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## 2 Unit 2: How Organisations Use ICT

[AS level, mandatory, externally assessed]

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### 2.1 ABOUT THIS UNIT

*This AS level unit is mandatory and is externally assessed.*

This unit helps you to:

- understand how organisations are structured;
- understand how organisations use and exchange information;
- evaluate how well ICT can and does help organisations;
- consider how ICT supports many different activities in organisations;
- see how ICT offers new opportunities.

You will study how organisations (including at least **one** large organisation) collect, disseminate and use information, how they manage the flow of information between sections or departments and the way they use ICT to access and exchange information.

The unit will be assessed through an external assessment. The mark on that assessment will be your mark for the unit.

### 2.2 WHAT YOU NEED TO LEARN

You need to learn about:

- types of organisation;
- functions within organisations;
- information and its use;
- ICT systems;
- the impact of ICT on working practices;
- the impact of ICT on methods of production;
- legislation.

#### 2.2.1 Types of Organisation

In all types of organisations, a group of people work together to make something or provide a service. The range includes multinational commercial companies, utilities (transport, water, electricity and gas), public-service organisations (hospitals, schools, colleges), shops, banks and a range of enterprises employing small numbers of people that can be found in every town.

Before you can understand how ICT can help organisations and support their activities, you need to learn about how organisations are structured, their information needs and how information moves within an organisation and outside it.

### 2.2.2 Functions within Organisations

Most organisations have staff who have particular responsibilities, such as those dealing with sales, creating products or services, or undertaking research and development. These tasks are often known as *job functions*.

You need to learn about the many different job functions that can appear in organisations, including:

- accounts or finance;
- sales;
- distribution;
- marketing;
- research and development;
- human resources;
- design;
- production (or service provision);
- ICT services;
- administration.

You need to learn that organisations are often structured into departments for these functions and that there will be a manager for each department.

You need to learn what these departments do and with whom they need to communicate.

### 2.2.3 Information and its Use

Information is vital to any organisation. Some organisations exist solely to gather and disseminate information.

You need to:

- identify the types of information needed by the organisations you study and the significance of this information;
- learn how organisations collect the information they need;
- learn with whom organisations communicate and what information they exchange;
- learn about the types of information that may be exchanged between or about the following:
  - customers and clients;
  - wholesalers and retailers;
  - distributors;
  - suppliers (of services or goods);
  - manufacturers;
  - managers and employees;
  - products;
  - briefs;
  - services;
  - goods.

Organisations need to communicate to people within the organisation as well as those outside, such as suppliers and customers. You need to find out who needs information, who sends it, who receives it and how it is processed.

Most large organisations use very similar key information. You need to understand how organisations use this information. You also need to identify typical features of such information.

You need to learn about the following functions and key systems used by many large organisations:

- personnel:
  - information about employees, such as name, address, employee number and position;
  - often links with training and payroll;
- training:
  - training records are an extension of the personnel system;
  - large organisations will probably record training plans for employees;
  - records may also note special skills of staff so they can be found quickly when particular skills are required;

- payroll:
  - another extension of personnel records – tax codes and rates of pay will link to the employee number;
  - often there is a computerised mailing system that prints letters with details of wage payments;
  - payroll is one area in an organisation that deals with many changes, e.g. staff turnover, changes to personal details and changes to pay rates;
  - it is also one in which confidentiality of information is particularly important;
  - an important external link is with the Inland Revenue;
  - reports on payroll information must be available to accounts managers to contribute to statements of profits and losses;
- design and development:
  - records of changes to product design or to new products;
  - produce specifications for all products;
  - may include production drawings;
- purchasing:
  - links with stock control, accounts, production and most other departments;
  - generates purchase orders and contracts for goods and services;
- sales:
  - keeps records of all customer orders;
  - initiates the internal requests for provision of services or goods which may be sent to a despatch or delivery department;
- research:
  - keeps records of new products on trial or being investigated;
  - may be able to forecast how long existing products will remain saleable;
  - may define new areas of productivity for the organisation;
- accounts and finance:
  - tracks money paid and money owed;
  - prepares a general ledger summarising accounts;
  - preparation of balance sheets and income statements;
  - keeps track of cash receipts and payments used to forecast cash-flow;
- stock control or inventory systems:
  - tracks items held in stock by serial number;
  - records the number, cost and location of items held in stock;
  - often an automatic re-ordering process;
  - sometimes links with robotic systems in warehouses;
  - can automate much of the re-stocking necessary;
- e-mail:
  - used extensively to communicate information within the organisation and with external contacts;
  - useful for organising meetings as staff can post their availability on the system;
  - problems can arise if too little care is taken to decide who receives what information;

