ICT Level 2 – Technology Systems in Different Sectors

1 of 19 – Welcome

Welcome to this session on technology systems in different sectors.

By the end of this session you will:

* Understand what is meant by technology systems
* Know the different sectors where they can be used
* Know how they are used differently across these different sectors

2 of 19 – Introduction to technology systems

**What are technology systems?**

Technology systems refer to the ways in which computer technology is organised, in order to develop the best working system for any given setting.

Different users – or in this case, different sectors – will have different needs to each other. Because of this, there are different technology systems made available that are catered to the needs of each sector.

There are many sectors using technology systems now. Some sectors are trying to operate more efficiently, while others might be trying to cut costs through their use of technology.

3 of 19 – How technology is used in different sectors

Technology systems can be used for basic daily tasks, such as **sending an email** to someone, **accessing the** **internet**, or even doing **calculations** and **producing documents** of some kind.

Here are some other reasons that any given sector might use a certain system:

* Data storage – they might use their system to store important information
* Financial reasons – a company might use their system to **monitor and document their accounts**
* Design – **drawing** out designs, or **planning** new developments, is something that can be done on most technology systems these days

4 of 19 – Technology in the construction sector

The **construction sector** covers lots of different types of work. Housed inside this sector are things like construction of buildings, repairs to buildings, and preparing land for new developments.

There are many ways that the right technology system can help within these areas. Consider:

* Planning – putting plans together, and editing plans when changes are made, can be easier
* Drawings – the architect may use a technology system, such as Computer Aided Design (CAD), to design how the building or development will look
* Finances – computer systems are an easy and reliable way of keeping track of spending, and when you’re working on a large construction project this is very important

5 of 19 – Question 1

Using the following choice of words; **store**, **basic**, **accounts**, **design**, **document** and **internet**, fill in the blanks for the paragraph below:

Technology systems can be useful for completing even the most **blank** of tasks, like accessing the **blank** to send an email, or even producing a **blank**. Some companies will use their systems to **blank** information and monitor their **blank**. Technology systems can also provide useful **blank** tools as well.

The correct paragraph should read:

Technology systems can be useful for completing even the most **basic** of tasks, like accessing the **internet** to send an email, or even producing a **document**. Some companies will use their systems to **store** information and monitor their **accounts**. Technology systems can also provide useful **design** tools as well.

6 of 19 – Question 2

The construction sector uses technology systems for a number of different reasons. What are they?

Choose all that apply:

1. Planning
2. Drawings
3. Advertising
4. Selling
5. Finances

The correct answers are A, B and E, planning, drawings and finances.

7 of 19 – Technology in the financial sector

The **financial sector** is an important area of business, and companies have to be very careful about how they store, monitor, and transfer information. The financial sector can include banks, insurance companies, and credit card companies.

Technology systems in the financial sector are often used to:

* Monitor the market – the financial sector keeps a close eye on prices of stocks and shares, as these heavily influence the sector’s business
* Calculate – by using the right technology system, companies within this sector can work out the effects that market changes will have on them; if interest rates were to change, for example, companies could calculate how this is likely to affect savings or loans

8 of 19 – Technology in the health sector

The **health sector** is a broad one that ranges from companies providing medical equipment to institutions providing hands-on healthcare, whether that be in a hospital or in a nursing home.

On the business side of things, technology systems in the health sector can be used to monitor stock and sales. However, other uses might be:

* Investigative procedures – there are special types of technology systems in place to allow things like scans (x-ray and MRI, for example) for patients
* Support systems – an important and unique technology has been developed for life support systems, and machines that now monitor heart beats, breathing abilities, and other bodily processes too

9 of 19 – Technology in the manufacturing sector

The manufacturing sector is a big area to discuss, as it covers any industry or company that produces something from materials. This can be food production, clothing, machinery, and many other modern day commodities.

This sector relies heavily on Computer Aided Design (CAD) and Computer Aided Manufacture (CAM). These are systems that:

* Design individual parts
* Provide instructions for production procedures
* Control machines and production lines

When production is large scale, companies often use robots along the production line as they are more cost effective. They can also work in different conditions, and for longer periods of time, than humans can. Technology systems provide a way to instruct and monitor this style of production.

