

Unit 2 Calculating the cost of printing

Teacher's notes

Preparation

Before you use this lesson plan:

- Make one copy of each worksheet per student.
- Visit the proposed website to check it is operational.

Warmers

Short (5 minutes)

Ask the students to estimate how many pages they print every month. Do they use both sides of the page? How many pages do they think they waste? Do they recycle paper?

Long (10 – 15 minutes)

Write TCO on the board. Ask if anyone knows what it stands for: Total Cost of Ownership. Tell the students that they are going to focus on the TCO of printers. Divide the students into pairs and ask them to brainstorm what information they think they will need to calculate this figure. The pairs report back. Write their ideas on the board. They should include:

- Purchase price of the printer (dependent on specifications and features)
- Cost of installation
- Cost of support (maintenance and repair)
- Cost of ink cartridges
- Number of pages each cartridge prints
- Number of pages printed every month
- Colour or black & white
- Cost of paper
- Cost of training
- Lifetime of the printer

Set the scene

(5 minutes)

Ask the students to read the *situation*. Emphasise that they have to find the lowest TCO while meeting the requirements of each department. Explain that the TCO calculated in this exercise does not include VAT or the cost of paper.

Present the tasks

(5 minutes)

Explain the procedure:

- 1 Divide into small groups. Give each group member a different department to research. Emphasise that the groups will be starting the information later.
- 2 Use the websites to research and collect information; fill in the table.
- 3 Calculate the TCO for each printer and the grand total for all five.

Do the tasks

Research (15 minutes)

- If computers are available, allocate one to each small group or pair and let the students do their research.
- If computers are not available, set the research as homework to be performed at home or during free time at work. Emphasise to the students that they do not need to spend more than about 15 – 20 minutes collecting information.

Reporting and calculations (20 minutes)

After the research, the research group members exchange their research data to complete Table 1 and then calculate the final TCO. Then each group reports the printers they have chosen and the TCO they have calculated to the other groups, answering any questions that may arise.

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Aims

- talking about printers
- calculating costs

Situation

Your team is responsible for IT procurement at a small company. You have been asked to research the TCO (Total Cost of Ownership) of five new printers. The requirements are as follows:

- one high-capacity black and white printer for the administration department (12,000 single and double-sided pages per month, A4 and A5)
- three printers for project teams (1,500 pages each per month, A4 and A5)
- one colour printer for the design department for printing handouts for customer presentations and sample brochures (500 pages per month, A4 and A5)

All the printers will be connected to the company network. The administration department print letters and detailed proposals for the sales department and invoices to send to customers. They also print instruction manuals for the company's products. This also means the administration printer should be as fast as possible. Project teams produce a lot of paperwork but only print documents for internal use. Speed is not so important but their printers need to be as economical as possible. The design department has two Apple Macs, but the other departments use PCs.

Tasks

- 1 Your team is going to research the cost of buying and using printers on the Web – each member will research printers for a different department.
- 2 You will share your research findings with your team and calculate the total cost of ownership for all the company's printers.
- 3 You will compare costs with other teams

Task 1 – the research

These websites will give you information about printers.

Hewlett Packard UK

<http://www.hp.co.uk>

- 1 Click on *Small and Medium Business* in the left menu. Then click on the *Printers and Multifunction* link in the menu panel. On the following page, click on the *Help me choose an HP printer* button.
- 2 Click in the appropriate check boxes and radio buttons to select the features you require for each type of printer. Click on the *Next* button to go to the next page.
- 3 On the results page choose a printer based on the relevant specifications.
- 4 Click on the *Supplies and Accessories* link of the printer you have chosen.
- 5 Click on the *Printer supplies* link. Choose an appropriate cartridge. Later you will need to visit a second website to find the page yield for the cartridge.
- 6 Use the *Back* button on your browser to return to the previous page. Click on the blue *HP Care pack* icons to find out the cost of installation and support package.

Hewlat Packard page yield

www.hp.com/go/pageyield

- 1 In the search box at the top of the page enter the name of your printer and then click the enter button.
- 2 Click the link in the search results relevant for your printer.
- 3 Take a note of the page yield for the cartridge and printer that you have chosen. Remember to note the cartridge code.

Fill in the part of the table for the department that you are researching.

Research

	Administration	Project teams	Design
Printer model			
Printer price	£	£	£
Cartridge(s) code			
Cartridge price(s)	£	£	£
Page yield			
Installation	£	£	£
3 year support	£	£	£

Cost per page Price of cartridge divided by page yield	£	£	£
Cost per month Cost per page multiplied by number of pages per month	£	£	£
Cost over 3 years Cost per month multiplied by 36	£	£	£
Total Cost of Ownership (3 years) Price of printer plus cost of ink plus cost of installation and support	£	£ Multiplied by 3 printers £	£

Total TCO for all five printers	£
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Task 2

Share your information with the members of your team. Ask them about their research findings and use this information to complete the table from Task 1. Working together you will be able to calculate the TCO for all five printers over three years. You can use the phrases in the language box below to help you exchange information.

The page yield for the design department's printer is ...
 The cost per page for printer x over three years is ...
 What is the cost per month for the project team's printers?
 What is the hardware support cost over three years?

Task 3

Present your TCO for all the printers over three years to the other groups. Answer any detail questions that they may ask. Also, if another group has a lower TCO, find out why.