

Information and Communication Technology

Unit 5: Information Sources

Common Exam Questions

What are the advantages and disadvantages of a card based catalogue in a library?

What is the Dewey system, why is it used and how is it used?

What are the advantages and disadvantages of email over using a phone or fax?

What are the functions and data requirements of these departments: HR, Finance and Marketing

How can data be kept secure on an ICT system and why must it be kept secure?

What methods of internal communication could a company use?

What methods of external communication could a company use?

What information is typically on a company internet site?

What ICT based sources of information would you use to find out about a holiday destination?

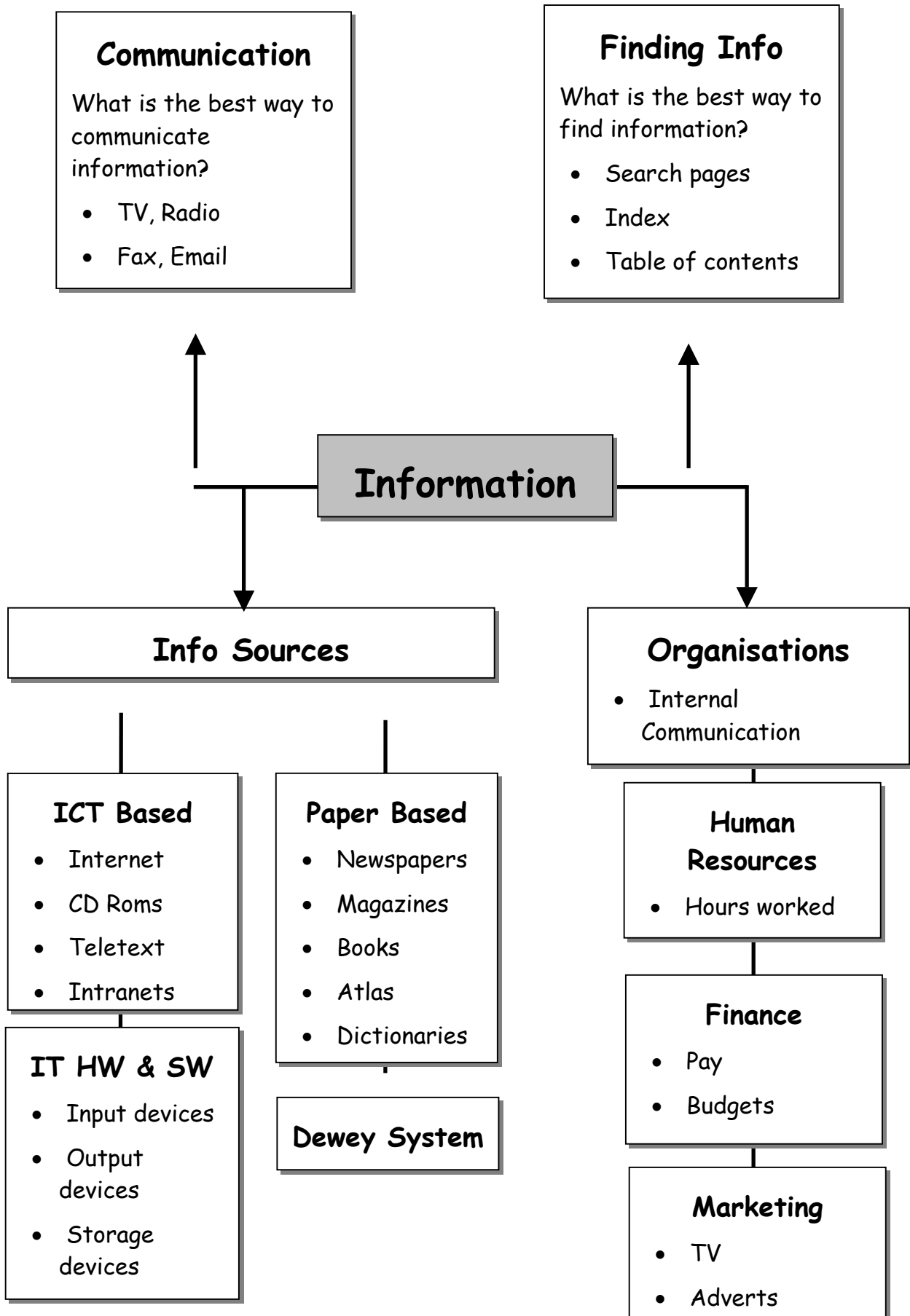
What paper based sources of information would you use to find out about a holiday destination?

What features of an encyclopaedia help you to find information in it?

What is information overload and how can it be reduced?

Unit Overview

This diagram shows all the topics in this unit:



Revision

Paper Documents

Much information is in books and other paper documents. It is important that you can use these sources to find out what you need to know. This will also help you understand the benefits and the problems of using ICT-based sources.

