



MONASH University

Information Technology

FIT2002

IT Project Management

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Lecture 10

Project Resource Management

# Video 1: *Project Resource Management*

## Learning Objectives

- Define project resource management and understand its processes
- Discuss resource management planning, in particular human resource

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# What is Project Resource Management?

- To identify, acquire and manage the resources needed for the successful completion of the project.
- Processes include
  1. **Planning resource management:** defining how to estimate, acquire, manage and utilize physical and team resources.
  2. **Estimate activity resources:** estimating team resources and the type and quantities of material, equipment and supplies necessary to perform project work
  3. **Acquiring resources:** getting the necessary resources and personnel required for the project

# What is Project Resource Management?

- Processes include (cont...)
  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
  5. **Control resources:** ensuring that the physical resources assigned and allocated to the project are available as planned, as well as performing corrective action as necessary

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# The Importance of Human Resource Management

- Many corporate executives have said, “People are our most important asset”
- People determine the success and failure of organisations and projects
- Proactive organisations are addressing workforce needs by
  - improving benefits
  - redefining work hours and incentives
  - finding future workers

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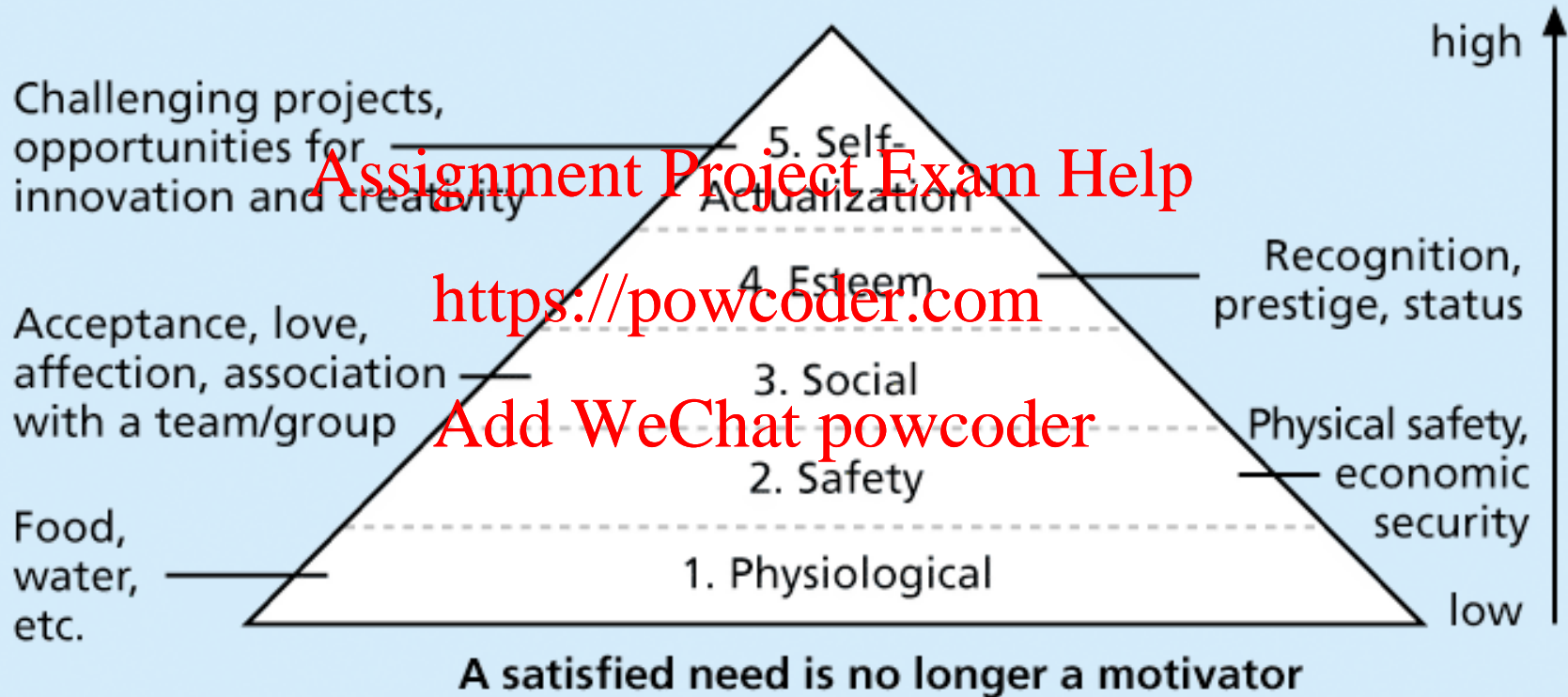
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# Keys to Managing People

