Chapter 9 Hands-on Activities

Activity 1

Managers frequently develop decision support systems using off-the-shelf software like electronic spreadsheets. These tools provide preprogrammed functions such as averages and totals.

Create a spreadsheet in Microsoft Excel that would help a DVD production company to decide whether to duplicate a DVD product in-house or send it to a larger company for replication. Set up the spreadsheet with the following information.

In-house production	Cost per unit	Cost per 100 units	Cost per 500 units	
DVD media	.95			
DVD cases	.57			
Inserts	.25			
Labels	.37			
Shrink wrap	.25			
Shrink wrap	.05			
Labour	1.60			
Total				
Outsourcing costs	For 100 units	For 500 units	Cost for 100 units	Cost for 500 units
Electra Graphics	6.25	2.75		
New Wave Media	4.94	4.48		
Savings for in-house production	For 100 units	For 500 units		
Electra Graphics costs minus in-house costs				
New Wave Media costs minus in-house costs				

Calculate in-house costs for 100 and 500 units. Calculate the costs for 100 and 500 units if the company outsourced the job to the two companies listed. Then calculate the savings by subtracting the in-house costs from the total cost of outsourcing. Save the document as **ch9actsol1.xls**.

Based on these calculations, make the best decisions for the following issues:

- Given that the cost of in-house duplicating equipment costs €779, does it make sense financially to duplicate the videos in-house if the company expects to sell 5000 videos?

- If the manager decides to outsource the work, what company should the manager choose to duplicate the video in quantities of 100?

- If the manager decides to outsource the work, what company should the manager choose to duplicate the video in quantities of 500?

Activity 2

A sensitivity analysis, also known as a "what if" analysis, tests the degree to which profit changes as a result of a change in one or more parameters. Managers use these tests to try to maximize profit. Electronic spreadsheets are useful tools in conducting these types of analyses.

A deli manager wants to raise the price of the pastrami sandwich by 25%. From past experience, the manager knows that demand for the sandwich drops around 10% when prices increase by 25%. Create a Microsoft Excel spreadsheet to perform a what if calculation. If the current price of the pastrami sandwich is €3.75 and the average number of pastrami sandwiches sold per day is 57, how much more or less will the deli earn if the manager raises the price?

Save the document as **ch9actsol2.xls**.

Should the manager raise the price or keep it the same?

Activity 3

A structured problem is one that has a best solution that can be reached by following a sequence of steps. An unstructured problem is one that has no such solution either because there are too many factors that affect the problem or because there is not enough information about the factors. Many problems lie somewhere in between fully structured and unstructured. In general, decision support systems are most helpful for solving less structured problems that cannot be solved with simple calculations or common sense.

Create a table in Microsoft Word to categorize the following problems as more structured or less structured.

- Who should replace the café manager when he moves away to France?
- How many boxes of frozen prawns does the café need to defrost each morning to service its clientele?
- What are the best nights to bring in live musicians?
- How should the café deal with people who buy one drink and occupy a table for hours?
- How many workers does the café need per shift?
- What items should the café add to the menu for the winter season?

Save the document as **ch9actsol3.doc**.

Which of these issues would be best dealt with using a decision support system?