

IMPACT OF ICT IN TERTIARY EDUCATION IN INDIA ON STUDENT'S ACADEMIC PERFORMANCE AND OVERCOMING HUMAN CAPITAL CHALLENGES

Ritu Rani*
Dr. Abdul Wahid Farooqi**

ABSTRACT

Due to the rapid growth of internet technology, Educational Institutions (schools, colleges and universities) in India are investing heavily in e-learning systems (i.e.- primary, secondary and tertiary levels) and this sector has recently seen very high growth mainly due to the sudden outbreak of a deadly disease called Covid-19 caused by a Corona Virus (SARS-CoV-2) shook the entire world. The World Health Organization declared it as a pandemic. However, the success of e-learning system depends on whether with the use of ICT student's academic performance have been improved or not and whether it has increased the job orientation of students. This article aims to provide a discussion of the current e-learning environment including the E-Learning initiatives in Higher Education taken by Indian Government, current trend in e-learning technologies, their impact on student's academic performance and their job orientation for the youth today. This article also put some light on how some of the Human Capital Challenges can be overcome by the use of E-learning in tertiary level education in India. It is concluded that a successful e-learning system can build workforce readiness to prepare for the future of work and help in better Human Resource Management.

Keywords: *ICT, Web Based Learning Systems, E-Learning, Online Learning, Tertiary Education.*

Introduction

Higher education institutes (HEIs) are training units, where future skilled workforce is made. Higher education, also known as tertiary education in some countries, refers to all post-secondary education, including both public and private universities, colleges, technical training institutes, and vocational schools. In today's technology-driven world, governments worldwide have supported ICTs integration in higher education under the scope of improving students' achievement and performance. Undoubtedly, some countries have made considerable progress in bringing networked ICT into HEIs (colleges, universities and faculties) and made it possible for teachers and learners to use them on a daily basis. Just as in other parts of the world, technology has made huge inroads in India too, where National Mission on Education through Information and Communication Technology (NMEICT) has been envisaged as a Centrally Sponsored Scheme to leverage the potential of ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions in anytime, anywhere mode and today everything is available at the touch of a button. With laptops and tablets now at everyone's disposal, online learning is catching on in a big way.

Educational Institutions (schools, colleges and universities) in India are investing heavily in e-learning systems (i.e.- primary, secondary and tertiary levels) and this sector has recently seen very high growth mainly due to the sudden outbreak of a deadly disease Corona Virus also known as Covid-19 has deeply affected the global economy. This tragedy has also shaken up the education sector, and this fear is likely to resonate across the education sector globally. The Covid-19 pandemic outbreak forced many schools and colleges to remain closed temporarily. Several areas are affected worldwide and there is a

* Research Scholar, Department of Commerce, Delhi School Of Economics, University of Delhi, Delhi, India.
** Assistant Professor, Zakir Hussain Delhi College, University of Delhi, Delhi, India.

fear of losing this whole ongoing semester or even more in the coming future. Various schools, colleges, and universities have discontinued in-person teaching. As per the assessment of the researchers, it is uncertain to get back to normal teaching anytime soon (Dhawan, 2020). The lockdown has compelled many educational institutions to cancel their classes, examinations, internships etc. and to choose the online modes. Thus, Corona virus created many challenges and opportunities for the educational institutes to strengthen their technological knowledge and infrastructure (Pravat, 2020a). The lockdown has given them a ray of hope for teachers and students to continue their educational activities through online and realizing the importance of online education.

Literature Review

• Technology Usage in Tertiary Education

During the last two decades the higher education institutions have invested heavily in Information and Communication Technologies (ICT). ICT have impacted the university context, organization and the teaching and learning methods. Most of the terms (online learning, open learning, web-based learning, computer-mediated learning, blended learning, m-learning, for ex.) have in common the ability to use a computer connected to a network, that offer the possibility to learn from anywhere, anytime, in any rhythm, with any means (Cojocariu et al., 2014). The interactions between people in online learning environments can be synchronous, asynchronous or both. Synchronous interaction requires the interacting parties to be available at the same time, there are more real-time interactions between educators and learners, and there is a possibility of instant feedback for example- live classes on YouTube, google meet, zoom etc. Asynchronous interaction - as with fax or voicemail - allows the interacting parties more flexibility in their use of time as the instructor and the learner need not to be present at the same time thus the instant feedback is not possible here. Email is the best-known example of ICT-enabled asynchronous interaction. Asynchronous computer-mediated conferencing (CMC), using tools such as FirstClass, WebCT or Blackboard, is fast becoming the most common kind of technology-based learning experience for undergraduate students (Goodyear et al. 2001). In asynchronous delivery, students have more control over their learning (Darras et al, 2020).

