



A Longitudinal Way of Information Technology for Its Developments

Dr. Mujibul Hasan Siddiqui

Assistant Professor, Department of Education, Aligarh Muslim University, Aligarh Uttar Pradesh

ABSTRACT

1. *The present paper highlights the various definitions of information technology. Information is knowledge that is generated and used in everyday life. Information can be stored, retrieved, communicated using sound and/or visual images including print numerical pictorial, and graphical representations. The combination selected depend on the nature and purpose of the task being undertaken. The techniques gathering, sorting storing, retrieving and communicating information form a major technology. Information technology is divided into two parts: hardware and software. The technology used for the study, understanding, planning, design, construction, testing, distribution, support and operations of software, computers and computer related systems that exists for the purpose of data, information and knowledge processing. Development of information technology consists of its seven ages.*

KEYWORDS: Information, Technology, Development, Computer

Technology is often used as the genetic form to encompass all the technologies people develop and use in their lives. UNESCO defines technology as "...the know-how and creative process that may assist people to utilize tools, resources and systems to solve problems and to enhance control over the natural and made environment in an endeavour to improve the human condition" (UNESCO, 1985).

It indicates that technology is the purposeful application of knowledge, experience, and resources to create process and products that meet human needs.

Information is knowledge that is generated and used in everyday life. Information can be stored, retrieved, communicated using sound and/or visual images including print numerical pictorial, and graphical representations. The combination selected depend on the nature and purpose of the task being undertaken. The techniques gathering, sorting storing, retrieving and communicating information form a major technology.

Information technology makes drastic changes in the society. Information Technology has a great scope and effect on society due to its high increase of development and expansion. It is the result of public and private investment in science and engineering. Globally, modern advancement of information technology changes the life style of the people in the society. It is very difficult to forecast time and direction of several changes due to the great industrial revolution. There is a reciprocal and integrated relationship between information technology and science and engineering. Information technology is a product of science and engineering. On the other hand, it also makes the changes in science and engineering. Global collaboration in research, science and technology and industrial development with high quality products become possible only due to extensive use of the computer and other media of information technology.

Information technology influences the demand of people with technical skills and utilization in all level of schooling. Information technology constitutes three technologies :

1. Digital computing
2. Data storage
3. Transmission of digital signals through telecommunication network.

Modern application decrease in cost and large spread of diffusion of information technology are only possible due to heavy change in semi conductors technology, information storage and networking including advancement in the area of software and hardware.

Conceptual Aspect of Information Technology

Information is information technology concern with the whole information system, access, storage of data analysis retrieval and genuine decision making process. Information technology is used to create, collect, process, store, present, disseminate the information.

Information technology affects the life of human being in the society.

Information technology is divided mainly into parts –

1. Hardware information technology
2. Software information technology

Hardware information technology deals with computer, television, radio, cassettes, V.C.R., projector, slides and all other telecommunication infrastructure.

Software information technology deals with ...

The history of information technology is related to the invention of computer.

The new information and communication technologies are among the deriving forces of globalization. They are bringing people together, and bringing decision makers unprecedented new tools for development. At the same time, however, the gap between information "haves" and 'have nots' is widening, and there is a real danger that the world's poor will be excluded from the emerging knowledge based global economy" It is expressed in 'Declaration of Principles of world summit on information system' that the intention is "to build a people centred, inclusive and development oriented information society, where everyone can create, access, utilize and share information and knowledge, enabling individuals communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Digits.

In recent past, information technology is developing like an industry in its diversified area. IT has evolved with superlative momentum, and accrued a dignified status for itself, and all those associated with it.

Information technology help to insinuate and develop business acumen and operational tenacity.

Information technology or IT is also cited as Information Service (IS) or Management Information Service. Information technology is defined as the development, study design, implementation and management of computer related information.

In the years of 1960s and 70s, there was a limited use in banking, engineering and computer science. In the 1980 the personal computers came into existence and these personal computers made possible for information technology to be utilized in industrial and social sectors.

Information Technology sector has developed tremendously and will continue doing so in/for the future. With the current scenario, it is indeed safe to say that IT is the new 'IT' sector. Ergo, when an enterprise is sealed with IT professionals that exhibit an indying and relentless restlessness to achieve operational excellence, business just doesn't survive... it thrives .

