ICT & Society CMT 406

introduction to communication and ict

communication has improved and evolved to facilitate out daily activities

In the 21st century, everything to do with communication utilities technology to disseminate information to a larger audience.

Information can be sent out in many ways such as email, Phones, Radio TV Electronic newspaper

Information refers to knowledge obtained from reading , investigating studying or research

We need information to make decision and predict the future.

**Communication**

The act of transmitting messages . Its a process whereby information is exchanged between individuals using symbols , signs or verbal interactions

Communication is important to gain knowledge . With knowledge we are more confident in expressing our thoughts and ideas

**TECHNOLOGY**

Use of scientific knowledge experience and resources to create processes and products that fulfill Human needs

Technology is vital for communication

**EVOLUTION OF COMPUTERS**

**First generation 1940 to 1956**

They were huge slow expensive and often unreliable

In 1946 Two Americans by the name of Presper Eckert & William Mauchly Build an electronic numeric iterator and computer which was ENIAC. And it used vacuum tubes in stead of mechanic switches

In 1941 the two gentlemen built the UNIVAC which could calculator at the rate of 1000 additions per second

There were new technologies developed at this stage :

i) Vacuum tube – The vacuum tube was n important advancement

an electronic tube about the size of a light bulb was used for internal computer components and were used in thousands

ii) Punched Card – This was used to store data

iii)Magnetic Tape – This was introduced in 1957 It was faster and more compact method of storing data and their use was more reliable & cost effective

(Floppy Disk)

**CHALLENGES**

i)Vacuum tubes generated a lot of heat causing many problems in temperature regulation and climate control

ii)The tubes burnt out frequently

Challenge with programming machines

**Second Generation 1956 1963**

There were three main scientists involved in the second generation John Barden , Walter Houser Brattain & William Shockley

Creation of transistors sparked the production of a second generation computers

Transistors were small devices used to transfer small electronic signals across a resistor

Transistors had many advantages compared to other

**Advantages**

i)Smaller than the vacuum tubes

Needed no warm up time

ii)Consumed less energy

iii) Generated less heat

iv) Faster and more reliable

**Third Generation 1964 1971**

in This era the IBM 370 series was introduced in 1964

It came in several models and sizes

The development of integrated circuits signals the beginning of the third generation of computers

Silicon chips were manufactured in 1961 in the silicon valley

Integrated Circuits Technology reduced the size and cost of computers

IC’s Complete electronic circuit with a small chip of silicon which is used as a semiconductor

Magnetic core memory was replaced by the Microchip

It was during this generation the first 256 bit ram was introduced

**Advantages**

i)The silicon chips were reliable cheaper and compact hardware and software were now sold separately

and thus the software industry was created

ii)Customer service industry flourished

**Fourth Generation 1971 to Present**

It took 55 years for the generation to evolve the growth of the computer industry developed technologies for computer inventions (hardware && software)

There are many types of computer models that developed eg IBM, DELL, ACER etc

In 1971 Intel created the first microprocessor

In 1976 Steve jobs created apple computer

In 1981 IBM built the first personal computer

Hardware technologies such as silicon chips, microprocessor and storage devices were invented

**Advantages**

I) The computer became 100times smaller than the first computer ENIAC

ii) There was an improvement in speed reliability and capacity

iii) Personal computers and software industry boomed

**Fifth Generation (Present and Beyond)**

The computers are technologically advanced and are still being developed to become more efficient

The invention of this hardware tech has grown rapidly including many mordern computer devicessuch as silicon chips processors Robotics VR Intelligent Systems

After the 5th Generation the the of computer has become more advanced modern and sophisticated

with the latest invention in this era including (Mobile computers Main Frames Mobiles)

**Usage of ICT in Daily Lives**

These include Education sector

* Education sector

Today Most schools and higher ed institution have comps in classrooms for learners and teachers

In education everyone benefits from the use of ict

Use of ICT in education sector has enhanced learning interactive experience cognitive development

Teachers use computers to research teaching material , participate in online forums, as well as AIDING THEIR TEACHING

