Future of Edtech
What India’s education system can learn from e-learning

Introduction and overview
India holds an important place in the global education industry. The country has one of the largest networks of higher education institutions in the world, with ~260 million students enrolled in >1.5 million schools and ~39,000 colleges, primarily dominated by the private sector.
According to the British Council’s report, The School Education System in India - 2019, the Indian formal education system comprises four levels: primary (for ages 6-10), upper primary (ages 11-12), secondary (ages 13-15) and higher secondary (ages 17-18). Pre-primary (ages 3-5), vocational classes, coaching classes and technology-based education courses act as a supplement to the formal education system. The presence of a large working population and increasing requirement for skilled workers are instrumental in the prominent growth of vocational education in India.

### Indian Education System - Segments and Market Opportunity

<table>
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<tr>
<th>Segments</th>
<th>Schooling</th>
<th>Higher Education</th>
<th>Vocational Education and Skill Development</th>
<th>Ancillary Segments</th>
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<tr>
<td>Early Childhood Education</td>
<td>Early Childhood Education</td>
<td>Graduation (General and</td>
<td>Vocational Education in Manufacturing</td>
<td>Test Preparation</td>
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<td>(Pre-schools)</td>
<td>(Pre-schools)</td>
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<td>and Tutoring</td>
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<td>K-12 Schools</td>
<td>Postgraduation (General and</td>
<td>Research (PhD)</td>
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<td>Context: Textbook</td>
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<td>Professional)</td>
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<td>and e-learning</td>
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<td></td>
<td>Market Size: US$ 28 billion</td>
<td>CAGR: 20%</td>
<td>CAGR: 22%</td>
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Source: Technopak - SimpliLearn Whitepaper on Digital Learning Market in India (August 2016)

Online channels of education acts as an extension to the primary and secondary education, hobbies and language learning courses, with the industry players offering B2B, B2C and C2C solutions that are in line with customer requirements.

Online education is convenient as it enables flexible learning, which is not based on time and place, and students only require a laptop or a smartphone with an internet connection. This flexibility allows working professionals to pursue new courses, which can be completed at their own pace. Also, this mode of education is more cost-effective than a regular on-campus degree; this helps students who cannot afford a regular college degree to pursue/complete their degrees. Moreover, online courses are now recognised and accepted by numerous companies and employers in India as long as these courses have been accredited and approved by the Distance Education Council (DEC) of India. In addition, companies are also encouraging their employees to upgrade their skill sets through online education.

In an interview with Press Trust of India, published in Financial Express in April 2019, according to the co-founder of UpGrad, Mr. Mayank Kumar, the Indian education system is evolving and attaining a holistic approach. He said, “With industries directly connecting with e-learning institutions like ours, the content has never been so up-to-date. All this put together makes e-learning platforms complete; students and working professionals future-ready, in a matter of months.” Mr. Kumar also said that the e-learning penetration is observed in various large and mid-sized organisations for a cost-effective mode of skill development and training sessions.
MARKET SIZE

In India, the education market stood at US$ 100 billion in 2016 and is expected to reach US$ 180 billion by 2020, presenting itself as a lucrative opportunity for monetisation. Introduction of technology has led to increasing acceptance of alternative learning modes such as online learning in India. As of 2016, India witnessed a growth in users with 40% of the total population using the Internet. The internet user base is expected to reach 735 million by 2021, highlighting a positive outlook for online education in India. With the highest adoption rate of technology among the youth and an exponential rise in the number of smartphone users, the country will witness an incredible pace of internet growth. The online education market stood at US$ 247 million in 2016 with ~1.57 million paid users; is expected to expand at a 52% CAGR to reach US$ 1.96 billion in 2021 driven by increased consumer adoption, improvements in offerings and changes in business models. The paid user base is expected to increase from 1.57 million users in 2016 to ~9.6 million in 2021. Out of 1400 edtech companies in the world, India has the second-highest number with 327 companies (10%).

