AO4

The Use of ICT in the Wider World

ICT (Information Computer Technology) is used throughout the world in many different and interesting ways. In fact without ICT the world would not be as it is now. I am going to research the many ways that ICT is used throughout the world.

Computers in Shops

Not all shops use ICT but the ones that do find every day things such as stock control very quick and easy.

- Bar codes are the patterns of thin black lines you find on most products. These bar codes are then scanned by a computer to which will then give the price of the product and this can also be used for stock control. The computer then reduces the recorded stock of the product. And when the stocks fall below a pre-set amount called the 're-order level'. An order for more stock is automatically sent to the shops warehouse or supplier. This type of system will be mainly used in supermarkets. But smaller shops might have a smaller simplified version of this.
- Debit payment is where you pay for the items that you have purchased with a debit of credit card instead of cash. The customer will hand over their credit or debit card, it is then swiped, the bank will be contacted, the customer has to sign a receipt to verify that it is their card and the money will be deducted from their bank account. Or in the case of a credit card it will be added to their account ready for them to pay the balance off at a later date. This is called 'Electronic Funds Transfer at the Point of Sale' (EFTPOS)
- Loyalty cards are introduces in some supermarkets and large shops. These contain details of a customer. This card is swiped when a customer buys something, and the details of what they have bought are stored on the computer system. The customer is usually rewarded for their purchases. Rewards such as discounts and vouchers when the spending level rises above a certain level. Also the shop knows exactly what the customer has bought so they can use this information to send the customer personalised mailshots. So if someone were to buy a table and chairs could be told about an offer on tableware.
- Gas and Electricity TopUp is where people can put money on their Gas or Electricity card and then use the card with their Gas or Electricity meter at home. The card will be handed over at the counter, swiped, and then the requested amount of money is added to the card. The customer then takes the card home and inserts it into their meter and pay for their Gas or Electricity as they go. Not all people choose this method to pay for their Gas and Electricity, the majority of people get a bill through the post.
- Mobile talk time credit TopUp is where people put money on their mobile phones using an electronic swipe card. The card is handed over at the

counter, swiped, and then the desired amount of talk time is added the mobile phone account.
- Wages, like many employing companies, are managed by a waging system. This would be done using a PC. It can be done manually but it is quicker and more professional using a business version of Windows or MacOS on a PC.

Computers in Banks

ICT is used in banking in three main ways they have a huge impact on the methods of banking and the banks customers.

Processing Cheques

- At the bottom of cheques there are three sets of numbers printed in magnetic ink. Theses are the cheque number, the sort code and the customers account number. The cheque number of simply the number of the cheque in ascending order. The sort code contains identifies the branch where the customers account is held. And the account number is the customers account number used to identify the customers account with a certain bank.
- The customer writes on the cheque the amount of money that they wish to be debited fro, their account and the payee's name. The cheque is sent to the payee's bank where the amount of the cheque is printed at the bottom in magnetic ink.
- All cheques are sent to the clearing house where they are read using MICR. All that days cheques are processed to find out how much the bank need to pay each other. The cheque is then sent to the customer's bank and the amount is deducted from their account.
- The mains benefits of this system are that it is a lot quicker than doing it manually. Also the magnetic ink is hard to forge and can be read even if the cheque is damaged.

ATMs

- ATM in short for 'Automatic Telling Machine' which is also more commonly known as a cash machine. By putting in a bank card a person can withdraw money from their bank account.
- On the back of the card there is a magnetic stripe containing the customers account number, bank sort code and other information such as their daily maximum withdrawal level and their PIN. The PIN works like a password, the customer will enter it and this will verify that they are the account holder. This will help reduce fraud.
- The details on the card are read by the magnetic reader inside the ATM and if the card and amount of money requested are valid the machine will count and issue the money returning the card also.
- ATMs are a huge benefit because they can employ fewer cashiers and offer a 24 hour service. They are good fro the customer because they can get cash whenever they want it quickly.

Home Banking

- Home banking uses the internet or phone to give customers access to their bank accounts 24 hours a day. You can make payments and transfer funds in and out of your bank at any time. Soon there will be little need for ATMs and the majority of baking will be done at home.
- A real problem with this is that is it not yet totally secure and a high level of security is needed. Bur paper costs are much lower and less storage space is needed for the banks.

Computers at Work and the Office

Offices are places where organisations information is sent, received and stored. And Before the impact of ICT most things were done manually.

Five Elements to a Paperless Office

1. E-Mail can be used instead of a written document.
2. Presentations can be produced and given using computers, no paper is used and the same presentation can be changed easily to meet the needs of different audiences. PowerPoint would be used here.
3. Intranet – Documents can be produced in electronic from and made available to other staff on an Intranet. An intranet is like a smaller internet run over an organisations network.
4. Electronic Data Interchange (EDI) – Organisations often need to exchange data with one another. Instead of sending the information on paper it is sent by entering the information into a computer system and sent via the telephone network (the internet). For example, schools need to tell the exam boards the names of pupils entered for certain exams.
5. Digital copiers are basically hi-tech photocopiers but they can also be connected to a computer system. And they also have extra features such as being able to add watermarks and page numbers.

The benefits of a paperless office are that the paper costs are low, less storage space is needed and searching for things is quicker. However there are problems such as the cost of installing, operating and maintaining the computer system. Data also might be less secure.

Computers in Schools

The computers in schools are not just used by the pupils at lunch and in ICT lessons. They are used to mange the school more efficiently and to improve the quality of learning.

Computerised Management Information Systems (CMIS)

Schools produce a lot of information, CIMS can help produce can process it.

- Pupil records can be stored in a computerised database. Details are usually stored in a number of related files, the key field usually being the pupil's admission number.
- A computer programme can generate timetables, given the details of available teachers and rooms etc.
- A pupil database and the timetable can be linked to automatically generate class lists.

- Some schools have computerised attendance registers. There are two main types. The first is where the teacher completes an OMR attendance sheet, which is then input using an OMR device. The second is where the teacher inputs data into a portable keypad. This is then transmitted by radio signal to a central computer. Both of theses two methods can process the inputted data to produce absence lists and other reports.
- Pupil reports can be written using standard software by mail merging information from a file of examination results. But some schools use specialised report software, which take information from the pupil database, and allows teachers to insert individual comments from a central comment bank.

Benefits of CMIS are that schools spend less time producing management information and this means that more time can be spent on teaching and learning. The problems of CMIS are the financial cost to the school and that teachers have to have access to the computers and the data.

The Electronic Classroom

The electronic classroom is like the paperless office but is only a theory and has not yet been perfected.

- Computer Aided Learning (CAL) used software to generate on- screen learning materials and computer-aided assessment. The two go together; the idea is that pupils get an individualised learning programme that's decided by the expert system.
- Computers are connected to the internet, which can be used as a source of information, or allow pupils to exchange data and ideas with pupils from other schools via e-mail.
- All the computers in the class will be connected to an 'interactive display board' at the front of the classroom, so that everyone can watch a presentation by one pupil. The board can also convert the teachers board notes into a computer file which can be saved and used again.

The main potential is an improvement in the quality of learning and the increase in the pupil's motivation. The basic problem is the huge cost of technology.