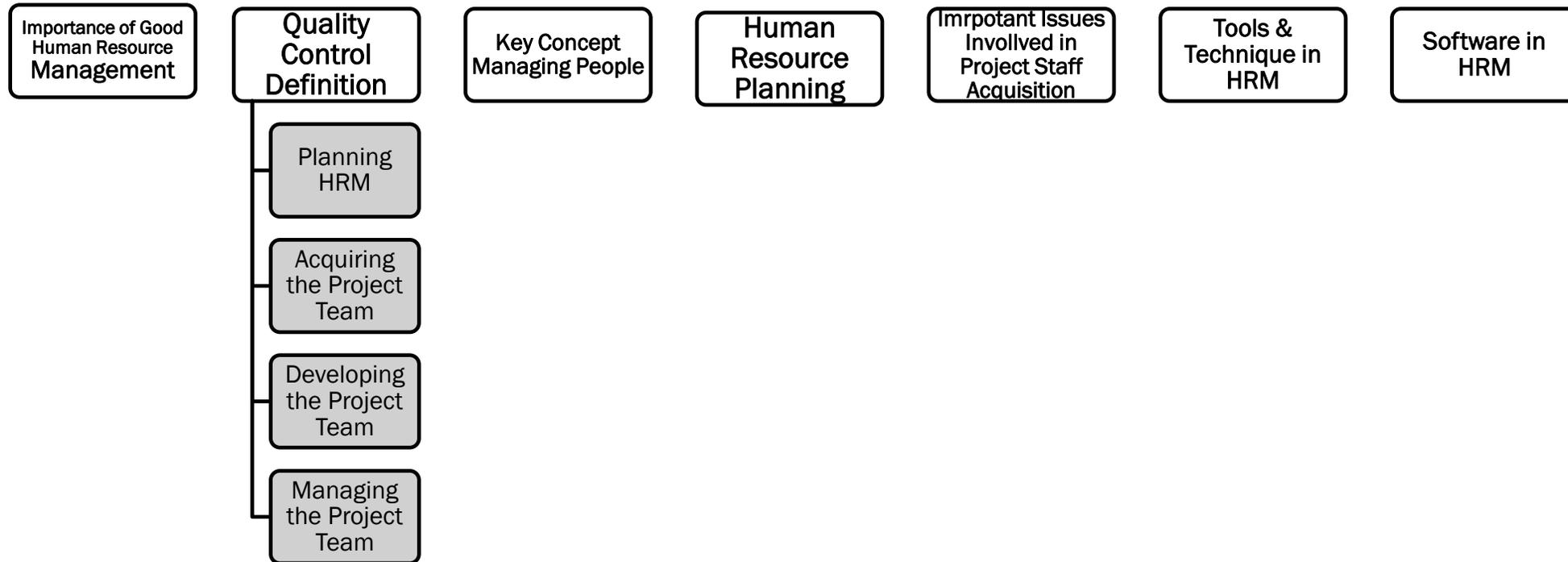


**Note:**  
Adapted from slide of the textbook: Schwalbe, Kathy. *Managing Information Technology Project – Eight Edition*. Boston, MA: Thomson Course Technology, 2016.  
See the text itself for full citations.

# IT PROJECT MANAGEMENT

WEEK 10 : PROJECT HUMAN  
RESOURCE MANAGEMENT

# MIND MAP

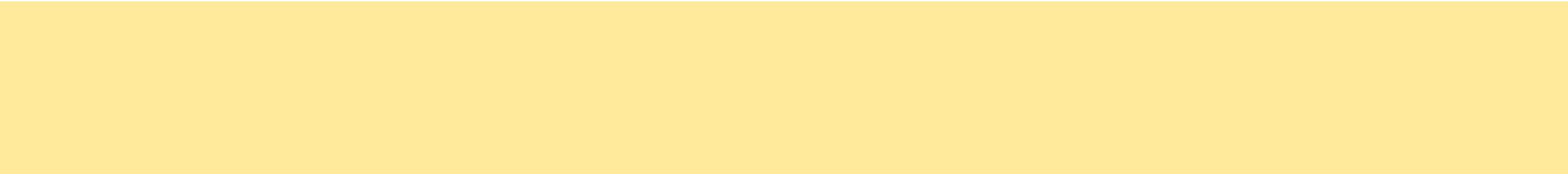


# LEARNING OBJECTIVES

- a. Explain the importance of **good human resource management on projects**, including the current state and future implications of the global IT workforce
- b. Define project human resource management and understand its processes
- c. 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
- d. Discuss **human resource planning** and be able to create a human resource plan, project organizational chart, responsibility assignment matrix, and resource histogram
- e. Understand important issues involved in **project staff acquisition** and explain the concepts of resource assignments, resource loading, and resource leveling
- f. Assist in **team development** with training, team-building activities, and reward systems
- g. Explain and apply **several tools and techniques to help manage a project team** and summarize general advice on managing teams
- h. Describe how **project management software can assist in project human resource management**



# **A: IMPORTANCE OF GOOD 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, especially in the IT project.
- **Global IT Workforces**
  - Although there have been ups and downs in the IT labor market, there will always be a need for good IT workers
  - A 2010 study from Digital Planet stated that the global recession of 2009 resulted in a 3 percent decrease in worldwide spending for information and communications technology (ICT),
  - However, the 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

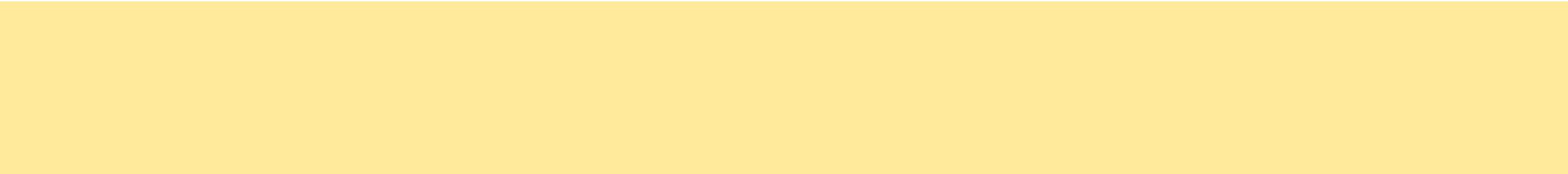


# IMPLICATIONS FOR THE FUTURE OF IT HUMAN RESOURCE MANAGEMENT

- Proactive organizations are addressing workforce needs by:
  - Improving benefits
  - Redefining work hours and incentives
  - Finding future workers