Market Drivers

Online education in India is evolving at a rapid pace owing to the following factors:

**Low cost of online education:** In India, for their children’s secondary education, parents spend Rs. 36,000 (US$ 484.19) in government schools and Rs. 396,000 (US$ 5,326.05) in private schools; ~Rs. 18 lakhs (US$ 24,209.33), if the child is studying in a boarding school. In addition, graduate and postgraduate degrees in engineering, medicine, science, and commerce are also expensive. According to the World Education News and Review report, from 2015 to 2016, ~1.5 million schools in India had incurred heavy administration costs, including costs on staff salaries, stationery and books. Online education providers, on the other hand, can easily reach out to the masses without setting up a physical infrastructure or incurring large administrative costs. According to the KPMG report on ‘Online Education in India 2021’, online skill enhancement courses are 53% cheaper than offline alternatives. Therefore, savings are passed to the users thereby, making the course more cost-effective.

**Availability of quality education:** Online education channels provide quality education to students. Open courses and distance learning enrolments are expected to rise to ~10 million in 2021 increasing at a CAGR of 10% between 2017 and 2021.

**Traditional model unable to fulfil demands:** The government aims to raise gross enrolment ratio of higher education in India from 26.3% in 2018-2019 to 30% by 2020. The country is expected to have the world’s largest tertiary-age population and second-largest graduate talent pipeline by the end of 2020. However, the existing educational infrastructure is not equipped to meet the additional requirements. E-learning can act as a supplement the conventional model and help bridge the gap to a considerable extent.

**Lack of educational infrastructure and qualified faculty:** Educational infrastructure should include services such as buildings, playgrounds, power supply, and intellectual infrastructure such as libraries and well-trained, qualified teachers for a seamless experience. However, with the increasing real estate prices and lack of space, constructing news schools can be challenging to cater to the growing population of India. According to a Business Standard news article published in January 2020, one in six elementary school teachers are not professionally trained and only 2% of the 2018-2019 ‘Samagra Shiksha Abhiyan’ (an holistic education programme) budget is being spent on training teachers.
Online education, on the other hand, offers services by qualified faculty who can be present anywhere in the world and can cater to a large number of students without the need of a real estate property to construct a school.

**Digital-friendly government policies:** The government has launched several programmes such as ‘Digital India’ and ‘Skill India’ to spread digital literacy, create a knowledge-based society and implement three principles ‘access, equity and quality’ of the education policy.

**Course demand among working professionals and jobseekers:** The Indian job scenario is reeling under the twin pressure of layoffs and job paucity, especially due to automation and slowdown in the global economy. The current unemployment rate is 5%, which has been the highest in the last five years. With ~1 million Indians entering the workforce every month and India’s working age population is expected to reach 64% of the total population by 2021, there is a dire need of job creation. A report by the United Nations Development Programme highlighted that 58% unemployed graduates and 62% unemployed postgraduates stated that the non-availability of jobs matching their skill sets and education is the primary reason for their unemployment. The existing formal degree courses in India do not impart ‘on-the-job’ skills. Owing to these factors, both jobseekers and working professionals feel a need to gain, refresh or enhance their skills through career advancement courses. Such courses could increase the candidate’s chances of landing better jobs, switch jobs, get promotions, negotiate better pay packages and stay relevant in the industry. Online career courses are affordable, provide hands-on knowledge, can be completed in shorter time than an offline course and offer flexibility in terms of personal schedule.

**Growth in Internet and smartphone penetration:** The number of Internet users is likely to reach 735 million by 2021. India is also the world’s third-largest smartphone market with the number of users estimated to reach 369 million by 2018. The Internet offers huge accessibility to enrol in distance courses for the young demographic (aged 15-40). This age group is the most active consumers of smartphones and the Internet, and looking for online learning modules to fulfil their educational requirements without having to move out of home, office, or city. In addition, the Internet also makes it easy to avail numerous courses, degrees and certifications worldwide for both urban and rural populations.

**Investments in Edtech in India**

In India, edtech has been the most funded sector in 2020 with venture capital (VC) investments in edtech start-ups having tripled from January to July 2020 to US$ 998 million, from US$ 310 million. According to experts, many edtech companies are seeing a 3-5% rise in free audiences and ~50-100% growth in monthly revenues due to the ongoing COVID-19 pandemic. This development signifies the fast emergence of the edtech segment as a favourite sector among global and domestic venture capital and private equity firms. According to Venture Intelligence data, between January and June 2020, investors infused US$ 998 million in 31 deals, over 42 deals worth US$ 404 million reported in 2019.

