

Post COVID-19 Impact on EdTech Firms in India

Gaurav Garg

Retail & Supply Chain Expert, Thinker, Writer

E-mail: gauravgarg2099@gmail.com

Abstract: COVID-19 has affected the entire world and led to several mortality and Governments across countries closed all the business activities, schools, colleges to reduce the spread of the pandemic. This affected students' education worldwide. Online education was not so much popular before COVID-19 but pandemics created opportunities for online education. However, there is some limitation of this because of poor infrastructure in India, poor quality of content, evaluation process. There is a huge opportunity in India to spread online education as it is economical and in remote areas, it can be a boon for Indian students.

Key Words: EdTech, Education, Online, Contents, COVID-19.

1. INTRODUCTION:

The COVID-19 has affected the world & most of the Governments in the world closed the educational institutes to reduce the contamination to spread among all stakeholders across the planet. More than 450 Mn people are affected by the pandemic and more than 6 Mn have died because of this (Worldometer.info). The Indian government also closed down the educational institutes across the nation, which affected all classes from school going to postgraduate. This affected the overall learning aspects of the students. 91% of the world's population of students, which is close to 290Mn, getting impacted by nationwide closures & in India only it estimates more than 30crores students are affected.

There is localized closure of the cities & towns, which is also affecting millions of students across the world. However, most of the countries are being supported by UNESCO to mitigate the impact of the closure of schools mainly for disadvantaged & vulnerable communities. (Unesco.org,2019) Governments of different nations are facing challenges in providing the best education to students so that they can continue their education while staying home. Technology is supporting in this but there are several challenges by government agencies, schools, students, & parents by using technology-driven home-based education. However, keeping in mind continuing education, the government has launched different e-learning programs & many startup EdTech companies have come up to leverage the pandemic situation by providing free online classes & e-learning modules. Because of the effect of COVID-19, startups are getting good responses & there is tremendous growth in e-learning. E-learning came up as a viable solution to the problem & helped students to offer convenient, affordable & on go lessons. E-learning also provides an interactive & interesting alternative to face-to-face teaching. EdTech covers not only e-learning but also software, hardware, and digital tools and services that can help deliver education. EdTech includes; desktop & mobile learning apps, curriculum management software, communication platforms for students, teachers & parents, online program management software, E-books, learning management systems, digital content, online & cloud-based platforms & content delivery systems. (Credit Suisse) The conventional mode of education gives chance to interact with teachers & students face to face but COVID-19 has promoted policymakers to again think about the conventional mode of education. In this time of COVID-19, the digital solution seems to be a good alternative to the conventional mode of education & this will also minimize the spread of the infection. However, COVID-19 has brought the issues of digital education in India & challenges in applying this model of education. In the coming years, online education may be integrated with the conventional mode of education. Diverse geographies in India will be benefitted from this & this will give opportunities to teachers & educationists to come up with different & customized learning for every student.

Online technology brought a complete revolution from the conventional mode of education to the e-learning mode. Through e-learning, each student is getting world-class education with the help of different tools, which was not possible by the conventional method of classroom study. (indiatoday.in) .These online courses are more personalized, enjoyable, & interesting. India being the high population country is considered the biggest market than the USA for online classes. Online learning is providing high-quality learning along with the great opportunity for getting an excellent education.

Learning online has many merits & demerits. Online learning has no physical boundaries as compared to traditional learning, it is a more engaging method. Online learning is very cost-effective & students can learn from anywhere if the internet is available. However, there are limitations & challenges in digital learning as the availability