# **B: HUMAN RESOURCE MANAGEMENT PROCESS**



# WHAT IS PROJECT HUMAN RESOURCE MANAGEMENT?

- Making the most effective use of the people involved with a project
- Processes include:
  1. **Planning human resource management:** identifying and documenting project roles, responsibilities, and reporting relationships.
  2. **Acquiring the project team:** getting the needed personnel assigned to and working on the project
  3. **Developing the project team:** building individual and group skills to enhance project performance
  4. **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

## 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

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## 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

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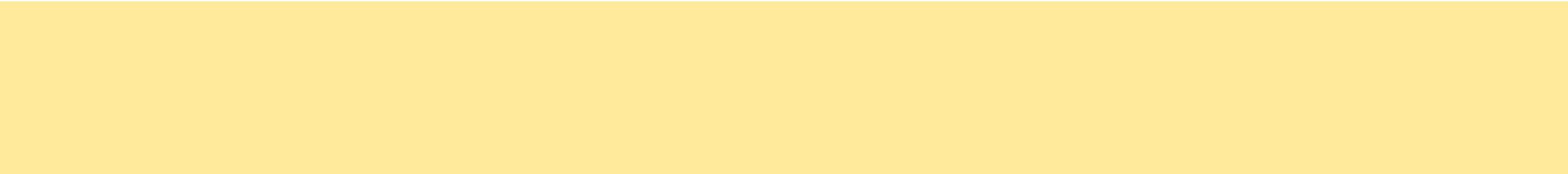
Project Start

Project Finish

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# **C: KEYS TO MANAGING PEOPLE**



## 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:
  1. Motivation theories
  2. Influence and power
  3. 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



# 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

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

- Individual's specific needs are acquired or learned over time and shaped by life experiences, including:
  1. Achievement (**nAch**): achievers like challenging projects with achievable goals and lots of feedback
  2. 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
  3. 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

## THAMHAIN AND WILEMON'S WAYS TO HAVE INFLUENCE ON PROJECTS

Many people working on project do not report directly to project manager → PM do not have control

PM deals with workers:

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
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** (able to use punishment).
  - **Legitimate** (able to use organizational position).
  - **Expert** (able to use personal knowledge).
  - **Reward** (able to offer incentives).
  - **Referent** (able to use personal charisma).

## COVEY AND IMPROVING EFFECTIVENESS

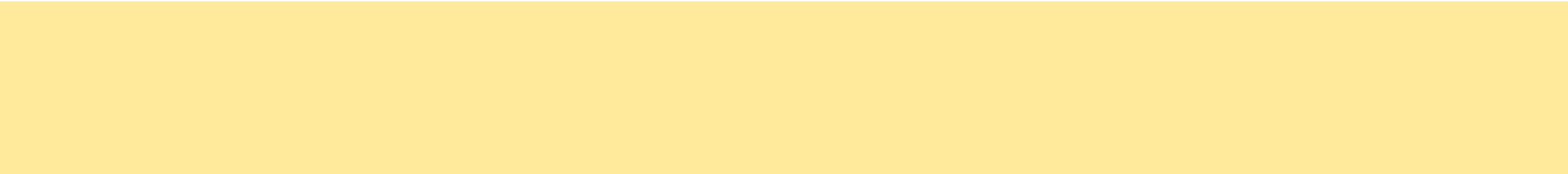
- Project managers can apply Covey's 7 habits to improve effectiveness on projects
  - **Be proactive** - anticipate and plan for change.
  - **Begin with the end in mind** - have a mission.
  - **Put first things first** - priority.
  - **Think win/win.**
  - **Seek first to understand, then to be understood.**
  - **Synergize** - collaboration will achieve more than individual effort.
  - **Sharpen the saw** (take time for the project team to retrain, reenergize, and even relax!).

