



Information Technology

## FIT2002 Week 10

# Project Resource Management, & Monitoring and Control



# Recap from Week 10 (Part 1) Video 1

- People are the most important assets in organizations and on projects. Therefore, it is essential for project managers to be good human resource managers.
- The major processes of project resource management include:
  - **planning resource management,**
  - **estimate activity resources**
  - **acquiring resources,**
  - **developing the project team,**
  - **managing the project team and**
  - **control resources**
- **Maslow** developed a hierarchy of needs that suggests physiological, safety, social, esteem, and self-actualization needs motivate behavior. Once a need is satisfied, it no longer serves as a motivator.

# Recap from Video 1 (cont...)

- **Herzberg** distinguished between **motivators** and **hygiene factors**.
  - Hygiene factors such as larger salaries will cause dissatisfaction if not present, but do not motivate workers to do more if present.
  - Achievement, recognition, etc, are factors that contribute to work satisfaction and motivating workers.
- **McGregor** developed Theory X and Theory Y
  - **Theory X** assumes workers dislike and avoid work, so managers must use coercion and various control schemes to get workers to meet objectives
  - **Theory Y** assumes that people see work as natural and indicates that the most significant rewards are the satisfaction of esteem and self-actualization needs that work can provide.
- **Ouchi's Theory Z** – workers can be trusted to do their jobs to their utmost ability as long as management supports them and looks out for their well-being.

## Recap from Video 2 & 3

- **Planning resource management:** defining how to estimate, acquire, manage and utilise physical and team resources.
- A **responsibility assignment matrix (RAM)**, staffing management plans, **resource histograms**, and **RACI charts** are key tools for defining roles and responsibilities on projects.
- The main output is a **human resource plan**.
- **Resource loading** shows the amount of individual resources that an existing schedule requires during specific time frames. Histograms show resource loading and identify over-allocation of resources.
- **Resource leveling** is a technique for resolving resource conflicts, such as over-allocated resources, by delaying tasks.

## Lecture 10 (Part 2)

- Understand what is meant by monitoring and control
- Understand the integrated change control process
- Understand how to monitor and control schedule and cost issues
- A revisit of Earned Value Management (EVM)

# Mapping Project Management Process Groups to Knowledge Areas

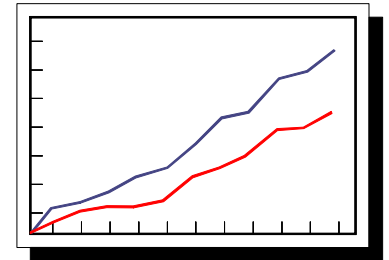
Knowledge Areas	Project Management Process Group				
	Initiating	Planning	Executing	Monitoring & Controlling	Closing
Project Integration Management	1. Develop Project Charter	2. Develop Project Management Plan	3. Direct & manage project work 4. Manage Project Knowledge	5. Monitor & control project work	6. Close Project or Phase
Project Scope Management		1. Plan Scope Management 2.. Collect requirements 3. Define Scope 4. Create WBS		5. Validate Scope; 6. Control Scope	
Project Schedule Management		1. Plan Schedule Management 2. Define Activities 3. Sequence Activities 4. Estimate Activity Durations 5. Develop Schedule		6. Control Schedule	
Project Cost Management		1. Plan Cost Management 2. Estimate Costs 3. Determine Budget		4. Control Costs	

# Continued...

Knowledge Areas	Project Management Process Group				
	Initiating	Planning	Executing	Monitoring & Controlling	Closing
Project Quality Management		1. Plan Quality Management	2. Manage Quality	3. Control Quality	
Project Resource Management		1. Plan Resource Management 2. Estimate Activity Resources	3. Acquire Resources 4. Develop Team 5. Manage Team	6. Control Resources	
Project Communication Management		1. Plan Communications Management	2. Manage Communications	3. Monitor Communications	
Project Risk Management		1. Plan Risk Management 2. Identify Risks 3. Perform Qualitative Risk Analysis 4. Perform Quantitative Risk Analysis 5. Plan Risk Responses	6. Implement Risk Responses	7. Monitor Risks	
Project Procurement Management		1. Plan Procurement Management	2. Conduct Procurements	3. Control Procurements	
Project Stakeholder Management	1. Identify Stakeholders	2. Plan Stakeholder Management	3. Manage Stakeholder Engagement	4. Monitor Stakeholder Engagement	

