

Information Technology and Information Science

Dr. Alka Saxena

Asst. Professor Library, Shri Agrasen (P.G) College, Mauranipur, Jhansi, India.

Abstract

Information technology has become a vital and integral part of every business plan. Information technology accounts for development in communication. Video conferencing, emails, social networking sites, chats has helped a lot for people to connect with their closed ones. In companies, it helps the businessman to connect with their customers and suppliers. This paper shows the relevancy of information technology in all such aspects like decision support, Data management, data retrieval etc. It also shows the study on Information science and it uses in the current scenario.

What Is Information Technology?

Innovation is today's need of the world. It is a great way to success. The current scenario has moved more from manual to digital. Online shopping, social networking, net banking, ATM services, Bluetooth devices etc. are the greatest boon towards society and all is due to information technology.

IT refers to the branch of technology devoted to the study and application of data and the processing, management, movement, control, display, switching, interchange, transmission or reception of data, and the development and use of hardware, software, firmware, and procedures associated with this processing. A systematic study is required in order to grasp its complexities and impact in the economy, polity including governance and society. Social scientist may like to develop e-methodology and e-methods to enhance the understanding of the e-society.

Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. The commercial use of IT encompasses both computer technology and telephony.

It includes several layers of physical equipment (hardware), virtualization and management or automation tools, operating systems and applications (software) used to perform essential functions. Computer is the most popular invention of information technology. But in latest in addition to it is cloud storage. With this technology, individuals, businesses and other top IT companies can store their large data's on remote web servers. In mobile phones also these facilities are available like OneNote, in computers you can save it on Google plus, Google Hangout. Video conferencing technology helps people to connect and see their closed ones sitting from one corner to another corner.

Information Technology is transforming our economy, governance and society. A great deal of work has to be undertaken to assess the application and impacts of IT. The socio-economic development of nation depends upon all government policies and decisions, which are based on information available to them through various sources. The development programmes can be accomplished successfully only when the current, precise and accurate information is made available when it is needed.

Social Informatics

Social Informatics refers to the body of research and study that examines social aspects of computerization including the roles of IT in social and organizational change and the ways that the social organization of information technologies are influenced by social forces and social practices. Social informatics includes studies and other analyses that are labeled as social impacts of computing, studies of computer-mediate communication (CMC), information policy, interpretive informatics and

so on. The social informatics aims to promote welfare of human beings in a society. Focusing on information, SI researchers observe various aspects of human behavior and social system, and examine various information networks in the society.

Information Technology: Bringing New Trends

The need of information technology is increasing day by day. It hardly matters which industry we belongs to we are majorly in every section depending on information technology. Today's world has become a fully automated process but as the world is developing, the technology keeps on changing, so it is very important to keep ourselves updated with the processes.

1) Use Of Technology In Business :

With the help of information technology businesses are able to run efficiently and effectively. It helped businesses to speed up their daily operations by storing data, retrieval of data, communication etc. Information technology helps business to reduce the costs so the profit margins of business increases which enables them to reach to another level. With the use of internet and other services the delivery and the amount spent is comparatively faster if we hire an individual to perform the same task.

For example – If the database system is maintained by the businessman then it becomes accessible remotely. The data can be used by everyone in the company. So, even if the concerned person is on leave other person can use the data and can make the task done.

2) Use Of Technology In Communication :

The communication in today's world has become very easy. We can communicate within a flick of second with anyone sitting in any corner of the world. These days we are not restricted to letter writing's. Sending an email is the simplest way to communicate without a single minute of delay. Conducting meetings, interview's is a no longer worry due to the technology of video-conferencing. If we are busy somewhere, automatic mails and messages are delivered if we set out of office mails and busy message in our computer or phone. The other person instantly gets a reply and connects you accordingly without waiting for long for the reply.

Feedback is very important to improve our business practices. This has been aided by the introductions of online business to consumer portals like "Facebook Business Pages". It helps to get new ideas, suggestions, complaints etc. so with the help of which we can make changes to better the business systems.

3) Use Of Technology In Education :

Many private schools now use the aided technology like making the students learn using power point presentations. Apps like Byju's helps student to learn in an interesting manner. Student's enjoys learning with such Apps. Software like SOUL, LIBSYS, Book Crawler and the list continues helps the librarians to manage the libraries in schools and colleges in a systematic manner. The technology has advanced in all the fields. Libraries are not accessible on mobile phones with the help of various Apps and not had to go physical every time.

4) Use Of Technology In Day To Day Life :

Technology has changed our life drastically. The need of carrying cash has been reduced to 85%. Online payments through use of debit cards and credit cards makes us restless free as we use to when there was no as such technology. We can pay our all kind of bills and get recharges now online without leaving our home comfort and avoiding all the ques.

Technology has made the buying and selling of goods also very flexible. Websites like Paytm, PayPal helps us to make online payments for all our purchasing from various shopping websites like Amazon, Jabong, Myntra, Flibkart etc.

5) Other Multiple Uses Of It :

In airports, hospitals, banks everywhere IT has helped in grooming the nation. With the help of invention of various machines people can be scanned on airport and can be caught if carrying any such kind of offensive tools. Banking has become so convenient, with the use of net banking fund transfer, opening up of RD, FDS all can be done in such a faster rate. Wireless communication, smart phones, 3D effects all are the part of information technology.

With the advancement in technology, this industry has made itself compatible, with newest innovations. It has emerged has highest providing job industry. It has been a major contributor in India's GDP.

Information Communication Technology (Ict)

ICT comprises a diverse set of technological tools and resources to create, disseminate, store and manage data and information. Traditional ICT tools e.g T.V, Radio and telephone have already established their credibility and effectiveness in promoting the developmental schemes in rural and marginalized areas. The modern ICT tools are computers, internet, wireless communication technologies along with powerful software which can process and integrate sound, text and video into electronic media.