## 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



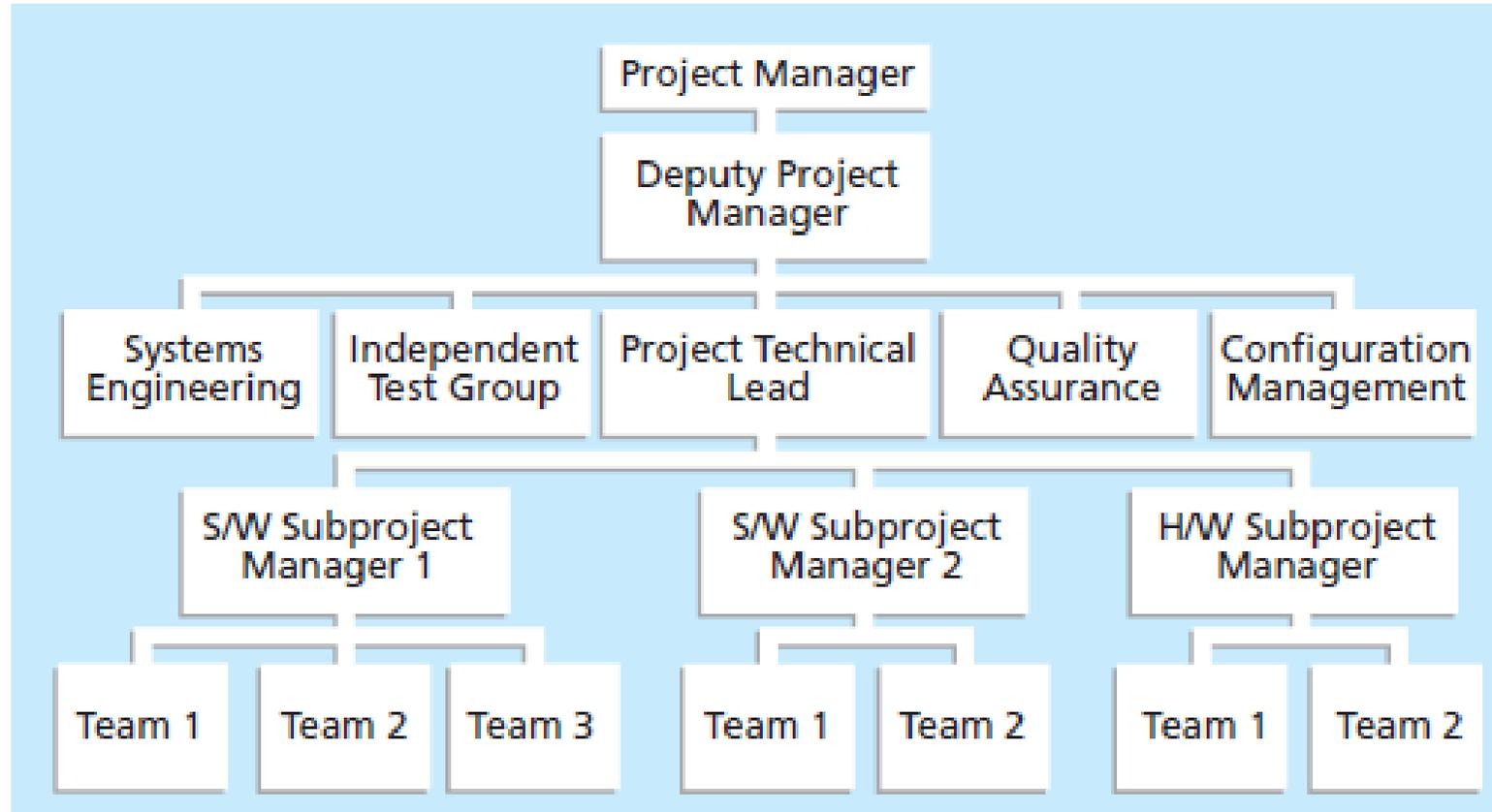
# **D: DEVELOPING THE HUMAN RESOURCE PLAN**



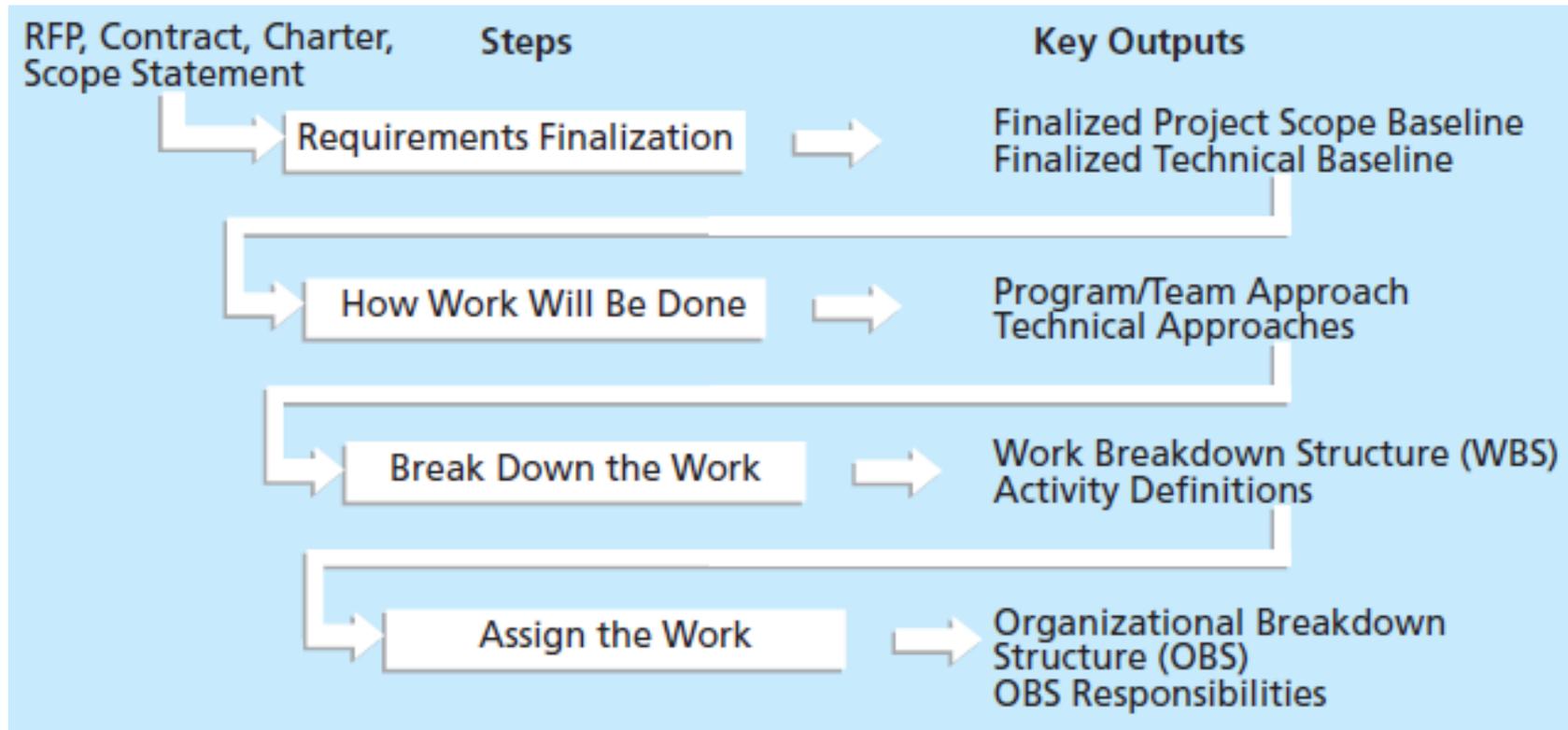
## DEVELOPING THE HUMAN RESOURCE PLAN

- 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

OBS units	WBS activities							
	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	RP					R	
Software Development			RP					
Hardware Development				RP				
Test Engineering	P							
Quality Assurance					RP			
Configuration Management						RP		
Integrated Logistics Support							P	
Training								RP