Online classrooms also facilitate personalised learning. Whereas traditional classrooms fail to cater to the individual learning needs of students. With so many massive open online courses (MOOCs) available on a wide variety of subjects, education is truly getting democratic. Open Online Courses (MOOCs) came to popular attention amid a wave of excitement about their potential to open up access to university courses and challenge the elitist practices of the traditional university. Rapid developments in technology have made distance education easy (McBrien et al., 2009). The methods employed in distance education, particularly the use of new media and technology, carry with them the benefits of economies of scale in education provision. Because it is cost-effective, Open And Distance Learning (ODL) is popular with the beneficiary groups as well as with service providers (mainly government-supported institutions).

The most important argument for online education is the need to adapt to our current technologically advanced environment. Online education is part of a growing trend (Wang, 2006) due in large part to the advances in course delivery software and increasing Internet sophistication of students. According to a recent survey of online learning (Allen & Seaman, 2011), the number of students taking online classes has doubled since 2005; in addition, 75% of institutions reported an increase in demand for online courses (Allen & Seaman, 2010). A study by Young (2002) found that students are appreciating the capability to undertake education anywhere, anytime, and anyplace through the use of educational technologies. This flexibility has heightened the availability of just in-time learning and provided learning opportunities for many more learners who previously were constrained by other commitments.

• Higher Education Response to Covid-19

During the present pandemic crisis when the entire globe is sailing amid the storm, technology has played a pivotal role. Technological development and the internet have changed the lives of people immensely and have also brought a huge change in various fields (Nadikattu, 2020). Especially in the education system E-learning has been found to be a significant tool for effectively continuing the teaching-learning process during the lockdown. To continue the learning process in the virtual online environment several, free google products such as - Gmail, Classroom, Forms, Calendar, Drive, Jamboard, Hangouts meet, OBS (Non-Google product, open free software): Will be used to record the meetings into the files, and others E-Learning tools such as Zoom, Slack, Edu-page, etc. are playing a major role.

The COVID-19 outbreak had an unprecedented impact on education around the world. The sudden outbreak of Covid-19 pandemic has spread over whole world and compelled the human society to maintain social distancing. After observing the corona virus pandemic situation, the WHO advised to maintain social distancing as the first prevention step. So, every country started the action of lockdown to separate the contaminated people. The education sectors including schools, colleges and universities became closed. Classes suspended and all examinations of schools, colleges and universities including entrance tests were postponed indefinitely. Thus, the lockdown destroyed the schedules of every student. Though it is an exceptional situation in the history of education, COVID-19 has created many opportunities to come out of the rigorous classroom teaching model to a new era of digital model (Pravat, 2020). Due to the sudden out-break of COVID-19 there was insufficient time to assure the quality of the E-learning or online teaching-learning process because the focus was to save and continue the education process at any cost and in all possible format during the global crisis. During this tough time, the concern is not about whether online teaching-learning methods can provide quality education, it is rather how academic institutions will be able to adopt online learning in such a massive manner (Carey, 2020). Online teaching is no more an option, it is a necessity. online teaching and online learning can be termed as the panacea for the crisis. The Corona Virus has made institutions to go from offline mode to online mode of pedagogy (Dhawan, 2020). The emergence of COVID-19 tested the creativity of teachers and their involvement. The pandemic also threatens to significantly alter nearly every aspect of college life, from admissions and enrolment to collegiate athletics.

The outbreak of the coronavirus has become a major disruption to colleges and universities across the world, with most institutions cancelling in-person classes and moving to online-only instruction. They are now making use of video chat rooms like Zoom, online discussion boards and platforms, pre-recorded video lectures, and a host of other digital technologies, all to reduce human contact in the classroom and across campuses (Paul, 2020).

Online learning has become a critical lifeline for education, as institutions seek to minimize the potential for community transmission. Since the COVID -19 pandemic has disrupted the normal lifestyle of people across the globe, the virtual world has come to the rescue. Amongst many institutions'- schools, colleges have also shifted their base to virtual platforms to conduct classes online. Consequently, catering to the needs of all stages of education from pre-primary to university level, online education has emerged as an alternative to ordinary face to face classes. Accordingly, various stakeholders such as government and private organizations are trying their best to assist each other by sprucing up their existing online platforms, apps and providing training to teachers to use these apps and platforms to the optimum level. Moreover, efforts are being made by both government and non-government organisations and ed-tech companies to support the school system to make a smooth transition to the virtual world. Upskilling and motivating teachers, organising counselling sessions for stakeholders such as teachers, parents and students are some of the important measures taken by the administration in the recent past. Making a continuous effort to provide customised teaching-learning material suitable for online classes is another way of facilitating the schooling of children.

As the situation continues to develop, legislators are taking an active role in addressing both the immediate and long-term challenges related to the outbreak. Pending legislation also requires higher education institutions to develop and expand emergency preparedness and response plans.

The shift to online courses has also prompted many colleges to reconsider grading systems to try and accommodate and support students in transition. Many schools, colleges and universities around the world have announced plans to shift to pass/fail grading instead of standard letter grades. The pandemic that forced the shutdown of schools has accelerated digital adoption by educational institutions across the country.