### Investments in Edtech Market in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Deals</th>
<th>Investment Amount (US$ million)</th>
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<tbody>
<tr>
<td>2020 (January-July)</td>
<td>31</td>
<td>998</td>
</tr>
<tr>
<td>2019</td>
<td>42</td>
<td>404</td>
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<tr>
<td>2018</td>
<td>42</td>
<td>664</td>
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<td>176</td>
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<tr>
<td>2016</td>
<td>33</td>
<td>194</td>
</tr>
<tr>
<td>2015</td>
<td>26</td>
<td>81</td>
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*Source: Venture Intelligence*
Total Venture Investment in Edtech Start-ups

<table>
<thead>
<tr>
<th>Top VC Investment in Edtech Start-ups</th>
<th>Investors</th>
<th>Investment Amount (US$ million)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byju’s Classes</td>
<td>Tiger Global</td>
<td>300</td>
<td>January 2020</td>
</tr>
<tr>
<td>Byju’s Classes</td>
<td>General Atlantic</td>
<td>200</td>
<td>February 2020</td>
</tr>
<tr>
<td>Unacademy</td>
<td>Steadview Capital, Blume Ventures, Nexus Venture Partners, Sequoia Capital India, General Atlantic and others</td>
<td>110</td>
<td>February 2020</td>
</tr>
<tr>
<td>Vedantu</td>
<td>Coatue Management, GGV Capital, WestBridge, Omidyar Network and Tiger Global</td>
<td>100</td>
<td>July 2020</td>
</tr>
<tr>
<td>Toppr</td>
<td>Foundation Holdings, Kaizen PE and others</td>
<td>47</td>
<td>July 2020</td>
</tr>
</tbody>
</table>

Source: Venture Intelligence

Byju’s topped the chart as the company raised $500 million in two transactions with Tiger Global and General Atlantic investing US$ 300 million and US$ 200 million in January and February 2020, respectively. The other top VC investments in the sector included Steadview Capital, Blume Ventures, Nexus Venture Partners, Sequoia Capital India, General Atlantic of US$ 110 million in Unacademy. It was followed by GGV Capital, Coatue Management, WestBridge, Omidyar Network and Tiger Global with US$ 100 million in Vedantu. The third top deal was Foundation Holdings, Kaizen PE, others investment of US$ 47 million in Toppr.

Mr. Rahul Kishore, Managing Director of Coatue Management, said, "Online learning adoption in India is at an all-time high, setting a new benchmark for the rest of the world. As we continue to focus on driving high-growth ventures, our investment in Vedantu marks our entry into the Indian edtech market. This move underlines our strategy to partner with companies that are strategically positioned for high growth & scale. We are excited to partner Vedantu in their next stage of growth."

SEGMENTATION

The digital learning market in India is categorised into three segments: K-12, professional courses, enterprise training and other modes of training.
With the current enrolment of >250 million, the K-12 segment is the largest and is the most attractive segment for digital learning providers in India. Digital learning in the K-12 space comprises sub-segments such as smart class solutions, online tutoring, online preparation for exams, simulation and virtual reality, STEM learning, AR and robotics and assessment. In India, sub-segments such as simulation, STEM and augmented reality, tablet learning and online tutoring are at an early stage of adoption. Key players in this segment have been pushing the boundaries of innovation and delivering learning in the form of novel and more technologically efficient models.

**Professional courses**

The global online professional education market is expected to exceed US$ 9 billion by 2020, rising at CAGR of 14% between 2016 and 2020. Professionals are seeking expertise through online courses being offered by various companies in order to elevate their career graphs. Employability is another key factor that is considered by learners seeking online professional education. Big data, project management, mobile app development, cloud computing and digital marketing are some courses that are undertaken by professionals for upskilling. Market leaders such as Simplilearn, AnalytixLabs and Jigsaw Academy have been providing education to professionals and educators.