- Internet and intranet:
  - offer completely new opportunities that you need to consider;
  - some external, in that they open websites for outsiders to explore;
  - some internal, providing closed network facilities;
  - an important aspect is e-commerce, which is used to buy and sell goods and services on-line.

You need to draw diagrams that help you describe the movement of information in these organisations, including information flowing into and out of the organisation and between departments. This involves finding who needs or uses what information and then showing the connections.

The type of information needs to be clearly identified in the diagrams. The following types might appear:

- customer orders;
- purchase orders to suppliers;
- design and production drawings;
- wages and tax-paid details;
- records of staff training;
- names and addresses of employees;
- stock details;
- invoices paid;
- monthly income;
- monthly outgoing;
- web publicity pages;
- monthly profit or loss.

Your diagrams need to show the methods used for communicating information, including:

- face-to-face;
- documents via internal or external post;
- EDI (electronic data interchange) or e-commerce;
- LAN (local area network) or Internet e-mail;
- telephone;
- facsimile;
- centralised database systems;
- mobile devices.

You need to find out which methods are effective and efficient for different organisations. You also need to find out which methods are particularly effective for different types of information.

## 2.2.4 ICT Systems

You have learnt about how organisations are structured, their information needs and with whom they communicate. All organisations use ICT systems to some extent to store, process, present and communicate information. Large organisations could not function without the many ICT systems that support their operations.

You need to learn about the ICT systems that organisations use for different purposes, how these are used to process and communicate information, how they support the functions within the organisation and how these systems interact.

## 2.2.5 The Impact of ICT on Working Practices

You need to learn about the technological developments that have taken place and the changes in working styles and employment opportunities that have resulted from these developments. In particular, you need to learn how ICT has had an impact on:

- location and pattern:
  - employer premises or at home;
  - allowing a 24-hour operation;
  - allowing personal flexibility;
  - being static in an office or mobile;
- work skills:
  - keyboard;
  - technical;
  - design;
  - analysis;
- re-training.

These changes made by ICT on working practices have also had a knock-on effect on employees. You need to identify changes to:

- social aspects:
  - changes in motivation for those no longer supervised directly;
  - risk of job loss, due to changes in work skills required and number of staff needed;
  - security of work, due to changing contractual arrangements between employers and employees;
  - reduced social interaction at work, but increased interaction with family and neighbours;
- the balance of responsibilities:
  - who is put under stress;
  - who takes the blame when things go wrong;
- the amount and timing of leisure time;
- the fast-changing pace of ICT developments.

Some employees experience stress as a result of these changes. You need to identify how changes in supervision and increased automation, for example, may result in stress.

## **2.2.6 The Impact of ICT on Methods of Production**

To see how ICT has affected methods of production, you need to understand how introducing robotics and other linked ICT systems has improved the processes of:

- production control;
- process control.

In particular, you need to know how ICT has aided the:

- speed of the process;
- cost of the process;
- safety of the workers involved;
- quality of the final product.

You then need to recognise how this development in ICT has had, and may in the future have, an impact on society, including issues such as:

- health and safety;
- employment levels;
- working practices.