- Psychologists and management theorists have devoted much research and thought to the field of managing people at work
- Some theories related to human resource management:
  - **Motivation** theories – Maslow, Herzberg & McGregor
  - Covey's 7 habits to improve **effectiveness** on projects
  - Daniel Goleman author of Emotional Intelligence and Primal Leadership
    - **Emotional intelligence** – managing one's own emotions and understanding the emotions of others for improved performance
    - Six **leadership** style – visionary, coaching, affiliative, democratic, pacesetting and commanding

# 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



# McGregor's Theory X and Y

- Douglas McGregor popularised 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

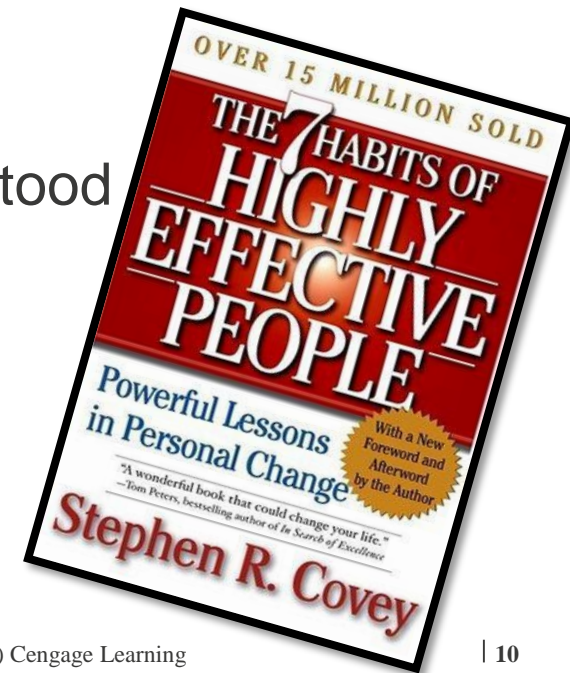
# Covey and Improving Effectiveness

- 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
  - Synergise
  - Sharpen the saw

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# Video 2: *Project Resource Management*

## Learning Objectives

- Create a human resource plan, project organisational chart, responsibility assignment matrix, and resource histogram

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# Developing the Human Resource Plan