**Enterprise training**

Corporate training is classified into two broad sub-segments—technical training and professional and management development. The objective of technical training is to impart technical skills required to successfully complete an assigned task; and professional and management development includes training in business communication and etiquette, cross-functional skills, leadership development, etc.

Other modes of training include self-paced e-learning, live online learning and flexible online learning.

**GOVERNMENT INITIATIVES**

Government awareness programmes have framed the importance of education in people’s minds, leading to skilled jobs. However, the lack of adequate infrastructure, facilities and teachers have led to lowering the quality of education in the country. In the Indian Union Budget 2020, the government announced an allocation of Rs. 99,300 crores (US$ 13.3 billion) to improve the country's overall education system, including Rs. 3,000 crores (US$ 403.1 million) for skills development—highlighting its focus on building skills for new-age technologies.

Amid the COVID-19 crisis, the Government of India launched initiatives to boost the online education in India. The Ministry of Human
Resource Development introduced SWAYAM (study webs of active learning for young aspiring minds), an online learning platform run by the Ministry of Human Resource Development (HRD), which has attracted >25 lakh registered users across 60 countries, including India, the US, Canada, the UK, UAE, Germany, Australia, Nepal and Singapore. SWAYAM has a repository of 1,900 courses. In addition, the Ministry is also running other learning platforms such as Diksha, e-pathasala, NROER (National Repository of Open Educational Resources), NIOS (National Institute of Open Schooling), e-yantra (robotics education), FOSSEE (open source software for education), virtual labs and language learning programmes. Most platforms are run by the National Council of Education Research and Training (NCERT), an autonomous organisation of the HRD Ministry.

In May 2020, the Finance Minister of India, Ms. Nirmala Sitharaman, launched ‘Pradhan Mantri e-VIDYA’, a digital education initiative, to boost interest in edtech start-ups. This programme helps students, especially those who do not have access to internet, learn through television and radio.

Ms. Sitharaman also announced initiatives such as Swayam Prabha, a programme with 12 new TV channels (one for every grade in K-12), an unprecedented step towards increasing the reach of educational content for Indian households, especially the ones with limited access to high-speed internet connection for unhindered consumption of learning content. This initiative is expected to significantly increase the adoption of e-learning in India. Access to 24x7 channels, which run digital content for students, will make them accustomed to beyond school learning and e-learning.

As conventional tools of evaluation could not be used amid the COVID-19 pandemic, the Ministry of Human Resources Development developed an online students evaluation portal- ‘https://dosenl.in’. The portal can be easily accessed through any Mobile/Laptop/PC and works efficiently even in 2G internet connection. It includes two tests, each of 45 minutes for every subject, from the broadcasted video lessons.

REGIONAL INITIATIVES – BY STATES

In the wake of COVID-19 pandemic, as the attendance in schools and colleges have been restricted, various state governments have taken initiatives to encourage online learning.

**Goa**

In October 2020, the state government launched ‘Dishtavo’, an online channel consisting of >20,000 lecturers for students in higher education. This initiative makes Goa the first state in India to create such an infrastructure for higher education. The Directorate of Higher Education (DHE) has plans to create e-mitras to help students overcome poor internet connectivity issues. In an interview with Times of India in October 2020, the Chief Minister, Mr. Pramod Sawant said, “No other state has taken such an initiative. Goa is the first state to provide online training to its teachers. Dishtavo is permanent infrastructure created for students.”

**Uttar Pradesh**

In October 2020, the Uttar Pradesh authorities launched a higher education digital library that will provide content and be available to students free of cost. This digital library will offer a collection of >35,000 e-content material on 134 subjects to students.

Deputy Chief Minister, Dinesh Sharma, who is also the state’s Minister for Secondary and Higher Secondary said, “The digital library is a unique initiative in higher education. Now, students can access the study material created by experts from anywhere and anytime and hence, education will not be confined to the boundaries of the campus and time.”
Delhi

In July 2020, the Delhi government launched LEAD (Learning through E-Resources), a digital platform comprising teacher training content and teaching resources such as lesson plans, energised text-books, concept videos and worksheets. This project is a part of DIKSHA, a digital learning initiative launched by the Ministry of Human Resource Development’s (MHRD’s).

