

# Consumers Consuming Services through E-commerce in the Digital World



**Abhinav Chaudhary**

Assistant Professor,  
Deptt. of Management,  
Delhi Technological University,  
Delhi, India

## Abstract

Today the global world is divided into two aspects viz Digital World and Non- Digital World. Moreover, India gave many things to the revolving world in one form or the other. Experts always say's that Education is the pillar for the growth of a country. Developed economies are investing in education for the future generations. The third world countries are still dependent on the old techniques of education. India is also facing this dilemma of digital divide. There are institutes of excellence and there are institutes which are not able to provide employable workforce. Moreover, none of the Indian universities is in the top 200 list of the Times Higher education World University Rankings for the year 2018. Additionally, there are only 30 Indian institutes in the global 1,000, which is one less than last year (Nanda PK, 2017). In this endeavour, Information and Communications Technology (ICT) can act as a catalyst for reducing spatial and temporal barriers and improving access to knowledge. In fact, if latest ICTs tools are used to their full potential, it can revolutionize the teaching-learning process. The technological advances in education are opening new avenues to bridge the divide. The objective of the paper is to examine the use of various ICT tools in Educational Institutions.

**Keywords:** Information Technology, Technology Management, Education, Technology, ICT Tools, Cloud Computing, Artificial Intelligence.

## Introduction

Millennials and Generation Z are growing up in a digital world. The technology and the gadgets have become an integral part of our life especially the new age people. Using digital devices is a huge part of their everyday experience out of school. The libraries have been replaced by Wikipedia and Google. The physical books have been replaced by eBooks and audio-video content. The learning methods have also been changed drastically. This is also true that there is a digital divide in India. But, the way the technology is intruding our lives, there will be a virtual space where the new generation will learn and share.

Earlier, experts doubted the role of technology in education. It was a debatable topic where the technological was at the centre stage. Everyone had their own views on modernizing education and making it technology enabled. There were doubts where the negatives were taken over by the number of positives. But, over a period of time, educational institutions have made a start and adopted this revolution of technology enabled education. They have realized the importance of technology and the new avenues being generated in the area of learning and education. Its positives outnumbered the negatives and now, with ICT, education has taken a whole new meaning that it leaves us with no doubt that our educational system has been transformed owing to the ever-advancing technology. Technology and education are a great combination if used together with a right reason and vision.

## Aim of the Study

The paper seeks to understand the role of technology in future of education. The author has surveyed books, articles, surveys, interviews, reports and research databases in the area of education and technological developments. The paper provides the future of technology enabled education. The paper is an attempt to contribute the gap in the literature.

## Information and Communications Technology and Education

ICT is changing the way people are living. It has its presence in all walks of life in one way or the other. Today's generation is the most fortunate generation having privileges which have not been experience by the former generations.

**Information and Communications Technology**

Information and communication technology (ICT) is an another/extensional term for information technology (IT) which stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information (Murray, 2012; ICT Foldoc, 2009).

**Education**

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and

directed research. Education frequently takes place under the guidance of educators, but learners may also educate themselves (Dewey, 1944).

**Linking Information and Communications Technology and Education**

ICT tools take care of communication, collaboration, and networking functionality in the context of education. These tools enhance knowledge capture, storage, structure, dissemination and creation. Such integration of emerging technologies with teaching methods paves the way for the knowledge society that is characterized by superior academic performance, enhanced learning and innovation. Table 1 summarizes the applicability of various ICT tools in the area of education.

**Table 1: ICT Tools in Education**

ICT Tools	Source
3D imaging, artificial intelligence, Competency based education, life- long learning	Ahmad (2015)
Computer-aided instruction (CAI)	Trucano (2005)
E-learning systems	Gupta and Jain (2017)
Flipped classroom	University of Queensland (2016)
Gweb e-KM solution software on Lotus Domino System	Yaying Mary (2005)
HELP CETL – Communication and Information Sharing Tool.	Neil Witt, Anne McDermott, Mike Peters and Mark Stone 2007
Implementation of KM practices in Thailand's Higher Education development by using ICT tools	Prayong Thitithananon, Tasapong Klaewthanong, Ubon Ratchathani (2007).
Info-Ca-Sh dynamic web content knowledge portal, use of Blog and Twitter as tacit codification tools.	S.Rajlakshmi et.al. (2011)
Interactive Boards	Gupta and Jain (2017)
JANET network, Infolink	Jennifer Rowley (2000, 2006)
Just-in-time knowledge, online- simulations, individualized education, genetically increased intelligence, complete mapping of human synapses	The Millenium Project (2006-07)
K Portal, database server, search engine, videoconferencing, discussion room	Ruslai Abdullah, (2007)
K-Portal, open source tools JOOMLA, PHP programming language, MySql as database and Apache Tomcat as a web server.	Nur Razia Mohd Suradi, Hema Subramaniam (2011)
K-Share web based knowledge sharing tool	Rathinavelu et al(2004)
Massive Open Online Courses (MOOCs)	New York Times (2012), Dasarathy et al. (2014), Baturay (2015)
National digital repository of IGNOU	Saxena Anurag, Khare, Pankaj, and Misra, R.P. (2003)
Open Educational resources	UNESCO (2002)
Personal Blogs and mental maps, virtual communities	Jonice Oliveira, Jano M. de Souza, Rodrigo Miranda, Sérgio Rodrigues (2005)
Pro-active MOOCs, brain mapping, paper thin gadgets, Internet of things, Hi-tech search	Future of Technology
Research apps, wordle.net, researchgate	Cronje (2013)
Satellite broadcasting	Trucano (2005)
Shodhganga, Vidyanidhi, INFLIBNET	N.K Sheeja (2012)
Students Response System	Other internet resources
Telephone, typewriter to cloud based education, gaming, cloud storage to Artificial Intelligence, smart work classes,	Brandeis University (2015) MIT (2016)

