

NEED OF INFORMATION AND COMMUNICATION TECNOLOGY IN INDIA**Bilal Ahmad Khan*****ABSTRACT**

India is known all over the world and is most populated growing country in the world after China. Indian communities are under increasing pressure to use ICT in India. ICTs hold great promise to improve teaching and learning in addition to social activities. ICTs represent one of the most powerful tools in the struggle against poverty, illiteracy and social development. It can be powerful tool to develop rural India. Secondary data from academic articles with a focus on India are used to analyze the contribution of ICTs towards the achievement of specific development goals in schools. The analysis shows that many ICT-based initiatives have taken place over the last decade and some positive effects have resulted. The main objectives of this paper is to explore possibilities for use of ICT in India and this study will be used to identify problems confronting India.

Key words: Paradigm Shift, Distance Learning, Educational Technology.

Introduction

The technological explosion in communication is both a boon and a bane. The outcome depends on crucial decisions and on where and by whom they are taken. Thus it is a priority to organize decision making process in a participatory manner on the basis of full awareness of social impact of different alternatives. We must devise policy instruments at the national level in order to evaluate the positive and negative social implications of new communication technologies. The preparation of technological impact serves can be useful tool to assess the consequences for styles relevance for underprivileged sectors of society, cultural influence, effects on employment pattern and similar factors. This is particularly important while making choices with respect to development of communication infrastructures. Educated communities around the whole India are under increasing pressure to use new information communication technology to teach students the competencies and skills they need in 21st century. The role of technology in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy (Thierer, 2000). Most experts in the field of education agreed that when properly used, information and communication technology hold great promise to improve teaching and learning in addition to shaping work force opportunities. Poole (1996) has indicated that computer illiteracy is now regarded as new illiteracy. This has actually gingered a new and strong desire to equip schools with computer facilities and qualified personal necessary to produce technological proficient and efficient students in developing countries. Many studies have found positive effect associated with technology aided instruction (Burnett, 1994 and Fitzgerald and Warner, 1996). ICTs can be powerful tool to develop rural India. There are number of ways in which ICTs may serve the development process. For instance rural entrepreneurs can benefit because ICTs help to improve access to markets or supply chains and provide a broader base for decision-making, thus making risk more calculable. Moreover, many local communities have experienced that ICTs have increased bottom-up participation in the governance process and may expand the reach and accessibility of government service and public infrastructure. There is great diversity in local conditions in rural India and the local needs are highly specific. The ICT implementation for rural

*Ph.D Scholar, Department of Economics

marketing in India has to face the following challenges:

1. Illiteracy – you cannot use much of textual information
2. Middlemen - physical distances makes it difficult to provide proper price information.
3. Alternate media – not available.
4. Language - multiplicity and highly specific local languages
5. Easy loans - Reluctance of banks to provide soft loans to farmers.
6. Affordability – any new technology must be economical.

In the rapidly changing world of global market competition, automation and increasing democratization, basic education is necessary for an individual to have the capacity and capability to access and apply information. Such ability and capability must find bearing in information and communication technology in the global village. The Economic commission for Africa has indicated that the ability to access and effectively utilize information is no longer a luxury but necessity for development. Unfortunately many developing countries like India with Jammu and Kashmir as integral part are already on the wrong side in use of ICT. The ongoing turmoil provides no room for continuity of ICT in Jammu and Kashmir. Turmoil and violence has damaged to infrastructure, economy, tourism and finally become restriction for technology. Kashmir is wrong on two sides, first due to violence and second due to inadequate finance (Poor Government) from government, the chalkboard and text books continue to dominate classroom activities in higher classes. The importance of ICT is quite evidence from educational perspective. Though the chalkboard, textbooks, radio/television and film has been used for educational purpose over the years, none has quite impacted on the educational process like the computer. While television and film impact only on audiovisual faculties of users, the computer is capable of activating the sense of sight, hearing and touch of users. ICT has the capacity to provide higher interactive potential for users to develop their individual, intellectual and creative ability. The main purpose of ICT “Consists just in the development of human mental resources, which allow people to both successfully apply the existing knowledge and produce new knowledge” (Shavinina, 2001, P.70). In Jammu and Kashmir, schools and higher institutions, officials still go through the laborious exercise to manually registering students, maintaining records of pupil, performance, keeping inventory list of supplies, doing cost accounting, paying bills, printing reports and drawing architectural designs. The huge man-hour spend on this exercise can be drastically reduced with ICT to enhance overall management procedure. Thomas (1987) said that “Computers bring great speed and accuracy to each of these tasks, along with convenience of storing large quantities of information on ‘small disks’”. The prevailing condition in school management in India is discouraging. The country seems to be living in prehistoric times in educational management while even other developing countries are far ahead of India in ICT applications. Despite its huge material resources and population endowment, India cannot be counted among progressive nations using ICT in educational management, as technology has become a critical tool for achieving success in education.

