

# IMPACT OF TECHNOLOGICAL INNOVATION IN MANAGEMENT EDUCATION

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**Abstract** -With the changing needs and expectations of the students as well as the increasing market competition together with the continuous advancement of technology; the management institutions are challenged with their ways of imparting education to their students and promote themselves so that they may develop a market standing. In this regard, some management education institutes prefer to embrace technology and innovation in teaching whereas other follows a more traditional approach.

Management educators agree to the fact that technology add into the process of learning and development of the students and therefore, they are attempting to add innovative tools of technology so that the students must actively participate in various classroom discussions, assignments, presentations as well as for project works which supports for better education and improved methodology of learning. With this the students realize that learning is faster and they are able to handle the job complexities easier as they can link the classroom activities with their real life situations and these digital tools have become the need of the day to them. Thus, technology is overpowering our present as well as our future.

However, Technology enabled learning poses some wild challenges also which needs deep inquiry in order to outline, define and address these challenges: managing knowledge devolution, and redefining the roles of educators. Working through these challenges will open up current barriers to advancing educational technologies in the future.

Therefore, this paper is an insight into the effects of imparting technology enabled management education, obstacles faced, risks involved and consequent benefits.

**Keywords:** Management Education, digital, technology, Higher Education, Open Educational Resources, MOOCs, Moodle TEL

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## Introduction:

The use of technology in providing management education is of significant importance for organizations' so that they are able to hire trained personnel's in order to have efficiency in their productivity. The organizations recruit these personnel's from the management schools where they believe that training of these students took place considering the global understanding through technologically updated techniques. The days are gone when education was only limited to books and text books. Integration of technology with the classroom learning has become a primary goal of the management schools where the students can explore a lot more than they ever used to. It is the sole responsibility of management institutes to employ their students by adding new technological tools for enhanced learning and imparting better business education. Therefore, as per their own interest they have to polish the raw students into a more mature one and nourish them to impart them training for better employment. Further, with these technology bound learning's the students are able to learn faster and can handle the job complexities in life later on; but on the other side it is important to ensure that whether our students are user- friendly with those technologies and they are really using them for a purpose. The educators are trying hard to add flavor to their methodology of teaching by these technological systems so that the students could relate the concepts of learning with the real life situations. Hence technology is ruling our present as well as our future.

But a closer look on the other side of the coin brings some contradictory consequences too. Education bounded with technology and its vast use in daily life is leading to fragmenting core values in society. Falling personal touch in relationships, absence of heart to heart chats, sedentary bodies resulting in occurrence of unmanageable diseases like obesity and diabetes, heart problems, psychological and behavioral disorders, attention disorder, lack of proper rest and sleep, exposure to too much radiation due to ever increasing use of electronic gadgets are some examples.

## Review of Literature:

A large number of researches by various researchers have been conducted for understanding the significance of technology in management education. The researchers with their own perspective have discussed the importance of integrating technology into classroom learning. Some of them are discussed as under:

David McConnell (2000) attempted to develop a table that makes a comparison of some differences between online and class learning process. The table reveals differences in individual and group dynamics and the effort that is required in both styles of learning. The research paper discusses the importance of digital technology as a support to classroom learning and not as an alternate to e-learning.

F. F. Tusbira, N Mulira (2004) have researched into some challenges in integrating technology in Makerere University of Africa and other organizations and found that the costs of integration were very high as bandwidth was expensive and it required a lot of commitment. However the importance of ICT was recognized by all the researchers.

Koc (2005) has explored through his study that the technology is a useful learning tool for bringing a difference in student achievements. According to the researcher, it helps in lower level sub-skills but it is not very effective in improving learning. It helps learners to get information and organize it effectively. Students are also able to understand topics through discussion and are able to assimilate learning and share their experiences with other peer group.

Lim, C.P. (2007) has analyzed how ICT is integrated in schools in Singapore to get the students to work on activities involved in higher order thinking. Further, the researcher focused on interviews with teachers and group discussions with students. The research covers 10 schools and has covered issues consisting of class room management and the constraints of teachers relating to their lack of knowledge and expertise. He has further discussed some socio cultural issues in the school setting.

Ala-Mutka, K., Punie, Y., & Redecker, C. (2008) have worked in the joint research centre in the European Commission to see the use and effects of social computing. Their work has been to look at the roles and skills of the teacher for training students in an innovative manner.

Castro, Sanchez and Aleman (2011) recognize the importance of digital learning by students for selection, use and interpretation of data and feel that students are improving in quality through the use of information and data sources. Their research is formed from the teacher's point of view on whether technology has benefited the students.