- **Effects of ICT on Student's academic performance**

This section presents a recap of the findings from earlier studies regarding the adoption of ICT in university education and its impact on the performance of university students. There is no standard definition for student performance. The standard approach focuses on achievement and curricula, how students understand the courses and obtain their degrees or their marks. The higher education outcome is reflected in the transformation of individuals in their knowledge, characteristics, and behaviour. The literature shows mixed results. On one hand, several researches demonstrate that there's no evidence of a key role for ICT in Higher Education. Leuven et al. (2004), conclude that there's no evidence relationship between increased educational use of ICT's and students' performance. Students may use ICT to increase their leisure time and have less time to study. Ghabili and Alizadeh (2008) assert that

approximately 45% of the medical students surveyed in Iran used computers for less than one hour per week. Only 32% among them mentioned the Internet as a resource for searching for medical articles. Islam and Fouji (2010) have even found that about 80% of the surveyed ASA university students in Bangladesh disagree that ICTs enhance the academic performance; they are rather a source of recreation. The same results are found by Perbawaningsih (2013) in his case study on Indonesia. The recent research frameworks for investigating the adoption of ICT in higher education have focused only on aspects related to performance in education. Such performance indicators have been utilized in these frameworks to establish how variables such as infrastructure and availability of other resources contribute to the impact.

On the other hand, many other researches seem to be evolving towards a consensus that an appropriate use of this technological material in higher education can have significant positive impact on students' achievement. Some go as far as claiming that the use of the innovating models of training permitted by the introduction of the ICT would make it possible to the students "to carry out a team work, to share knowledge and to decrease individualism in order to promote the authorized capital" (Lundin and Magnusson, 2003). Al-Ammary (2012), in his study on different universities at Kingdom of Bahrain, concluded that Educational Technology has motivated the students to get more involved in learning activities through which they become more active and more interested in learning. The needs and the competencies of students are quite different and since ICT allows to have a one by-one learning, a more personalized learning may constitute the future trend of Higher Education. Better achievement of students is easier to obtain since the learning is personalized and customized. Wherever the introduction of ICT is associated with a personalized service for students, the performances increase (Youssef & Dahmani 2010). Sari, 2014 analysed a sample from the American University and concluded that ICT-Based Education has improved the motivation and success of students. The impact of ICT on the learning process seems to be more important and requires more than looking only to curricula. Improved student outcomes, with regard to: Motivation, enjoying learning; Self-esteem; ICT Skills; Collaborative skills; Subject knowledge; Information handling skills; meta-cognitive skills... are observed. Thus, it is obvious that the expected net effect of ICT on students' achievement is equivocal in tertiary education.

Objectives of the Study

- To discuss the E- Learning initiatives in Tertiary Education by Indian Government.
- To explore the current trends in E-learning Technologies.
- To discuss some of the Human Capital Challenges and providing the possible Solutions to overcome the Challenges via Online Learning.

Research Methodology

The study is descriptive and tries to understand the importance of online learning in order to improve the student's academic performance specially in the period of the crisis and the pandemics such as Covid-19 and preparing the students for the future of work. This study is completely based on the secondary data. A systematic review was done in detail for the collected literature. Secondary sources of data used are -journals, reports, search engines, scholarly articles, research papers, and other academic publications.

E- Learning initiatives in Tertiary Education by Indian Government

Online education in India has come a long way with the development of technology. India is one of the nations that is developing at an exponential rate in terms of technology. With the population of more than 1.3 billion, the availability of high-speed internet and smartphones, India has the greatest number of technologically driven persons. The rise of the internet has changed the way of life in India. People like to do everything online, they shop online, do business online, make friends online, learn online etc. While eCommerce being the most significant online industry, Online education and learning stand right next to it. With the ever-increasing information available on the internet and the countless number of online courses many people in India prefer to learn online. By Seeing the potential and immense popularity of digital technology in India, Our Honourable Prime Minister has envisioned transforming our nation and creating opportunities for all citizens by harnessing digital technologies through digital India initiative. The initiative comprises of various projects in various areas relating to health, education, labour, employment etc. As a part of Digital India project, many colleges and universities offer online correspondence courses. According to a survey- Online MBA, Big Data & Business analytics, Digital marketing and Programming Remains the most popular courses learnt online by Indians. Some of the major initiatives taken by Government of India are:

