

# Project Resources

Project Management 2007  
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# What is a Project

- *“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change”*

Charles Darwin

- A project is a **temporary** endeavor undertaken to create a **unique** product, service or result

# Schedule Crashing

- Taking action to decrease the total project duration after analysing alternatives to see how to get the maximum duration compression for the least cost
- Depends on the particular type of tasks and on the allocated and available resources

# Resource Management

- Resource Planning
  - Resource Loading
  - Resource Leveling
- Resource Management
  - Resource Maintenance
  - Deallocating resources after project end

# Resources and Schedules

- Scheduling depends on allocated resources
- So far network diagrams built under no resource constraints
  
- **Resource Loading:** Level of utilization of each resource for the project
- **Resource Leveling:** A process of modifying the schedule, so no resources are overloaded

# Types of Project Tasks

- Continuous vs. interruptable duration
  - Example: Charging a battery vs. reading a book
- Effort-driven vs. Non-effort driven tasks
  - Example: Building a house vs. travelling
- Direct vs. indirect costs
  - Example: Materials vs. training
- Fixed vs. variable costs
  - Example: Plant maintenance vs. electricity

# Resources in Project Portfolios

- Resources are also limited when numerous projects and operations exist in
  - Programs
  - Organizations
  
- Resolutions:
  - Project Management Office
  - Enterprise Resource Planning

# Project Stakeholders

Project Manager

Project Sponsor

**Project Team**

Trade and Labour Unions

Clients

Suppliers/Creditors

Organization

Government

Local Community

# Human Resources

- Human Resource Planning
- Acquire Project Team
  - Good professionals are always busy
  - Risk of Human Capital
- Develop Project Team
  - Team Development Phases
  - Learning Curve
- Manage Project Team
  - Develop understanding for individual strengths and weaknesses
  - Manage team reallocation after end of project

# Human Resource Planning

- The Mythical Man-Month, Fred Brooks (1975):
  - Different people do the same task with different duration and quality
  - Putting more people does not always increase productivity
- Productivity improvement factors:
  - Technology
  - Standards and Processes
  - Training

# HR vs Technology

- Human Resources

- Gain experience in time
- Can leave enterprise
- Express moods
- Can work independently
- Is prone to human error

- Technology

- Loses value in time
- Is being owned
- Works at constant rates
- Supports human effort
- Precise output when precise input

# Team Development

- Developmental sequence in small groups, Bruce Tuckman (1965):
  - Forming
  - Storming
  - Norming
  - Performing
  - Adjourning or Transforming
- Some teams may not go through all phases

# Knowledge Economy

- Term introduced by Peter Drucker
- Driving Forces
  - Globalization
  - Information/Knowledge Intensity
  - Computer networking and Connectivity
  
- The World Is Flat, Thomas L. Friedman (2005)

# Knowledge Economy

- Characteristics

- Economics of abundance (not scarcity)
- Effect of location is reassessed
- Countries compete for businesses via laws, barriers and taxes reductions
- Knowledge-enhanced products may win better price
- Value depends on context
- Knowledge, embedded in systems has higher value than that in people's heads
- Human capital is core business advantage
- Communication is seen fundamental to knowledge flows