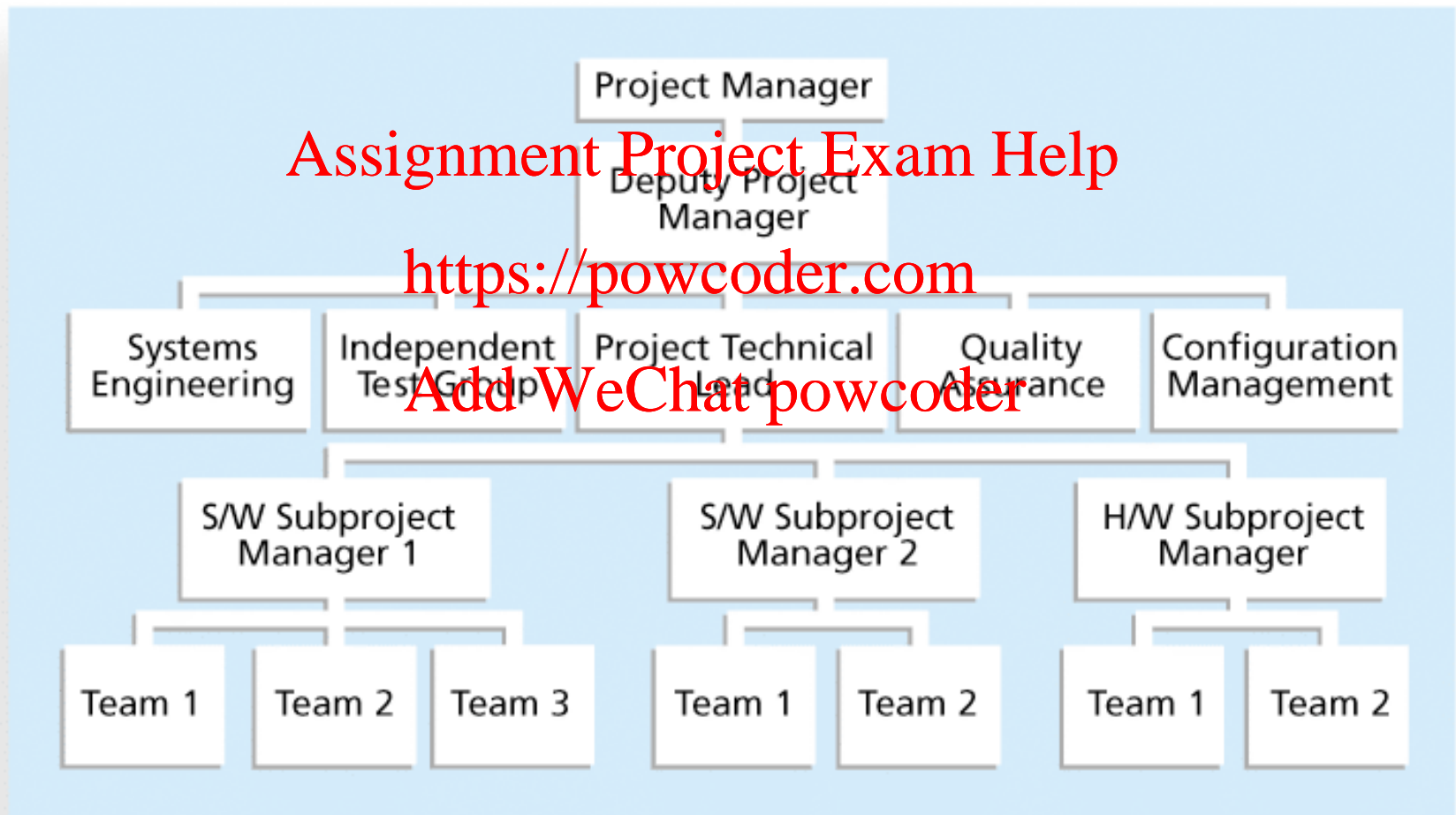
- Involves identifying and documenting project roles, responsibilities, and reporting relationships
- Contents include
  - project organisational charts
  - staffing management plan
  - responsibility assignment matrixes
  - resource histograms