Information is "a set of tools, processes, and methodologies (such as

coding, programming, data communication, data conversion, storage and retrieval system analysis and design system control and associated equipment employed to collect process, and present information. IN broad terms, IT also includes office automation, multimedia and telecommunication”

“Information Technology is the study of many area in technology, in IT, it is studying the use of computers and other technology in finding information. IT is a branch from computer engineering that is becoming a rapidly growing field in today’s careers”. Different sources provide different definitions of information technology as under:

The International Foundation Information Technology (IF&IT) defined information technology in three ways as below:

2. The technology used for the study, understanding, planning, design, construction, testing, distribution, support and operations of software, computers and computer related systems that exists for the purpose of data, information and knowledge processing.
3. The industry that has evolved to include the study, science and solution sets for all aspects of data, information and knowledge management and/or processing.
4. The organization is an enterprise or business that is held responsible and accountable for the technology used for the planning, design, construction, testing, distribution, support and operations of software, computers and computer related systems that exist for the purpose of data, information and knowledge management and/or processing.

The Information Technology Association of America (ITAA) defines IT has below: “The study, design, development, implementation, support or management of computer-based information systems particularly software applications and computer hardware”.

IT deals with the use of electronic computers and computer software to convert store, protect, process, transmit and securely retrieve information.

The combination of telecommunication and computer science for the capture, storage, and transmission of information to every nook and corner of the world is said to be IT’.

Information technology is the technology (hardware and software) required for the processing of data and other information.

[[http://wikianswers.com/Q/what is information Technology?](http://wikianswers.com/Q/what%20is%20information%20Technology?)]

IT stands for “Information Technology”, and is pronounced IT. It refers to anything related to computing technology, such as networking hardware, software, the internet, or the people that work with these technology. Many companies now have IT departments for managing the computers, networks and other technical area of their business.

IT jobs includes computers programming, network administration, computer engineering, web development, technical support, and many other related occupations. Since we live in the “information age”, information technology has become a part of our everyday lives. That means the term “IT” already high overused.

Modern information technology departments would use computers, servers, database, management systems and cryptography.

Information Technology Skills:

Some of the important information technology skills are as under :

1. Computer networking
2. Information security
3. IT Governance
4. ITIL
5. Busienss Intelligence
6. Linex
7. Project management

Information Technology Certification

Some of the most popular ITC are below :

1. Information Security Certifications
2. Orcle DBA Certificates
3. Micro-soft certification

4. Cisco certification
5. PMP certifications

In the broadest sense information technology refers to both the hardware and software that are used to store, retrieve and manipulate information.

Historical Development of Information Technology

Information technology was invented in 1360 by Dev Shed. It is used in all business area. Information technology transmit the information to worldwide.web.

There are four basic period of the historical development of information technology and systems. These are as under :

- I. Pre-mechanical Age
- II. Mechanical Age
- III. Electromechanical Age
- IV. Electronic Age

I. Pre-mechanical Age :

The period of premechanical age is 3000 B.C. – 1450 A.D. Information was communicated via writings and alphabets. First human beings provided information only through speaking and drawings of different types of pictures and sceneries. In 3000 BC Cuniform was developed by the Sumerians in Mosopotamia. Phoenicians developed “symbols around 2000 B.C. Later on the Greeks used the Phoenician alphabets with the addition of vowels. The alphabets today we use were developed by the Romans provided the letters Latin names. A stylus was a input technology of Sumerians. This stylus could scratch marks in wet clay.

During 2600 BC, the papyrus was used by the Egyptians’ for the purpose of writing. In the modern period paper technology is based on the technology used by the Chinese for making paper from rags during 100 AD. Religious leaders in Mesopotamia kept “book” and scrolls were kept by the Egyptians. They started to fold sheets of papyrus vertically into leaves. They bound these leaves together. In the period of 100 and 200 AD, the first numbering system was invented called Egyptian system. The number 1-9 as vertical lines, the number 10 as a U or circle, the number 100 as a coiled rope, and 1000 as a lotus blossom. The concept of zero was developed around 875 AD. The first calculator was the Abacus.