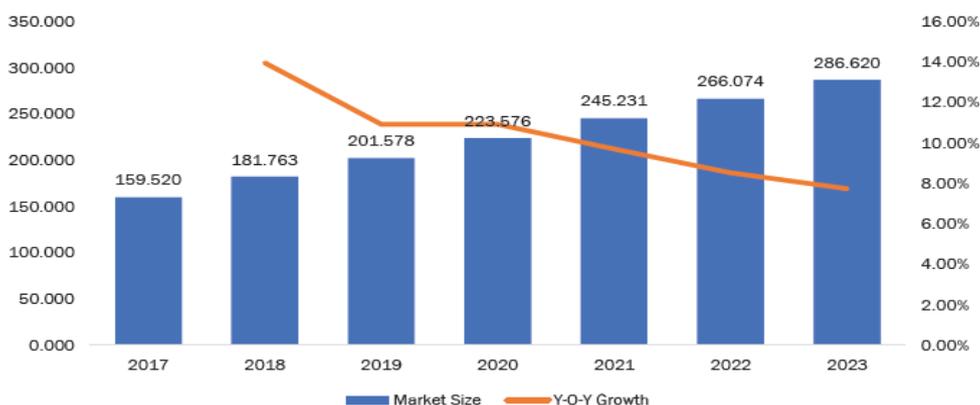
of the internet, its speed, and educational environment at home. Globally, digital education has met success but in India, there is still a long way to go. In urban areas, students are getting the required infrastructure but in rural areas students are not getting infrastructure. Moreover, rural students are also not financially strong to avail themselves of the resources. There are challenges in front Government because of a lack of budgets. Moreover, training of teachers is also a challenge to use the online system in providing seamless, uninterrupted, proper, & authentic learning to students. In Tier2 & Tier -3 cities of India, power supply, internet connectivity & availability of hardware resources is also a challenge. Another advantage of online learning is impersonal experience as compared to conventional mode. Moreover, there is likely to be a high dropout rate because of no atmosphere of study. A student may attract to online games while studying, social media. Successful delivery of education is also questionable. Digital learning may be more useful for higher classes than kindergarten.

The purpose of this research is to find out the opportunities for online learning, what are the mode of learning, which subjects has more students, type of online learning such as assignments, online lecture, online courses, online live classes, or online degree. The main purpose of the research is to find out the Post Covid scope of online learning in India & how this COVID-19 will affect the overall education system in India. What are the current researchers found & we will further do analysis how different geographies, different classes, different students, will be impacted by the online education & COVID-19? In this study, we will also analyze what will be the impact of online education on other industries such as hardware, software? Impact of post covid will not only on entire education system but related industries as well as. However, we will also analyze what will be a positive or negative impact on the jobs of the parents if schools are closed & students are taking online classes. Moreover, we will also find COVID-19 as an opportunity for the entire online education system and how this will affect the overall learning of the students. What is the market size in India & what support is required to grow this industry with the advent of COVID-19? In this research, we will go through different research papers & studies done by independent as well as different organizations such as the World Economic Forum, Ministry of Education, and UNESCO to give more authentications to the research.

2. LITERATURE REVIEW:

There is a projected CAGR of 10.26% of the global online education market until 2023 sized USD286.62Bn from USD159.52bn in 2017. The increased penetration of the internet across the globe is an important factor, which is deriving online education. Moreover, major market players are investing a huge amount in a cloud-based solution, which is increasing the security, & reliability of cloud-based education systems. There is a huge number of content & service providers. Moreover, technology is being adopted because of the decline in hosting costs and the growing need for educational content. Besides this, IOTs are also helping in increasing the market. (www.knowledge-sourcing.com). India's online education is expected to grow to USD 1.96BN by 2021 from USD 247BN in 2016. Expected users will grow to 9.6Mn from 1.6 Mn in 2016. This is because increasing penetration of internet users & increasing smartphone availability. (KPMG& Google 2017). There are five categories in the online education system; primary & secondary supplementary education, test preparation, deskilling & online certification, higher education, languages & casual learning. Reskilling & certification comprises 38%, which is primarily driven by IT professionals in India however with the increasing enrollment of students 280Mn by 2021 & adaption of technology will increase the market share of this primary & secondary supplementary category by 39%. (KPMG& Google 2017). Indian undergraduate programs comprise 63% of the total student base however with the expansion of the reskilling market, this percentage will change.

GLOBAL ONLINE MARKET FORECAST, 2017 TO 2023, US\$ BILLION



As per UGC regulations, now universities can provide online degree programs from June 19, this will further increase the role of EdTech firms in higher education. (UGC) This regulation will help in decreasing the cost of higher education & increase employability. Moreover, more students can enroll now for higher education with the help of EdTech firms. With the increase of EdTech firms, online programs will be available at a lower cost as well as a credible alternative to traditional classroom study.