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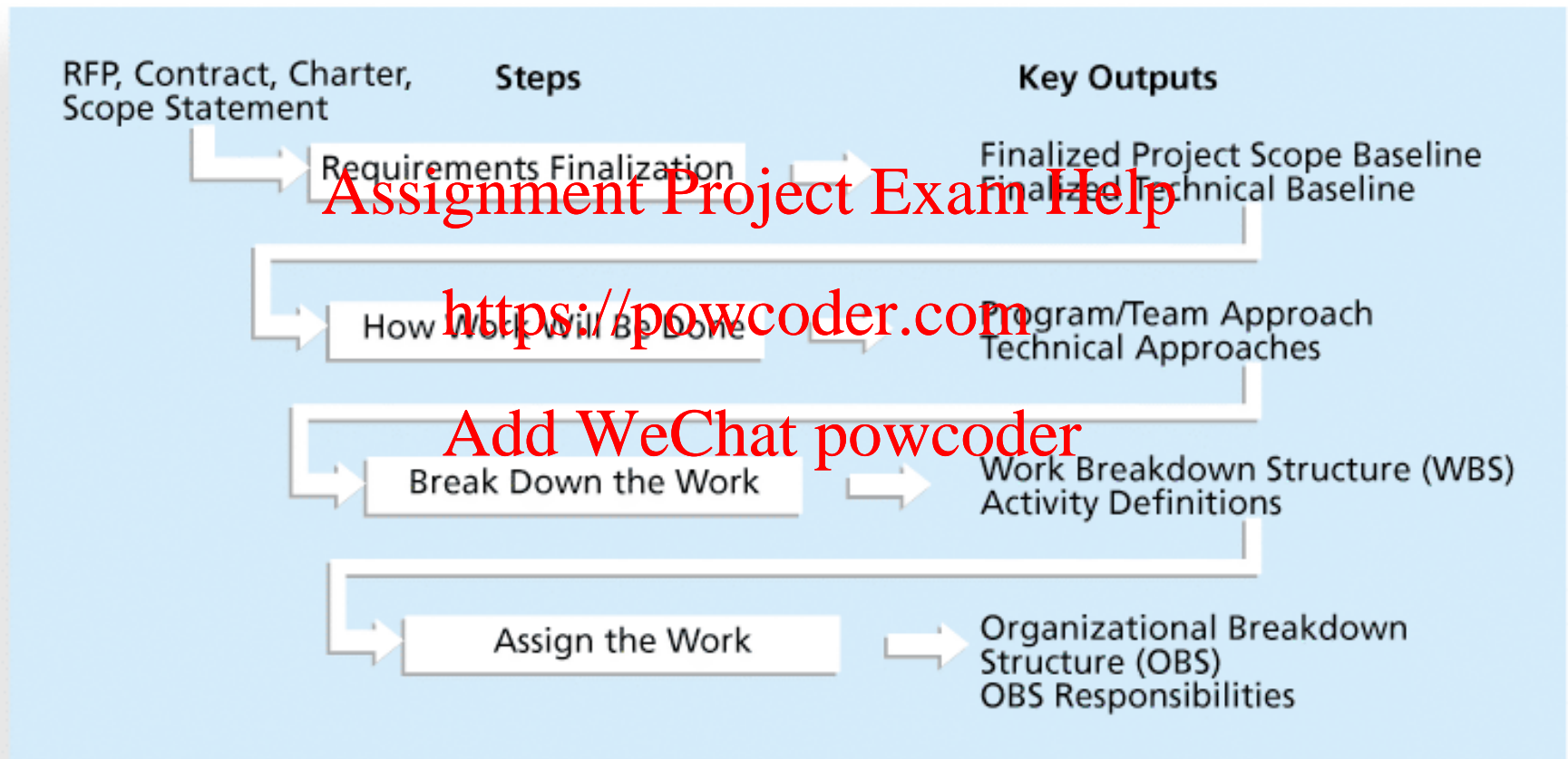
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# Sample Organisational Chart for a Large IT Project



# 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 (Organisational Breakdown Structure)
- Can be created in different ways to meet unique project needs
- Note: Organisational breakdown structure (OBS) is a specific type of organisational chart that shows which organisational units are responsible for which work items

