Course Title :

Software Development Management
(WXGC6106)

Week 11
Project Human Resource Management
(Information Technology Project Management)
Chapter 9

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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 organizations and projects

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

What Is Project Human Resource Management?

Making the most effective use of the people involved with a project

Processes include:

Developing the human resource plan: 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
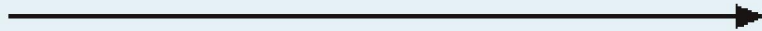
Project Human Resource Management Summary

Planning
Process: **Develop human resource plan**
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

Process: **Manage project team**
Outputs: Enterprise environmental factors updates, organizational
process assets updates, change requests, project
management plan updates

⟶

Project Start ⟶ **Project Finish**
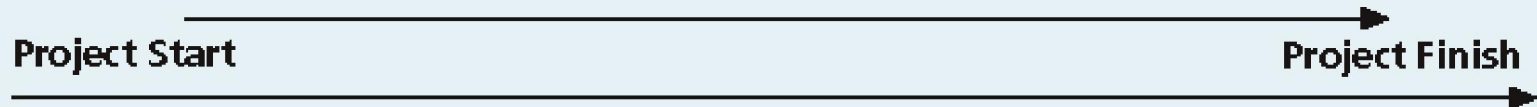
Keys to Managing People

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)
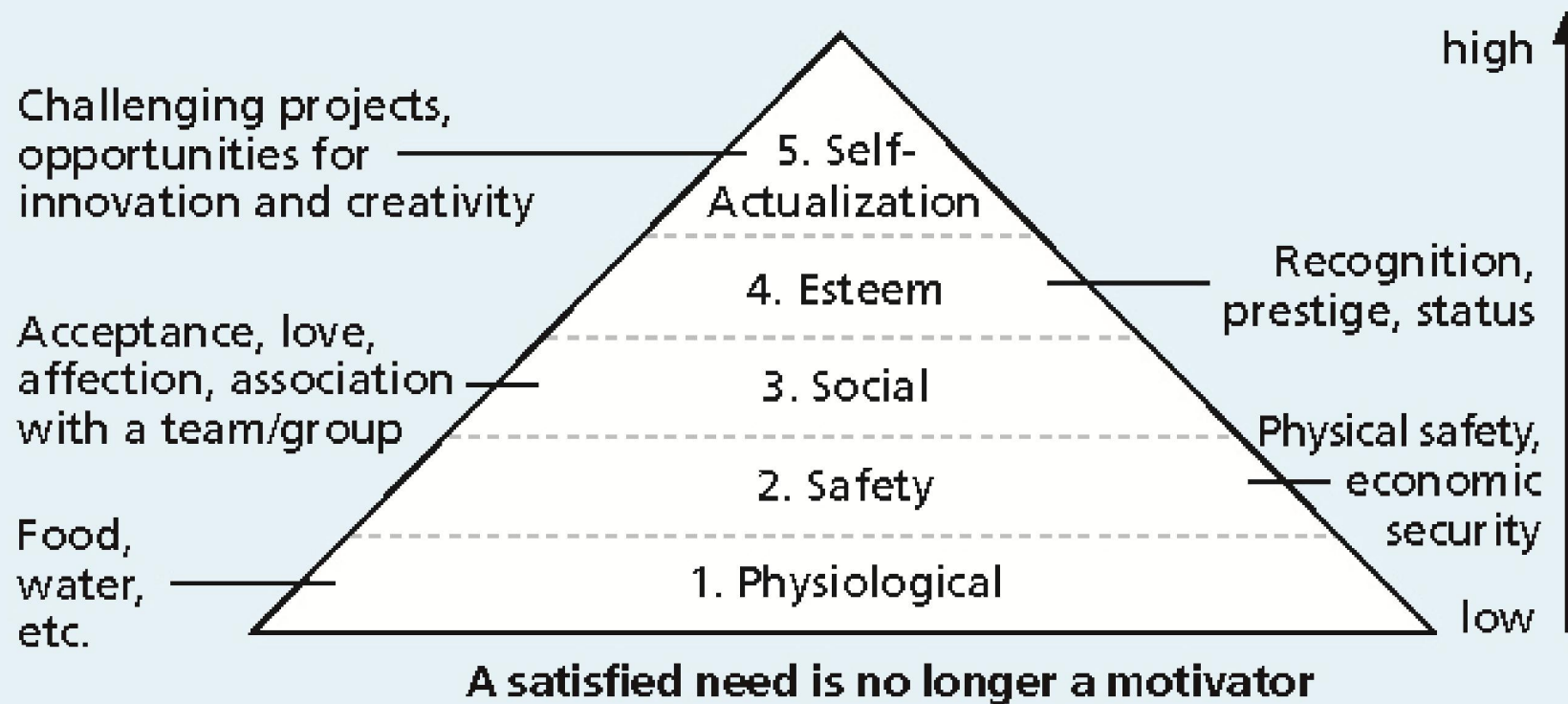
Maslow's Hierarchy of Needs