- **SWAYAM:** Swayam portal is an interesting educational program that is initiated by the government of India to achieve three important objectives of our educational policy, that is, access, equity, and quality. The main objective of SWAYAM is to provide online learning and reduce the digital divide. It provides a large number of free courses for school, distance, graduate, and postgraduate education. During the Covid-19 crisis, SWAYAM is of great help for students across the country (Dhawan,2020).
 - **Swayam Prabha:** 32 DTH Educational Channels. The Central government has recently launched the PM e-VIDYA platform, with 12 new DTH channels, one for each class to reach out to all strata of society.
 - **National Digital Library :** / is a digital repository of a vast amount of academic content in different formats and provides interface support for leading Indian languages for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners.
 - **UG/PG MOOCs:** hosts learning material of the SWAYAM UG and PG (Non-Technology) archived courses.
 - **e-PG Pathshala:** hosts high quality, curriculum-based, interactive e-content containing 23,000 modules (e-text and video) in 70 Post Graduate disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences.
 - **e-Content courseware in UG subjects:** e-content courseware in 87 Undergraduate courses with about 24,110 e-content modules is available on the CEC website at <http://cec.nic.in/>.
 - **CEC-UGC YouTube channel:** provides access to unlimited educational curriculum-based lectures absolutely free.
 - **Shoshana:** is a digital repository platform of 2,60,000 Indian Electronic Theses and Dissertations for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access.
 - **e-Shodh Sindhu:** provides current as well as archival access to more than 15,000 core and peer-reviewed journals and a number of bibliographic, citation and factual databases in different disciplines from a large number of publishers and aggregators to its member institutions including centrally-funded technical institutions, universities and colleges that are covered under 12(B) and 2(f) Sections of the UGC Act.
 - **Vidwan:** is a database of experts which provides information about experts to peers, prospective collaborators, funding agencies policy makers and research scholar in the country.
- NSDC e-Skill India** (In collaboration with the National Skills Development Corporation (NSDC) and LinkedIn), etc.

These resources, which are in the form of digital platforms, can be accessed by the teachers, students and researchers in Universities and Colleges for broadening their horizon of learning. These efforts have proved beneficial to a sizable chunk of the population. Much has been written about digital classrooms and how schools are transforming from chalk-and-talk to click-and-learn. One of the earliest studies in this context was done jointly by Google and KPMG, in which they had projected that the market for online education in India would be around USD 2 billion, with 9.6 million paying subscribers by 2021. That was fine, till the pandemic broke out: today, we are looking at a crunching of time, with expectations that these numbers would be reached well before 2021.

E-learning Supports a better-Connected and more Collaborative Future for Education

The schools worldwide and universities are making extraordinary efforts to cope with the current situation. Most of them were caught by surprise and unprepared to cope with a sudden prolonged shutdown of face-to-face courses, education systems, even in developed countries, were not highly prepared for this kind of situation. This is something which needs to be change in future. So, what will need to change in future is that countries, schools, regions will have to think how they want to prepare themselves for a situation like this one, and they will be forced by this experience to think how they could better integrate distance learning in what they do. Nevertheless, Covid-19 has prompted experts to rethink the conventional mode of education. More importantly, it has also brought the hitherto peripheral issue of digital education in India to the centre stage.

Current Trends in E-Learning Technologies

Even before the coronavirus pandemic, the eLearning industry was expanding at a steady pace. But now, the closure of most businesses and educational institutions has led to explosive growth as more and more organizations are investing in virtual learning experiences for their employees. According to a new study by Global Market Insights, the eLearning market is set to reach \$375 billion by 2026. Some of the e-Learning trends that are dominating the industry in 2020 are-

- **Virtual Classrooms:** A virtual classroom is an online classroom. Students can interact with the trainers and they can solve their queries instantly online. Not only this, students can also interact with each other with the help of a chat tool feature. E-learning is being designed every day at the heart of the virtual class rooms e.g.- Zoom, Google Meet, WebEx Cisco, You tube, Etc.
- **Flip Classrooms:** Flip class room is one of the latest educational delivery mechanisms. Which uses combination of online and offline learning to offer high quality learning experience. Flipped class room approach is different from the exiting knowledge sharing session and expert forum concept. The salient features of flipped class room approach are explained below.
- Flip class room = Self-guided learning Expert Guidance + Practice
- **Interactive e-lessons:** E-lessons are one method instructors have adopted in an effort to create a blended learning approach. E-lessons appear to consist of a book's content simply transferred to a computer screen.
- **Instructor Led:** Instructor-led is any kind of training that occurs in a training room, typically in classroom or conference room. Instructor-led training allows instructing a larger group at once.
- **Self -paced Learning:** The learner isn't required to be online at the same time as the instructor. Teach-yourself method of learning that is initiated and directed by the learner. Learners are able to go at their own pace and even participate in courses when they are on-the-go. There is no scheduling involved.
- **Mobile Learning:** Mobile learning is the ability to provide educational content on personal pocket devices such as PDAs, smart phones and mobile phones.
- **Cloud Learning:** E-learning is available in the cloud means that resources are stored in a virtual environment. It is accessed from various forms of web-enabled devices. Cloud learning allows for context-based communication and collaboration. The student is able to take this information for personalize and customize their learning experience to meet their own personal needs. The student is able to increase connections, interactions and sharing in Cloud learning environment which allows effective learning.
- **Electronic Simulations:** Simulation that emulates a real-world machine will have certain common scenarios coded for the learning level of the student. An electronic simulation involves the conveying of an online experience.
- **Online Discussions:** Discussions are one of the most commonly used tools in online teaching. Discussion board activities can serve a variety of purposes and can be used to meet a wide range of instructional objectives. The effective use of the Discussion board goes simply asking students to respond for textbook readings.