R = Responsible organizational unit  
P = Performing organizational unit

## SAMPLE RACI CHART

	Car Owner	Shop Owner	Mechanic	Parts Supplier
Pay for parts and services	A, R	C		
Determine parts and services needed	C		A, R	C
Supply parts		C	C	A, R
Install parts	I	A	R	

R = responsibility

A = accountability, only one A per task

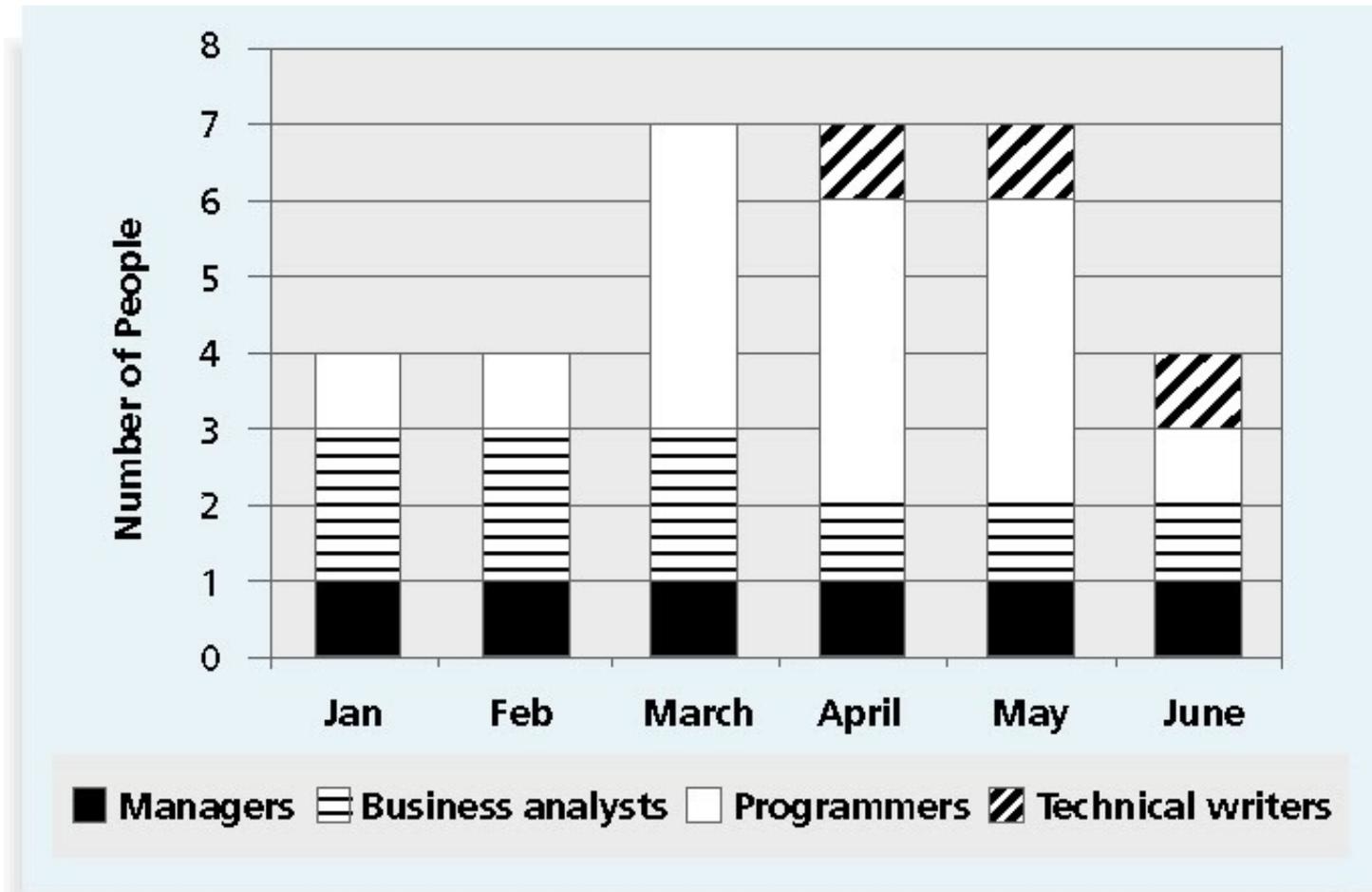
C = consultation

I = informed

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

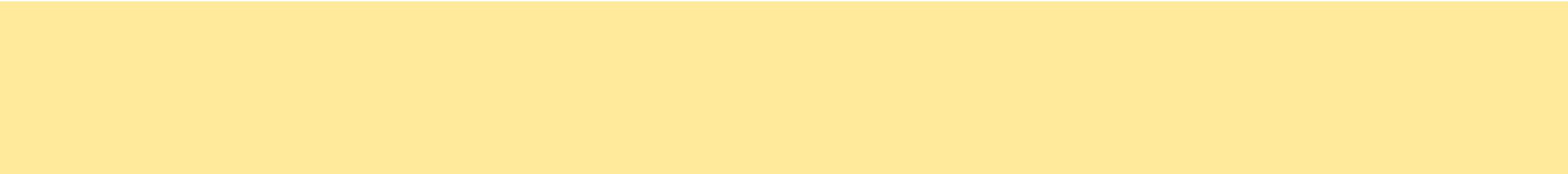
# STAFFING MANAGEMENT PLANS AND RESOURCE HISTOGRAMS