You must:

- Understand how information is organised in reference books, dictionaries, encyclopaedias, directories, card indexes, paper files and other paper-based information sources
- Learn to use suitable methods to find the information you need from these sources
- Understand how the Dewey Decimal System is used to organise a library and be able to use it to find books on the subject you are researching
- Learn to use card-based or computer-based catalogues in a library to find any book you need by title, subject or author.

ICT Sources

ICT-based information sources come in a wide variety of forms and are accessed in different ways.

You will need to:

- Understand the purposes of a range of ICT-based information sources, including discs, CD ROMs, teletext, bulletin boards, on-line databases, Intranets, the Internet,
- Understand the benefits and limitations of these different sources
- Learn to decide what equipment and software you need to access these different sources of information, including:
 - Input (keyboard, keypad)
 - Output (TV, VDU, printer)
 - Storage (disc, CD ROM)
 - Software (communications, CD ROM driver, web browser, search engines)
 - Method of access (TV, computer)
- Understand that information can be structured in different ways (records and fields, hypertext, view data) and that this will affect how you access and use it
- Know the methods used to find information from ICT-based sources
- Understand that some on-line databases are public and that some are private

- Realise that while some public services are free, there are some information sources that you will have to pay to access
- Know what information must be kept confidential
- Know about methods of keeping information secure, including user identities, passwords, encryption, virus-checking, restricting physical access (locked rooms, keyboard locks)
- Understand what the Data Protection Act is designed to do and how it works.

Searching for Information

As well as being able to identify a variety of paper-based and ICT-based information sources, you must be able to use these resources to find out information.

You must learn to:

- carry out complex searches on structured and non-structured data, including information stored on disks, CD ROMs, Viewdata systems such as a Teletext service, on-line databases
- use a web browser to find information on a specific topic on the Internet
- decide which information is useful, which is reliable and which is current
- record the information you find by printing it out, reading it on screen and making notes, saving it on disk
- draw together the information you find from different sources and present it

Communication

As well as helping us to find information, ICT helps us to communicate information to others.

You must:

- Understand the concepts of TV, radio, telephone, fax, E-mail and networks as types of ICT-based communication and be able to give examples of the use of each
- Be able to prepare information to give to someone else
- Be able to communicate the information by telephone, fax and E-mail
- Be able to receive information by telephone, fax and E-mail.

Information in Organisation

Organisations as well as individuals make use of a wide range of information sources and means of communication. The success of their business may depend on how well they communicate with customers, suppliers, and even how well the departments within that organisation communicate with each other.

You must investigate:

- The functions of each of the departments in a business organisation

- The type of information each department deals with and where it comes from
- The methods they use to communicate information internally and their advantages/disadvantages
- The methods they use to communicate information externally and their advantages/disadvantages
- Other possible methods the business might use to communicate between themselves and their customers, suppliers, etc
- Possible advantages to the organisation of doing this
- How the Data Protection Act affects the way the organisation manages information.

Information Overload

You must understand the meaning of information overload.

Organisations range from multinationals to corner shops. In all organisations; groups of people work together to make something or provide a service. Examples are a supermarket, an airline, a hospital, the Royal Navy, a car manufacturer, a chemist, a bank, a farm and a newsagent.

Organisations need information. Sometimes there is so much information that there are problems. Some workers feel left out if the organisation keeps information to itself, while others feel swamped by masses of information they think is mostly irrelevant.

It is not just organisations that can suffer from information overload. We as individuals can sometimes be faced with so much information we are not sure which way to turn. Think about trying to find the cheapest way to go on holiday. There is a mass of information, on TV, on Teletext, on the Internet, in travel brochures and in travel agencies. Is it accurate?

Is it current? Is it reliable? These kind of problems contribute to information overload.

Weather

Brainstorm as many things as you can think of about weather information.

Include -

Where you get it

What it looks like

When you get it

How you find it out

Why you would want it

How you can tell other people about the local weather

Paper Based Sources

This section is best done in the library:

SOURCE: this is somewhere that you can get information from.

Sources can be paper based or on computer (ICT based).

Paper based information can be text, numeric or graphical.

Task 1

Make a list of 5 paper-based sources of information:

1. Newspapers

2.

3.

4.

5.

Task 2

Who invented the Dewey system and why did he invent it?

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.....
.....

How does the Dewey system work?

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.....
.....
.....

Task 3

What subjects have these Dewey numbers?

004

010

420

740

Task 4

Find books with these Dewey numbers

970

948

Task 5

Find the Dewey numbers of books on these subjects:

Art

Cars

How could you use the ICT based catalogue to find this information?

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.....
.....
.....
.....

Task 6

Describe 3 features of encyclopaedias that help you find things in them:

1.

2.

3.

Task 7

Use encyclopaedias to find out this information:

The Pope's first name

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The distance of the Sun from the Earth

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A picture of the first man on the moon

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Task 8

Use a dictionary to find the meanings of these words:

Onomatopoeia

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Alliteration

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Gigabyte

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Task 9

When you are trying to find out about the latest news why is a newspaper better than a book?