EdTech Start-ups are tapping all the right opportunities by offering free online courses or attractive discounts on e-learning modules to students amidst this crisis. EdTech start-ups are trying hard to make most out of this situation by providing several free courses and e-resources to the students. Some of the famous EdTech start-ups include -Byjus, Adda247, Alolearning, AptusLearn, Asmakam, Board Infinity, ClassPlus, CyberVie, Egnify, Embibe, ExtraaEdge, iStar, Jungroo Learning, GlobalGyan, Lido Learning, Pesto, Vedantu, Edubrisk, ZOOM Classroom, ZOOM Business, Toppr, Unacademy, Coursera, Kahoot, Seesaw, Khan Academy, e-pathshala, GuruQ, and the list is long. In response to significant demand, many online learning platforms are offering free access to their services. One of the famous ed-tech start-up BYJU'S, a Bangalore-based educational technology and online tutoring firm founded in 2011, which is now the world's most highly valued ed-tech company. Since announcing free live classes on its Think and Learn app, BYJU'S has seen a 200% increase in the number of new students using its product, according to Mrinal Mohit, the company's Chief Operating Officer. Even before COVID-19, there was already high growth and adoption in education technology, with global ed-tech investments reaching US\$18.66 billion in 2019 and the overall market for online education projected to reach \$350 Billion by 2025. Whether it is language apps, virtual tutoring, videoconferencing tools, or online learning software, there has been a significant surge in usage since COVID19.

Human Capital Challenges

Technology has changed everything with great extent, the methods of production, the process of recruitment, the training techniques, and new equipment etc. Technology is expected to grow and change at rapid levels. Change remains constant—organizations need to adapt to the ever-changing environment to outperform their competitors. The modern business can't effectively operate in the business world if the human force not well equipped with the latest technology and techniques. Human capital experts agree that the future of work will have significant social and economic effects on organizations, industries, and workforces. As a result, education will be increasingly more important as high-level skills become necessary to compete in the future workplace. That the future of work requires a different set of skills and capabilities to be successful.

The world federation of personnel management association (WFPMA, 2009). Survey pointed out the most important top ten HR challenges are leadership development, organizational effectiveness, change management, compensation, Health and safety, staff retention. Learning and development, succession planning, Staffing: recruitment and skill labour.

In the view point of Decenzo and Robins (2001) and Gary Dessler (2000) the most important challenges of HRM, are technology, E commerce, and work force diversity, and globalization, ethical consideration of the organization which may directly or indirectly affect the organization competitive advantages, especially with technological advancement the effect on recruitment, training and development and job performance with great extent can be study in organization.

As per the Future of Jobs Report 2018 by World Economic Forum- The Fourth Industrial Revolution is interacting with other socio-economic and demographic factors to create a perfect storm of business model change in all industries, resulting in major disruptions to labour markets. New categories of jobs will emerge, partly or wholly displacing others. The skill sets required in both old and new occupations will change in most industries and transform how and where people work. It may also affect female and male workers differently and transform the dynamics of the industry gender gap. The top 10 skills that will be most sought after are Complex Problem Solving, Critical Thinking, Creativity, People Management, Coordinating With Others, Emotional Intelligence, Judgement And Decision Making, Service Orientation, Negotiation, Cognitive Flexibility etc.

Possible Solutions to overcome the Human Capital Challenges via Online Learning

According to LinkedIn, the demand for Indian professionals with digital skills is 20 percent higher than for professionals without digital skills. The use of innovative technologies in higher education might lead to better skill of an individual. Ibrahim (2014) in a study concludes that ICT provides opportunities for students to gain valuable computer skills that are suitable in today's job market, as technology can be used as a ready means of preparing students today for future workplaces. Students as future employees would be equipped with the requisite competence and knowledge to use ICT within their work, thereby increasing the preparation of students for most careers and vocations. As rapid change revolutionizes jobs, online-learning can be tailored to provide training at the workplace that can deliver skills (re- and upskilling) just as they are required for performance (Clegg, Hudson, & Steel, 2003; Larreamendy-Joerns & Leinhardt, 2006). In the meanwhile, many companies have adopted e-Learning solutions for their corporate training, such as Dell Learning, CISCO E-Learning, and HP Virtual Classroom (Zhang, 2002). There are also many companies such as Ninth House, Thomson Learning, KeepSmart.com, and eMind.com available that provide e-Learning services (Moe and Blodget, 2000). According to Glint research (now part of LinkedIn), employees who see good opportunities to learn and grow at their organization are:

- 3.6 times more likely to report being happy;
- 3.5 times more likely to report they believe their company can help them meet their career goals; and
- 2.9 times more likely to report they expect they'll still be with the company in two years.