Purpose of Study

Information and communication (ICT) will transform the information seeking behavior of person especially with the offerings like e-books, e-journals, data bases and so many other electric sources of information. Since minority (less) of population today have modern electric gadgets like, laptops, palmtops, latest mobile phones with advanced features, e-readers etc. It is conceptualized to assess the use and preferences of ICT in studying, teaching, research and social activities purpose.

Objectives

The main objective of this paper is to explore possibilities for use of information and communication technology in India and to identify problems confronting India.

Methodology

As the methodology is concerned, I gathered, computed and codified the material in order to find out the requirement ICT in India.

Result and Discussion

The Indian higher education system is one of the largest in the world. With only 20 universities and 500 colleges with 0.1 million students at the time of independence, we now have about 611 universities and university-level institutions and 31,324 colleges as of August 2011. According to a report from Springboard Research, India's education sector will increase its IT spending to \$704 million in 2012. Despite the significant rise in numbers, what comes to IT solutions in the education market, there is insignificant scope for improvement in India. The education system in the developed countries are largely supported by IT solutions which further enhance the student lifecycle processes, right from admission to getting a graduate certificate. However, in developing countries such as India, we still rely on traditional methods of filing in applications, depositing fees, selecting courses, accessing student's reading material etc. Information and communication technology has changed the complexion of world we live in. Need for active role of ICT is constructive. ICT brings sheared learning resources, sheared learning space, collaborative leaning. Information and communication technology has revolutionized the education and developed countries. Sharma (2009) observes that teachers and scholars are more dependent on e-resources to seek a particular piece of information. ICT in educational institutions in India needs improvement. ICT in educational institutions in Jammu and Kashmir needs improvement. It still exists in a static form and lot of skepticism exists about its usefulness. The study proposes a skill based framework based on study done on Learning Management System (LMS) to bridge knowledge divide in Jammu and Kashmir and enlighten the people of rural areas about the eager and iron out differences by combining IT services with education of any type. Our country including Jammu and Kashmir as integral part is far away for using ICT at international level. If India must be part of developed world in the near future, it must embrace technology and discard some of the old habits. There is need for country to re-strategize and expand its vision so as to cope with the challenges of a technological society. Indian graduates are not properly trained for new positions that are opening up in the new companies being established. There is high demand for highly skilled and technologically trained workers. Unfortunately, most Indian graduates acquired overdose of theoretical knowledge which does not match well with the demands of workplace practice. India needs to replace the traditional pedagogical practices that still underpin its educational system.

Core Indicators on ICT Infrastructure and Access

The first three indicators A1, A2 and A3 viz fixed telephones per 100 inhabitants, Mobile telephones per 100 inhabitants; and computers per 100 inhabitants, are regularly maintained month wise by the department of telecommunication under the ministry of information and communication technology which shows less progress of India. The latest information available till March, 2010 on these three indicators are depicted in the following tables.

Table 01: No. of telephones per 100 inhabitants

Year	No. of fixed telephones per 100 inhabitants	No. of mobiles per 100 inhabitants
2006	3.66	9.27
2007	3.61	14.61
2008	3.44	22.78
2009	3.27	33.71
2010	3.14	49.60

Table 02: No. of internet connections per 100 inhabitants

Year	Internet connections per 100 inhabitants	Broadband Connections per 100 inhabitants
2006	0.61	0.12
2007	0.82	0.2
2008	0.96	0.33
2009	1.17	0.54
2010	1.29	0.74

Findings

The role of ICT in education is becoming more significant in the 21st century. The impact of ICT across the past two or three decades has been enormous. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. ICT acts as a powerful agent to change many of the educational practices to which we have become accustomed. As students and teachers gain access to technology, more direct forms of communication, and access to sharable resources, the capability to support these quality learning standards will continue to grow. ICT applications provide institutions with a competitive edge by offering enhanced services to students and faculty, driving greater efficiencies and creating enriched learning experiences. There is increasing need of ICT in India. However, there are several impediments to the successful use of information and communication technology in India. There are high cost, weak infrastructure, lack of human skills, violence, lack of relevant software and limited access to the internet. There is very small production and growth of hardware and computer software in India than required. The data related to production and growth maintained by the Ministry of Communication and Technology in terms of electronic hardware, computer software etc is shown in the table. The production and growth is very far less than other developing countries and developed countries in the entire world.