Steven Higgins, ZhiMin Xiao and Maria Katsipataki (2012) attempted to make a meta analysis on the impact of digital technology in schools in U.K. of children between 5 to 18 years. The purpose of this present paper was to focus on management students of India and the effect of digital technology.

Ulka Toro (Gulavani) and Millind Joshi (2012) have stated that in future ICT has a very important role to play and therefore it is important to integrate it with higher education. According to them, teachers have to be very professional and adapt digital technology in their teaching methodology. This should be especially used for collaborative projects and enhancing their research capabilities.

In management institutes, web-based learning, computer-based learning, digital collaborations and networking, interactive learning are some of the tools of education that are being blindly followed. Too much has been revealed in the previous researches regarding the positive impact of the use of technology in management education; still the lacunae exist in identifying the issues and challenges faced. If on one side we look towards the implied benefits we must also look at the other side by identifying the risks involved, the obstacles faced and the issues and challenges that demand the attention in circulation of education to management students.

Therefore, this paper is an attempt to explore positive as well as the negative side of technology integration in management education; so that the educators must be aware of the facts and adopt a balanced strategy action plan in imparting quality education.

#### **Objective of the study:**

The objective of this research paper is to identify the facts that how management schools train their students and make them an employable resource. Since, it is realized that the technology go a long way in improving the skills, abilities and knowledge of students and help them to be more diversified in their learning process, this paper is an attempt to know the popularity of technology that are being used by the students in enhancing their learning process. It gives rise to some of the questions such as:

1. Has technology been helpful in the development of student's knowledge?
2. What changes has technology brought to the field of management education?
3. Is it a replacement for class room learning or is it a support system for active learning and new areas of development?

#### **Changing paradigm in Management Education**

With the mushrooming of the management schools in 80's, the country as well as the educators realize that there is a high need of "frontier spirit" and innovativeness as our schools are not keeping up to date with the developments that are taking place outside the country and hence, the definition of technical education was incorporated in management education in early 80's.

- In 1980's Satellite Broadcasting was available to deliver university lectures from the world's top universities to the starving masses and for the same India had launched its own satellite in 1983, which was initially, used to deliver the local educational television programs throughout the country in various languages.

- In the mid- 1980's, the attempt has been made to replicate the teaching process through Artificial Intelligence (AI), to teach arithmetic. Though large investments had been made for teaching the students through AI, the results were disappointing as it has proved a difficult affair for the machines to handle with the variety of students and their levels of understanding.

- The 'videocassette library scheme' was established in 1981 using replay machines in study centre's and homes and was expanded in 1982, when for the first time video cassettes were produced as alternative course components. This began a gradual shift in the balance between broadcast and non-broadcast AV material, including the replacement of on-air radio transmission with distributed audio cassettes.

- In the mid-1980s a significant amount of effort was put into the introduction of high powered micro computers in the regional centres, and the training to go with it. Staff at the OU started to use CoSy, an asynchronous text based communication application, in 1986.

- Due to changing viewing patterns largely driven by the penetration of video recorders into homes, in 1990 the timing of OU programmes moved from evening and weekend slots to the BBC's overnight Learning Zone, which students had to record to watch later - or stay up into the early hours of the morning.

- The World Wide Web was formally launched in 1991. The World Wide Web is basically an application running on the Internet that enables 'end-users' to create and link documents, videos or other digital media, without the need for the end-user to transcribe everything into some form of computer code. The first web browser, Mosaic, was made available in 1993. Before the

Web, it required lengthy and time-consuming methods to load text, and to find material on the Internet. Several Internet search engines have been developed since 1993, with Google, created in 1999, emerging as one of the primary search engines.

- In 1995, the Web enabled the development of the first learning management systems (LMSs), such as WebCT (which later became Blackboard). LMSs provide an online teaching environment, where content can be loaded and organized, as well as providing 'spaces' for learning objectives, student activities, assignment questions, and discussion forums. The first fully online courses (for credit) started to appear in 1995, some using LMSs, others just loading text as PDFs or slides.

### Emergence of Technological innovations in Management Education

In 2003, MySpace introduced Facebook (2004) and Twitter (2007) that changed the communication as well as business world. On one hand, it has been an instant source of personal connectivity, on the other, a platform for educational learning and instruction. Most of the educators use social media as a forum to connect and communicate to their students directly and it is proving as a valuable medium to deal with students queries on one-to-one basis. Now the education scenario is at the stage of digital disruption. The present is inclined more towards blended learning and flipped classrooms. With 2018 just around the corner, technology is already sweeping through classrooms as educators and developers create more and more products designed to enhance education. Since the classrooms have evolved with a lot of technological advances, it is question of concern that what can the future possibly hold that could further improve the educational proficiencies among students.

