Tutorial 10 Solution

Activity 1

1. **Discuss the difference between resource loading and resource levelling.**

   Resource loading helps you see what people are scheduled to work on projects and when they are scheduled to work. Resource loading helps project managers understand the demands of a project on the organization's resources and on individual people's schedules.

   Resource leveling helps you to smooth out resource allocations and reduce scheduling conflicts. The main purpose of resource leveling is to create a smoother distribution of resource usage. Project managers examine the network diagram for areas of slack or float, and to identify resource conflicts. For example, you can sometimes remove over-allocations by delaying non-critical tasks, which does not result in an overall schedule delay.

2. **List and explain the factors that lead to job dissatisfaction and those that lead to satisfaction.**

   Some of the factors that lead to job dissatisfaction can include unsatisfactory supervision, company policies, relationships with peers and superiors, working conditions, and salary. Many of these items relate to the first three levels of Maslow's hierarchy of needs.

   Factors that lead to job satisfaction include recognition, the work itself, achievement, responsibility, growth inside and outside the job, and advancement. Many of these factors relate to the two upper levels of Maslow's hierarchy of needs.

3. **Discuss some of the factors that lead to team dysfunction. Provide some suggestions on how to ensure a productive team.**

   Patrick Lencioni, a well-known author and consultant on teams, listed the following five dysfunctions of teams:

   1. Absence of trust
   2. Fear of conflict
   3. Lack of commitment
   4. Avoidance of accountability
   5. Inattention to results

   To ensure a productive team (Ref: Schwalbe Text Chapter 9 pp378)
   - Be patient and kind with your team. Assume the best about people.
   - Fix the problem instead of blaming people.
   - Establish regular, effective meetings.
   - Allow time for teams to go through Tuckman's basic team-building stages of forming, storming, norming, performing, and adjourning.
   - Limit the size of work teams to three to seven members.
   - Plan some social activities to help team members get to know each other better.
   - Stress team identity. Create traditions that team members enjoy.
   - Nurture team members and encourage them to help each other.

4. **What is project monitoring and controlling? How does Earned Value Management (EVM) play an important role in this process?**

The goal of the execution phase is to work on each task defined in the WBS to produce the identified outcomes and to follow the defined or adapted project schedule.
Monitoring is collecting and reporting information concerning the project performance elements and it is progressing as planned.
Control follows monitoring. If any issues are detected in monitoring, we contain the problem through controlling. Control uses the information supplied by the monitoring techniques in order to bring project actual results in line with stated project performance standards.

Earned Value Management is a technique which is used to help determine and manage project progress and the magnitude of any variations from the planned values concerning cost, schedule, and performance. A key tool used as input for the formal integrated change control process and the timely management of the project budget is the Earned Value Management (EVM) Technique. The technique exits to help the project team and stakeholders gain a better understanding of just how the project is performing. EVM provides needed information for the evaluation of project status simultaneously across time, cost, and work performance. Without EVM, many teams fail to evaluate performance properly. Earned Value Management can be an excellent tool to aid project managers in communicating project status to stakeholders.

Activity 2

TABLE 11-2 Earned Value Calculation Results

Formula	Results	Details
EV = PV* Percent complete	= ($150,000)* (5 / 6) = $125,000	Earned value = $50,000 + $50,000 + $25,000
AC	= $165,000	Actual cost = $50,000 + $75,000 + $40,000
CV = EV − AC	= $125,000 − $165,000 = (−$40,000)	Cost variance
SV = EV − PV	= $125,000 − $150,000 = (−$25,000)	Schedule variance
CPI = EV/AC	= ($125,000) / ($165,000) = .758	Cost performance index
SPI = EV/PV	= ($125,000) / ($150,000) = .833	Schedule performance index
BAC	= $200,000	Budget at completion: $50,000 + $50,000 + $50,000 + $50,000
ETC = (BAC − EV)/CPI	= ($200,000 − $125,000) /.758 = $98,945	Estimate to complete
EAC = AC + ETC	= $165,000 + $98,945 = $263,945	Estimate at completion

Activity 3

- **PV (BCWS) = (Planned % Complete) x (Project Budget)**
  = 75% x 10,000
  = $7,500

- **EV (BCWP) = (Actual % Complete) x (Project Budget)**
  = 50% x 10,000
  = $5,000

- **AC (ACWP) =** $9,000

- **CV = EV – AC**
  = 5,000 – 9,000 = –$4,000 (over budget)

- **CPI = EV / AC**
  = 5,000 / 9,000 = 0.556

- That means the project is spending about 1/0.556*100 ≈ 180% over budget. *(can at this stage estimate revised project cost is 10,000 * 1.8 = $18,000)*

- **SV = EV – PV**
  = 5,000 – 7,500
  = –$2,500 (behind schedule)

- **SPI = EV / PV**
  = 5,000 / 7,500
  = 0.667

- That means the project has only achieved ≈ 67% of its intended schedule.

- **ETC = (BAC – EV)/CPI** = (10000-5000).556 = 8992

- **EAC = AC + ETC** = 9000 + 8992 = 17993 (or *18,000*)

Activity 4:

Consider your assignment 2 as a project, what monitoring and controlling activities can you do to ensure it is completed successfully? What are the constraints?

Students discuss their planning, and baselines (scope, schedule, time). See what has been achieved (EV). There should be some discussion on how to catch up if they are behind schedule. (Cost is out of scope, but they could think about quality). So, if they finish ahead of schedule, they can improve quality and aim for a better mark.