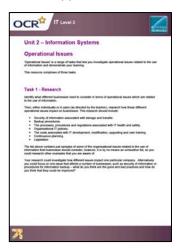# Unit 2 – Information Systems

Operational Issues

Instructions and answers for Teachers

These instructions should accompany the OCR resource 'Operational Issues',
which supports the OCR Level 3 Cambridge Technical Certificate in IT Unit 2 – Information Systems

Associated files:
Operations Issues

Task 1 – 1 ½ -2 hours plus homework
Task 2 - 2hour
Task 3 - 30 minutes

'Operational Issues' is a range of tasks that allows learners to investigate operational issues related to the use of information and demonstrate their learning.

OCR recognises that the delivery of this qualification will vary considerably between schools and between different teachers. It is therefore, with this in mind, that these instructions are only offered as a possible approach to this section and the associated sample answers are just examples of what could be produced.

It is anticipated that individual teachers will wish to modify the suggested approach to suit their own delivery or use their own lesson material to suit their own teaching style.

This resource comprises of three tasks and is primarily written as guidance for teachers. It is recommended that if it is the intention to use resource directly with learners, then additional guidance and assistance may need to be provided.

Task 1 - Research

Identify what different businesses need to consider in terms of operational issues which are related to the use of information.

Then, either individually or in pairs (as directed by the teacher), research how these different operational issues impact on businesses. This research should include:

- Security of information associated with storage and transfer.
- Backup procedures.
- The processes, procedures and regulations associated with IT health and safety.
- Organisational IT policies.
- The costs associated with IT development, modification, upgrading and user training.
- Continuance planning.
- Legislation

The list above contains just samples of some of the organisational issues related to the use of information that businesses should consider, however, it is by no means an exhaustive list, so you could research other examples that you are aware of.

Your research could investigate how different issues impact one particular company. Alternatively you could focus on one issue that affects a number of businesses, such as security of information or procedures for information backup – what do you think are the good and bad practices and how do you think that they could be improved?

It is suggested that the initial research exercise should take place in a 1 ½ - 2 hour lesson. Learners could then be instructed to work on the presentation of their finding as homework with a view to presenting their research in a following lesson.

Sample answers below.

Task 1 - A real organisational example

When Ambermills High School decided to put in place a new management information system (MIS), it had to consider many issues that it had to address. Some of the these issues are listed below:

- Ambermills wanted the capability for its entire staff to be able to access and share information, which was relevant to their respective positions as efficiently and as effectively as possible. It therefore had to consider forming a hierarchy access protocol, which structured what type of information, as well as its level of sensitivity, could be accessed by which members of staff.

- As part of the system, Ambermills needed to draw up rigorous policies and strategies to ensure that records carried up-to-date and accurate information about students that was gathered and stored in a manner that ensured confidentiality. These procedures also included methods that provided periodic verification of held information such as occasionally asking parents whether the held information on their child was correct.

- Within the management information system, Ambermills School needed to also put in place procedures to ensure that only necessary information was retained. It also drew up strategies to deal with the deletion of information when it is deemed irrelevant due to being out-of-date or as a result of a change in personal circumstances of a student or member of staff.

- Ambermills also needed to consider how to prevent unauthorised access to highly sensitive information on students with regard to both the storage and transmitting of information and how to minimise the risks of hacking or data theft from both within the school and from outside the premises.

- The school also needed to draw up policies for when giving out information about students and the school in general to the press as part of publicity disclosures (such as the reporting sporting achievements within local papers etc.)

- A critical part of the new MIS was the back-up procedures it should follow to ensure that the integrity and security of the information it held were maintained. It needed to consider:

    o   What media needed to used to back up the information,
    o   The schedule for back-up (i.e hourly, daily, weekly etc,),
    o   The number of back-up copies to made,
    o   Where back-up copies would be stored.

As part of the strategy of adapting existing policies and protocols to ensure that they are aligned with the new information management system, Ambermills also decided to write a comprehensive Health and Safety Advice documents specifically targeted at staff whose work is primarily carried out on computer workstations within a technology-equipped office.

- Obviously the implementation of an organisation-wide IMS requires a sufficient budget for the project to succeed and Ambermills School needed to ensure that the system achieved its intended purposes and scope whilst still remaining within that

- project budget. Some of the aspects that the project team needed to take into consideration within the costing of the budget were:

    o The hardware and infrastructure required to run the MIS,
    o The integrating of information existing on old systems (possibly on paper) into the new system,
    o The training of personnel in the use of the new system and its associated policies,
    o The modification of the system to integrate other equipment or software.
    o The periodic upgrading of the MIS.

- The school also had to consider its procedures, methods and scheduling of assessing the accuracy, adequacy, relevance and timeliness of the information it gathered with regard to its compliance with the Data Protection act including its legal responsibilities of storing and using sensitive personal information about its students and employees. As the students within the school were under the age of 18, Ambermills needed to consider its legal duties with regard to both the MIS and its child protection responsibilities. The school also needed to consider what changes or new policies it needed to put place to ensure that it was able to comply with any requests made to it under the 'Freedom of Information' act.

Task 2 – Construction of a policy, strategy or procedure

From your research, write a company policy, strategy or procedure that addresses a particular operational issue, related to the use of information. This could be, for example:

- A procedure for how the organisation backs up information.
- An acceptable use policy for employees browsing the internet.
- A health and safety document for employees who regularly use desktop computers.
- A strategy on the company's approach to upgrading the operating system on the computers throughout the organisation.
- An acceptable use policy for employees who possess company mobile devices.