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

Maslow's Hierarchy of Needs

Challenging projects, opportunities for innovation and creativity — 5. Self-Actualization

Recognition, prestige, status — 4. Esteem

Acceptance, love, affection, association with a team/group — 3. Social

Physical safety, economic security — 2. Safety

Food, water, etc. — 1. Physiological

high

low

A satisfied need is no longer a motivator
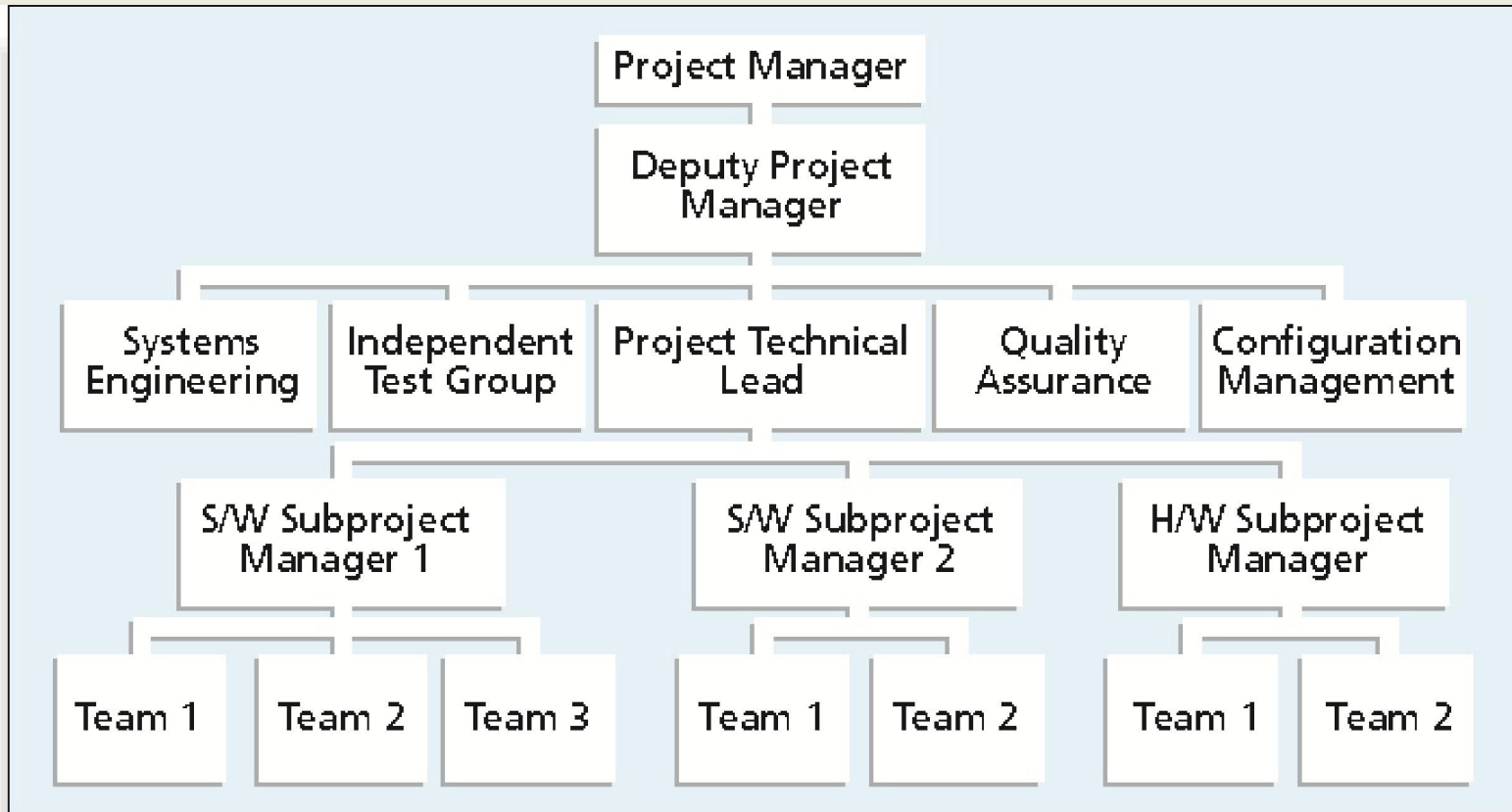
Developing the Human Resource Plan

