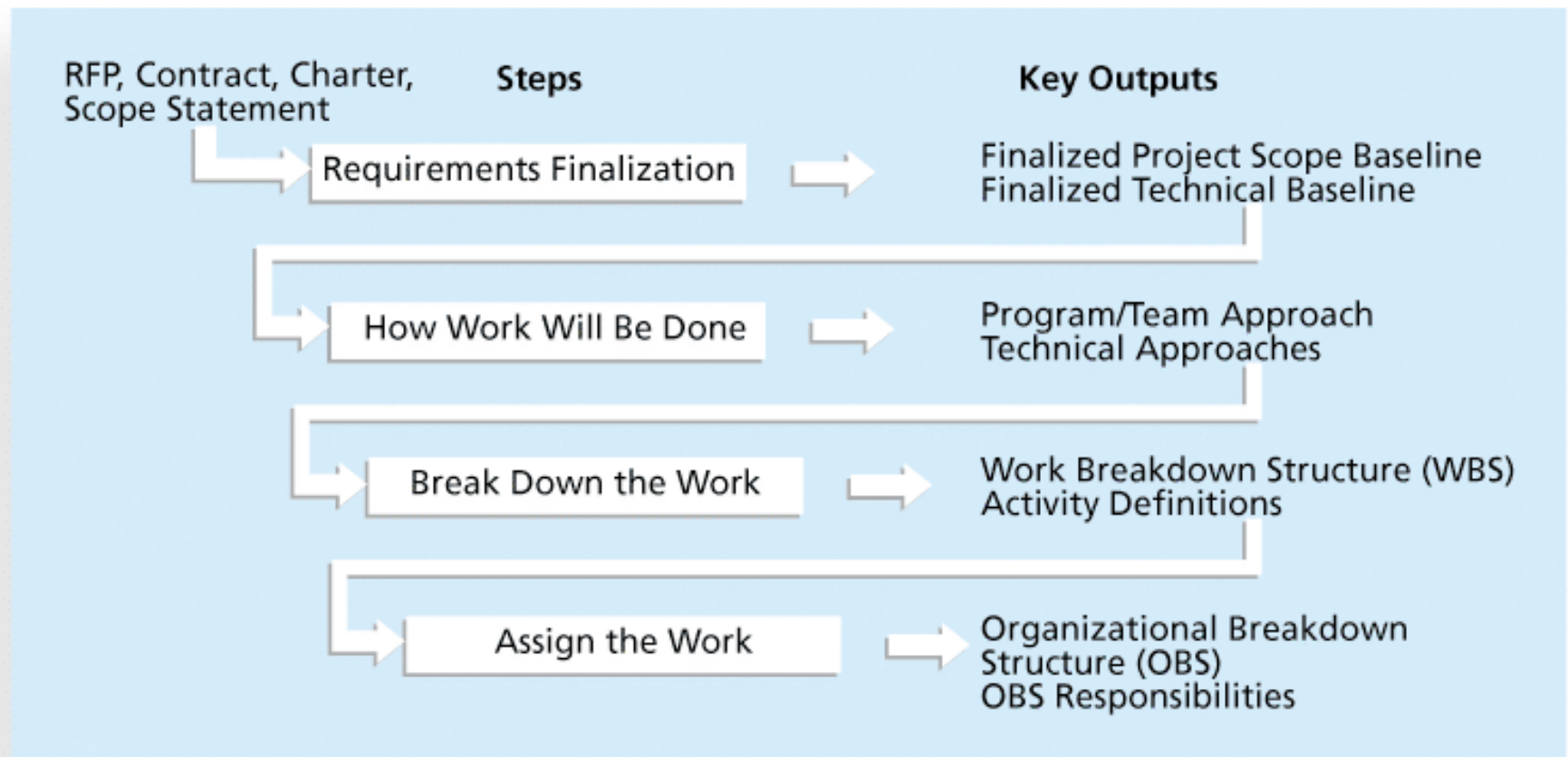


Figure 9-4. Work Definition and Assignment Process



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 organizational breakdown structure (OBS)
- Can be created in different ways to meet unique project needs