- 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





# **E: ACQUIRING THE PROJECT TEAM**



## ACQUIRING THE PROJECT TEAM

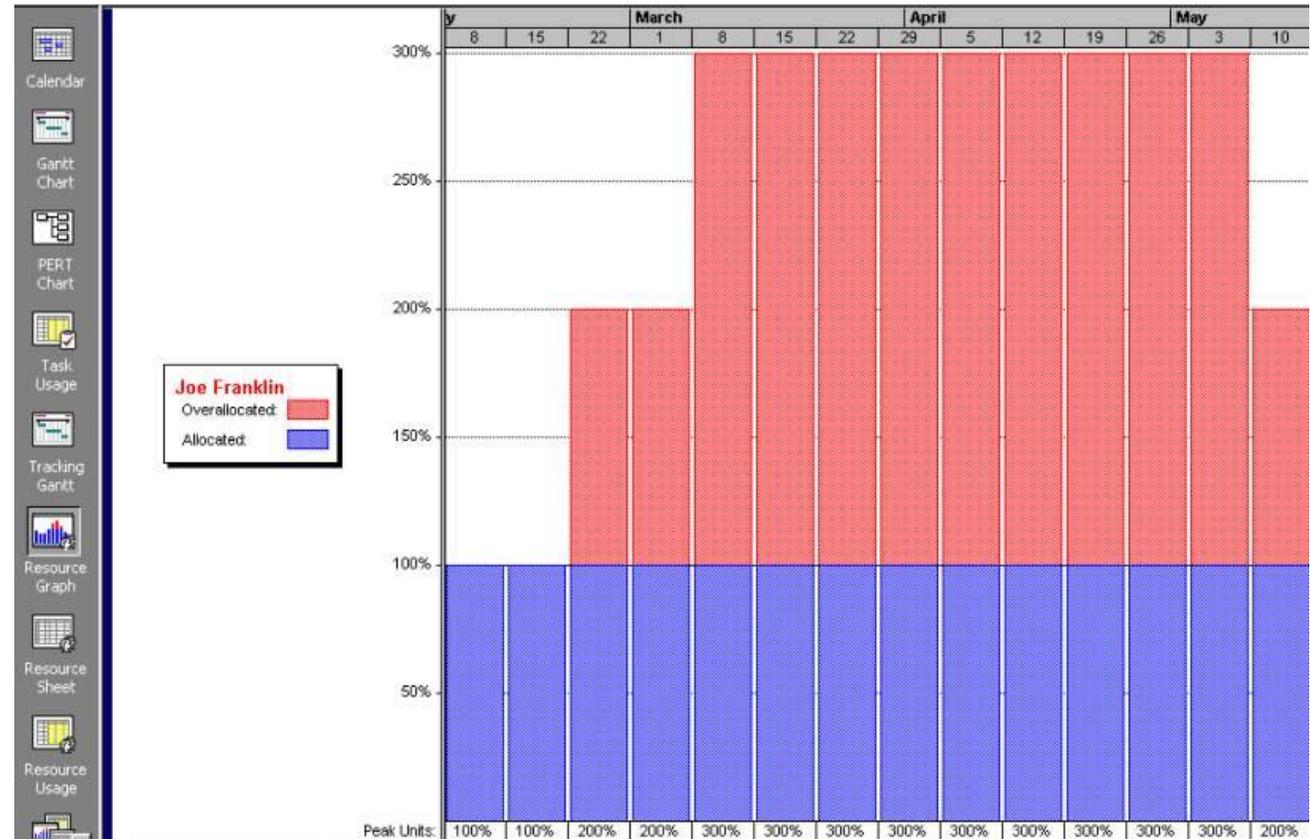
- Acquiring **qualified people** for teams is crucial
- The project manager who is the smartest person on the team has done a *poor job of recruiting!*
- It's important to assign the appropriate type and number of people to work on projects at the appropriate times

# 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 will be over the age of 50 by 2010
- CIO's researchers suggest that organizations rethink hiring practices and incentives to hire and retain IT talent

