Information Technology in Commerce and management-An Overview

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Abstract;

Information Technologies (IT) and Information Communication Technologies (ICT) have played a significant role in worldwide changes that occurred in the last few decades. The World Wide Web provides a degree of information and learning resources unimaginable a few decades earlier. Most recently, Web applications, such as social networking, collaborative work and play spaces, blogs, and publication places for creative products, are being extensively used. These developments have resulted in a chasm between the world of information, knowledge production and dissemination, and learning as it exists outside of the schools, institutions and universities with what is happening within them. Adoption of Information and Communication Technologies in teaching, learning and research has come a long way and so is the use of various web tools. The researchers need to change with changing times and need to understand today's fast changing knowledge base and its peculiarities.

Keywords – Information Technologies (IT), Information Communication Technologies (ICT), Research, Commerce, Management. Introduction;

Introduction;

Use of Information Technology and Information and Communication Technology tools for making, gathering research data and information is more common nowadays, but the best use of ICT tools would be to improve cognitive skills to differentiate, evaluate and create wide information. As usually research process deals with large amount of complex information and requires a lot of skills to analyze and organize, any ICT tool which helps the researcher, gives meaning and precision along with adding value to the information generated, and would be rated above the ones which helps in just gathering information.

IT and ICT's are widely recognized for the contradictory twin roles they simultaneously play in society: the immense potential to meet development goals and to widen the gap between information rich and poor community overlapping with existing socio-economic divides. They also cover a broad range of meanings, approaches and practices from curing perennial poverty through capacity building to mushrooming back-end processing offices (BPO's) in urban sectors generating rapid employment. But, it is universally regarded as a 'good thing'. ICT for development is the new mantra for initiatives to transform developing nations to superpowers or underdeveloped countries to clean and healthy ones. India is witness to rapid IT driven socio-economic boom with its GDP growth reaching all-time high.

Indian urban landscapes are dotted with IT parks, worldwide support centers and special economic zones. The government introduces pro-active policies to get faster the pace of economic upswing in the country. But this is barley a portion of the largely scenario. Despite a booming economy, the majority of suburban, periurban and rural India is yet to experience the fruits of opulence Seeking to gain momentum through India's mission of digital inclusion, many such ideologically driven processes (even those driven by government and

private sector partnerships), find inconsistent adoption and sustainability in communities aspiring for entry into the larger information culture.

The Computer and Computer Technology;

A computer, as the name indicates, is nothing but a device that computes. In this sense, any device, however crude or sophisticated, that enables one to carry out mathematical manipulations becomes a computer. But what has made this term conspicuous today and, what we normally imply when we speak of computers, are electronically operating machines which are used to carry out computations, editing the research work, has reduced human toil and added to the quality of research activity. To the researcher, the use of computer to analyze data has made complicated research designs practical. It has great impact in our education system. Information technology makes our education system interested and effective. Students can learn better without getting bored and frustrated. Educators have now started using technology like smart classes, LCD projectors, EDUCOM, Laptops, memory sticks, digital drawing boards to make effective learning process. Haddad et al(2002) identify the five levels of technologies which are used in education such as presentation, demonstration, drill and practice, interaction and collaboration. And in during period of Covid-19 pandemic from 2019 to 2020, world over various universities, institutions, tutors and educators have adopted the use of tools of IT and ICT for imparting education, organizations of virtual seminars, conferences, workshops etc.

Role of Information Technology and ICT in Education;

As per World communications and Information reports (UNESCO 1999-2000) ICTs swathe Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, network based information services, and other related information and communication activities. As claimed by UNESCO (2002) information and communication technology (ICT) may be regarded as the amalgamation of 'Informatics technology' with other related technology, especially communication technology. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counseling, interactive voice response system, audiocassettes and CD ROMs etc have been used in education for different purposes (Sharma, 2003; Sanyal, 2001; Bhattacharya and Sharma, 2007). The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning, and research. A great deal of research has proven the benefits to the quality of education. ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change states, much has been said and reported about the impact of technology, especially computers, in education. Although at that time computers have not been fully integrated in the learning of traditional subject matter, the commonly accepted rhetoric that education systems would need to prepare citizens for lifelong learning in an information society boosted interest in ICTs (Pelgrum et al, 2003). The 1990s was the decade of computer communications and information access, particularly with the popularity and accessibility of internet-based services such as electronic mail and the World Wide Web (WWW). At the same time the CD-ROM became the standard for distributing packaged software (replacing the floppy disk). Computers are ideally suited for data analysis concerning large research projects.