Figure 9-5. 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

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

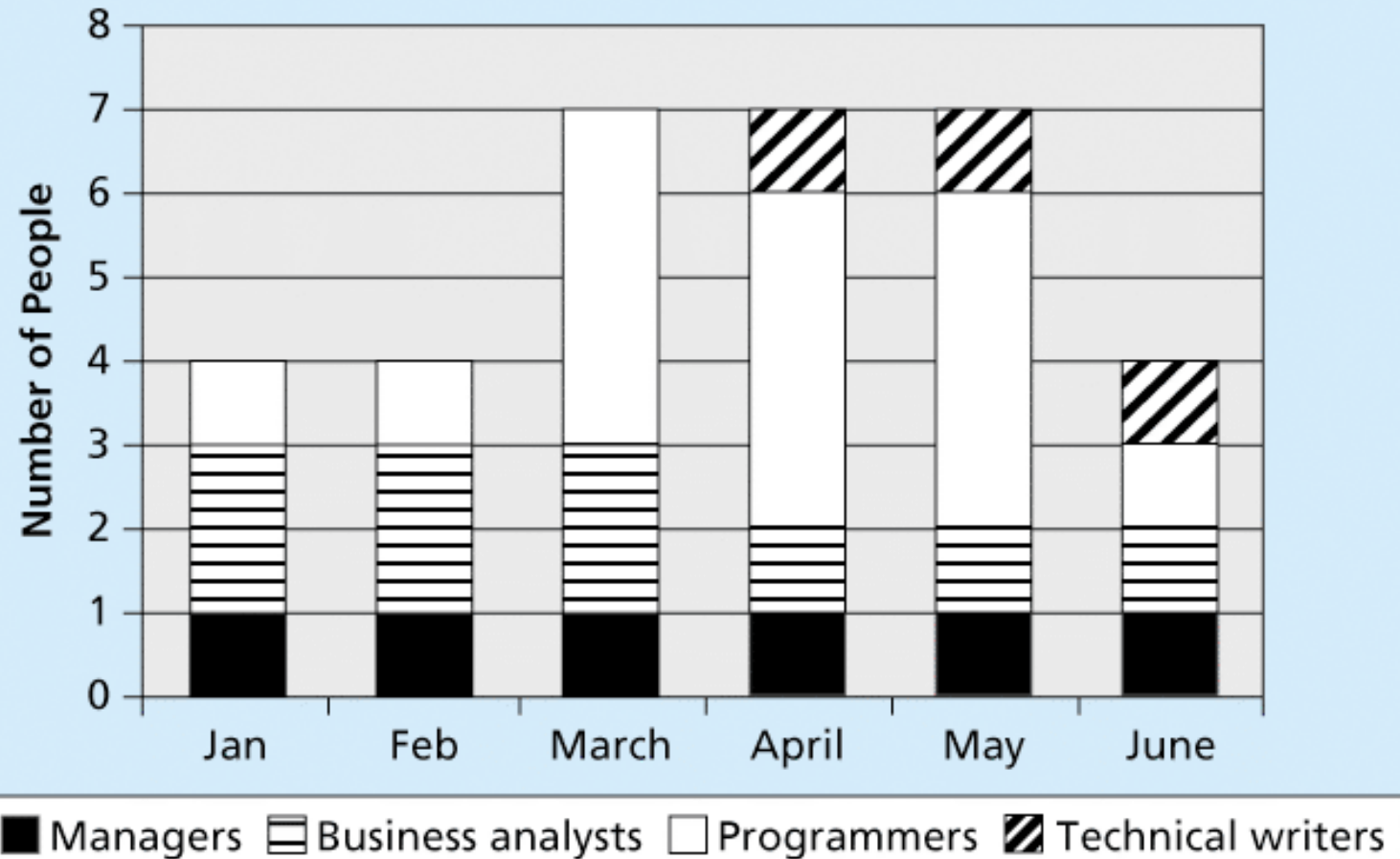
I = informed

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 9-7 provides an example of a histogram that might be used for a six-month information technology project.

