Apply Your Knowledge

The Apply Your Knowledge section contains four mini-cases. Each case describes a situation, explains your role, and asks you to respond to questions by applying what you learned in the chapter.

1 Forest Point Construction

At Forest Point Construction, your boss says that he can estimate the total project time based on his personal experience. You are trying to convince him that he should use project management techniques to handle a complex project.

To prove your point, you decide to use a simple example of a commercial steel building construction project, with eight steps. You create a hypothetical work breakdown structure, as follows:

- Prepare the site (3 days), and then set the building footers (3 days).
- Finish the foundation (5 days), and then assemble the building (3 days).
- When the building is assembled, start two tasks at once: finish the interior work (5 days) and set up an appointment for the final building inspection (15 days).
- When the interior work is done, start two more tasks at once: landscaping (7 days) and driveway paving (3 days).
- When the landscaping and driveway are done, do the painting (2 days).
- Finally, when the painting is done and the final inspection has occurred, arrange the sale (2 days).

Now you ask your boss to review the tasks, estimate the total time, and write the answer on a piece of paper. You look at the paper and see that his guess is wrong.

Tasks

1. What is the correct total time?
2. What is the critical path?
3. Create a Gantt chart that shows the WBS.
4. Create a PERT/CPM chart.

2 Crescent View High School Class

The computer science instructor at Crescent View High School asked you to visit his class and give a presentation about project management. You have just a few days to prepare, and you need to develop a presentation that describes project management tools and techniques. You can be creative, and you might want to include examples of actual projects that you know about. In any case, try to describe how projects are planned, scheduled, monitored, and reported upon. Your presentation should consist of five to seven slides with notes about what you are going to talk about that include the following:

Tasks

1. Prepare opening comments that give the class an overview of project management.
2. Provide the class with a glossary of the most important project management terms and definitions.
3. Think of a common event like buying a new home, and show the class how a project manager might handle the matter.
4. Create a short scenario with four to six tasks, some of which depend on each other. You can use the two preceding cases as a model. Develop a sample answer that you will show students after you give them a chance to analyze the tasks.

3 **Brightstar Industries**

You will lead a training session for new employees at Brightstar Industries. You must develop a specific schedule for the following tasks (the estimated duration is shown in parentheses):

- First, you need to contact the participants and explain their roles (1 day). Then you must obtain approval from their department managers (3 days).
- After you obtain the approval, two tasks can begin at the same time: you can arrange the meeting room (1 day) and prepare an agenda for the initial session (8 days).
- When the agenda is ready, you can start two more concurrent tasks: prepare the information packets (3 days) and create visual aids (6 days).
- When the meeting room is arranged and the information packets are ready, you can send out an e-mail to participants (1 day).
- Finally, after the e-mail is sent to participants and the visual aids are ready, you can conduct the JAD sessions (7 days).

Tasks

1. Prepare a list showing all tasks and their durations.
2. Analyze the fact situation carefully to determine which tasks are concurrent and which ones depend on other tasks.
3. Develop a PERT/CPM chart that shows the project. Use a format similar to Figure 3-27 on page 110. Use project management software if it is available.
4. What is the critical path for this project? How do you know?

4 **Bayside Financial**

At Bayside Financial, where you work as a project manager, you have been asked to conduct user training sessions for a new information system. You must develop a specific schedule for the tasks (the estimated task duration for each is shown in parentheses):

- First, confirm arrangements for the training facility you plan to use (3 days).
- After you have confirmed the training facility, two tasks can begin at the same time: you need to send an e-mail message to all department managers announcing the training sessions (1 day) and you can develop the training material (5 days).
- As soon as the training material is complete, you can work on two tasks at once: arrange to have copies of handout material printed (2 days) and develop a set of PowerPoint slides (5 days).
- When the PowerPoint slides are ready, you conduct a practice training session with the instructor who will assist you (2 days).
- Finally, when the practice session is over and the handout material is ready, you can conduct the user training sessions (4 days).

Tasks

1. Prepare a list showing all tasks and their durations.
2. Analyze the fact situation carefully to determine which tasks are concurrent and which ones are dependent on other tasks.
3. Create a PERT chart that shows the project. Use a format similar to Figure 3-27 on page 110. If project management software is available, use it to develop the chart.
4. What is the critical path for this project? How do you know?

Case Studies

Each chapter includes a Chapter Case, a Continuing Case, a Capstone Case, and an Online Case Simulation. You can learn more about the Online Case Simulation in the MIS CourseMate Features section.

Chapter Case: Town of Eden Bay (Part 2)

The town of Eden Bay owns and maintains a fleet of vehicles. You are a systems analyst reporting to Dawn, the town's IT manager.

Background

Eden Bay is a medium-sized municipality. The town has grown rapidly, and so has the demand for town services. Eden Bay currently owns 90 vehicles, which the town's equipment department maintains. The fleet includes police cars, sanitation trucks, fire trucks, and other vehicles assigned to town employees. The maintenance budget has risen sharply in recent years, and people are asking whether the town should continue to perform its own maintenance or outsource it to private firms.

   In the first part of the case, you planned a preliminary investigation for a new information system that would cut costs and improve maintenance efficiency. Based on your investigation, Dawn wants to move forward, and she asked you to help her present a budget request at the next Town Council meeting. She suggested the following to-do list:

- First, double-check the cost and benefit data we will need for the proposal (3 days).
- Then, start two tasks at the same time: send an e-mail message to the Town Council requesting that the proposal be placed on the agenda (1 day), and develop the proposal itself, including all necessary documents and charts (5 days).
- As soon as the proposal is complete, start work on two tasks at once: print copies of handout material for the meeting (2 days) and develop a PowerPoint presentation (5 days).
- When the presentation is ready, conduct a rehearsal for the Council meeting. (2 days).
- Finally, when the rehearsal is done and the handout material is ready, help Dawn deliver the presentation. (1 day).