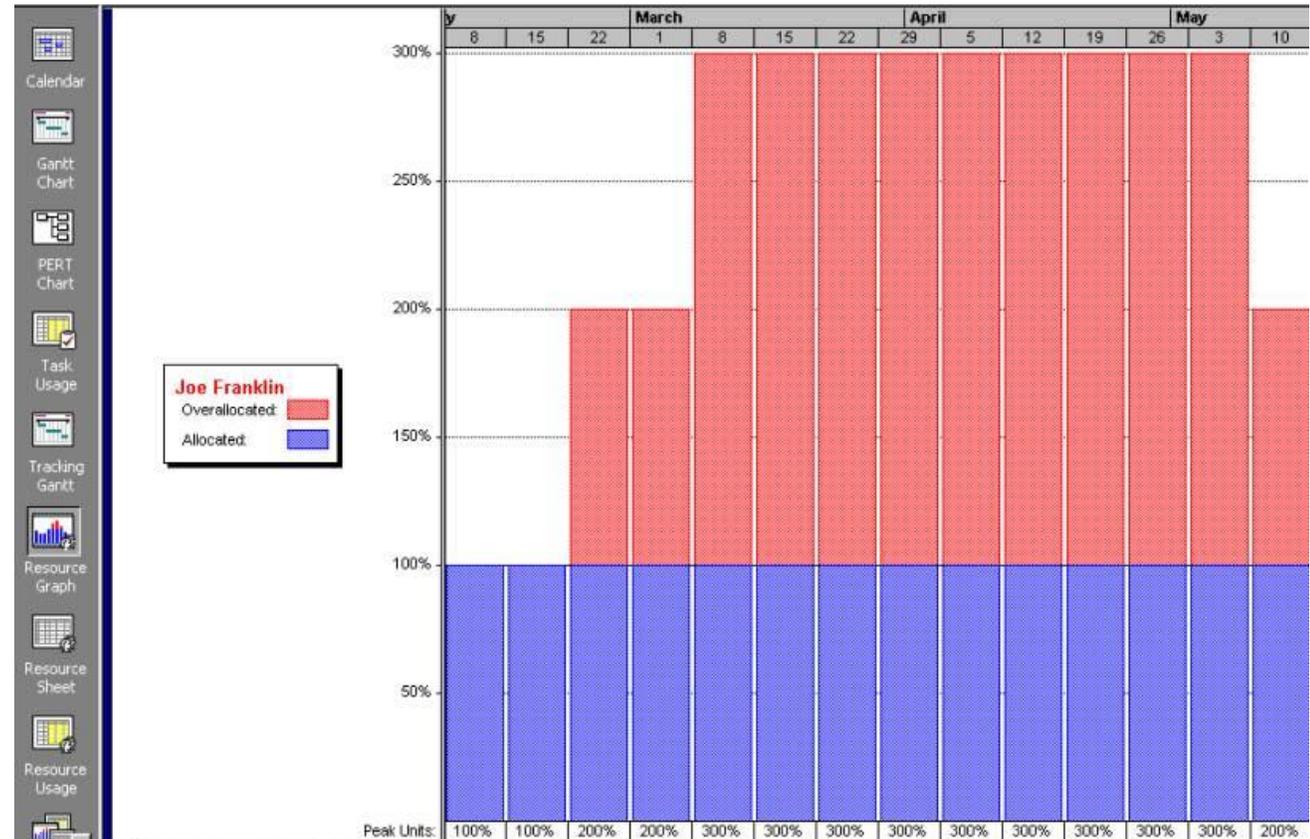
# RESOURCE LOADING

- **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 that more resources than are available are assigned to perform work at a given time



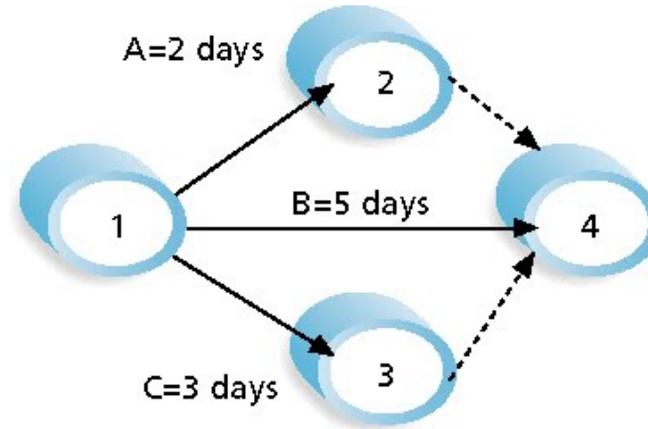
# RESOURCE LEVELING

- 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

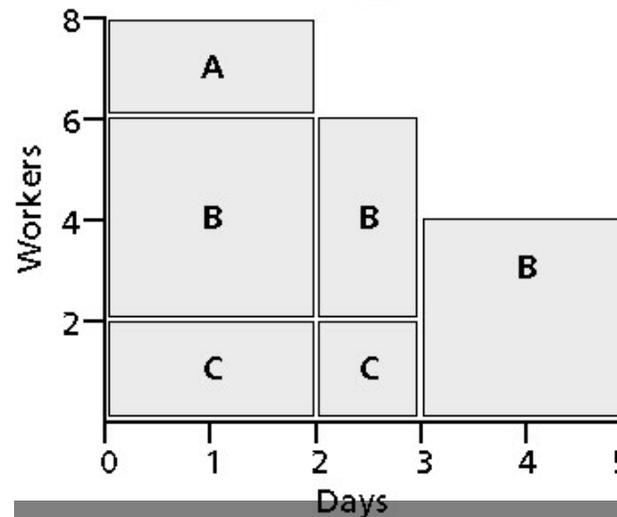


# RESOURCE LEVELING

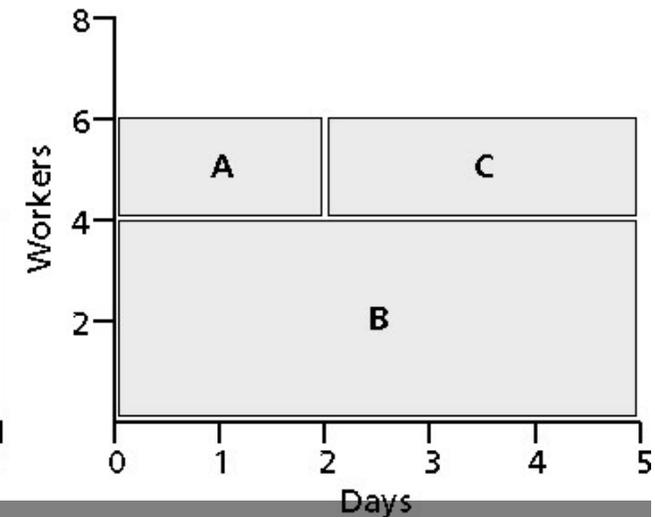
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Project network with Activities A, B, and C and durations as shown. Activity A has 3 days of slack, and Activity C has 2 days of slack. Assume Activity A has 2 workers, B has 4 workers, and C has 2 workers.



Resource usage if all activities start on day one



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

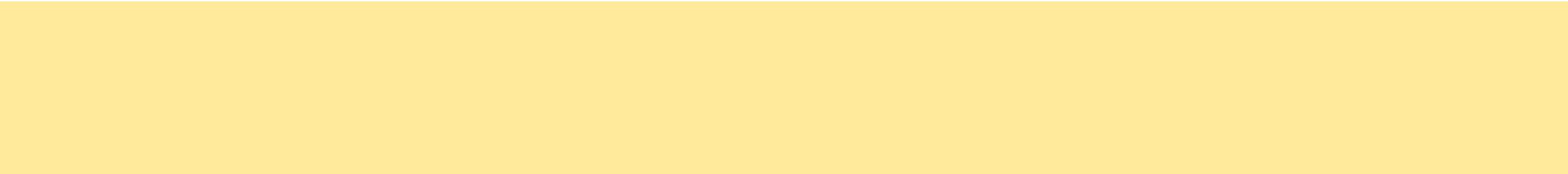
Information Technology Project Management, Eighth Edition

## 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



# **F: DEVELOPING THE PROJECT TEAM**





## 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

1. **Forming:** introduction of team members
2. **Storming:** team members have different opinions as to how the team should operate
3. **Norming:** develop a common working method
4. **Performing:** emphasis on reaching the teams goal rather than working on team process
5. **Adjourning:** break-up the team after they successfully reach their goals.