### Evolving Trends for futuristic Learning

With the advent of technology and strong blowing winds of change, the means of providing education are changing every day. Therefore, the educators need to be updated and their abilities are required to grow by leaps and bounds otherwise they might be left behind in the areas of research and instructions. This however, demands a major change and cover the wide gaps of technological capabilities, without which we cannot compete in international markets. Therefore, at every management institutions, evolving trends for futuristic learning is need of the day. Some of them are discussed as follows:

1. **Massive Open Online Courses (MOOC's):** MOOCs are a recent and widely researched development in education which were first introduced in 2006 and emerged as a popular mode of learning in 2012. It is a community of practice that linked webinar presentations and/or blog posts by experts to participants' blogs and tweets. In 2012, two Stanford University professors launched a lecture-capture based MOOC on artificial intelligence, attracting more than 100,000 students, and since then MOOCs have expanded rapidly around the world.

2. **Open Educational Resources:** Open Educational Resources (OER) are freely accessible documents and media, quite often written by the world's best authorities on any subject and sector. With the effective use of OER the role of traditional educator will be transformed and the knowledge available by these resources will be used creatively and effectively to support learning in or outside the traditional classrooms such as in corporate world or customer services training in a company. An example of this can be seen at sky customer services which actively uses OERS to impart training to their employees.

3. **Mobile Learning:** Mobile learning, also known as m-Learning, is not simply e-Learning on a mobile device. The e-Learning material for mobile learning is specifically developed for mobile devices and the proper course content conversion demands skillful Instructional Design that is compatible with mobile devices.

A mobile consumer report by Google and Ipsos Media CT found that 80% of users don't leave home without their smart phone. This level of market penetration coupled with a global digitization effort reinforcing the indispensability of mobile devices necessitates the consideration of mobile learning in every L&D strategy.

4. **Social Media:** Social media are really a sub-category of computer technology, but their development deserves a section of its own in the history of educational technology. Social media cover a wide range of different technologies, including blogs, wikis, You Tube videos, mobile devices such as phones and tablets, Twitter, Skype and Facebook.

5. **Gamification in Learning:** This is a trend which aims at making learning a fun experience for individuals and has become one of the most sensational e-Learning trends in 2016. Gamification of learning is not just meant for kids, but it equally engaging for adults and facilitates interaction. Gamification is not a very new trend; however, it is an ever evolving one. This is an extremely powerful tool that improves learner innovation, skills, and problem solving capabilities.

6. **Cloud-Based eLearning Systems:** Cloud-based corporate training is steadily gaining ground and the latest trend has seen Learning Management Systems and authoring tools switch to cloud-based platforms. Cloud-based online training is easily accessible to employees and reduces training costs significantly (Hung, J.L. 2012, p.10). Additionally, updating online training content and introducing new products and features is easy on Cloud and can be accomplished in a matter of minutes.

7. **Wearable Technology Training:** Wearable gadgets are the new rage in the world of technology. Google Glass, Apple Watch, and Oculus Rift are some of the gadgets that have pioneered the rising trend of Virtual Reality in e-Learning through wearable gadgets. These wearable tech devices help users to interact with e-Learning content in a multi-dimensional and more dynamic way (Clark and Mayer, 2016, p.68). These devices make e-Learning more engaging and interactive to individuals. Technological advancements in the field make Virtual Reality more appealing with the help of 3D simulations and scenarios in the e-Learning realm.

8. With an influx of new technology and devices, such as tablets, touch screen displays, 3D printers and even drones, schools are taking big leaps forward to provide the latest and greatest technology to their students.

9. **LMS:** With organizations increasingly keen to monitor both formal and social learning, Learning Management Systems (LMSs) are set to be a big trend for 2015. Moodle is a user-friendly, highly-configurable, and feature rich LMS that enables organizations to achieve their learning goals.

10. **Micro Learning:** Micro learning is the trend that is catching up the world faster. This e-Learning trend involves mini bytes of learning content made available to the learner or user to incorporate in his daily busy schedule without much difficulty



(Hung, J.L. 2012, p.8). Micro learning utilizes 5-10 minute videos, single page documents, focused articles, specific, small chunks of data or lessons and other such innovative and concise training resources that doesn't burden the learner with too much cognitive reading.