Figure 9-7. 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

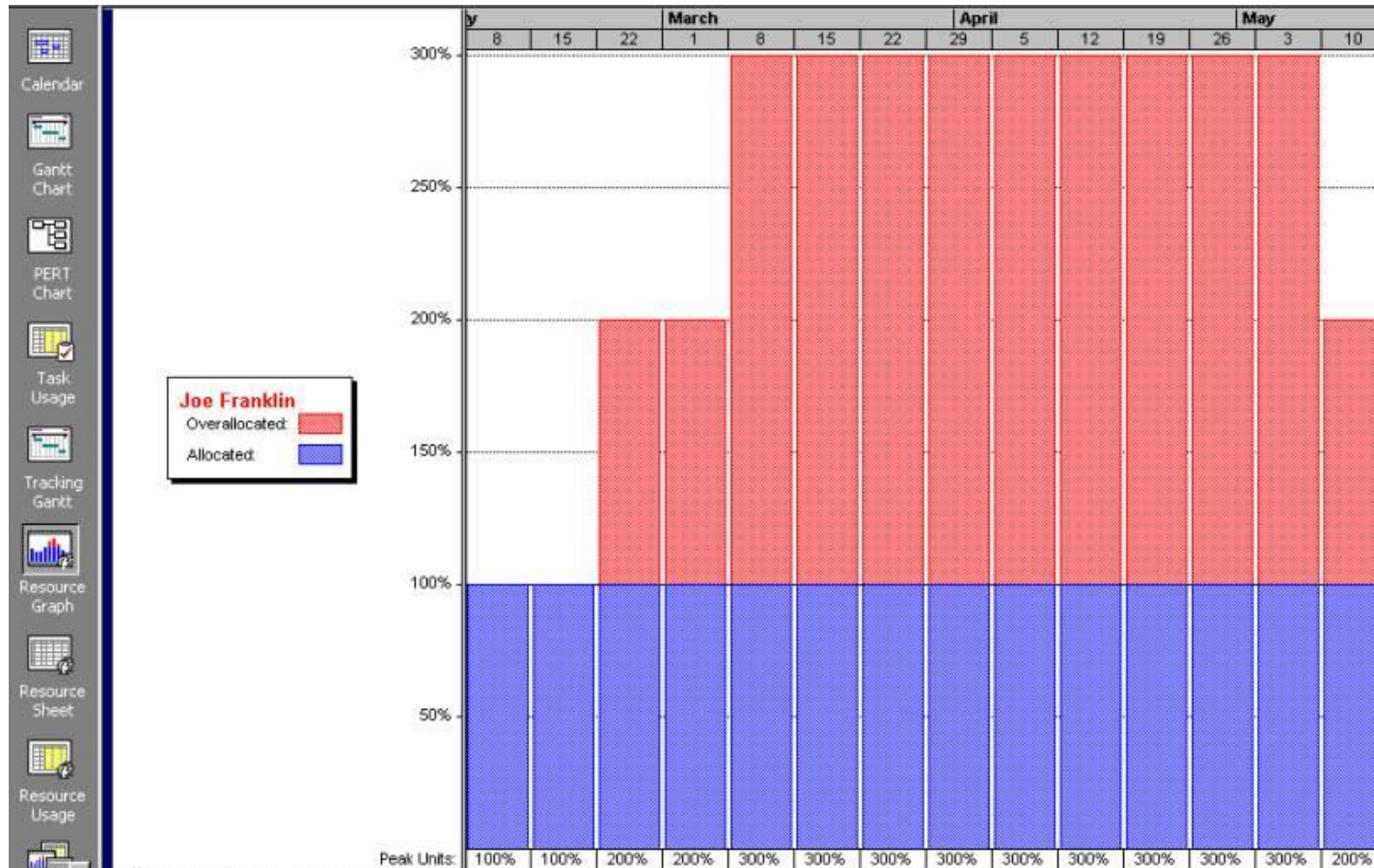
Resource Assignment

- 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

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

Benefits of Resource Leveling

- Improved project schedule
- Reduced project costs
- Increased productivity
- Improved project quality: By avoiding overloading, resource leveling can help maintain the quality of project deliverables and reduce the risk of errors or rework.
- Better project control
- Overall, resource leveling is a valuable technique for ensuring the success of projects by optimizing resource utilization and balancing the workload of resources.

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:** involves the introduction of team members, either at the initiation of the team, or as new members are introduced. This stage is necessary, but little work is actually achieved.
- **Storming:** occurs as team members have different opinions as to how the team should operate.
- **Norming:** is achieved when team members have developed a common working method, and cooperation and collaboration replace the conflict and mistrust of the previous phase
- **Performing:** occurs when the emphasis is on reaching the team goals, rather than working on team process.
- **Adjourning:** involves the break-up of the team after they successfully reach their goals and complete the work

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

Cont'd

- There is an extensive body of literature on team development.
- This section will highlight a few important **tools and techniques for team development**, including training, team-building activities, and reward and recognition systems

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

- The Social Styles Profile assesses an individual's behavior along two dimensions: assertiveness and responsiveness.
- **Assertiveness** refers to the degree to which an individual is comfortable expressing their opinions and taking charge in social situations.
Responsiveness refers to the degree to which an individual is attuned to the needs and feelings of others, and is able to adapt their behavior accordingly.