# 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)

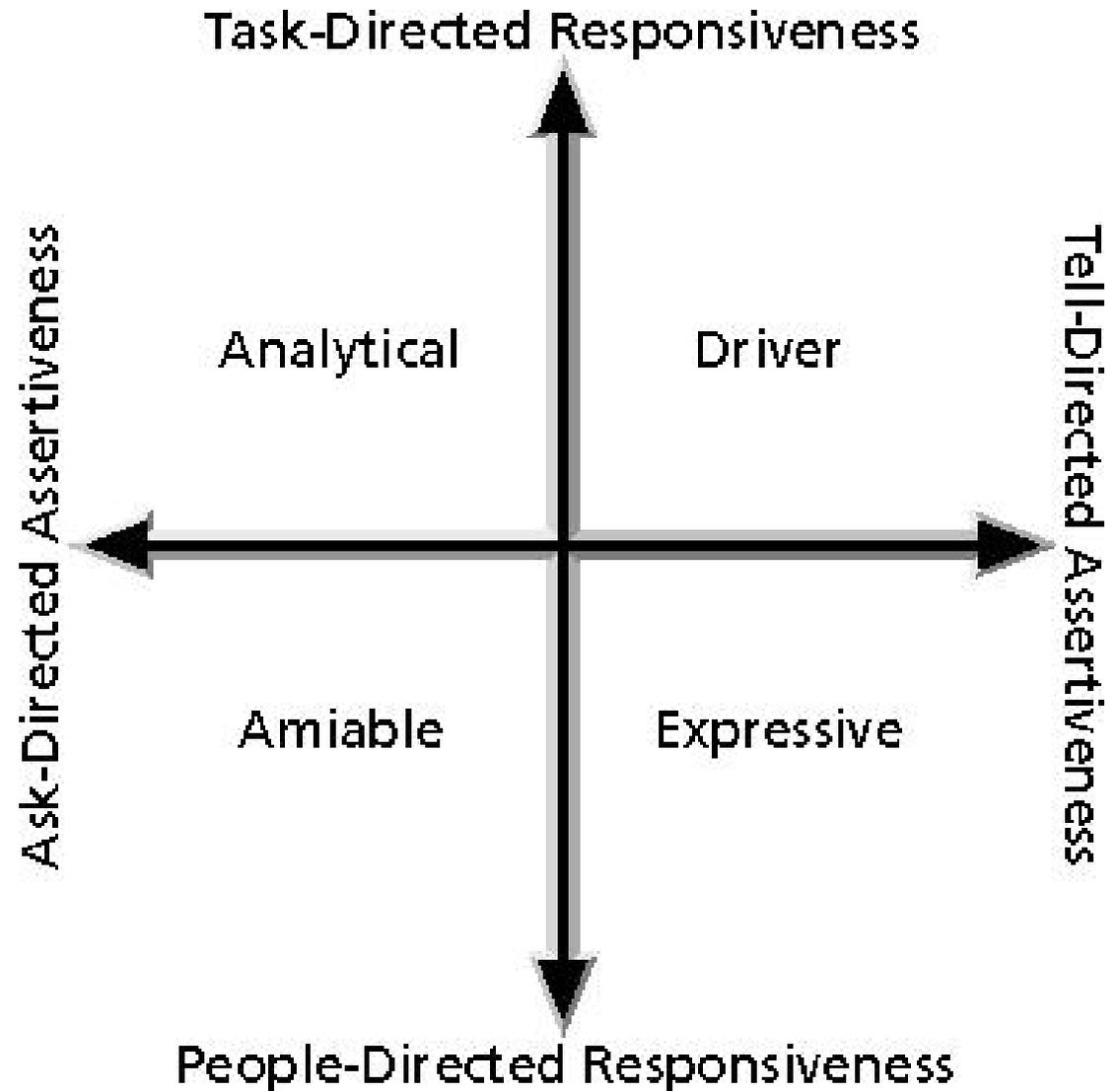
- MBTI is a popular tool for determining personality preferences and helping teammates understand each other
- Four dimensions include:
  - Extrovert/Introvert (E/I)
  - Sensation/Intuition (S/N): gather information, facts vs intuitive
  - Thinking/Feeling (T/F): judgment, objective & logical vs subjective & personal
  - Judgment/Perception (J/P): attitude, structure vs flexible

**IT people vary most from the general population in not being extroverted or sensing**

- 75% IT people Introvert, general population 25% introvert
- 55% IT people Intuitive, general population 25%
- 80% IT people Thinking, general population 50%