II. The Mechanical Age :

The mechanical age was considered during the period of 1450 and 1840. In 1450, the movable metal type printing system was invented by Johann Gutenberg, Maize, Germany. The books indexes and wide-spread page numbers were developed. William Oughtred invented the Slide Rule in early 1600s. The early exampale was analog computer. Blaise Pascal (1623-62) invented the Pascaline. One of the first computing machines was developed in around 1642. Gottfried Wilhelm Von Leibniz (1646-1716), German mathematician and philosopher developed computing machine called as Leibniz’s machines.

Charles Babbage (1792-1871) ecentric English mathematician developed ‘Babbage’s Engine. The difference engine working model was developed in 1822 for the method of differences. Joseph Marie Jacquard’s loom designed the analytical engine during the 1830s similar to modern day computers: the store, the mill and the punch cards. Punch card idea taken by Babbage from Joseph Marie Jacquard’s (1752-1834) loom, introduced in 1801 binary logic, fixed program that would operate in real time. The name of the first programmer was Augusta Ada Byron (1815-52).

III. The Third Stage : Electromechanical

This stage was considered during the period of 1840-1940. The telecommunication was started like Voltaic Battery in late 18 century, telegraph in early 1800s, Morse code developed in 1835 by Samuel Morse, dots and dashes, telephone by Alexander Graham Bell 1876 and radio by Guglielmo Marconi 1894. Electromechanical computing was developed by Herman Hollerith (1860-1929)in 1880 census machine,early punch cards punch cards workers by 1890. Howard Aiken, a Ph.D. student at Harvard University built the Mark I completed by January 1942 , 8 feet tall, 51 feet long, 2 feet thick, weighed 5 tons, used about 750,000 parts

IV.The Fourth StageThe Electronic Age:

The period of fourth age of digital computing is 1940 – 1984.LSIs and

VLSIs and CPU came into existence .Home use personal computer like Apple II given to public in 1977 by Stephen Wozniak and steven jobs. IBM PC was introduced in1981.First apple Mac was given to public in 1984.

V.Fifth Age of Digital Computing:

The fifth age of digital computing considered the period of 1984-1990. The Sequent Balance 8000 with twenty processors to one shared memory module was introduced. INTEL IPSC-I or Hypercube, IPSC-I was built with 128 processors, wide area network (WAN) and local area network (LAN), RISC, RAM came into use during this period.

VI.Sixth Age of Digital Computing

The Sixth Age of digital computing considered the period of 1991-2003.Combination of Parallels and Vector architecture were used .

Seventh Age of Digital Computing

The seventh age of digital computing considers the period of 2004 till date. Seventh window .The Japanese made a smaller version of computer. They made Windows 7.

REFERENCES

1. [http://answer.com/reference/dictionaries/wha is the meaning of information technology.](http://answer.com/reference/dictionaries/wha%20is%20the%20meaning%20of%20information%20technology) | 2. <http://dis.shef.ac.uk/literacy/project/weblog.html> | 3. [http://infolific.co/technology/definitions/computer_dictionary/information technology/](http://infolific.co/technology/definitions/computer_dictionary/information_technology/) | 4. http://it-history.net/first_generation.html | 5. http://it-history.net/second_generation.html | 6. http://it-history.net/third_generation.html | 7. http://it-history.net/forth_generation.html | 8. http://it-history.net/fifth_generation.html | 9. http://it-history.net/sixth_generation.html | 10. [http://jobsearchtech.about.com/od/careersin technology/p/ITDefinition.htm](http://jobsearchtech.about.com/od/careersin%20technology/p/ITDefinition.htm) | 11. http://wiki.answers.com/Q/The_first_to_seventh_generations_of_computer#ixzz25P9J9bUO | 12. <http://www.pa.ash.org.au/tofa/wite.html#witsc> | 13. http://www.businessdictionary.com/definition/informationtechnology_IT.html | 14. IT UNESCO.3pdf. | 15. Nasrin (2007): Educational Technology, Ashish Publishing House New Delhi | 16. Siddiqui, Mujibul Hasan(2004) ; Encyclopaedia of Educational Technology , | Ashish Publishing House New Delhi | 17. World Summit on the Information Society Geneva 2003, Tunis 2005, Declaration of Principles Online: http://www.itu.int/wsis/documents/doc_multi-en-1161/1160.asp | 18. www.unesco.org/education/litdecade/