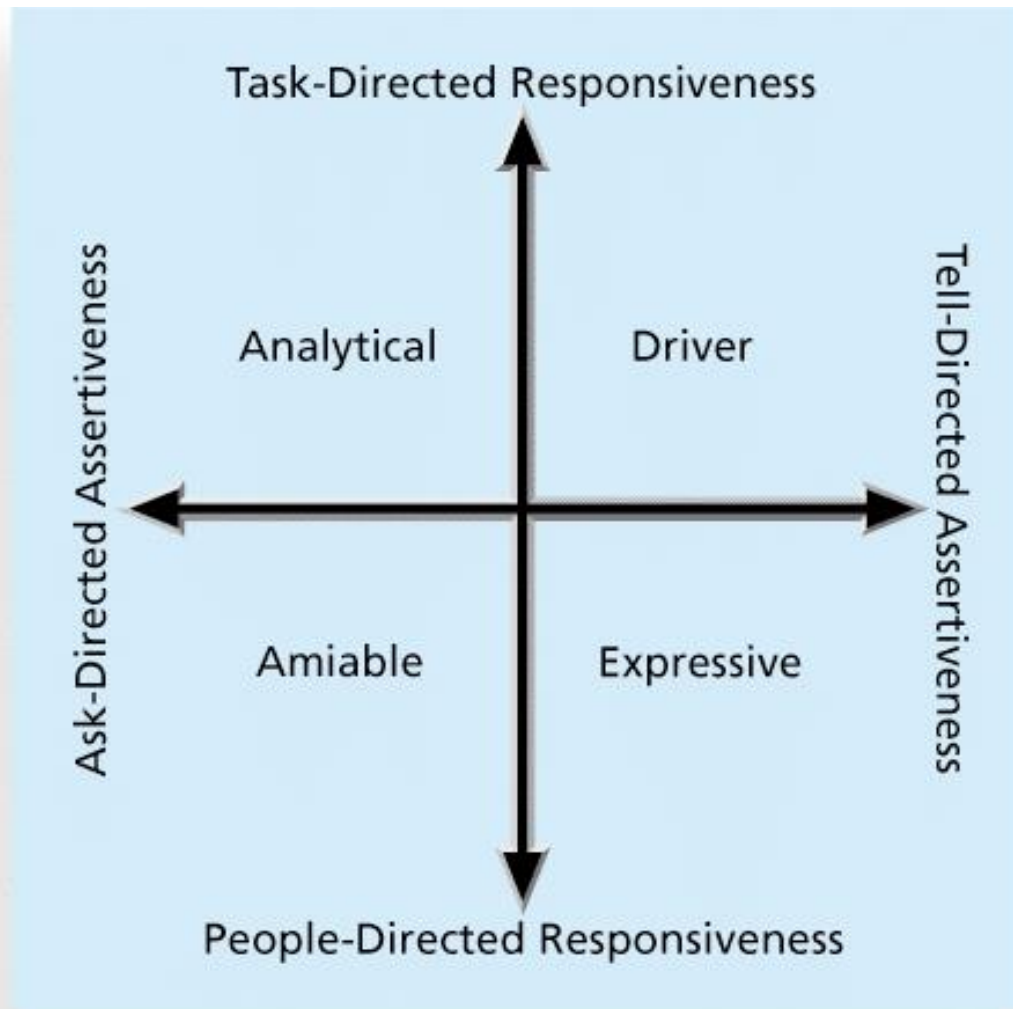
Social Styles Profile(cont'd)

- People are perceived as behaving primarily in one of **four zones**, based on their assertiveness and responsiveness:
 - **Drivers** are typically **assertive/proactive and task-focused**, and are comfortable taking charge in social situations.
They are firmly rooted in the present, and they strive for action
 - **Expressives** are **assertive/proactive and people-focused**, and are comfortable expressing their emotions and building relationships. They are future-oriented

Social Styles Profile(cont'd)