The world wide electronic network of computers, popularly referred as internet and wireless telephony, have generated an unprecedented global flow of information, people, products, capital and ideas. With the emergence of digital communication technologies, internet carries pictures, drawings, moving images, sound and text altogether. ICT generally relates to those technologies that are used for accessing, gathering, manipulating and presenting or communicating information.

ICT: Effective in Various Fields

1) Information services:

ICT provides easy and cheap customized information systems affordable by poor and disadvantaged. Internet offers more flexibility in the collection, retrieval, updating and presentation of information than traditional media e.g radio and television.

2) Employment generation: ICT is creating a fast-growing market for outsourcing labour intensive jobs. ICT services such as internet access, web designing, word processing and telephone operations; provide training direct job opportunities to teachers, computer operators, technicians, administrative and secretarial support staff. ICT also offers innumerable indirect employment opportunities through improving business improving business prospects of market information, improved production technology and more efficient marketing system through tele centers.

3) In Teachers Education:

Realizing the importance of ICT in Education, course, namely, Information and Communication technology (ICT) was designed, developed and implemented in the B.Ed program offered by the department of education, faculty of education and psychology of M S University of Baroda.

An online teacher education portal with the Centre for Development of Advanced Computing (C-DAC) is also on cards. In this learning the computers are used as educational tools, much useful for testing the skills and knowledge. There are number of open source online tools to handle the class.

The computers are playing increasingly important role in teaching and learning, with the increased use of supporting devices like CD-Rom, Pen drives, and Hard disk. It includes internet-based training (IBT), web-based training (WBT) and online education.

4) *E-LEARNING*

The major advantage of e-learning is that it is self-paced. The content and methodology can be repeated until the trainee understands it. With the growth of it people more prefer for E-learning, as there is no fear of irregular attendance, late coming's to class etc.

5) *Mobile Governance*

It is handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning process. The access to information has now become very easy via mobile and tablets. It is also effective and economic. The books reader is also now available in the market for the people who loves reading known by the name – Kindle.

Information Technology: Future Prospects

As information technology continues to become cheaper, every object that can conceivably provide valuable information will eventually be equipped with information technology. It will continue to be a good career choice for people with an aptitude and interest for it.

In the next ten years, we'll be seeing more change in technology than we've seen in the last hundreds. Never before have we experienced such rapid technological developments. Autonomous drones already widely used and we are even able to 3D print organs. We have friendly care robots that look more like humans. In 2020, factories will be more efficient than ever before. Connected to your smart mirror, these wearables and ingestibles will tell you exactly how you're doing.

1) *Batteries and no more wires :*

Intel is working on a kind of a technology where based on magnetic resonance technology wireless charging could be possible. Need is for more wireless charging gadgets, station and counters.

2) *Nanotech and material science :*

Nano technology is also propelling material sciences everything from waterproofing phones to smarter fabrics.

3) *Artificial Intelligence :*

Software and hardware that can learn and think as we do is on the horizon. Microsoft for example is using machine learning to analyze speech and conversation so its new Skype Translator can not only perform real-time but can even mimic the tone of speech so it makes sense in other language.

Information Science

Information science is essentially the task of facilitating the transfer of message from one person to another. This is a form of human communication and can be a simple interpersonal face to face affair. But in our context it takes place through a number of intermediate step evolving documents. This is where the information specialist comes into picture. The channels through which message may flow are so complex that the prospective recipient requires aid in choosing and using them. In this sense of giving aid, information work is an art requiring understanding of both user needs and information sources.

The incessant generation of documents in modern society leads to proliferation of new sources and new modes of publishing and announcing, new guides to available sources. The urges and the necessity to impose some order into their medley, to organize message transfer effectively and efficiently brings about the devising and implementing of information systems. To design and operate a system needs an understanding of all its components and an ability to weave them together

into an effective and efficient whole. In this sense information work is a technology drawing heavily upon the techniques that have been developed in the management of other type of enterprise.

Since our society thrives in information, information science has grown in significance. The study of information communication is also an aspect of the developing field known as Systems Science.

An information system is designed to serve a human purpose it has a practical goal. To construct and evaluate a system involves the solution of technical problems to determine how best various functions may be performed. Science comes in when any aspect of a problem situation is isolated for study, irrespective of any immediate practical or technical problems.

Systems of Communication and the Information Scientist

Each communicative act takes place through a specific channel. Information communication between specialist is mainly via the spoken or written word. The documentary information transfer with which we are more concerned is indirect, multi-stage and the same information may be repeated in a number of publications or forms.

The primary publication form is the journal article, news-item, patents and so on. The intermediaries are textbooks, handbooks, encyclopedias and so on. The secondary guides are indexes, abstracts, bibliographies, reviews, catalogues, etc.

The study of information usage covers activities such as information collection, processing, storage and retrieval, presentation and communication of information. Let us consider the topic communication in science and technology. There is a source that produces the information, a 'gate - keeper' who acquires it, moulds it for suitable dissemination and lastly there are those who are the recipients and users. The work of the information system is to organize, channelize the flow of documents to reach the users.

In the digital age, the importance of librarians and library science is increasing. Library professionals are the one who are completely involved in providing information services to professionals and organizations. In the modern digital age, the need for quality and filtered information has grown up and so librarians have a major role to play. This has increased the scope for library science in this digital age.

Conclusion

As per the study we can understand it in a better way that we cannot even imagine our lives without the use of Information Technology. In every small thing we do in our daily life it involves the use of IT tools and technologies. Information science itself helps to understand what should be processed in terms of information in terms to get the desired results.

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