# 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	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

	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	C	G	R	A

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R = responsibility

A = accountability, only one A per task

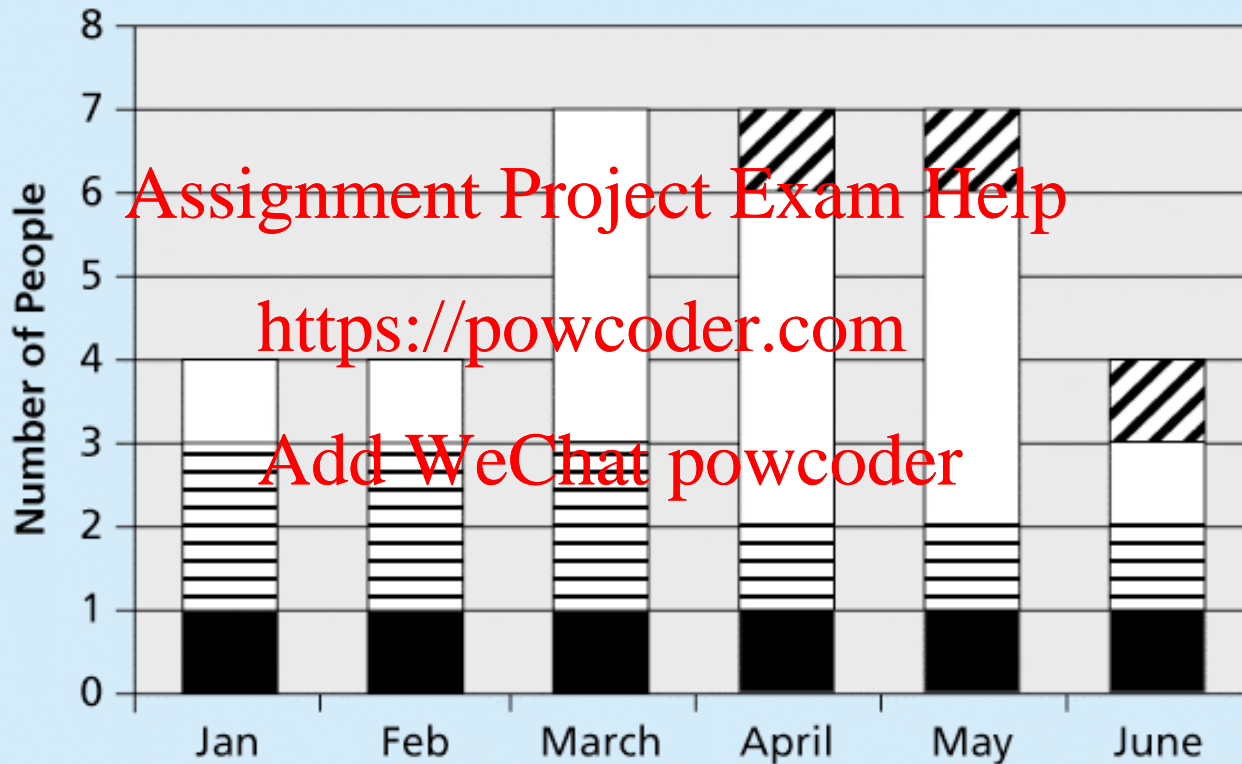
C = consultation

I = informed

# 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
  - describe how these resources would be acquired, trained, rewarded, and reassigned
- A **resource histogram** is a column chart that shows the number of resources assigned to a project over time

# Sample Resource Histogram



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# Video 3: *Project Resource Management*

## Learning Objectives

- Understand important issues involved in project staff acquisition and explain the concepts of resource assignments, resource loading, and resource leveling

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# Acquiring the Project Team

- Acquiring qualified people for teams is crucial
- Are project managers doing a good job in recruiting?
- It's important to assign the appropriate type and number of people to work on projects at the appropriate times
- Staffing plans: Maintaining a complete and accurate inventory of employees' skills.