Role of Information Technology and ICT in Research; Information technology –

The set of computer and telecommunications technologies that makes possible computation, communication, and the storage and retrieval of information—has changed the conduct of scientific, engineering, and clinical research. The linkage of computer technology with telecommunications technology has removed the constraints of speed, cost, and distance from the researcher (Stéphan VincentLancrin.,2006). On the whole, IT and ICT has led to improvements in research. Novel dimension for scientific discovery have opened. Researchers can collaborate more widely and efficiently. Much more data are available for analysis.

Logical capabilities have enhanced significantly, along with the capability to present results as visual images (Aitken, Wendy.,2007). New information technologies offer further opportunity to advance research. But extensive use of computers in research has not come about without problems. Some of these difficulties are technological, some financial. Many of them are complex institutional and behavioral impediments. such as. 1) Funding sources required to build local network infrastructures. 2) Development of standards not only improves efficiency but also reduces costs. 3) Right to confidentiality of personal information is held strongly in our society. Concerns about the conflict between researchers' needs and citizens' rights have been extensively explored nowadays. 4) Gaps in Training and Education: The development of information technology has brought computing into the researcher's laboratory and office. As a result, the level of computing competence expected of researchers, their support staff, and their students has increased manifold. 5) Risks of Organizational Change: Changing an organization to make way for advanced information technology and its attendant benefits entails real risks. Administrators and research managers are often reluctant to incur the costs – financial, organizational, behavioral of new technology. 6) Absence of Infrastructure for the use of information technology.

Researchers interested in developing skills in computer data analysis, while consulting the computer centers and reading literature, must be aware of the following steps:

I. Data organization and coding.
II. Storing the data in the computer.
III. Selection of appropriate statistical measures/techniques.
IV. Selection of appropriate software package.
V. Exection of the computer program.

Role of Information Technology and ICT in Management;

Information Technology and Information Communication Technology (ICT) as described by Chaffey and Wood is "Technology resources used for business information management". These resources include software, hardware and telecommunication networks used for managing information. IT helps the manager to improve the efficiency and effectiveness of their business processes, managerial decision making, and workgroup collaboration, thus helping the managers to strengthen the positions of their company in a rapidly changing environment. IT has become a necessary ingredient for Managers to succeed in today's dynamic global environment. According to Benemati et al (2000). IT is changing rapidly and considering the increasing strategic impact of IT on business operations, its successful management is of utmost importance. Irani and Love(2004) suggested that for IT management to be successful, it must be perceived as an iterative business process capable of providing organizational learning throughout the lifecycle of the technology. However, even when IT is managed successfully, the question arises, as to what role IT plays in the achievement of organizational strategic goals and objectives. In response to this question, Venkatraman et al(1993) and Franz and Klepper(1995) postulated that the proper role of IT in an organization is usually epitomized as a fit or alignment with the strategic goals of the organization. Therefore, IT can only be appropriately aligned when infrastructure put in place to implement the IT strategy is adequate; the strategy supports the organization's strategy and business processes. Today every organization has already started use of ICT. ICT facilitates storing and regaining gigantic information quickly with the help of hardware/software networks and workstations at minor costs. Technology enables combination and configuration of data to create distinctly new information which helps in speedy decisions. The global expansion of trade and commerce has facilitated the companies to go global needing a communicating network to fulfill their needs

Various tools of ICT are

1. Use of internet
2. Use of E-mails

3. Use of USENET
4. Talk facility through net
5. Internet Relay chat

Conclusion;

In spite of all this sophistication we should not forget that basically computers are machines that only compute, they do not think. The human brain remains supreme and will continue to be so for all times. As such researchers should be fully aware about following limitations of computer based analysis:

1. Computerized analysis requires setting up of an elaborate system of monitoring, collection and feeding of data. All these require time, effort and money. Hence, computer based analysis may not prove economical in case of small projects.
2. Various items of detail which are not being specifically fed to the computer may get lost sight of.
3. The computer does not think; it can only execute the instructions of a thinking person. If poor data or faulty programs are introduced into the computer, the data analysis would not be worthwhile. The expression "garbage in, garbage out" describes this limitation very well.
4. At last, user should not forget environment where he /she is performing.

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