The State Council of Educational Research and Training (SCERT) introduced ‘Online Capacity Building Programme’ (OCBP) to connect and equip teachers across Delhi. The programme aims to provide specific topic-based pedagogical support to teachers and build their capacity in effective classroom transaction. From 2016 to 2020, ~122,863 teachers have been trained and awarded certificates through the online mode.

Andaman and Nicobar Islands

In April 2020, in a joint initiative by the Department of Education, Doordarshan and a local cable TV network, Port Blair started broadcasting pre-recorded tele-classes for the students of Class X and XII throughout the island. The classes included various teaching aids such as power-point presentations and digital tools. The state government also launched a YouTube channel under the name of ‘AN Education Dept Andaman & Nicobar Admin,’ which aired classes for students who wished to revisit the previous lectures aired on the television.

Rajasthan

In October 2020, Rajasthan government under its ‘Aao Ghar Mein Seekhein’ programme partnered with ConveGenius to provide edtech solutions that can be accessed through an AI-based WhatsApp chatbot. This model will implement through formative assessments, individual feedback and content recommendations for personalised learning of students and will follow the syllabus taught in schools. The AI-based chatbot uses interactive, child-friendly learning methods that can be accessed using a smartphone with 2G/3G Internet connectivity.

Himachal Pradesh

Between March 2020 and July 2020, the government of Himachal Pradesh launched the ‘Har Ghar Pathshala’ campaign to engage students in online learning activities during COVID-19. It is a WhatsApp-based initiative wherein the state office (Samagra Shiksha) shares e-content to children through BRCCs and teachers. Students go through the content (videos) and solve their worksheets and send back the photograph of the solved worksheet to their teachers.

TRENDS

The e-learning sector in India will witness the following trends in the next few years:

**Acquisitions:** Numerous new start-ups have been introduced in the last 3-4 years in the edtech sector. For example, Unacademy completed four acquisitions in 2020, wherein in June 2020, the company acquired PrepLadder, a medical education platform for US$ 50 million and coding platform CodeChef; in March 2020, it acquired the online exam prep start-up Kreatryx. In July 2002, it acquired a majority stake in a K-12 platform, Mastree, for US$5 million. In August 2020, Byju’s spent US$ 300 million in an all-cash purchase of WhiteHat Jr., a coding company.
Hybrid models: There will be a convergence of online and offline education models. Online course providers will actively work to provide supplementary education, such as after-school coaching, e-tutorials, internships and live projects. They will also reach out to students at offline touch points such as group discussions and labs. There will be virtual classrooms where traditional offline pedagogy will be aided by digital courses on practical knowledge and soft skills.

Addition of new and offbeat subjects: Apart from popular subjects such as data science, cloud computing and digital marketing, the e-learning curriculum will offer courses in vocational subjects such as culinary management, forensic science and cyber law.

Gamification: To make learning more interesting, competitive and rewarding for academic students and professionals, the digital courses are incorporate features such as badges, discounts and leader boards. Corporates, educational institutions and e-learning platforms are planning to come together to co-develop content.

Peer-to-peer learning and profile mapping: E-learning providers will develop a peer-to-peer model to establish collaborative learning between students through notes and ideas that will be shared on a common platform. Technologies such as artificial intelligence, big data, data analytics and facial recognition will be used to offer profile-based customised courses.

Growing interest of investors: Over years, there have been several large-ticket deals in the Indian e-learning sector. The ‘Chan Zuckerberg Initiative’ invested US$ 50 million in Byju’s; Bertelsmann India added US$ 8.2 million in Eruditus and Kaizen Management Advisors & DeVry Inc. invested US$ 10 million in EduPristine. Another player in the market, Khan Academy, has received financial support from the Bill and Melinda Gates Foundation, Google and Reed Hastings (Founder of Netflix). Therefore, the sector will continue to spark interest among investors and attract funding. E-learning has a promising future; it could be on its way to becoming the next sunrise industry. However, it is highly unlikely that it will replace traditional learning; rather both models will work in tandem. The trio of content, delivery and access will act as a change-agent in shaping online education.