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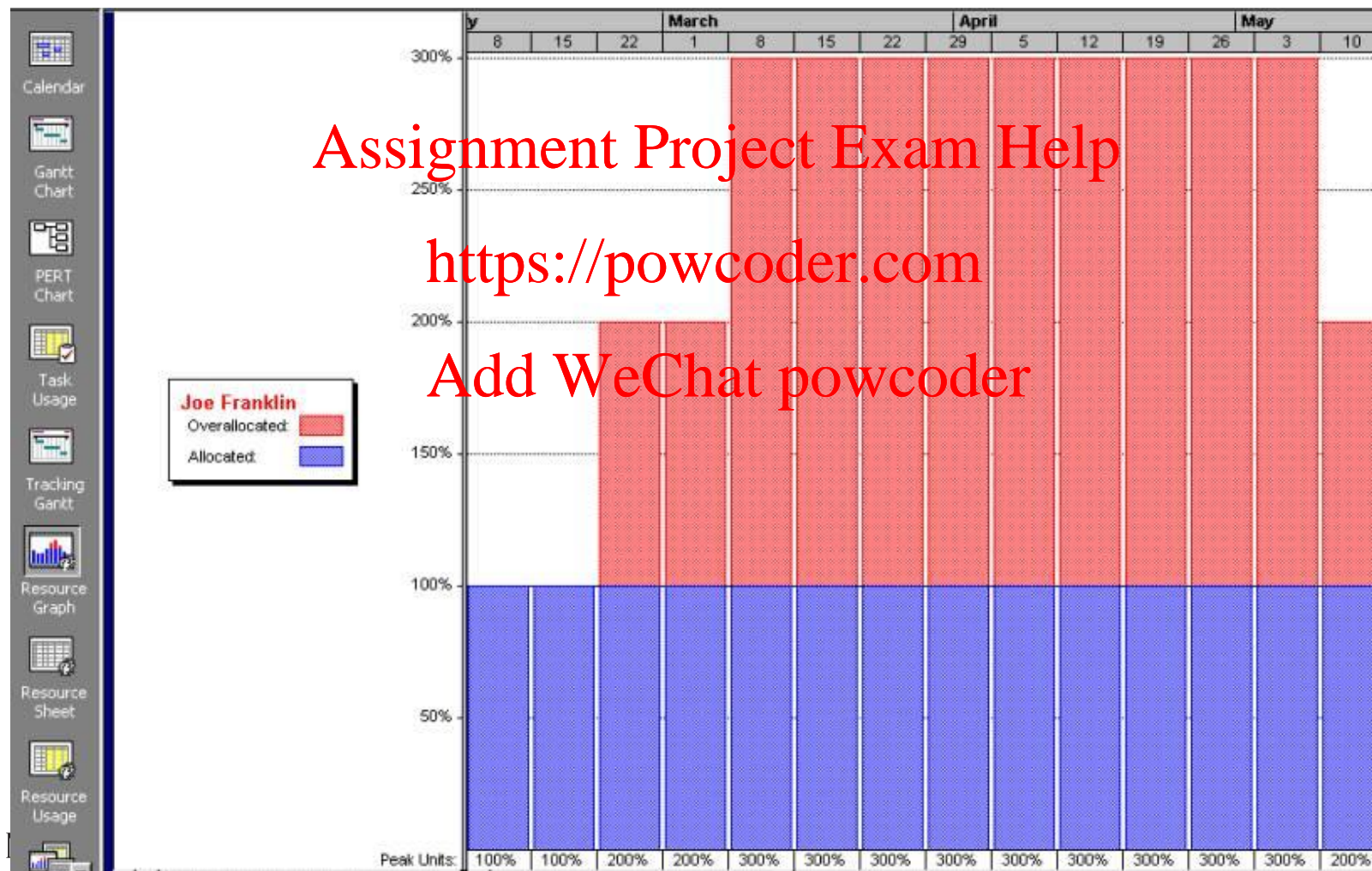
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# Resource Loading

- Once people are assigned to projects, two techniques are available to project managers that help them use project staff most effectively: **resource loading and resource leveling.**
- **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 organisation's resources and individual people's schedules
- **Over-allocation** means more resources than are available are assigned to perform work at a given time

# Sample Histogram Showing an Overallocated Individual



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# 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

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# 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

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# 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