# Earned Value Management (EVM)

- A technique used to help determine and manage **project progress**
- It evaluates **the magnitude of any variations** from the planned values concerning **cost, schedule, and performance**
- It helps the project team and stakeholders gain a **better understanding** of just **how the project is performing**







# Earned Value Management

Practical questions

# Earned value formulas

**Planned Value = PV (or BCWS) =** (Planned % Complete) x (Project Budget)

**Actual Cost = AC (or ACWP)**

**Earned value = EV (or BCWP) =** (Actual % complete) x (Project Budget)

**Cost Variance (CV):**  $CV = EV - AC$

**Cost Performance Index (CPI):**  $CPI = EV/AC$

**Schedule Variance (SV):**  $SV = EV - PV$

**Schedule Performance Index (SPI):**  $SPI = EV/PV$

**Budget at Completion = BAC**

**Estimate to Complete (ETC):**  $ETC = (BAC - EV)/CPI$

**Estimate at Completion (EAC):**  $EAC = AC + ETC$  or  $EAC = BAC/CPI$

## Example I

**Q.** A small project is planned to take 4 weeks. The budget is \$16,000 with equal amounts of work planned for each week.

At the end of week 3, 75% of work is actually completed and You have spent \$12,000.

Calculate PV, EV, AC, CV, SV, SPI, CPI, ETC and EAC .

## Example II

**Q.** A small project is planned to take 4 weeks. The budget is \$16,000 with equal amounts of work planned for each week.

At the end of week 3 should have finished 75% of the work, but only 50% of work is actually completed.

You have spent \$14,000.

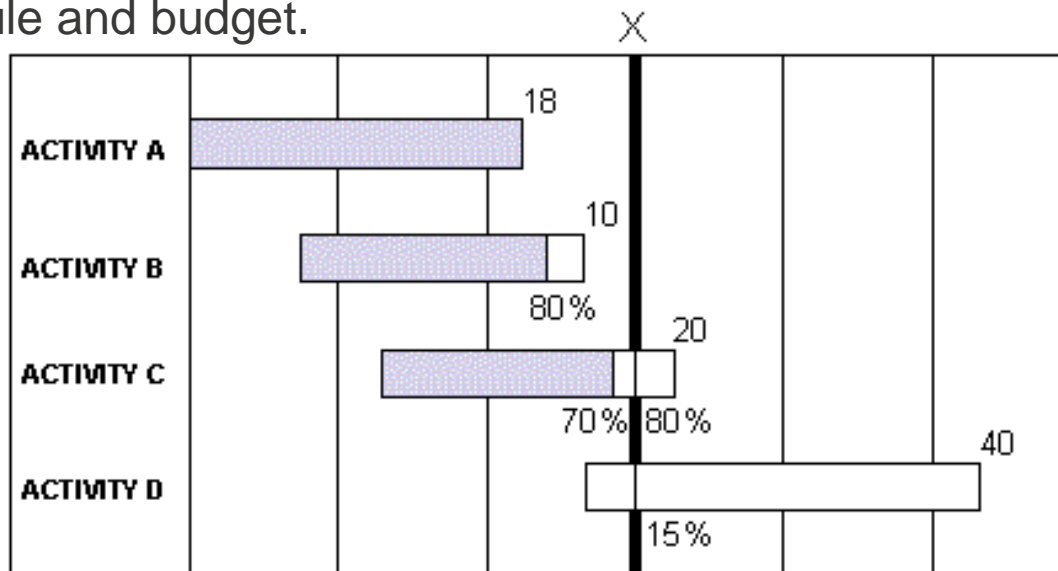
Calculate CV, SV, SPI and CPI.

## Example III

**Q.** Assume that you are a project manager and that your project involves 4 activities as shown in the first column of the following diagram. The diagram further indicates the planned value costs assigned to each activity.

The grey colour indicates the proportion of each activity that has been completed at the end of period X.

Assume that the total cost of all the work completed for the project is \$45 at the end of period X. Now indicate the status of the project (at the end of period X) in terms of schedule and budget.



# Question

- How do we make a decision based on cost and schedule variance?
- If a project is 20% behind the schedule
- 11% behind on cost
  - Then give priority to \_\_\_\_\_ to catch-up
  - How would you do this?