- **Amiables** are responsive/reactive and people-focused, and are skilled at building and maintaining relationships.
- Their time orientation varies depending on whom they are with at the time, and they strongly value relationships.
- **Analyticals** are responsive/reactive and task-focused, and are skilled at analyzing information and problem-solving.
They are past-oriented and strong thinkers

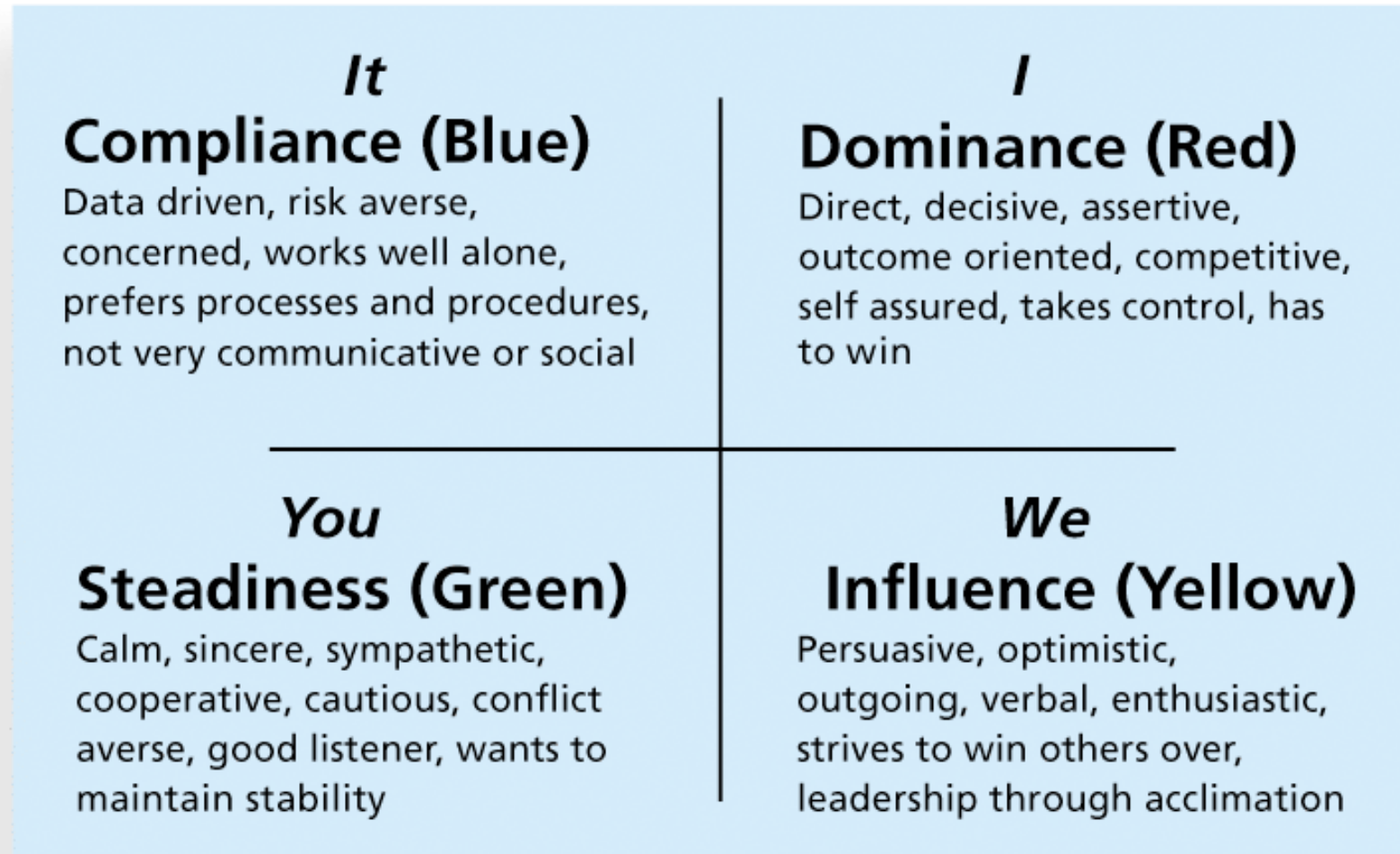
Figure 9-9. Social Styles



DISC Profiles

- Similar to the Social Styles Profile, the DISC Profile 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

- Another important tool for promoting team development is the use of team-based 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

End of Chapter-6