India's education system is multilayered & formal with more than 260 Mn students are enrolled in more than 1.5 Mn schools & more than 39000 colleges catering to 27.Mn undergraduates. Primary & secondary schools, graduations, post-graduation, and diploma courses come from informal education & governed by different agencies like CBSE & ISCE. However, higher education is governed by UGC. Pre-Primary, coaching classes, vocational education, multimedia, or technology-driven educational course are part of informal education & supplement formal education. The informal education market is one of the largest markets in the world. Because there is a low entry barrier & a large number of companies have emerged in this segment. (KPMG & Google 2017). Most of the EdTech firms are providing education on different subjects ranging from science, math to data analytics, artificial intelligence, computers, & digital marketing. However, as the type of learning is divided into different sectors such as reskilling, test preparations, primary & secondary schools, languages & creativity, students are opting as per their requirements. Corporate students are preferring courses on business management, IT, computer sciences however, primary & secondary students are preferring to learn math, science & English from the online platform. Besides this higher education, students prefer to learn data analytics, artificial intelligence, & engineering subjects.

Big EdTech firms spending in purchasing of contents & their percentage of spending is 16.8% in Business & management, 7.44% in programming, 9.74% in Computer Science 4.09% Mathematics, Health & Medicine 8.27%, Social Sciences 10.8%, Engineering 6.11%, Education & Teaching 9.36%, Science 11.3%, Art & Design 6.73%, Humanities 9.41%. (Class Central). This also shows how there is an enrollment pattern in higher online education. As the data cost is falling by 95% since 2013, there will be a rise of 40% in internet users by 2023 & Smartphone users will be doubled by 2023. (McKinsey). This is also expecting the digital sector to increase to USD 355-435 Bn by 2025. India is one of the fastest-growing markets with 560 Mn users in 2018, the number of internet users will increase to 800Mn & Smartphone users will increase to 750 Mn by 2023. This increase in overall consumption will also affect the EdTech industry & students, parents will be inclined towards online education. (McKinsey). One of the main constraints is economical data & devices availability. With the advent of different service providers such as Reliance Jio, Airtel, Idea & other internet providers in India, overall internet users will increase & with the increase of internet users, it is easy for EdTech companies to provide their services in much better & effective ways. This will not only reduce costs for the EdTech firms but also for students who will take or are taking education with the help of online learning.

Moreover because of COVID-19, as schools are closed, every parent & Government are concerned about reducing in spreading pandemic, EdTech education came as a boon for the society as a whole. EdTech firms such as UrbanPro, Byju's, Coursera, & other firms have come as a tool for online learning. Schools are also using a different platform to provide digital education. These platforms are Microsoft Office, Zoom, Skype, & other platforms, which are providing good & satisfactory services. Other platforms are also helping teachers to connect with students like Vedantu in which, students can attend live classes & increase their learning along with studying at home. In developed countries, 79% of teachers are using at least some technology in teaching. However, ten years ago only 1 out of 5 teachers was using technology. The role of digital integration is not only limited to content but also monitoring teachers in the school. As per studies, In India, only 65% of classes are attended by government schoolteachers. (McKinsey, 2019). Another component for EdTech firm's growth is gamification & edutainment. EdTech firms are using a different type of interesting learning experience along with different content systems, which is making online education attractive, interesting, & participating. (McKinsey). The competitive advantage for India is that there is a large English-speaking population, which allows easy delivery of online education. India was ranked 28 out of 88 countries in the English Proficiency Index 2018 (Ministry of HRD). Most of the online education is available in English & it is also easy for the content maker to gather the information easily & convert it to content. English being an international communication language, all world-class material & books are available in English. This makes delivery of education easy & widely spread. This is also cost-effective and can be operated on any device. However, in rural areas, there is a challenge in language as in most of the rural areas, mother language is preferred. (Ministry of HRD). There is 100 % FDI allowed in the Indian education sector, making it very attractive as the number of users is increasing. To liberalize this sector Government has taken several initiatives such as the Foreign Education Bill, National Accreditation Regulatory Bill. There will be RISE, Revitalizing Infrastructure and Systems in Education by 2022 as announced in Union Budget 2018-2019 with an investment of USD 15.44Bn for four years.