Involves identifying and documenting project roles, responsibilities, and reporting relationships

Contents include:

- Project organizational charts
- Staffing management plan
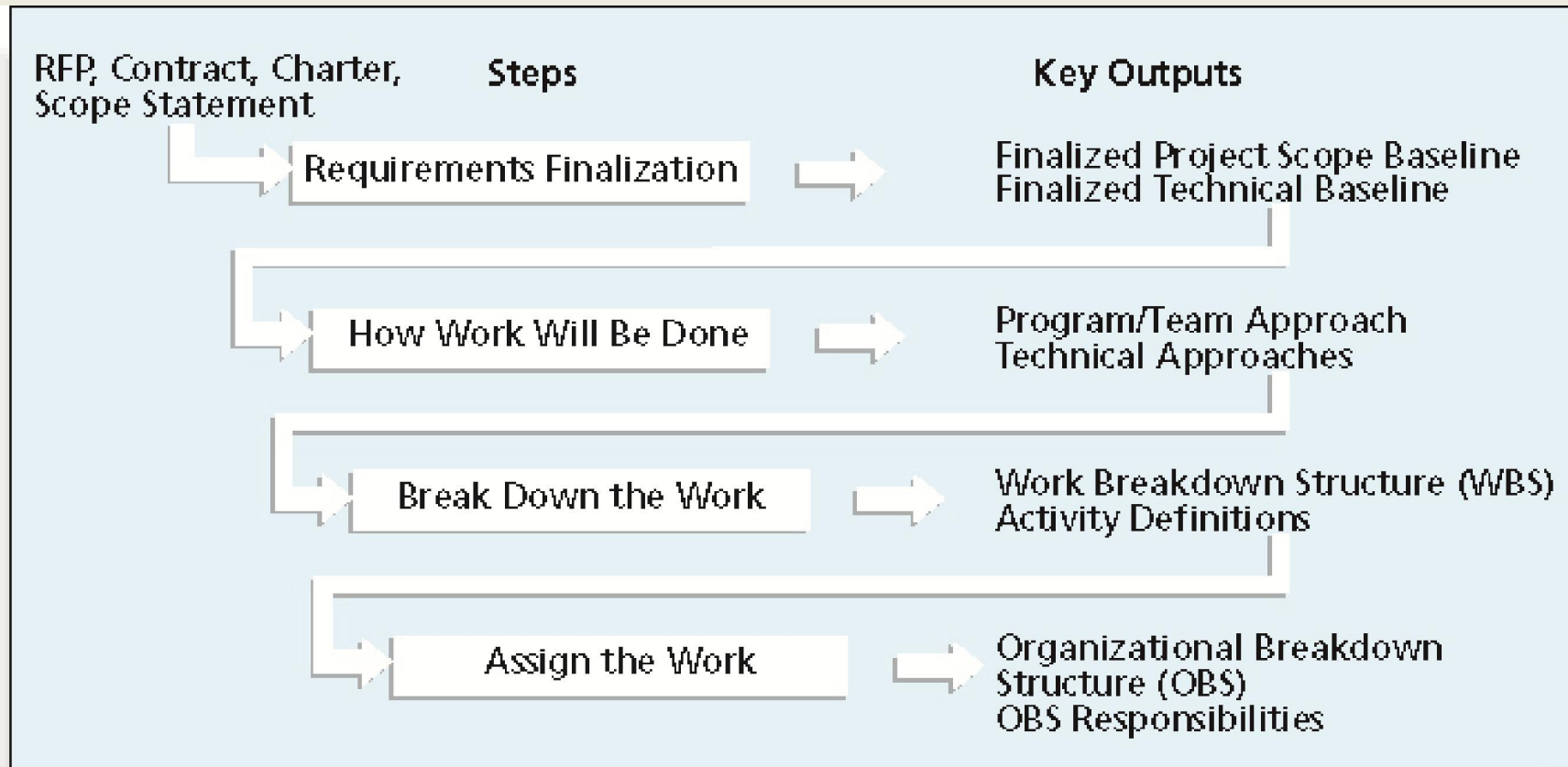- Responsibility assignment matrixes
- Resource histograms