As technological breakthroughs rapidly shift the frontier between the work tasks performed by humans and those performed by machines and algorithms, global labour markets are undergoing major transformations. These transformations, if managed wisely, could lead to a new age of good work, good jobs and improved quality of life for all, but if managed poorly, pose the risk of widening skills gaps, greater inequality and broader polarization. The technology of E-Commerce can also potentially facilitate just-in-time, on-demand education approach to delivering its electronic products by way of the Internet. E-Commerce technology plays an important role in the reengineering of academic education and corporate

training by providing value-adding services and by enabling efficient integration of different types of learning (Lang and Zhao, 2000). The human resources having higher and better levels of knowledge and skills respond more effectively and promptly to challenges and opportunities of globalization. Resistance to Change which is considered to be the biggest challenge can be overcome to a greater extent if the workforce is digitally literate.

Moreover, as rapid change revolutionizes jobs, online-learning can be tailored to provide training at the workplace that can deliver skills just as they are required for performance (Clegg, Hudson, & Steel, 2003; Larreamendy-Joerns & Leinhardt, 2006). Clegg et al. (2003) suggest that online-learning is being propagated by managerialist agendas with the principal aim of creating a labour force skilled to the demands of the new knowledge economy. This might be explained as an efficiency project that threatens to McDonaldize (Ritzer, 1996) education by simply seeking the most cost-effective means to produce large amounts of workers, and which does not primarily seek the developmental interests of the adopting parties involved. In fact, online-learning also increases opportunities to meet the needs of a variety of students, including returning and working students, benefitting from its time– place flexibility (Cantrell, O'Leary, & Ward, 2008).

The statistics on online learning demonstrate a significant positive impact on the employability of those who successfully obtain online qualifications.

Studies from the University of Illinois confirmed that 44% of online students claim their employment standing improved, as they got full-time jobs within 12 months of their graduation. Furthermore, 45% of respondents reported they received an increase in their salary.

Faculty members, like students, will develop new computer skills, regardless of what the course is, from working with cloud-based documents to incorporating video and audio materials in their course materials. These core skills will translate to many professions in the digital age, making students more confident and more competent to transition to different roles. They will be ready to take on more tasks in virtual learning, helping graduates excel in the working world of the future.

Conclusion

The advent of online education has made it possible for students with busy lives and limited flexibility to obtain a quality education. As opposed to traditional classroom teaching, Web-based instruction has made it possible to offer classes worldwide through a single Internet connection. Although it boasts several advantages over traditional education, online instruction still has its drawbacks, including limited communal synergies. Still, online education seems to be the path many students are taking to secure a degree. E- Learning has become an increasingly popular learning approach in higher educational institutions due to the rapid growth of internet technologies.

E-Learning primarily gears toward lifelong and remote learning. E-learning platforms are changing the Indian education landscape by addressing the demand-supply gap of both students as well as corporate employees by dispensing personalised learning outcomes. Online learning has widened the scope of education and transcended it beyond classroom boundaries. With high internet penetration in the last two years, it has taken over the traditional methods not just in the urban landscape but also in rural areas. The pandemic situation induced people to learn and use digital technology and resulted in increasing the digital literacy. What happens to be a great inconvenience for many, the pandemic has created a spike in demand and popularity of e-learning. Learning, as they say, is a continuous and ever-evolving process. The educational institutions in India, from schools to higher education institutions, can use this present adversity as a blessing in disguise and make digital education a major part of the learning process for all learners in the future. Going forward, digital education is likely to be integrated into mainstream education. This will enable inclusive education by facilitating learning across diverse geographies in India. Moreover, it will provide an opportunity for educators to come up with customized learning solutions for every student.

Furthermore, higher education has certainly been internationalized (Louisy, 2001), and as a tradable commodity within liberalized environments has proven a multi-billion-dollar business (Larsen, Martin, & Morris, Boisselle 3 2002). Indeed, Massive Open Online Courses (MOOCs) and mega-universities may become lucrative investments as government subventions in education continue to decline. As it is for the developed world, within the developing country India too, promotion of higher education as a public good is believed critical to the continued advancement of the region's human resources and economies (Leo-Rhynie & Hamilton, 2007). India's Gross Enrolment Ratio (GERs) in higher education is only about 26.3%(18-23 Years) and target is 32% by 2022. Roughly 75% of global

youth old enough to enter higher education have not done so (Tewarie, n.d.). Online-learning's ability to tailor itself to particular learning needs might have allowed it to contribute to historic expansions in student enrolments in higher education globally. There is still far to go, and in spite of "an unprecedented demand for, and a great diversification in higher education, as well as an increased awareness of its vital importance for sociocultural and economic development" (United Nations Educational, Scientific and Cultural Organization [UNESCO], 1998, p. 1), higher education can still be considered as a scarce resource (Hiltz & Turoff, 2005). Geith and Vignare (2008) indicate that even as developed countries are making large strides toward UNESCO's Millennium Development Goals and Education For All (EFA) in primary and secondary education, they are still trying to grow their participation in higher education. Indeed, the huge gaps in accessibility to, and resources for, higher education and research, between developed, developing, and least developed countries, continue to widen (UNESCO, 1998). Possibly, the flexibility of online-learning may be able to help to decrease these disparities.