There was an investment of USD2.47 Bn from April 2000 to March 2019. However, there is a need of USD200Bn to achieve a target of 30percent GER for higher education by 2020. (Ministry of HRD). The revenue models for these EdTech companies are different & based on the model, they are adopting. In the current ecosystem, students are charged based on the type of courses, they are subscribing to. There are 6 models available. Content sharing, in which students are encouraged to share educational content on the platform & charged basis on the consumption of that content. Premium or upgrades, in which initially students are given free samples & charged for a complete course. Course subscription, in which one-time transactions happened & students are charged pay per course subscribed. Pay per session, in which students are charged based on modules taken. Advertising commission, in the case of tutor marketplace, additional charges are taken to feature the tutor as premium. (KPMG India analysis 2017)

3. METHODOLOGY:

Topic “Impact of Post Covid-19 on EdTech “is new, we have divided the methodology into different parts. We have collected & analyzed the information from different secondary authentic sources & put them here. We analyzed the impact of Post Covid on EdTech firms in different aspects and researched Government Journals, World Economic Studies, KPMG & Mckinsey studies, Ministry of Human Resources reports, UNESCO reports and we searched the internet for articles & blogs. We have also gone through reports published by NASSCOM & other authentic reports on education & investment options in India.

We researched different aspects, which will affect the future of EdTech in India. We studied the Global & Indian perspectives & analyzed how different Governments supported online education in different countries. Indian Government made several policies to run smoothly. Research also includes how FDI is supporting digital education, as well as a huge population is a good factor for digital education. The use of the internet & its reach is also affected in spreading online education. The advent of different online platforms also adds the pace for EdTech Firms. The availability of different content from content providers is also a boosting factor for EdTech firms to flourish. The impact of COVID-19 has also inclined the students towards the online mode of education, which is bridging the gap because of a pandemic. The fear of spreading the infection is pushing parents & governments not to open the schools, which is leading to a boost in EdTech firm's customer enrollment. We analyzed reports of different research organizations for EdTech future to analyze which courses are of high demands for higher studies, reskilling, and test preparations. However from primary to secondary, it is primarily school-driven courses but the role of EdTech firms is like a supplementary or additional education on different subjects such as Math, Science, and Computers. We collected the data from different secondary sources & analyzed the revenue model of EdTech firms & how it affected them? Moreover, we also analyzed about Impact of Covid-19 on EdTech firms as well as on the students & parents. How this online learning affected the family as a whole in a positive as well as in a negative manner. In our methodology, we also collected the data on how different geographies are behaving differently & how they can be overcome. Besides this, we worked on the role of the Government, Schools & parents in promoting online education keeping in mind COVID-19 situations as well as for Post COVID-19. The role of EdTech firm in providing an online solution is increasing & this we have found in our studies while searched for different research articles, papers, internet & the future of EdTech firm is bright because of high population, increasing use of the internet, smartphones, laptops & online education is convenient, cost-effective and can be taken from anywhere.

4. RESULTS AND DISCUSSION:

The analysis done with the help of different reports & research based on different agencies, it is found that India's EdTech ecosystem can provide several benefits by using the internet data leading to reemphasizing their value proposition. In Post COVID situations, companies can remodel & re-strategize partnerships with all stakeholders in providing online education. The routine lives & businesses are disturbed across India because of COVID-19. Schools, colleges, coaching centers & tuitions centers all are closed due to the effect of COVID-19. This created an opportunity for EdTech companies to come forward in more aggressive ways to provide online solutions to the students of all the classes & streams. The crisis of COVID-19 came as an opportunity for EdTech companies & the right time for customer acquisition. The major markets for these companies emerged as kindergarten, primary & secondary class students who are most affected by the situation along with test preparation, reskilling, languages & other courses.