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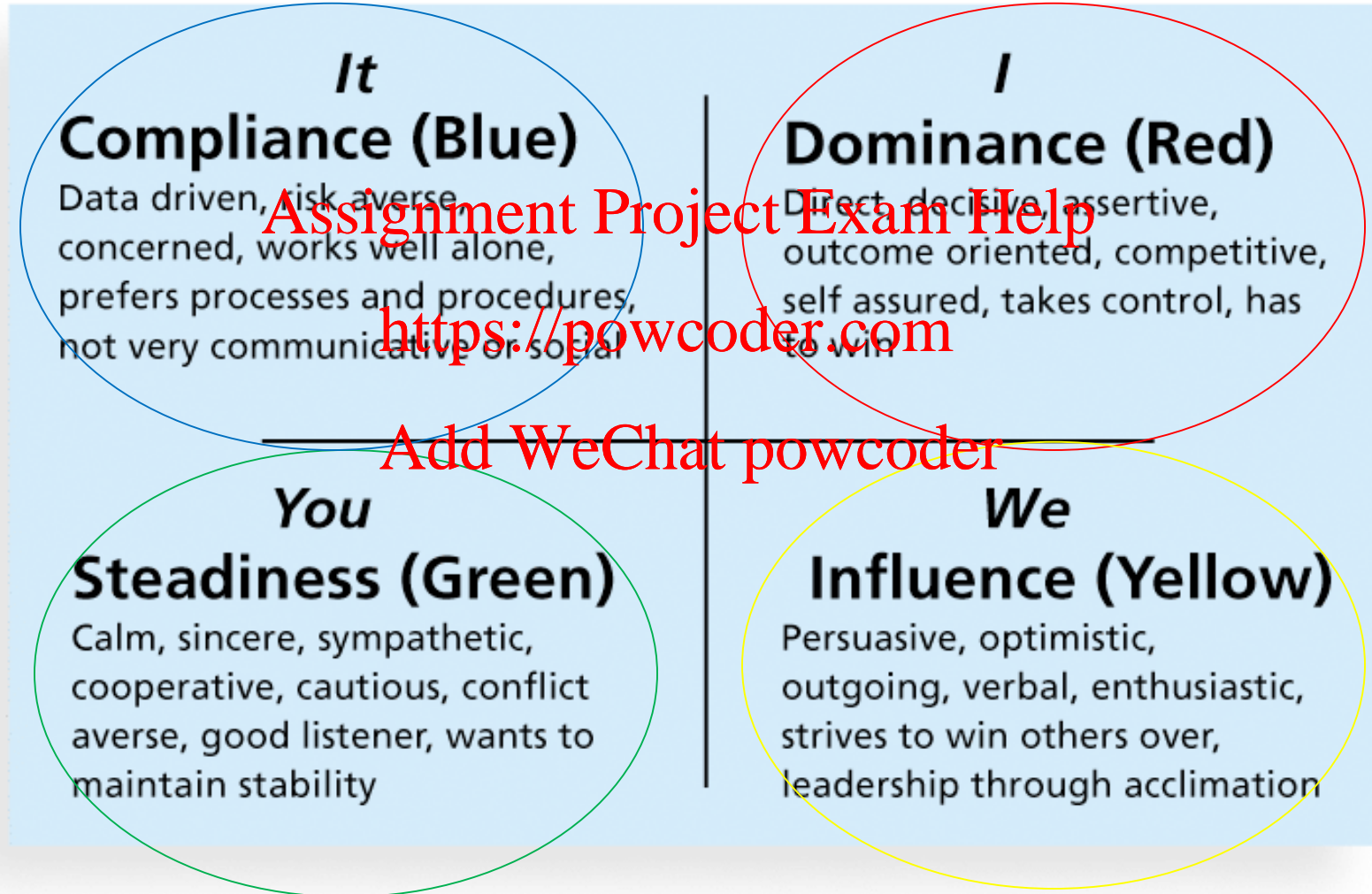
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# Training and Team Building Activities

- Training can help people understand themselves, each other, and how to work better in teams
- Important to make sure that the timing and delivery method for the training is appropriate for specific situations and individuals
- Team building activities include
  - physical challenges
  - psychological preference indicator tools
    - Myers-Briggs Type Indicator
    - Social Styles Profile
    - DISC Profile

# 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

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# Video 4: *Project Resource Management*

## Learning Objectives

- Explain and apply several tools and techniques to help manage a 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 organisational process assets.