"The key lesson for others may be to embrace e-learning technology before disaster strikes!" (Todorova & Bjorn-Andersen, 2011). Natural disasters can stimulate our motivation for the adoption of highly innovative communication technology and e-learning tools (Tull et al., 2017). This crisis will make the institutions, which were earlier reluctant to change, to accept modern technology. This catastrophe will show us the lucrative side of online teaching and learning. With the help of online teaching modes, we can sermonize a large number of students at any time and in any part of the world. All institutions must scramble different options of online pedagogical approaches and try to use technology more aptly. Major world events are often an inflection point for rapid innovation – a clear example is the rise of e-commerce post-SARS. While we have yet to see whether this will apply to e-learning post-COVID-19, it is one of the few sectors where investment has not dried up. What has been made clear through this pandemic is the importance of disseminating knowledge across borders, companies, and all parts of society. If online learning technology can play a role here, it is incumbent upon all of us to explore its full potential. With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market.

A complete revolution in the way we learn today has been brought about by Technology. Each student gets in contact with a world-class education, which is not easy to impart by the traditional white chalk and blackboard method of teaching. This new learning is more interesting, personalized and enjoyable. A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the biggest market for MOOCs in the world after the USA. Since the population of India is huge, massive open online course (MOOC) is said to open gateways for a lot of Indians in terms of bringing an educational revolution. Online distant learning programs give a great opportunity to avail high-quality learning with the help of internet connectivity. Digital learning has many advantages in itself like digital learning has no physical boundaries, it has more learning engagement experience rather than the traditional learning, it is also cost-effective and students get to learn in the confines of their comfort zone. Therefore, the government has come up with e-learning program. The rapid influx of technology in the education system amidst the crisis might give rise to a new era wherein the students will have access to the best of faculty from across the globe. It is expected that e-learning will leave a lasting impact on the way education is delivered in schools. There will be an increased focus on the quality of faculty and IT infrastructure and the need for faculty to be familiar with digital teaching methodologies. E-learning is revolutionising our education system as it remains the only option during the ongoing crisis.

We are not claiming that e-Learning will replace traditional classroom learning. Naturally, not every student finds e-Learning to his or her liking. For one thing, it may require maturity and more discipline from students than conventional education. Nor do all instructors take to e-Learning. That being said, we believe that e-Learning will keep growing as an efficient and indispensable solution to remote and lifelong learning (Pravat, 2020a). It is especially beneficial when people cannot leave the duty and come to the campus to have face-to-face learning. Use of ICT in tertiary level education can help students to gain competitive skills important for future jobs, and also make them technological advance and more adaptive to the change which also helps companies to reduce the cost of training and change implementation with such a skilled workforce will become an easy task and the organization grow continuously in this rapidly changing environment. Online degrees are accepted by many companies and employers in India as long as it is accredited and approved by Distance Education Council (DEC) of India. Many of them are encouraging their employees for getting online education as well. Thus, we can conclude that a successful e-learning system can build workforce readiness to prepare for the future of work & help in better Human Resource Management.