Besides this India's primary & secondary education is huge with a 35% population below 15 years of age in 1.3Bn population, there are huge opportunities for EdTech firms to grow by providing the best products by filling the gaps. In India, state governments are the biggest education providers. However, there are various inefficiencies such as teacher absenteeism, poor teachers training & student-teacher ratio is large. Moreover, private schools teachers are also not of quality. There are two factors, which we found in our study, as a hindrance for EdTech firms. The first factor is lack of trust & awareness among parents about this online education & parents see it as

supplementary education along with traditional education of face-to-face schooling. Parents & students both were not so much aware of the offerings also. However, COVID-19 gave the opportunities to the companies to provide the best solution & acquired a great number of students by providing free solutions to every class & stream. This helped companies to change the behavioral pattern & created awareness & trust among the parents. The second factor is the lack of evidence about the quality of EdTech firms' products & delivery. The quality of most tech firms is judged by the presentation of the contents & not the qualitative content. As per EDTeachlab 2019, most products offered by EdTech are judged by their features, contents & rather than their outcomes. The EdTech firms need to be more responsible by providing quality products so that learning outcomes should be of the best quality. In India, the quality of the online product is very important, as most of the Tier2-Tier3 students or rural areas students, as well as government schools, are unable to read or write properly. As more & more students are registering from Tier2 & Tier3 cities, companies should modify & adapt the product & their delivery as per the market.

EdTech in India can be divided into four categories; Online Education, which comprises primary & secondary supplement education, test preparations, higher education, reskilling & online certification, languages & casual learning. Smart Classes; learning management systems, enterprise resource planning, content management & delivery system, innovative classrooms, HD animated videos, story-based learning. Assessment; remote proctoring & testing platforms. Offline education through tablets & SD cards. (KPMG, NASSCOM Analysis) India has more than 4450 startups that are providing services in EdTech environment. India ranks third after US & China in terms of funding received. Recent Trends such as private schools are adopting franchise models, the emergence of international schools, increasing use of technology is also some of the factor, which is helping EdTech companies to grow, & they have now greater opportunities in Post Covid-19 situations. Now schools are also investing more in information & multimedia education technologies, Byju's has more than four lac students enrolled on its app from K-12 to students who are preparing for competitive exams. In Jan 2019, the company acquired US based firm OSMO for USD120Mn to drive its plan of international expansion. Recently Walt Disney Company and Byju's launched an app for children aged 6-8 years. Moreover, Government is also encouraging schools & colleges in rural areas for online education so it can be reached to all. (MHRD, KPMG, UGC)

As online learning is a continuous process, there are some factors, which will help to EdTech firms to attract online users:

1. Students can be attracted by enhanced customers experience & support provided by the EdTech companies.
2. There would be a chunk of customers who are self-motivated & value-driven & will start searching different online courses before making any purchasing decision.
3. There will be competitive differentiation between different EdTech companies via different technological-enabled learning solutions.
4. Customer retention by providing value-added services such as industry interaction & career counseling services.
5. The move towards blended education by online players i.e. to create a blend of offline & online education & will enhance the overall value chain.
6. With the real-world application, practical concepts can be blended with theoretical concepts.
7. Feedback & review by customers will increase trust among customers intuition the markets.
8. Government support especially in rural areas in the form of infrastructures such as the internet, power supply, and smartphone availability will enhance the delivery.
9. The free content to students before enrolling in the course so that students can feel the quality & outcome of deliverables.

There are different growth drivers as per our research; online education is providing a low-cost alternative to offline education. This is because of lower infrastructure costs & a high student base, making it a low-cost option for the parents & students. (Tomorrowmakers, 2015) Online skill development is more than 53 % more economical than offline courses. (KPMG2017) Online education is providing quality education to the students. As per reports distance, learning & open courses enrolment is expected to reach to 10Mn by 2021. Online education is also increasing its footprints where the quality of offline education is not good such as J&K, Bihar & Kerala. (MHRD 2015-16) The demand of Industry relevant courses & training programs is on the rise because of the job-seeking population is increasing. The unemployment rate in India is high at 5% in 2016; however, the job availability rate is only 2% per annum. (Financial Express 2015).

The government also initiated some of the online portals to drive online education in India such as Diksha, E-Pathshala, NROER portal, Swayam, Swayam Prabha. These all channels & online portals are providing world-class education without any cost to students. The contents are also quality-oriented. There is a large population of between 15-40 years of age, which is almost 46% of the total population making online learning a big opportunity for EdTech

firms. The low-income young populations with aspirations are the good target market for the companies. Besides this younger generation is also accepting online mode very convenient for them. An increase in disposable personal income is another factor for online education as parents are ready to pay for their kids as well as the young generation is also enrolling themselves for reskilling courses. Growing internet & Smartphone users is another factor for rising online education. There is around 31% penetration of the internet in 409mn users, which are expected to rise to 735 Mn users by 2021. Moreover, Smartphone users are 290mn, which will be increased by another 180Mn user by 2021. This will be a big boosting factor for online companies to grow.