## **2.2.7 Legislation**

The increased use of ICT to store, process and communicate information has led to the need for different types of legislation. This includes:

- Data Protection Act (1998);
- Copyright, Designs and Patents Act (1980);
- Computer Misuse Act (1990);
- Health and Safety at Work Act (1974);
- EU Health and Safety Directives;
- Electronic Communications Act (2000).

Some of this legislation is designed to protect individuals; some is designed to protect the organisation and its information. You need to learn the purpose of each piece of legislation, how organisations are affected by it and what, if anything, they need to do to comply with the legislation. You need to know of any updates to the legislation identified above.

## 2.3 GUIDANCE FOR TEACHERS

### 2.3.1 Guidance on Delivery

The work carried out by candidates needs to cover a range of different types of ICT activities and organisations. This work could be carried out through visits to local organisations. Case studies of a variety of different organisations could be created and used. Candidates may need to be taught strategies for interpreting case study material. At least **one** large organisation needs to be covered. It will be necessary for you to provide a wide range of example documents and information about the organisation for each case study.

These need to include items such as:

- definitions of the purpose and objectives of the organisation;
- documents that show how information flows, for example:
  - letters;
  - memos;
  - orders;
  - invoices;
- charts that show the organisational structure;
- details of products manufactured, goods sold or services provided;
- details of the ICT facilities available in each job role;
- details of the departments and their role.

Typical organisations that could provide good potential for study are:

- large retailers, for example:
  - clothes shops;
  - grocery shops;
  - computer-product shops;
- manufacturers of goods, for example:
  - cars;
  - electrical goods;
  - steel products;
- providers of services, for example:
  - railways;
  - bus companies;
  - solicitors;
  - councils;
  - police;
- schools, colleges and libraries.

To produce comprehensive diagrams of information flows, candidates need to identify different systems. Candidates need to identify

- between whom the information flows;
- what the information is;
- how the information is passed between people.

In order for candidates to see how ICT has impacted upon businesses and society, they need to learn about the technological developments that have taken place and the changes in working styles and employment opportunities that have resulted from these developments.

### 2.3.2 Guidance on Assessment

This unit is assessed externally.

### 2.3.3 Resources

<b>Organisations</b>	Health and Safety Executive			
<b>Textbooks</b>	Lawson J (ed)	<i>Vocational A-Level Information and Communication Technology</i>	Pearson Education Ltd.	058 235 709 8
	Richards RP & Heathcote PM	<i>AVCE Units 1-3</i>	Payne-Gallway	190 311 229 X
<b>Websites</b>	<a href="http://europe.osha.eu.int/legislation/directives/">http://europe.osha.eu.int/legislation/directives/</a> <a href="http://resources.ukonlineforbusiness.gov.uk/index.asp">http://resources.ukonlineforbusiness.gov.uk/index.asp</a> <a href="http://www.fast.org.uk/">http://www.fast.org.uk/</a> <a href="http://www.hmso.gov.uk/acts.htm#acts">http://www.hmso.gov.uk/acts.htm#acts</a> <a href="http://www.hmso.gov.uk/acts/acts1988/Ukpga_19880048_en_1.htm">http://www.hmso.gov.uk/acts/acts1988/Ukpga_19880048_en_1.htm</a> <a href="http://www.hmso.gov.uk/acts/acts1990/Ukpga_19900018_en_1.htm">http://www.hmso.gov.uk/acts/acts1990/Ukpga_19900018_en_1.htm</a> <a href="http://www.hmso.gov.uk/acts/acts1998/19980029.htm">http://www.hmso.gov.uk/acts/acts1998/19980029.htm</a> <a href="http://www.hmso.gov.uk/acts/acts2000/20000007.htm">http://www.hmso.gov.uk/acts/acts2000/20000007.htm</a> <a href="http://www.hse.gov.uk/office/index.htm">http://www.hse.gov.uk/office/index.htm</a> <a href="http://www.hse.gov.uk/pubns/index.htm">http://www.hse.gov.uk/pubns/index.htm</a> <a href="http://www.informationcommissioner.gov.uk/">http://www.informationcommissioner.gov.uk/</a>			