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Task 10

When you find out information in a book, there are two ways that you can take information home: Photocopy it or Borrow the books. Give one advantage and one disadvantage of each.

Photocopy

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Borrow the Book

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Task 11

What law prevents you from photocopying an entire book?

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ICT Based Sources

Introduction

ICT based sources can be multimedia, including sound and moving pictures, they are easy to search, easy to copy and can be stored on CD-ROMS. The Internet includes of lots information.

Sources

Give 3 ICT based source of information that you could use in this school:

1. The Internet

2.

3.

Moving Information

Conor wants to move a file containing pictures of a volcano from 1 computer to another. Describe 1 way that he could do this.

1.

Hypertext

What is hypertext?

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.....
.....

How is hypertext used to find items of information?

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.....
.....

The Internet

The Internet holds a massive amount of information. Give 2 advantages and 1 disadvantage of using the Internet to find out about something compared to a book:

Advantages

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.....
.....
.....

Disadvantages

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Getting on the Internet

What hardware and software do you need to get on the Internet?

Hardware

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.....

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Software

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Searching

What search criteria would you use to find the population of a town in America called Doncaster?

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Searching

Search for this information on the Internet: (use www.ask.co.uk and www.google.co.uk)

Where was the Pope born?

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The distance of the Moon from the Earth

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Who was Mozart and what kind of music did he write?

.....

A picture of the first woman in space

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The weather in London last week

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Security

How is the Internet used to support illegal activities?

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Describe 3 measures that are used to protect information on computer:

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Teletext

What are the advantages and disadvantages of Teletext compared to searching information from a CD-ROM?

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Intranet

What are the benefits of using an intranet network to link computers together?

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What is the difference between the Internet and an Intranet?

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What sort of information is on a typical Intranet? (E.g. the schools?)

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.....

CD-ROMs

Why does Encarta come on CD-ROM instead of working over the Internet?

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Encarta has links in it to the Encarta Internet site.

Why is this?

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.....

Information Quality

Confidentiality

Which of these pieces of information must be kept confidential?

- The weather
- Bank account details
- The news
- Medical records

How must data be kept confidential?

Computer screens must be

Printed confidential information must be kept

Computer files with confidential information must be kept

Bias

Peter wanted to know which the best computer in the world was. Dell makes computers and on their site they claimed that the Dell KL7 was the best computer. Hewlett Packard also makes computers and on their web site they claimed that the HP 400 was the best computer in the world. Which web site is correct?

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.....
.....

How biased is information on the Internet?

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.....
.....

Current Information

Why are these pieces of information fairly useless?

Last week's Lotto numbers

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Last March's weather

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Share prices from 1 year in the future

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Reliability

Gursharon wanted to know about the illness diabetes. She searched the web and found some cures for the illness. On one web site it claimed that eating special herbs could cure diabetes; the site also sold these herbs. Another web site claimed that the owner of the site could cure diabetes; he cured people by rubbing his hands on their heads.

Which cure do you think worked?

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How reliable is information from the Internet?

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Comparison

Which is the better source of information about the English Football team, the encyclopaedia Britannica or the Internet?

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Communicating Information

Describe the sort of information that can be communicated by each of these methods:

E-mail.....

Fax.....

TV.....

Radio.....

Telephone.....

Computer network.....

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Advantages & Disadvantages

Compare Fax to E-mail. What are the advantages and disadvantages of each?

Fax.....

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Email.....

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Information in organisations

Organisations are usually split into several departments. For each department below write a few sentences explaining what it does:

Finance & Accounting

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Marketing

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Human Resources (Personnel)

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Sales

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Production

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.....
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ICT Use

Write down what department would use ICT for each of these tasks and how they would use IT:

Working out pay

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Keeping track of employee details

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Tracking sales

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Producing printed adverts

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Producing video adverts

.....

Doing market research to find out what customers want

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Using robots to make things

.....

Tracking staff absences and holidays

.....

Advertising new jobs

.....

Communication in Organisations

Internal

Describe these 4 methods of internal communication used by an organisation and give examples:

1. Email

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2. Memo

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3. Forms

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4. Phone

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External

Describe 4 methods of external communication used by an organisation and give examples:

1. Email

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2. Letter

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3. Fax

.....

4. Video Conference

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Data Protection Act

Who is the Information Commissioner?

<http://www.informationcommissioner.gov.uk/> → click how we are

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What are the principles of Data Protection Act?

1.

2.

3.

4.

5.

6.

7.

8.

Standard Ways of Working

Information Overload

Go to www.google.co.uk and type in the word Space. You should get thousands of links. There are too many web links to find the correct one. This is called **Information Overload**.

In your own words explain **Information Overload** and explain how you can prevent it.

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Copyright

What is copyright - give an example

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Security

How can you keep a computer free from viruses?

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Backups

How and why do you make backup copies of data?

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