### **Digital platforms Vs Classroom Learning**

Digital platforms are replacing traditional classroom methods more and more each day. Learning innovative tools and technology facilitate students to effectively develop self-directed learning skills. The students are aware of what they actually need to learn and further, analyze and use the online resources and even evaluate the resultant feedback. When compared to textbook learning and classroom lectures, the digital platforms help sharpen the critical thinking skills, imagination and analytical reasoning among students. Still, it is important to state that there are number of challenges that students in India are facing in the use of digital technology. To quote a few:

- The students who study in business schools faces certain technical problems such as connectivity problems and bandwidth not enough for all the students. Further, it takes long to connect the data and sometimes after connection the networks breaks and it is difficult to get the information required.
- The software in the business schools keeps on changing and the school authorities do not provide the information regarding the software to the students since it is expensive and they cannot buy them for their personal use and therefore, they lack in updated technology.
- Students also face health issues with prolonged use of digital technology as working for long hours using technology makes them feel dizzy, they may face headaches, eye strain etc.
- The thinking power of students might fall and they may become the slaves of computer as because of the excess information available they could not filter the information which is of use to them.
- The students in business school might face the problem of loneliness since they have become so much involved to their computers that they are not interested in other activities as sports or communicating with others. However, they may feel that due to digital devices they have less time for their family because they are busy with their own technology issues.
- It could be possible that the students do not attend the classes wholeheartedly. With the involvement of technology and digitization the students feel that they may fill the gap by their own, since everything is available on the internet and do not act as active listeners or participators in groups.

Because of the above issues and challenges, the business schools have to understand and take over by training the trainers. As the world evolves technology, it is important to consider that both online and on-campus learning environment is necessary and there is high need for educators who are well versed with these imperative technology designs, then only we can equally progress in educating the students.

### **Conclusion:**

It is praiseworthy to note that education has come a long way in adapting technology, though faced many obstacles and hurdles in its journey. There are certain practical lessons that are learned from the past developments of technology in education. In particular, the new technologies are neither true nor new in complete sense, since it does not replace the older technology completely; for eg. video in the Internet. However, what distinguishes the digital age from all previous ages is the rapid pace of technology development and our immersion in technology-based activities in our daily lives.

Digital Platforms helps to fills the gaps where traditional classroom teaching lags behind. Indeed, some of the efficiencies such techniques obtain are simply unmatchable by traditional learning techniques. From the environmental impact recognized by the need for less paper for handouts and books to saving time with quick access to information and the ease of research, digital learning provides an effective way to cut costs, maximize resources and heighten both reach and impact for students and educators alike.

It is recognized that in a vast country like ours, technology and innovation in management education is influential if we want to compete in the global scenes. Further, we need to strengthen these developments in the management education so that our students may learn the critical skills in order to compete globally and gear themselves to make any significant contribution to the 'uncaged' nation.

**Bibliography:**

1. Ala-Mutka, K., Punie, Y., & Redecker, C. (2008). ICT for Learning, Innovation and Creativity, JRC Technical Notes, Joint Research Centre, Institute for Prospective Technological Studies, European Commission, Spain.
2. Brush, T., Glazewski, K. D. and Hew, K. F., 2008. Development of an instrument to measure preservice teachers' technology skills, technology beliefs, and technology barriers. *Computers in the Schools*, vol. 25, pp.112-125.
3. Castro, Sanchez and Aleman(2011), Teachers' opinion survey on the use of ICT tools to support attendance-based teaching, Elsevier, Volume 56, Issue 3, April 2011, Pages 911–915.
4. F. F. Tusbira, N Mulira (2004), Integration of ICT in Higher Education Institutions: Challenges and best practice Recommendations based on the experience of Makerere University and other Organizations.
5. Koc, M. (2005), Implications of learning theories for effective technology integration and preservice teacher training: A critical literature review, *Journal of Turkish Science Education*, vol. 2, pp.2-18.
6. Lim, C. P. 2007, Effective integration of ICT in Singapore schools: Pedagogical and policy implications, *Education Technology Research Development*, vol. 55, pp.83-116.
7. McConnell, D. (2000) Implementing computer supported cooperative learning, Kogan Page Limited, London (UK).
8. Pamela Stone Nicolle (2005), Technology adoption into teaching and learning by mainstream university faculty: A mixed methodology study revealing the 'how, when, why, and why not', PhD Dissertation, Louisiana State University, USA.
9. Steven Higgins, ZhiMin Xiao and Maria Katsipataki (2012), the Impact of Digital Technology on Learning: A Summary for the Education Endowment Foundation, Full Report, School of Education, Durham University, United Kingdom.
10. Weert, T. V. and Tatnall, A., 2005. Information and Communication Technologies and Real-Life Learning: New Education for the New Knowledge Society, Springer, New York.
11. Ulka Toro (Gulavani) and Millind Joshi (2012), ICT in Higher Education: Review of Literature from the Period 2004-2011, *International Journal of Innovation, Management and Technology*, Vol. 3, No. 1, February 2012.