Sample Organizational Chart for a Large IT Project

Work Definition and Assignment Process

RFP, Contract, Charter, Scope Statement | Steps | Key Outputs

Requirements Finalization → Finalized Project Scope Baseline / Finalized Technical Baseline

How Work Will Be Done → Program/Team Approach / Technical Approaches

Break Down the Work → Work Breakdown Structure (WBS) / Activity Definitions

Assign the Work → Organizational Breakdown Structure (OBS) / OBS Responsibilities

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

RAM Showing Stakeholder Roles

	Stakeholders				
Items	**A**	**B**	**C**	**D**	**E**
Unit Test	S	A	I	I	R
Integration Test	S	P	A	I	R
System Test	S	P	A	I	R
User Acceptance Test	S	P	I	A	R

A = Accountable
P = Participant
R = Review Required
I = Input Required
S = Sign-off Required

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
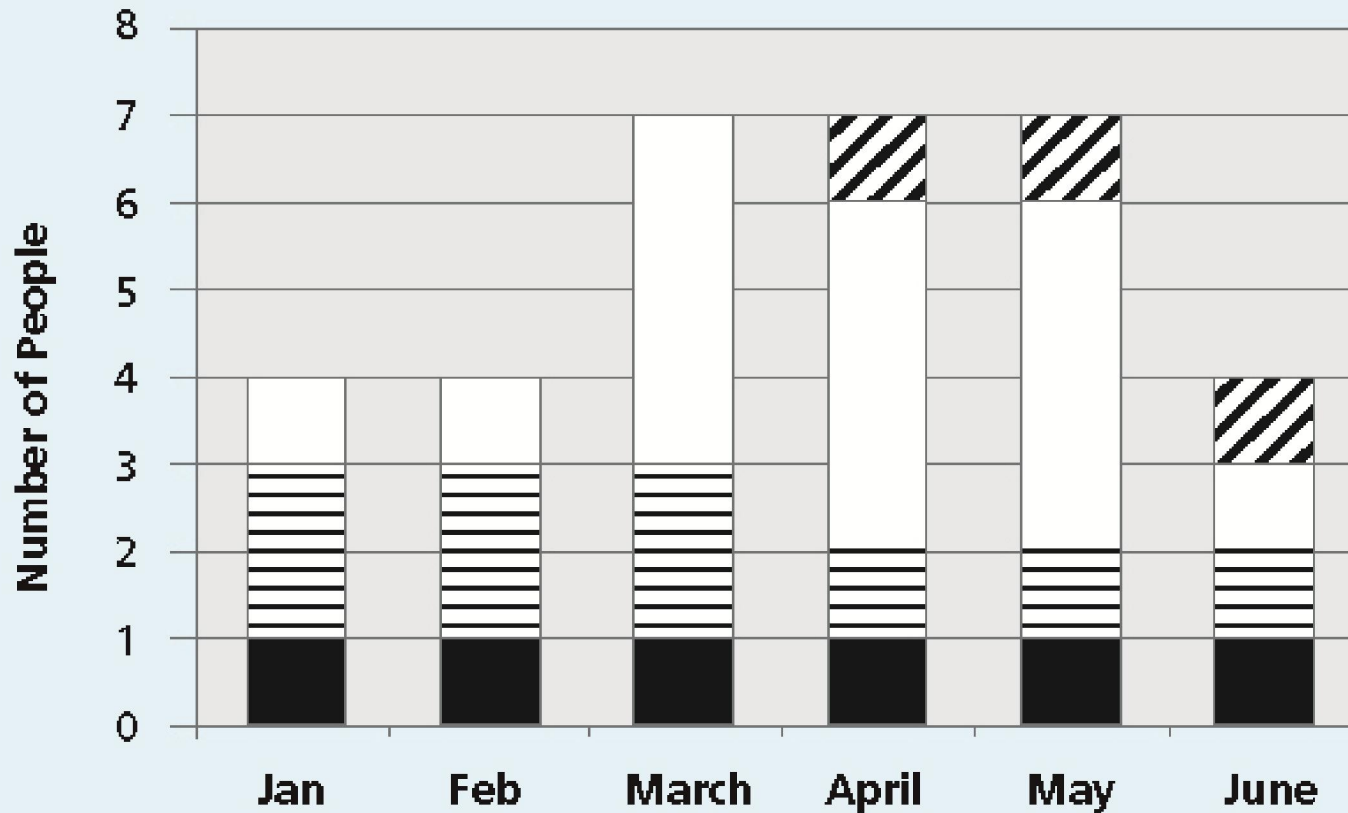
Acquiring the Project Team