Table 03: Trend in production and growth of the Hardware and Computer Software Sector

Year	Production (Rs. Billion)		Growth	
	Electronic hardware	Computer software	Total	% increase over previous year
2003-04	438.0	744.9	1182.9	21.9
2004-05	505.0	1019.2	1524.2	28.9
2005-06	565.6	1337.0	1903.0	24.9
2006-07	660.0	1780.0	2440.0	28.3
2007-08	844.1	2114.1	2958.2	21.2
2008-09	946.9	2735.3	3682.2	24.5

Source: *Department of I.T, Ministry of communication and IT*

In contrast to India, China's production of ICTs favours hardware over software, especially in exports. Unlike India, which does not have a single company in hardware manufacturing with a global footprint, Chinese companies such as Huawei58 and ZTE59 are internationally recognized and admired.

After successfully facing off foreign competition in the Chinese domestic market, these companies are now robustly expanding their operations in other developing and developed countries. Contrary to the common perception of them being able to compete only on cost, they are increasingly competing on international quality benchmarks. Chinese firms are globalizing rapidly when measured by the metric of equipotential collaboration and ventures with established international firms. Global realities and the difference in Indian and Chinese approaches get reflected in their respective ICT export patterns. The Chinese hardware industry could hence provide insights for the development of their Indian counterpart.

Conclusion

India is known all over the world and is most populated growing country in the world after China. Indian communities are under increasing pressure to use ICT in India. ICTs hold great promise to improve teaching and learning in addition to social activities. ICTs represent one of the most powerful tools in the struggle against poverty, illiteracy and social development. It can be powerful tool to develop rural India. There is no doubt that teachers and students in schools in India will have incredible resources available if they have access to internet. By integrating ICT into school curriculum, a fundamental shift in the way teacher lesson and students learn will be evolved. Our education system has adversely been affected by high cost, weak infrastructure, lack of human skills, lack of relevant software etc. Which are obstacles for use technology in teaching and learning in Jammu and Kashmir can become a place of development when all obstacles can be removed and technology must be embraced without waiting.

References

- Anand, A. (2011). ICT tools allow teachers, students to communicate anytime.
- Roy, L., & Raitt, D. (2003). The Impact of IT on Indigenous people. *The Electronic Library*, Vol.21, No. 5.
- Annual Report (2010). *Department of Information and Technology*, Ministry of information and communication Technology.
- Dean, C. (2003). *Technology based training and on-line learning: An overview of authoring systems and learning management system*. Available: <http://www.peak.co.uk/Authoritysystem.pdf>.
- Fitzgerald & Warner (1996). The use of computer to support cognitive behavioral interventions for students with behavioural disorders. *Journal of Computing In Childhood Education*. Vol. 7, Pp. 127-48.
- Georgouli, K., Skalkidis, I., & Guerreiro, P. (2008). A Framework for Adoption LMS to Introduce e-Learning in a traditional course. *Educational Technology and Society*, 11 (2), Pp. 227-240.
- Kumar, K. & Sharma, J. (2010). Library and Information Science Education in India: A Historical Perspective. *DESIDOC Journal of Library and Information Technology*, 30(5), Pp. 3-8.
- Poole, G. A. (1996). *A New Gulf in American Education: the Digital Divide*, New York Times.
- Thierer, A. (2000). *Divided Over The Digital Divide*, Washington, Dc: Heritage Foundation.
- Shavinina, L. V. (2001). A new generation of educational multimedia: High intellectual and creative educational multimedia technologies. In L.R Vandervert, L.V Shavinina and R.A. Cornell (Eds), *Cyber education: The future of distance learning*, Larchmont, NY: Mary Ann Liebert, Inc, 63-82.
- Thomas, R.M. (1987). Computer technology: An example of decision-making in technology transfer. In R.M Thomas and V.N Kobayashi (Eds), *Educational technology: Its creation, development and cross-cultural transfer*, Oxford: Pergamon Press, 25-34.
- Walsham, G. (2011). *ICTs Broader Development of India: An Analyse of the Literature*. Published paper.