Students use computers as reference tools

Researches use computers to collect data

School admins use computers for administrative purposes to ensure smooth operation

* Banking

The computer is the nerve system of the banking sector It functions to control the banking system

Banking provide 24hr services (ATM Check deposit E-transfer , Direct deposit)

Customers are able to make transactions at 24hr service centers or via online , These services allow customers to transact at any time at any place

Business men are able to access company accounts for loan applications business transactions update cash flow at any time

Bank admin can oversee banking activities such as inter-branch transfer etc by referring to the banking system

* Industry

Computers are used to facilitate production, planning and ctrl system that support chain management and helping product design

Workers researchers and admins benefit on the use of ict

Workers use machines that are connected to computers to operate.

In some production robots are used to take over jobs that are risky to provide more efficiency

Researchers use computers to analyze and collect research data for future reference

Admins use computers to oversee entire operations in a factory or plant to detect specific errors or defects that occur in the process

* E-commerce

Helps in boosting the economy It makes buying and selling activities easier and more efficient and faster.

In the commerce sector customers suppliers employees benefit from the usage of ICT

Customers are able to connect with suppliers online to purchase products this method saves time and cost

Suppliers use ICT to keep track of their transaction

Products can be bar coded and read by computer scanners thus determining the price and managing the inventory

Employees use computers and telephones to communicate with customers for any inquiries

The system help the employees to get the latest update on inventory to be informed to the customers

**Computerized and Non-Computerized System**

A system is an arrangement of elements that have been put together in order to achieve an organized and established goal

A system therefore consists of components connected together in order to facilitate the flow of information , matter or energy

A computer system consists of a set of hardware or software that processes data in a meaningful way to produce information

|  |  |  |
| --- | --- | --- |
|  | Non-Computerized | Computerized |
| Banking | Records maintained manually |  |
|  | Transaction only done during working hours | Not Time Limited 24/7 |
|  | Transactions were branch specific |  |
|  | Manual approval of documents (Time consuming & costly) |  |

Commerce is the exchanging (Buying and selling) of commodities

|  |  |  |
| --- | --- | --- |
|  | Non-Computerized | Computerized |
| E-Commerce | Trading was done using batter systems later into currency | Commerce is done digitally |
|  | Marketing was done by word of mouth→ Radio → newspaper | Various Multimedia Platforms |
|  | Customer Services was not as efficient |  |
|  |  | Middlemen can be eliminated |

Eduation Sector

|  |  |  |
| --- | --- | --- |
|  | Non Computerized | Computerized |
| Education | Courses had to be done physically | Courses can be done online |
|  |  |  |
|  |  |  |
|  |  |  |

Industry

|  |  |  |
| --- | --- | --- |
|  | Non-Computerized | Computerized |
| Industry | Sharing of information in departments was done manually | Informsation sharuing is done through a platform |
| Production | Ow since everything was done manually | Production is faster and efficient |
|  |  |  |

Impact of ICT on Society

→ Faster Communication

→ Saved Time and is less expensive

* Reliable mode of communication (Info can be retrieved from anywhere making it a reliable mode of communication
* However the input to computers is done by individuals and if the data passed to the computer has errors the results processed will be erroneous
* With the advancement of ICT information can be shared by all people around the world .People can share and exchange opinions , news forums etc on the internet This has enabled knowledge sharing which has contributed to the development of a knowledge based society
* Paperless environment== ICT has created an environment that is paperless , Information is stored and received through digital medium .
* Online communication eg email online chat instant messaging has helped in creating paperless environment
* Borderless communication Internet offers fast communication retrieval , Interactivity , accessibility and versatility(Source of service and information)

Social Problems by Ict

ICT has also had a negative impact on society

Society Tends to use online communication rather than having real time conversation

* People have thus become individualistic
* Increased Fraud Identity theft
* Pornography
* Health Problems (Eye harm due to long screen times ) Bad posture Mental and Physically Stress

COMPUTER ETHICS AND LEGAL ISSUES