- Acquiring qualified people for teams is crucial

- It's important to assign the appropriate type and number of people to work on projects at the appropriate times

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

Sample Histogram Showing an Overallocated Individual
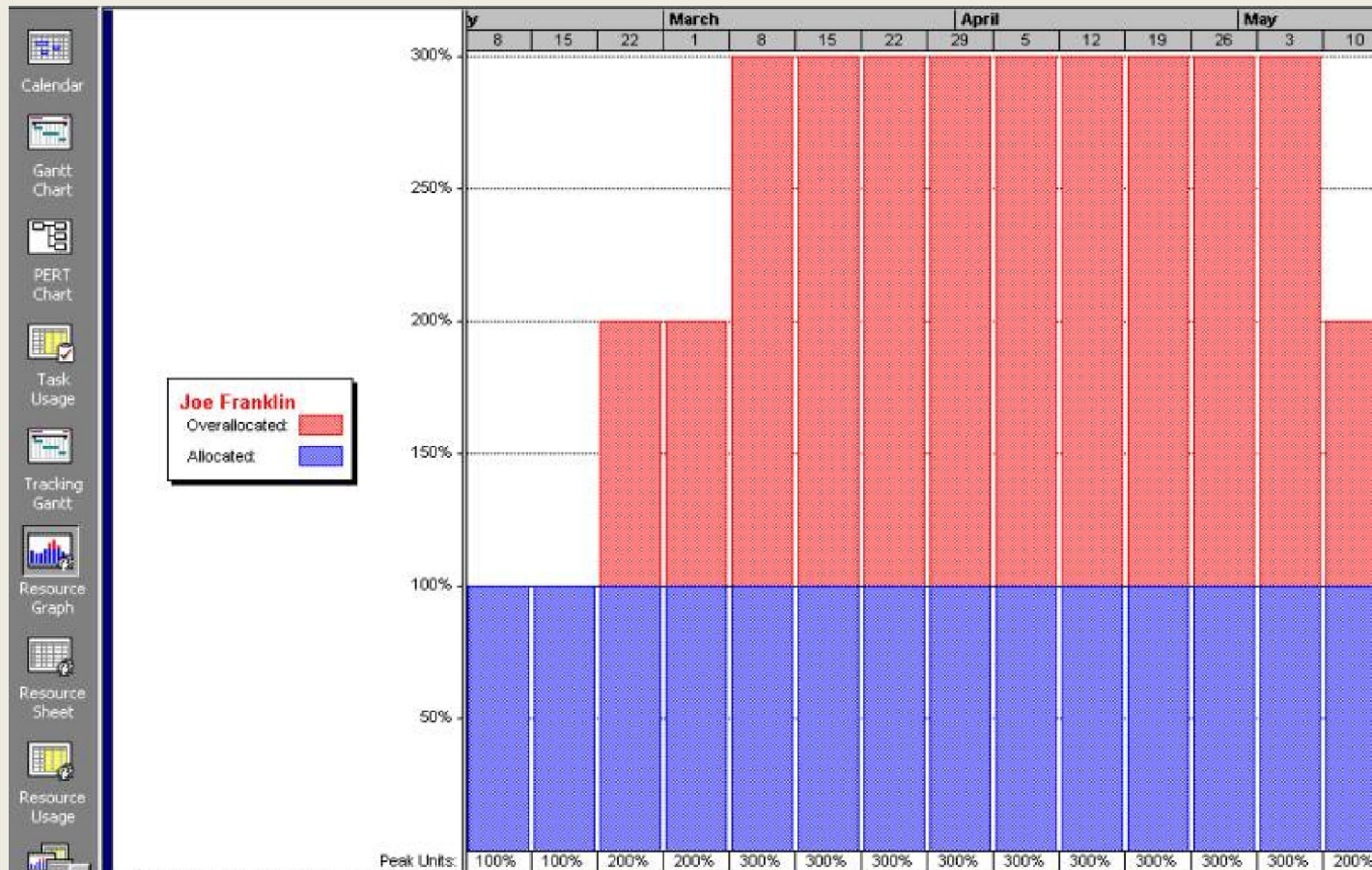
Resource Leveling