Online primary & secondary education will be driven by increased awareness among parents & students & the total business size from these segments will be 773 USD Mn by 2021. Test preparation is going to be the fastest-growing section because growing demand for competitive exam preparation & online material availability. Business size is expected to reach USD 515 Mn by 2021. Reskilling & online certification is going to be another category that will grow by 38% to USD 463Mn by 2021 because a younger generation & middle management staff are attracted towards these courses. Higher education demand will increase by 41% & will reach a level of 184 USD Mn. Moreover, languages & casual learning will see a surge of 42% & will reach a level of USD 29Mn by 2021. This growth is because of the high demand for online courses & further because of the COVID-19 situation, growth may be a little higher side because parents & students will prefer to enroll in online classes instead of the traditional method. There is another big opportunity for a competitive examination preparation portal as now students who were going to study in Kota, Rajasthan, or other places in the country for exam preparation will opt for an online mode of learning & preparation. This will be another big boost for online education. However, there will be a negative impact on teachers and institutes, which were providing education in these towns. Moreover, another opportunity will be students who planned to go overseas to get an education, will not go & most of the institutes are running online classes or webinars for them to provide quality education. This trend will also be continued because of the COVID-19 situation. However there are several effects on society as a whole because of COVID-19, & this may affect the overall education system as well as social systems. Some of the points are discussed are;

- Interrupted learning for students who are poor & cannot afford online learning because they cannot purchase data & phones.
- There is confusion & stress among teachers at the time of the closure of schools. Teachers are not sure about their obligations & how to connect with the students in the proper way to support learning. Online mode cannot provide a feeling of responsibility. Schools closure leads to absenteeism & furloughs.
- At the time of school closure, however online is a mode of education, parents are not able to facilitate their children because of limited educational background & resources.
- There are challenges in providing, creating, improving & maintaining online education at the time of the COVID-19 situation as everything is happening in hurry. However, Post COVID-19 situations will be much more balancing because every stakeholder will be in sync with the condition of providing & getting online education along with offline education.
- Online education is a good alternative for traditional education in COVID-19, but the social activity & human interaction is almost nil when a student is getting an online education.
- There is a challenge in measuring & validating the course assessment & outcome quality of online education, especially in higher education admissions.
- Because of COVID-19, the role of the teacher will also be changed. Now students can get an education with a click of a mouse, they can access any topic from anywhere with quality, the role of teachers will be changed into facilitators for their development in contributing & employable members of society.
- Now with the help of online education, students can get video lectures on different topics. Students can watch three-dimensional pictures of the heart or map which will enhance their overall learning of students. That will be like a real-world situation.
- Technology alone will not be enabled for online education, India has a big population residing in villages, & teacher knowledge is very basic. They do not know even how to operate a computer. Students are also illiterate & unable to use the technology. Therefore, there is a need to fix the basic issues of training of teachers & infrastructure enhancement in rural areas.
- The content will be the core of the center & not the provider. There are so many devices available, several EdTech companies are flourishing, but the main area is content quality & its delivery with quality outcomes. In the coming time, it will be more about the connections between communities such as students coordinating with each other, teachers supporting other teachers. Therefore technology will work as an enabler & catalyzer.

5. CONCLUSION:

The overall future of EdTech firms is bright & this is accelerated by COVID-19 & creating many new opportunities for EdTech firms. There is a projected CAGR of 10.26% of the global online education market until 2023 sized USD286.62Bn from USD159.52bn in 2017. India's online education is expected to grow to USD 1.96BN by 2021 from USD 247BN in 2016. Expected users will grow to 9.6Mn from 1.6 Mn in 2016. Internet & smartphone users will increase by 2023 & this will affect overall uses of online education. There are five categories in the online education system; primary & secondary supplementary education, test preparation, reskilling & online certification, higher education, languages & casual learning. Primary & secondary supplementary education is the largest contributor to online education. Reskilling & other online education sectors are also on the rise because of new learning for the job market.