10 of 19 – Question 3

Computer Aided Design is a system that allows users to:

Choose all that apply:

1. Design individual parts
2. Control machines and production lines
3. Advertise

The correct answers are A and B, design individual parts and control machines and production lines.

11 of 19 – Question 4

Indicate whether the following statements are true or false.

The health sector covers a broad range of areas, from medical supplies to hands-on healthcare.

True

False

The correct answer is: True

The manufacturing sector sometimes use robots in their production because they are easier to get along with than humans.

True

False

The correct answer is: False

The financial sector often uses technology systems to monitor the market, and calculate the effects of changes in the market.

True

False

The correct answer is: True

12 of 19 – Technology in the retail sector

The **retail sector** covers all companies that are selling something. Again, this can refer to food, clothing, machinery, and even technology equipment, all of which is sold at different retail outlets throughout the country.

This sector uses different technology systems to:

* Track sales – this can be done both online and in-store, as tills keep a register of the sales that go through for any given day
* Engage with Point of Sale systems – these are technology systems that automatically update stock records as sales happen
* Sell and advertise online – systems are also in place that allow shops to advertise their services and then market them via the internet

13 of 19 – Technology in the retail sector 2

All of the sectors that we have discussed so far are using technology to help their day-to-day running. Sectors are often looking for ways to improve their use of technology too, and the retail sector provides a recent example of this.

In supermarkets technology systems are now in place to allow quicker services for individual customers, and, at the same time, reduce costs for the business. The recent rise in self-service checkouts across the country is due to the introduction of new technology systems that have allowed supermarkets to:

* Serve their customers more quickly
* Monitor stock more effectively
* Reduce costs by reducing the amount of staff members needed

14 of 19 – Technology systems strengths and weaknesses

**Strengths**

These different uses for technology systems across the different sectors have in some ways had a positive effect on how businesses are run.

These systems certainly have a number of strengths that they bring to each sector, for example:

* Day-to-day running is easier and more efficient
* Service for customers is faster and more efficient too
* Stocks and finances are more accurately monitored and updated
* Product design and development can happen with a higher level of accuracy than in previous years

**Weaknesses**

However, these individual systems and their daily uses also come with weaknesses and risks for those who are using them.

Technology can often become vulnerable to attacks or some kind of corruption, whether these are introduced from an external source – hackers – or whether they happen ‘naturally’, through a glitch or bug in the system itself. This means that sectors, and the companies within them, have to be very careful about the jobs their systems are performing, and how safe these systems really are.

There might also be some ethical concerns to using these systems as well. They allow companies to cut costs but this is often done by replacing staff with technology systems, potentially leaving many people without jobs – this is another consequence to consider.

15 of 19 – Question 5

Why does the retail sector rely on technology systems?

Choose all that apply:

1. To track sales
2. To advertise online
3. To monitor competitors
4. To update their stock more quickly

The correct answers are A, B and D, to track sales, to advertise online and to update their stock more quickly.

16 of 19 – Question 6

Categorise the strengths and weaknesses of technology systems below according to if they are a **strength** or a **weakness**:

1. Vulnerable to attack
2. Improved product design
3. Easier to monitor finances
4. Service is quicker
5. Can be corrupted
6. Not always safe
7. Businesses are more efficient
8. Can cause job losses

The correct answers are:

Improved product design, easier to monitor finances, service is quicker, and businesses are more efficient are **strengths** of technology systems.

Vulnerable to attack, can be corrupted, not always safe and can cause job losses are **weaknesses** of technology systems.

17 of 19 – Question 7

The retail sector has recently seen a rise in new technology systems, designed to improve the services received by their customers. What is the new technology being used?

1. Self-service checkouts for customers to use on their own
2. Point of Sales systems where customers register their products as they leave the shop

The correct answer is A, self-service checkouts for customers to use on their own.

18 of 19 – End

Well done. You have completed this session on technology systems in different sectors.

In this session we have covered:

* What is meant by technology systems
* The different sectors where they can be used
* How they are used differently across these different sectors

If you have any questions about any of these topics, make a note and speak to your tutor for more help.