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
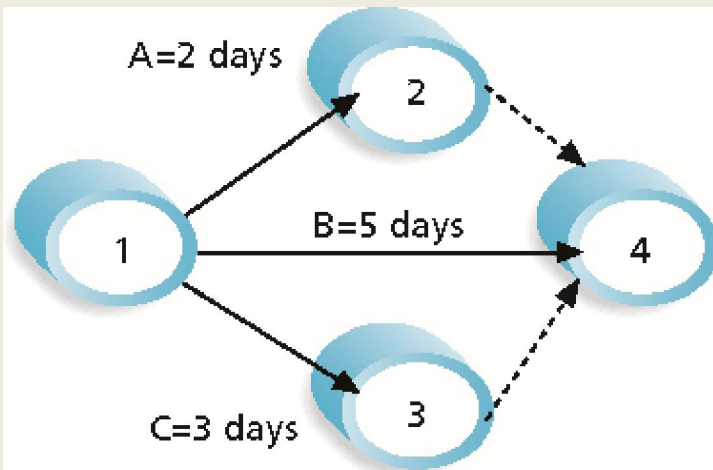
The target for perfection is the achievement of no more than **3.4 defects per million opportunities**

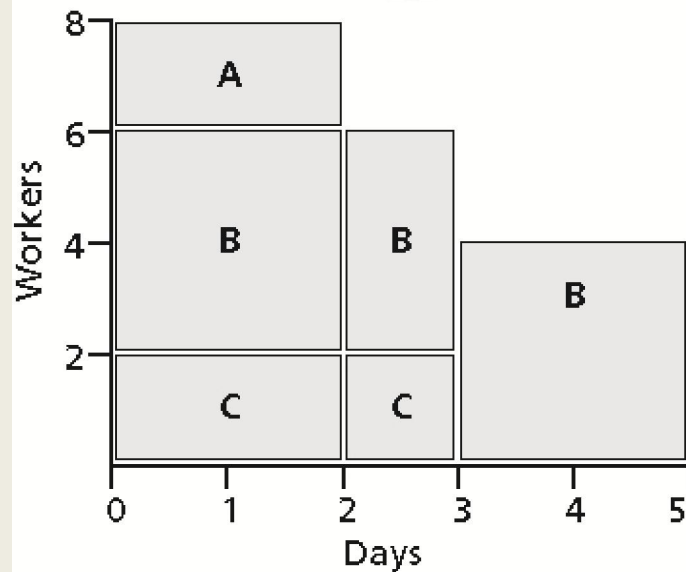The principles can apply to a wide variety of processes

Six Sigma projects normally follow a five-phase improvement process called DMAIC
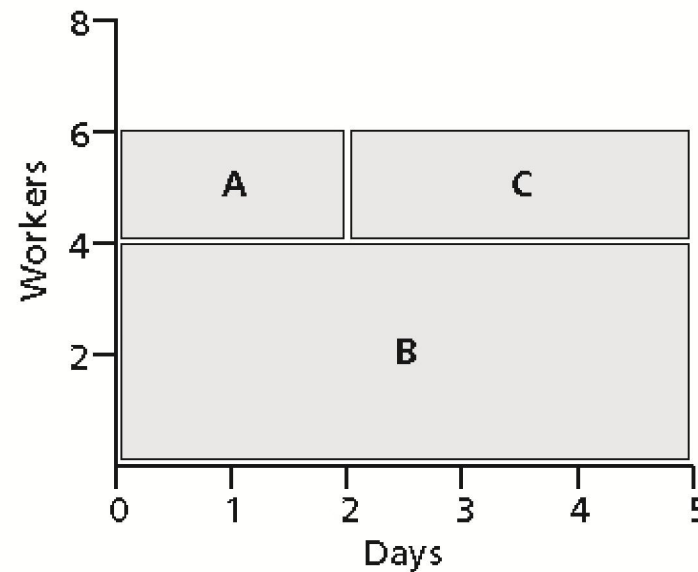
Resource Leveling Example

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

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

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

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 successfully reach their goals and complete the work.

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

Five Dysfunctions of a Team

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

General Advice on Teams

University of Malaya

- 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
- Plan some social activities to help project team members and other stakeholders get to know each other better
- Create traditions that team members enjoy
- 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:
- Develop human resource plan
- Acquire project team
- Develop project team
- Manage project team

Any questions?

You can download the slides in following link (My Billboard section):

http://www.malaysianexpert.com.my/UL/Profile.aspx?MID=1