Resource Considerations

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Chapter 12
Learning Objectives

- Taking resource constraints into account
- Determining the planned resource utilization for a project
- Leveling the use of resources within the required time frame
- Determining the shortest project schedule with limited resources
Real-World Discussion

- Nearly all projects have limits on available resources.

- Project delays often occur due to certain resources being unavailable.
Resource-Constrained Planning

- A network diagram can be drawn to reflect the availability of a limited number of resources.
Planned Resource Utilization

- It is necessary to indicate the amounts and types of resources needed to perform each activity.
- Resource utilization charts based on each activity’s earliest start time are based on an as-soon-as-possible (ASAP) schedule.
- Resource utilization charts based on each activity’s latest start time are based on an as-late-as-possible (ALAP) schedule.
Resource Leveling

- Resource leveling, or smoothing, is a method for developing a schedule that attempts to minimize the fluctuations in requirements for resources.
- This method levels the resources so that they are applied as uniformly as possible without extending the project schedule beyond the required completion time.
Resource-Limited Scheduling

- Resource-limited scheduling is a method for developing the shortest schedule when the number or amount of available resources is fixed and cannot be exceeded.

- This method will extend the project completion time if necessary in order to keep within the resource limits.
Project Management Software

- Provides excellent features for handling resource considerations within a project.
- Allow one to create and maintain a list of resources that can be accessed by all of the tasks within a project.
- Informs the user if any resources have time conflicts or are over-allocated.