robots, drones and wearable technology	
University Research Web-Based Knowledge Portal	Nory B. Jones, Darylyne Provost (2007)
Use of Blogs	Jeremy B Williams, Joanne Jacobs (2004)
Use of Wiki	Noa Aharony(2008)
Virtual classroom webinar	Power and Jacques (2014)
Web 2.0 Technology like wiki or blog	Xiang Liu (2011)
Web 2.0 technology, web based portal, SMS, PDA,	Frank Nyame-Asiamah(2009)
Web 2.0 tools like Dropbox, Google Docs, Spreadsheets and Mindmeister, wikis, GoogleApps etc.	Thomas Bebensee, Remko Helms and Marco Spruit (2009)
Web based Portal , Lotus Notes	Jillinda J. Kidwell, Karen M. Vander Linde, Sandra L. Johnson (2001)
Web Portal	Marjan Mansourvar, Norizan Mohd Yasin (2010)
Web Portal, data warehouses, data mining, and virtual reality modeling	John H. Milam (2004)
Web portal GNOWSYS	Meena Kharatmal, Sandhya R., Nagarjuna G. (2009)
Whatsapp	(Dhawan and Dalmia, 2016).

**Source:** Compiled by the author with adaptation from Gupta and Jain (2017) and Toro and Joshi (2013)

### Conclusion

So, Internet is moving similarly technology is changing very rapidly and newer, more cost-effective and more powerful technologies will continue to emerge of potential use in education. This will create a level playing field for the institutions irrespective of their origin. ICTs will be change the way education is imparted and will take the centre stage in near future. The various tools discussed in the paper have been used by world class institutions and are facilitating the education landscape.

It is an exciting time and an opportunity for next generation as there is a fundamental restructuring of education happening worldwide. Education is continuously evolving, and coupling education with ICTs can provide better learning opportunities and experiences to students than before (Gupta and Jain, 2017).

It will be imperative to view the various technology tools and human intervention at all levels which are the most important determinants of the effectiveness of such tools in education. The choices of tools are quite varied and each has its own advantages and disadvantages. Experts assert that learning is based on the one powerful idea that the world's knowledge is a public good and technology can provide an exceptional opportunity for everyone to share, use, reuse and recreate it (Smith and Casserly, 2006).

### References

- Abdullah, R., Selamat, M.H., Sahibudin, S. and Alias, R.A. (2005), "A framework for knowledge management system implementation in collaborative environment for higher learning institution", *Journal of Knowledge Management Practice*, Vol. 6 No. 1.
- Aharony, N. (2008), "The use of wiki in a knowledge management academic course: a qualitative investigation", *Proceedings of the Chais*

*Conference on Instructional Technologies Research*, pp. 8-12.

Ahmad, T. (2015) "Preparing for the future of higher education", *On the Horizon*, Vol. 23 No.4, pp. 323-330, doi: 10.1108/oth-06-2015-0029.

Baturay, M.H. (2015), "An overview of the world of MOOCs", *Procedia – Social and Behavioral Sciences*, Vol. 174, pp. 427-433

Bebensee, T., Helms, R. and Spruit, M. (2012), "Exploring Web 2.0 applications as a mean of bolstering up knowledge management", *The Electronic Journal of Knowledge Management*, Vol. 9 No. 1, pp. 1-9.

Brandeis University (2015) "How technology has changed the meeting". Available at: <http://projectmgmt.brandeis.edu/how-technology-has-changed-the-meeting/> (accessed: 29 May 2016).

Cronje, J.C. (2013), "Why I don't use the library", in *Proceedings of the Conference of the International Association of Scientific and Technological University Libraries*, Purdue University, Retrieved March 18, 2015

Dasarathy, B., Sullivan, K., Schmidt, D.C., Fisher, D.H. and Porter, A. (2014), "The past, present, and future of MOOCs and their relevance to software engineering", *Proceedings of the on Future of Software Engineering*, pp. 212-224.

Dewey, John (1944) [1916]. *Democracy and Education*. The Free Press. pp. 1-4. ISBN 0-684-83631-9.

Dhawan, A. and Dalmia, N. (2016), "Technology can be the big disruptor and innovator in education", *Economic Times*, [online] p.5.