References

- Al-Ammary, J. (2012). Educational Technology: A Way to Enhance Student Achievement at the University of Bahrain. *Procedia - Social and Behavioural Sciences*, 55(5), 248–257.
- Allen, I. E., & Seaman, J. (2011). *Going the distance: Online education in the United States, 2011* (Sloan Consortium). Wellesley, MA: Quahog Research Group, Babson Survey Research Group.
- Ben Youssef, A., & Dahmani. M. (2008). The Impact of ICT on Student Performance in Higher Education: Direct Effects, Indirect Effects and Organizational Change. *The Economics of eLearning*, 5(1), 45-56.
- Carey, K. (2020). Is everybody ready for the big migration to online college? Actually, no. *The New York Times*. <https://www.nytimes.com>
- Carey, K. (2020). Is everybody ready for the big migration to online college? Actually, no. *The New York Times*. <https://www.nytimes.com>
- Clegg, S., Hudson, A., & Steel, J. (2003). The emperor's new clothes: Globalisation and e-learning in higher education. *British Journal of Sociology of Education*, 24, 39-53. doi:10.1080/0142569032000043597
- Cojocariu, V.M., Lazar, I., Nedeff, V., & Lazar, G. (2014). SWOT analysis of e-learning educational services from the perspective of their beneficiaries. *Procedia-Social and Behavioural Sciences*, 116, 1999–2003.
- Decenzo and Robbins, (2001). *Human Resource Management*, 6th edition, Wiley.
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, Vol. 49(1) 5–22.
- Geith, C., & Vignare, K. (2008). Access to education with online learning and open educational resources: Can they close the gap? *Journal of Asynchronous Learning Networks*, 12(1), 1-22.
- Ghabili, K., & Alizadeh, M. (2008). Computer and Internet use among Iranian medical students. *Medical Education*, 42(1), 114.
- Goodyear, P., Jones, C, Asensio, M., Hodgson, V. and Steeples, C. (2005). Networked Learning in Higher Education: Students' Expectations and Experiences, 50(3), 473-508.
- Hiltz, S. R., & Turoff, M. (2005). Education goes digital: The evolution of on-line learning and the revolution in higher education. *Communications of the OCM*, 48(10), 59-64.
- Ibrahim, A. T. (2014). Enhancing ICT in Nigerian higher education institutions: Issues and insight. *Open Science Journal of Education*, 2(3), 26–32.
- Islam, M.S., & Fouji, M.H. (2010). The Impact of ICT on Students' Performance: A Case Study of ASA University Bangladesh. *ASA University Review*, 4(2), 101-106.
- Lang KR, Zhao J.L.(2000). The role of electronic commerce in the transformation of distance education. *Journal of Organizational Computing and Electronic Commerce*,10(2),103– 128.
- Larreamendy-Joerns, J., & Leinhardt, G. (2006). Going the distance with online education. *Review of Educational Research*,76,567-609.
- Larsen, K., Martin, J. P., & Morris, R. (2002). Trade in educational services: Trends and emerging issues. *The World Economy*, 25, 849-868. doi:10.1111/1467-9701.00466
- Leuven, E., Lindahl, M., Oosterbeek, H., Webbink, D. (2004), "The effect of extra funding for disadvantaged pupils on achievement", IZA Discussion Paper, 1122.
- Louisy, P. (2001). Globalisation and comparative education: A Caribbean perspective. *Comparative Education*, 37, 425-438. doi:10.1080/03050060120091238
- Lundin, J., Magnusson, M. (2003), "Collaborative learning in mobile work". *Journal of Computer Assisted Learning*, 19, 273–283.
- McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *The International Review of Research in Open and Distributed Learning*, 10(3), 1–17.

- Moe MT, Blodget H.(2000). E-Learning: The knowledge Web. Part 1: People power—Fuel for the new economy; Part 4: Corporate eLearning—Feeding hungry minds. A Report to United States Education & Training Services. Merrill Lynch, 73.
- Nadikattu, R.R.(2020). Information Technologies: Rebooting the World Activities during COVID-19. Available at SSRN: <https://ssrn.com/abstract=3622733> or <http://dx.doi.org/10.2139/ssrn.3622733>.
- Paul, K (2020). 'Zoom Is Malware': why experts worry about the video conferencing platform.
- Perbawaningsih, Y. (2013). Plus, Minus of ICT Usage in Higher Education Students. *Procedia-Social and Behavioural Sciences*, 103(26), 717–724.
- Jena,P.K. (2020). Impact of Pandemic COVID-19 on Education in India. *International Journal of Current Research*, 9,12(7),12582-12586.
- Jena,P.K.(2020b). Online learning during lockdown period for covid-19 in India. *International Journal of Educational Research*,9,5(8), 82-92.
- Ritzer, G. (1996). *The McDonaldization of society*. Pine Forge Press. Retrieved from <http://petermarina.com/DOCUMENTS/problemsurbancomm/mail/The%20McDonaldization%20of%-20Society.pdf>
- Sari, A. (2014). Influence of ICT applications on learning process in higher education. *Procedia - Social and Behavioural Sciences*, 116, 4939-4945.
- Tewarie, B. (n.d.). Concept paper for the development of a CARICOM strategic plan for tertiary education services in the CARICOM Single Market and Economy (CSME). Retrieved from http://www.caricom.org/jsp/single_market/services_regime/concept_paper_tertiary_education.pdf
- Todorova, N., & Bjorn-Andersen, N. (2011). University learning in times of crisis: The role of IT. *Accounting Education*, 20(6), 597–599. <https://doi.org/10.1080/09639284.2011.632913>
- Tull, S. P. C., Dabner, N., & Ayebi-Arthur, K. (2017). Social media and e-learning in response to seismic events: Resilient practices. *Journal of Open, Flexible and Distance Learning*, 21(1), 63–76.
- United Nations Educational, Scientific and Cultural Organization. (1998). World declaration on higher education for the twenty-first century: Vision and action and framework for priority action for change and development in higher education. Paper presented at the World Conference on Higher Education Higher Education in the Twenty-First Century, Vision and Action. Retrieved from <http://unesdoc.unesco.org/images/0014/001419/141952e.pdf>
- Wang, Q. (2006). Quality assurance-best practices for assessing online programs. *International Journal on eLearning*, 5, 265-274.
- Young, J. (2002). The 24-hour professor. *The Chronicle of Higher Education*, 48(38), 31–33.
- Zhang D, Zhao JL, Nunamaker JF. Media structuration theory: Towards a framework for effective multimedia-based e-Learning, 2002. Submitted to *MIS Quarterly*.