Tasks

1. Prepare a list showing all tasks and their durations.
2. Analyze the fact situation carefully to identify any tasks that are dependent on other tasks.
3. Create a PERT chart that shows the project. Use a format similar to Figure 3-27 on page 110. If project management software is available, use it to develop the chart.
4. What is the critical path for this project? How do you know?

Continuing Case: Personal Trainer, Inc.

Personal Trainer, Inc. owns and operates fitness centers in a dozen Midwestern cities. The centers have done well, and the company is planning an international expansion by opening a new "supercenter" in the Toronto area. Personal Trainer's president, Cassia Umi, hired an IT consultant, Susan Park, to help develop an information system for the new facility. During the project, Susan will work closely with Gray Lewis, who will manage the new operation.

Background

You are enjoying your job as a student intern at Personal Trainer. Last week, Susan asked you to help her plan the new information system project. Susan knows that you have completed several information systems courses at the local college, and that you have studied project management tools and techniques.

Specifically, she wants you to get ready for the next set of systems development tasks, which will be requirements modeling for the new system. Yesterday, Susan called you into her office to discuss the specific tasks she wants you to perform. After meeting with Susan, you sit down and review your notes. She wants you to treat the set of tasks as a project, and to use project management skills to plan the tasks.

Here is what she suggested to you as a work breakdown structure, including the duration she estimated for each task:

- First, you need to meet with fitness center managers at other Personal Trainer locations (5 days).
- After these meetings, you can conduct a series of interviews (5 days).
- When the interviews are complete, two tasks can begin at the same time: you can review company records (3 days) and observe business operations (8 days).
- When you have reviewed the records and observed business operations, you can analyze the BumbleBee accounting software (5 days) and study a sample of sales and billing transactions (2 days).
- After completing the analysis and studying the sales transactions, prepare a report for Susan (1 day)

You are excited about the opportunity to practice your skills, and you start to work on the following list.

Tasks

1. Create a table listing all tasks separately, with their duration.
2. Identify all dependent tasks, and indicate what predecessor tasks are required.
3. Construct a PERT/CPM chart similar to the one in Figure 3-27 on page 110. If you have access to Microsoft Project or other project management software, you can use it to help you create the chart.
4. Determine the overall duration of the project, and identify the critical path.

Capstone Case: New Century Wellness Group

New Century Wellness Group offers a holistic approach to healthcare with an emphasis on preventive medicine as well as traditional medical care. In your role as an IT consultant, you will help New Century develop a new information system.

Background

In the previous chapter, you conducted a preliminary investigation into New Century's request for a business support system and a medical practice support system. In your presentation to the partners, you explained that although they will communicate and share data, the two systems should be treated as separate IT projects. After discussing your recommendations, Dr. Jones and the partners decided to move forward with the business support system project and want you to describe the next steps.

Project Management

To ensure the quality, cost, and timeliness of the new system, you suggested that New Century use a project management approach. Dr. Jones agreed, and he wants you develop a brief presentation that will describe project management concepts and benefits. You realize that most of the partners do not have project management experience, and it is important to deliver a clear, informative presentation.

You plan to include an overview of project management, a step-by-step description of project planning, and an explanation of key terms. You also need to describe various types of task patterns, and show examples of Gantt and PERT/CPM charts.

Tasks

1. Create a Microsoft PowerPoint presentation to explain project management concepts and benefits.
2. Create a Microsoft Word handout with a list of all key project management terms, including a definition and an example for each term.
3. In your presentation, provide an example of an imaginary project with at least six tasks. Assign task durations and dependencies that include all types of task patterns. Create a Gantt chart that displays the project.
4. Use the Task 3 example to create a PERT/CPM chart.

CASE Tool Workshop

Systems analysts use CASE tools to help them plan, build, and maintain information systems. To learn more about CASE tools, turn to Part B of the Toolkit that follows Chapter 12. You can complete these tasks with the Visible Analyst® CASE tool, which is available with this textbook, or a similar tool.

Background

As a part-time student assistant in the computer lab at your school, you were asked to evaluate various CASE tools. So far, you completed an overview and created a sample project called HOTEL, which includes a number of planning statements. As you continue your analysis, you want to see how the CASE tool handles business process modeling (BPM). You also decide to examine the relationship between BPM and project management software.

Tasks

1. In business process modeling notation, a **gateway** is like a fork in the road, allowing the flow to go one way or another. You can learn more about gateways in the Visible Analyst Glossary feature.

   Suppose, in your software company, a key issue is whether a new product will be ready for release on June 1, or whether it will require further testing. If it is ready, *Release Tasks* can start. Otherwise, *Testing Tasks* must continue. Use Visible Analyst to create a simple business process model with a gateway that shows the two possible paths.

2. No modeling tool is perfect. For example, BPM easily shows gateways that depend on a condition, but most project management software does not have that built-in capability. Programmers can create macros or custom scripts to handle such situations, but that can be expensive and time-consuming. Some project managers have discovered that they can create an alternative task series by making certain tasks active or inactive, depending on a specific condition. In Microsoft Project help, search for information about *active tasks*, and write a summary of your research. Then create a PERT chart that shows the business process model you developed in Task 1.