# Tools and Techniques for Managing Project Teams

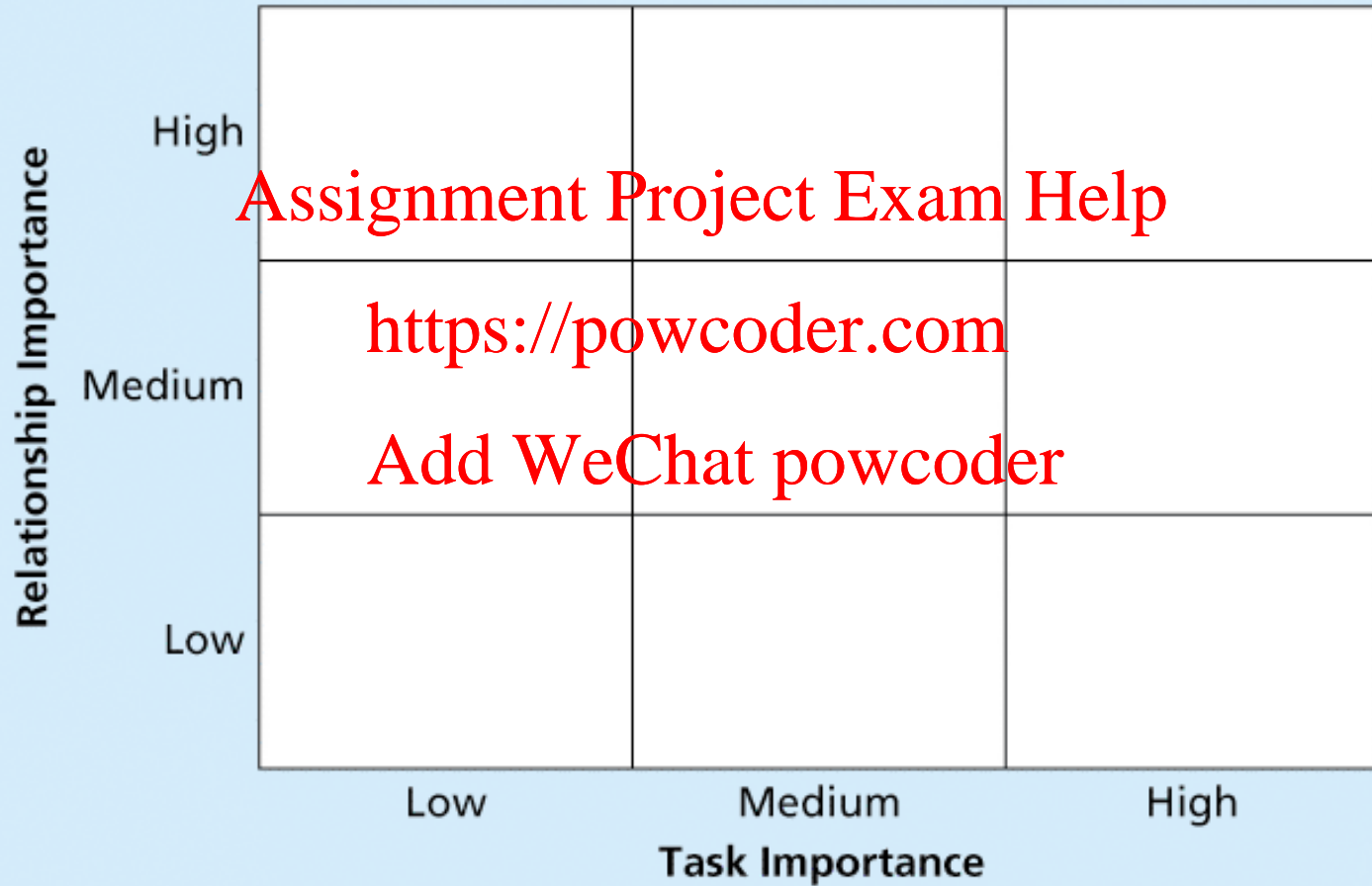
- Observation and conversation
  - Project performance appraisals
  - Interpersonal skills
  - Conflict management
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# Conflict Handling Modes

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 – the accommodating approach
4. **Forcing:** The win-lose approach
5. **Withdrawal:** Retreat or withdraw from an actual or potential disagreement – avoiding approach
6. **Collaborating:** Decision makers incorporate different viewpoints and insights to develop consensus and commitment

# Conflict Handling Modes



# 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

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# Human Resource Management Involves Much More Than Using Software

- Patrick Lencioni: 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
- Project managers must
  - Treat people with consideration and respect
  - Understand what motivates them
  - Communicate carefully with them
  - Focus on goal of enabling team members to deliver their best