

6.4 Effects of ICT on society

One moral issue that has emerged from the development of ICT is the **social divide** created by computer technology and ICT. This is often referred to as the **‘haves and have-nots’** – those people who have the necessary ICT skills or money to purchase and use computer equipment will gain benefit from the new technology; those who are not able to access this new technology are left even further behind leading to this social divide.

ICT has affected many aspects of society. This section is going to look at just a few of these:

- the impact on employment
- the development of online shopping and banking
- policing of the internet
- the use of microprocessors in household appliances.

Impact on employment

The introduction of ICT has led to unemployment in many areas such as:

- manufacturing, where robots have taken over many tasks (e.g. paint spraying in a car factory)
- computer-controlled warehouses, which are automatic and require no personnel to be present
- labour-intensive work (e.g. in the printing industry, checking football pools, filing, etc.).

However, it is also true that some new jobs have been created with the introduction of ICT. These include writing software, maintenance of robots and other ICT equipment and work connected with internet sites (setting sites up, maintaining them, etc.).

The overall work- related effects on people can be summarised as follows:

- the need to be re-trained because of the introduction of new technology, e.g. how to operate or maintain the new machinery which is being introduced to do the work previously done by a person
- a cleaner working environment where robots have taken over many of the ‘dirty’ manual tasks

- de-skilling of the workforce, as jobs where high skills were needed in the past are now done by computer systems (e.g. the use of DTP software in the printing industry, CAD software in producing engineering drawings, etc.)
- a safer working environment (e.g. fewer people working in noisy factories)
- fewer manual tasks, since tasks such as heavy lifting are now done by robots.

Companies have also gained from the introduction of ICT systems. For example:

- there is no need to employ as many people to do the tasks, thus reducing labour costs
- robots do not take holidays, get sick or take coffee breaks, resulting in higher productivity
- whilst the quality is not necessarily better, there is greater consistency in the products made (e.g. every car coming off a production line will be identical).

Impact of using ICT for online shopping and banking

The development of online shopping and banking has led to changes in the type of employment in shops and banks. Fewer staff are now needed in traditional shops and banks, but new staff are needed to provide the online services (e.g. packing and sending out orders, courier services, and so on). As the amount of **online shopping** and **banking** increases, the impact on society begins to gain in significance. (The applications are covered in more depth in Chapter 7; this section will deal primarily with the impact of ICT.)

Online shopping and banking means that more and more people are staying at home to buy goods and services, manage their bank accounts and book holidays, etc. This would all be done using a computer connected to the internet and some form of electronic payment (usually a credit or debit card). The following notes give a comprehensive list of the benefits and drawbacks of using the internet to carry out many of these tasks.

Advantages

- There is no longer a need to travel into the town centre thus reducing costs (money for fuel, bus fares, etc.) and time spent shopping. It also helps to reduce town centre congestion and pollution.
- Users now have access to a worldwide market and can thus look for products that are cheaper. This is less expensive and less time consuming than having to shop around by the more conventional methods. They also have access to a much wider choice of goods.
- Disabled and elderly people can now get access to shops and banks without the need to leave home. This helps to keep them part of society since they can now do all the things taken for granted by able-bodied people.
- Because it is online, shopping and banking can be done at any time on any day of the week – this is termed 24/7. This is particularly helpful to people who work, since shops/banks would normally be closed when they finished work.
- People can spend more time doing other things. For example, going shopping to the supermarket probably took up a lot of time; by doing this online people are now free to do more leisure activities, for example.

Disadvantages

- There is the possibility of isolation and lack of socialisation if people stay at home to do all their shopping and banking.
- There are possible health risks associated with online shopping and banking (discussed in Section 6.7).
- Security issues (e.g.) are a major concern. These include:
 - hacking, stealing credit card details, etc. (discussed in Section 6.3)
 - viruses and other malware (e.g. phishing, pharming, etc., discussed in Section 6.5)
 - fraudulent websites (discussed in Section 6.5).
- It is necessary to have a computer and to pay for line rental to take part in online shopping and banking. Also the telephone line will be tied up if the user does not have a broadband connection.
- Unlike high street shopping, it is not possible to see (or try on) the goods first before buying them. The goods also take several days to arrive.
- There is a risk of lack of exercise if people do all their shopping and banking at the computer.
- High street shops and banks are closing because of the increase in online shopping and banking and this is leading to 'ghost towns' forming.

Effects on companies due to the spread of online shopping and banking

The discussion above focused on the effects of ICT on people. However, companies and other organisations have also been affected by the growth of ICT and online shopping and banking.

- Companies can save costs since fewer staff are required and they do not need as many shops and banks in high streets to deal with potential customers.
- Because the internet is global, the potential customer base is increased.
- There will be some new costs, however, because of the need to re-train staff and the need to employ more staff in despatch departments.
- There are also costs due to the setting up and maintaining of websites to enable online shopping and banking.
- Since there is very little or no customer-employee interaction, this could lead to a drop in customer loyalty, which could result in loss of customers. This could also be brought about by the lack of personal service associated with online shopping and banking.

Should the internet be policed?

This is a question which has raged for many years. Currently, the internet has no controlling body to ensure that it conforms to certain standards. There are many arguments in favour of control and as many arguments against.

Arguments in favour of some form of control

- It would prevent illegal material being posted on websites (e.g. racist/prejudiced material, pornographic matter, material promoting terrorist activities, etc.).
- People find it much easier to discover information which can have serious consequences (e.g. how to be a hacker, how to make bombs, etc.). Although most of this can be found in books, it is much easier to find the information using a **search engine**.

- It would prevent children and other vulnerable groups being subjected to undesirable websites.
- Since anyone can produce a website, there is no guarantee of the accuracy of information. Some form of control could reduce the amount of incorrect information being published.

Arguments against some form of control

- Material published on the websites is already available from other sources.
- It would be very expensive to ‘police’ all websites and users would have to pick up the bill.
- It would be difficult to enforce rules and regulations on a global scale.
- It can be argued that policing would go against freedom of information.
- Many topics and comments posted on websites are already illegal and laws currently exist to deal with the perpetrators.

Microprocessor-controlled devices in the home

Many common household devices are now fitted with microprocessors to control a large number of their functions. The devices fall into two categories:

- **labour-saving devices**, which include automatic washing machines, microwave ovens, ovens, and dishwashers
- other household devices, such as television sets, hifis, fridge/freezers and central heating systems – these are not labour saving, but they do have microprocessors to control many of their functions.

Tables 6.1 and 6.2 give the advantages and disadvantages of both types of devices.

Advantages	Disadvantages
<ul style="list-style-type: none"> ● They lead to more leisure time since the devices can be programmed to do the tasks. ● People have more time to go out and socialise, and can go out when they want to. ● They are becoming very sophisticated and can make use of embedded web technology. 	<ul style="list-style-type: none"> ● They can lead to unhealthy diets (e.g. TV dinners). ● People can tend to become lazy, since they rely on these devices.

Table 6.1 Advantages and disadvantages of microprocessor-controlled labour-saving devices