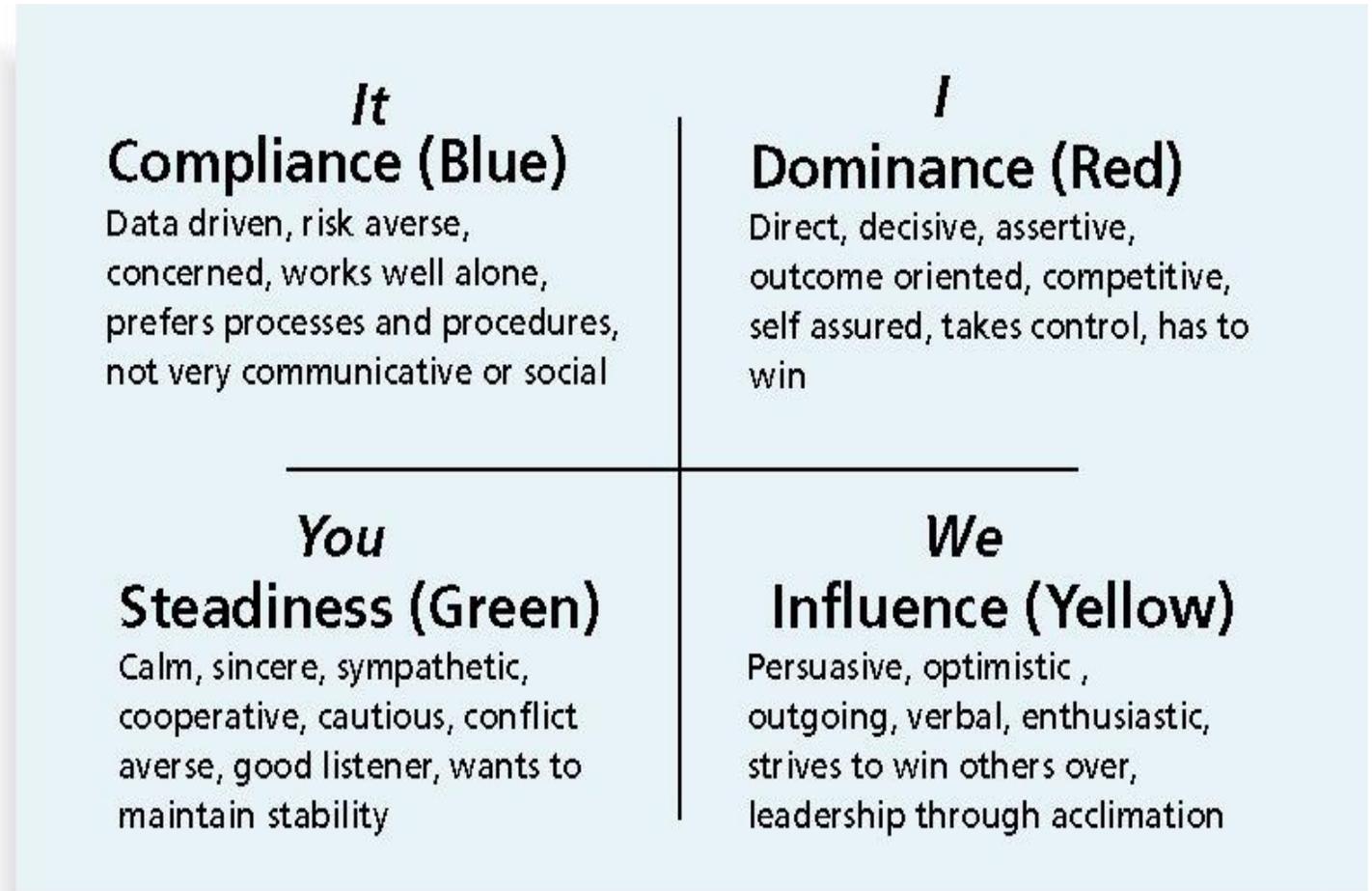
## SOCIAL STYLES PROFILE

- People are perceived as behaving primarily in one of four zones, based on their assertiveness and responsiveness:
  - **Drivers:** pro active & task oriented
  - **Expressives:** proactive and people oriented
  - **Analyticals:** reactive & task oriented
  - **Amiables:** reactive & people oriented
- People on opposite corners (drivers and amiables, analyticals and expressives) may have difficulties getting along



# 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



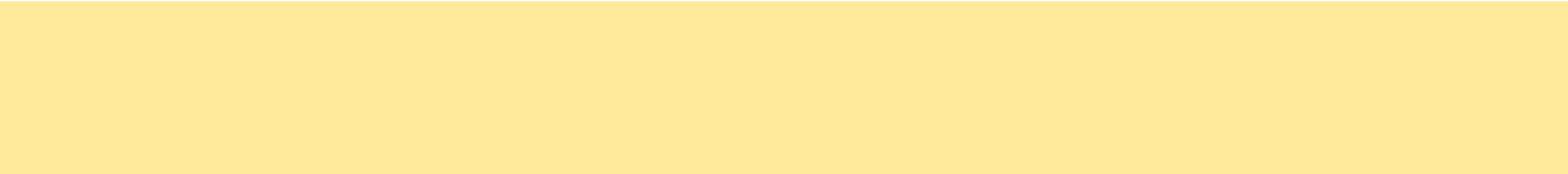


## REWARD AND RECOGNITION SYSTEMS

- **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



# **G: MANAGING THE PROJECT TEAM**



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## 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 MANAGEMENT

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

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



## 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

## 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 largely 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.

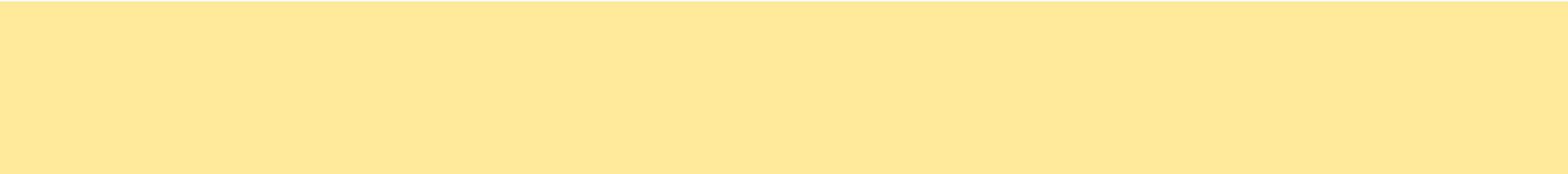
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## **GENERAL ADVICE ON TEAMS (CONTINUED)**

- 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



# **F: SOFTWARE FOR HUMAN RESOURCE MANAGEMENT**



## 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

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# 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:
  - Planning human resource management
  - Acquire project team
  - Develop project team
  - Manage project team
- **What is important** ? The *project managers ability to enable project team members to deliver the best work they possibly can on a project.*