Your approach to the document should be to consider the target audience that will be reading it, the purpose of the document, the structure of the document (sections, chapters, length of sentences, use of bullet points etc) and the type of language that should be used.

Although you should use your research to help you, you should ensure that your document is completely your own work, in other words you must not plagiarise (or copy) text from documents you find on the Internet.

Allow 2 hour for this task.

An example of a health and safety information document for employees who regularly use desktop computers can be found below.

Task 2 - Health and Safety Fact Sheet example

Health Hazards of Computer Use and Recommendations for

Work Station Setup

Introduction

There are several health problems associated with computer use, however, through proper, ergonomic use of computer equipment employees can avoid all of them. The following aspects are descriptions of computer-related health hazards and recommended measures you can take to reduce or eliminate your chance of suffering from pain, discomfort or a disabling condition due to extensive computer use.

Repetitive Strain Injuries (RSIs)

As with any task carried out repeatedly, working on a computer for long periods of time can result in inflammation of tendons, nerve sheaths and ligaments and damage to soft tissues. Depending on an individual's sensitivity to the repeated actions of working on a keyboard, the cumulative effect can be disabling. The resulting conditions are called Repetitive Strain Injuries (RSIs). Different types of forearm and wrist RSIs from computer use are carpal tunnel syndrome, tenosynovitis, epicondylitis or tendinitis. If you experience pain, numbness, tingling, or weakness in muscles or movement of arms, hands, and fingers, it could be a sign or symptom of an RSI.

Reducing the risk of RSIs:

- Change how you use your computer so that the position of the wrist is neutral or straight. In order to achieve a neutral position, the keyboard needs to be placed so the arms bend at approximately a 90-degree angle. Bending the wrist puts additional pressure on the tendons and nerves at the same time they are being required to work. By bending the wrist, you are constricting the space available for your tendons and nerves.

- You should always try to avoid resting the wrist or forearm on a hard surface while typing. This causes contact stress, however, if you feel you really want a wrist rest, you should ensure that it is well-padded and always replace it when it begins to lose its cushioning.

- Avoid wearing a wrist-brace unless a doctor prescribes it as braces also constrict nerves and tendons in the moving hand and wrist.

Back, Neck and Shoulder Problems

Neck and shoulder pain and stiffness can occur as a consequence of the poor siting of the computer monitor, mouse or the document you are working from. If this equipment is not sited correctly, the muscles of your neck and shoulders are constantly working to maintain your head and arms in an awkward position. Using the phone while typing can also cause neck and shoulder pain as a consequence of cradling the phone to your ear.

Reducing the risk of Back, Neck and Shoulder Problems:

- Your line of vision should be level with the top of the monitor, the mouse should be next to the keyboard at the same height, and a document holder should be used to make sure paperwork is at the same distance, angle and height as the monitor.

- Arrange the computer equipment in a straight line so you are not twisting your back.

- To reduce telephone related muscle stress, use the speaker function or a headset.

Sitting in a chair that does not provide support for the lower back, or lumbar, can cause back pain. If there is no lumbar support, back muscles experience fatigue because they must do more work to keep the body in an upright position. An unsuitable chair also contributes to poor posture, such as slouching, that puts pressure on the spine.

- Sit in a good chair that is adjustable and allows you to move the seat up and down, the armrests in and out and the seat back forward and back. Chairs should be adjusted so the feet can be placed squarely on the ground or a footrest.

Vision

People who use computers for prolonged periods of time often complain of eyestrain, eye fatigue, eye irritation and blurred vision. Fortunately, correcting these problems can be relatively simple.

Helpful Hints:

- To reduce glare, tilt the screen down slightly so that that overhead lighting does not hit the screen. Place monitors at right angles to windows so glare does not hit the screen or the user's eyes. Use blinds or curtains for controlling sunlight glare. Reduce room lighting to half-normal office levels and use task lighting for paper work and other tasks. Try these methods before relying on glare screens, as they are dust collectors and require continuous cleaning.

- If there is flicker, or small and illegible characters, make sure the computer is operating properly and that the screen and characters are big enough to read comfortably. Prolonged, intense viewing of the monitor can also cause flickering sensations.

- Take breaks by looking away from the screen for ten seconds; make phone calls or do other work and give your eyes a rest.

- Dryness and irritation are also common complaints. Keep computers and desk areas clean to keep dust levels down and help reduce eye irritation. Don't forget to blink when working at a computer. Eyes need lubrication and with computer work, especially in a dry workplace, blinking is especially important, as is drinking plenty of water throughout the day. Wearing contact lenses can aggravate the problem.

Some people discover they either need corrective lenses or a change in their lens prescription. This is not because computer work is actually causing a worsening of vision, but the intensity of the work can aggravate an existing, but undiscovered vision problem. If you wear glasses, they may not give you the most efficient viewing of the screen and you may need a special prescription for computer use.

Task 3 – The class review (optional)

Your teacher will invite you to come to the front, display your document on the whiteboard and ask you to describe what it is, why you used the particular language and layout, it's intended audience and purpose and what benefits it will bring to the organisation.

Your class colleagues may wish to ask further questions regarding your approach.

Allow 30 minutes for this task.

These activities offer an opportunity for English skills development.

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