Earlier students were taking online education as complementary education along with traditional education & students were used to taking online classes after school time. However, COVID-19 converted that into full-time courses & this gave a chance to EdTech companies to acquire new customers by providing better content & free online options. Government policies are supporting online education & the government also launched some of the e-learning portals such as E-pathshala, swayam & other portals which are providing free online education in India. There are different types of service partners in the online education system such as content providers, service providers, and software & hardware providers. With the advent of COVID-19, the role of everyone increased as well as opportunities also increased for everyone.

There is a problem with better content quality providers & the outcome of every content is studied. There is a need to work on making content more authentic & their outcome should be judged. Content is the main part for any EdTech firm, & these firms should create an ecosystem in which teachers, colleges & universities help each other to provide the best quality content. More than 4450 startups are providing different services across the country. Government should work towards creating an ecosystem for them by providing easy infrastructure, facilitating funding, easy laws & policies so that they can work better towards society & can create a robust online education system. Internet connectivity, hardware availability, & power supply are the major concerns in remote areas. Government with private partnership should improve the connectivity & power supplies & should create zones in the town for purchasing hardware items, which are needed for running an online education Teachers' training is another area, which needs attention in most of the schools in either urban areas or rural areas. Teachers are not well versed to handle tech devices & their uses. Private & government schools should provide training to these teachers so that it will be easy for them to use these technologies in a better way in providing online education. The revenue model for EdTech firms should be strong enough for their survival. No business can run without a strong business model. Therefore, business strategies should be prepared in advance to meet the investors' expectations. In nutshell, online education in India is on increasing trend & COVID-19 opened the bigger road for the EdTech companies to grow leaps & bound. Their growth will be more than expected by different organizations such as KPMG, Mckinsey, MHRD, WEF.

REFERENCES:

WEB REFERENCES:

- <https://en.unesco.org/covid19/educationresponse>
- <https://www.indiatoday-in.cdn.ampproject.org/v/s/www.indiatoday.in/amp/education-today/featurephilia/story/covid-19-impact>
- http://www.educationinsider.net/detail_news.php
- <http://www.education.ie/en/Schools-Colleges/Information/Information-CommunicationsTechnology-ICT-in-Schools/Digital-Strategy-for-Schools/Building-Towards-a-Learning-Society-ANational-Digital-Strategy-for-Schools-Consultative-Paper.pdf>
- <https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099>
- <https://brandequity.economictimes.indiatimes.com/news/business-of-brands/future-shock-25-education-trends-post-covid-19/75729537>
- <https://www.latestlaws.com/articles/impact-of-covid-19-on-education-system-in-india/>
- <https://www.orfonline.org/expert-speak/how-the-surge-in-covid-19-cases-is-providing-opportunities-to-ed-tech-in-india-65122/>
- <https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-to-rise-by-40-smartphones-to-double-by-2023-mckinsey/articleshow/69040395.cms?from=mdr>

- <https://www.worldbank.org/en/topic/edutech/brief/how-countries-are-using-EdTech-to-support-remote-learning-during-the-covid-19-pandemic>
- Ministry of Human Resource Development, Department of Higher Education, 2019
- Education technology. Coronavirus and beyond, Credit Suisse
- Digital Economy Report 2019, VALUE CREATION AND CAPTURE: IMPLICATIONS FOR DEVELOPING COUNTRIES-United Nations.
- Learning Market Trends & Forecast 2017-2021, Docebo.
- EdTech, The advent of digital education, 2018, NASSCOM.
- Educational Statistics at glance, MHRD, 2018.
- Global Online Education Market Forecast 2018-2023, www.knowledge-sourcing.com.
- Education & Training, www.ibef.org, 2019.
- Potential Impact of COVID-19 on the Indian Economy, 2020.
- Online Education In India 2021, A Study by KPMG & Google, 2017.
- Transforming learning through mEducation, Mckinsey & Company.
- Issues and Challenges for Teaching Successful Online Courses in Higher Education, Aug 2017, Journal of Educational Technology Systems.
- Future of Jobs Report, 2018, World Economic Forum.
- https://www.ugc.ac.in/ugc_notices.aspx?id=MjA2OA==.
- Education in India, Stefan Trines On September 13, 2018, Asia Pacific, Asia Pacific, Credential Evaluation Issues, Education System Profiles, Mobility Trends