Gupta V., Jain N., (2017) "Harnessing information and communication technologies foreffective knowledge creation: Shaping the future of education", *Journal of Enterprise*

- Information Management, Vol. 30 Issue: 5, pp.831-855.
- Information and Communication Technology from. FOLDOC. 2008-09-19.
- Jones, N.B., Provost, D.M. and Pascale, D. (2006), "Developing a university research web-based knowledge portal", *International Journal of Knowledge and Learning*, Vol. 2 Nos 1-2, pp. 106-118.
- Kharatmal, M., Sandhya, R. and Nagarjuna, G. (2005), "Information and knowledge management using GNOWSYS", Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research, pp. 1-293.
- Kidwell, J.J., Vander Linde, K. and Johnson, S.L. (2000), "Applying corporate knowledge management practices in higher education", *EDUCAUSE Quarterly*, Vol. 23 No. 4, pp. 28-33.
- Liu, X. (2011), "Investigation on student's personal KM & uses of Web 2.0 technologies in Chinese higher education: student's personal knowledge management in Chinese higher education",
- Mansourvar, M. and Yasim, N.M. (2010), "Web portal as a knowledge management system in the universities", *World Academy of Science, Engineering and Technology*, Vol. 70, pp. 968-974.
- Milam, J.H. (2004), "Knowledge management for higher education", ERIC DIGEST.
- Murray, James (2011-12-18). "Cloud network architecture and ICT - Modern Network Architecture". TechTarget =ITKnowledgeExchange. Retrieved 2013-08-18.
- N.K. Sheeja, *The Development of an Indian Electronic Theses and Dissertations Repository: An Overview*, *The Journal of Academic Librarianship* (2011)
- Nur, R., Mohd, S. and Subramaniam, H. (2011), "Knowledge management: an implementation of K-portal in FIIT, UNISEL", *Journal of Knowledge Management Practice*, Vol. 12 No. 1.
- Oliveira, J., Souza, J.D., Miranda, R. and Rodrigues, S. (2005), "GCC: an environment for knowledge management in scientific research and higher education centres", *Proceedings of I-KNOW'05 Graz*, pp. 633-640.
- Pappano, L. (2012), "The year of the MOOC", *The New York Times*, Vol. 2 No. 12, pp. 1-7.
- Power, M. and Jacques, A. (2014), "The graduate virtual classroom webinar: a collaborative and constructivist online teaching strategy", *Journal of Online Learning and Teaching*, Vol. 10 No. 4, pp. 681-696.
- Proceedings of the Southern Association for Information Systems Conference, Atlanta, GA, March 25-26.
- Rajlakshmi, S. and Wahidabanu, R.D. (2011), "Sharing and capturing tacit knowledge in higher education – the info –Ca-Sh", *International Journal of Computer Theory and Engineering*, Vol. 3No. 3, pp. 365-368.
- Rathinavelu (2004), "Knowledge sharing system using ICT to find out improvements in teaching – learning cycle a case study in an Indian higher education system", *International Conference on New Challenges for Sustainability & Growth in Higher Education in Thailand*, EDUCOM, November 24-26.
- Rowley, J. (2000), "Is higher education ready for knowledge management", *International Journal of Educational Management*, Vol. 4 No. 7, pp. 325-333.
- Saxena, A., Khare, P. and Misra, R.P. (2003), "Knowledge discoveries on student support network in distance education: collaboration is the key", Paper presented at 17th Annual Conference of Asian Association of Open Universities in Bangkok, November 12-14.
- Smith, M. and Casserly, C. (2006), "The promise of open educational resources", *Change: The Magazine of Higher Learning*, Vol. 38 No. 5, pp. 8-17.
- The University of Queensland (2016), "What is flipped classroom", *The University of Queensland, Australia*. [online] Uq.edu.au.
- Thitithananon, P. and Klaewthanong, T. (2007), "Knowledge management is a perfect education development tool: is Thailand's higher education really ready to embrace IT?", *Journal of Knowledge Management Practice*, Vol. 8 No. 2, pp. 111-120.
- Times Higher Education (THE). (2017). *World University Rankings 2018 methodology*. [online] Available at: <https://www.timeshighereducation.com/world-university-rankings/methodology-world-university-rankings-2018> [Accessed 5 Oct. 2017].
- Toro, U. and Joshi, M.J. (2013), "A review of literature on knowledge management using ICT in higher education", *International Journal of Computer Technology and Applications*, Vol. 4 No. 1, pp. 62-67.
- Trucano, M. (2013), "More about MOOCs and developing countries", *EduTech*, Washington, DC, December 11.
- Trucano, Michael. 2005. *Knowledge Maps: ICTs in Education*. Washington, DC: infoDev / World Bank.
- UNESCO (2002), "Forum on the impact of open courseware for higher education in developing countries: final report", (accessed February 22, 2008).
- Williams, J.B. and Jacobs, J.S. (2004), "Exploring the use of blogs as learning spaces in the higher education sector", *Australian Journal of Educational Technology*, Vol. 20 No. 2, pp. 232-324.