Customisation: Artificial Intelligence (AI) and machine learning (ML) are offering customised experiences for individual learners. In a panel discussion organised by Paypal and Yourstory in August 2020, Arjun Mohan, CEO of upGrad said, “The issue is always with a one-size-fits-all solution (in K-12 and professional courses). While ML and AI are buzzwords, what you are trying to do is tell every student that they are unique, and hence, what they will like and how they will learn will be unique, and that we will give them the content and experience they will like.”

KEY EDTECH START-UPS

The Indian online education market is concentrated with global and Indian players who offer specialised courses across all age group and interest levels.

Key Global Players:

Coursera: Established by Stanford professors, Coursera is a for-profit institute with 15 million users worldwide spread across 190 countries. The app offers >1,000 courses from leading universities around the world. The courses offered by Coursera are free; however, a small fee is charged to procure a ‘Course Certification’ on completion of the course. This is used to attract employers and counted towards college credits. The company has a revenue stream of US$ 1 million per month.
Udacity: Udacity is a for-profit educational company that was founded by Sebastian Thrun. It has 4 million users and has raised US $160 million in funding. Apart from university partnerships, Udacity focusses on engaging with corporates and offers tech-centric ‘nanodegree’ programmes. It seeks to monetise offerings by establishing a proctored exam fee to provide certified credentials to students.

Addition of new and offbeat subjects: Apart from popular subjects such as data science, cloud computing and digital marketing, the e-learning curriculum will offer courses in vocational subjects such as culinary management, forensic science and cyber law.

Lynda.com: Lynda.com is a leading online learning company that helps users learn business, software, technology and creative skills to achieve personal and professional goals. Through individual, corporate, academic and government subscriptions, users have access to the lynda.com video library consisting of engaging, top-quality courses that are taught by recognised industry experts. It has >2 million subscribers and US$ 100 million in revenue and was acquired by LinkedIn for US$ 1.5 billion in 2015.

Simplilearn: The company is the world’s largest provider of short-term certification courses for working professionals and offers multiple modes of training—self-paced online training and instructor-led online classroom training. Simplilearn has trained >500,000 professionals and has >2000 qualified trainers, with >400 courses and 40 global accreditations. It has been ranked the 8th most influential education brand by LinkedIn and acquired Market Motive in the US to extend its presence both geographically and demographically to professionals. It has raised US$ 28 million in funding to date and generated annual revenues of US$ 30 million in 2015. The company also launched a new learning management system (LMS), Paper Clip, which has the industry’s best course completion rate of 80%.

Pluralsight: Pluralsight is an online education company that offers a variety of video training courses for software development, IT administrators and creative professionals. It was founded in 2004 and is based in New Mexico, the US.

Skillsoft: Skillsoft is an American educational technology company that produces learning management system software and content. It was founded in 1989 and is based in New Hampshire, the US.

edX: edX is a non-profit enterprise established by MIT and Harvard. It partners with several academic institutions to offer >700 courses to 7 million users utilising open source software. The company obtained funding from MIT and Harvard, each of which contributed US$ 30 million, while other partners contributed US$10-20 million.

Skillshare: Lectures are taught by industry experts and focusses on experiential learning. These courses, which are not accredited, accept everyone who want to learn. Most courses focus on interaction than lecturing, with the primary goal of learning by completing a project. The main categories of learning are creative arts, design, entrepreneurship, lifestyle and technology. It has raised US$ 22.5 million in funding and moved to a membership revenue model, featuring access to all courses for a small fee.

Key Indian Players:

Byju’s Classes: Byju’s has become India’s largest education technology (learning) company by reinventing the way students learn, through its learning app, with >3.5 million students on the platform. The learning app offers original content, watch-and-learn videos, animations and interactive simulations. The company raised US$ 75 million from Sequoia Capital and Sofina. “The main idea behind starting BYJU’S was to make learning accessible, effective, engaging and personalised for everyone,” said Byju Raveendran, founder of Byju’s.

Meritnation: It is an online education portal that provides interactive study materials for K-12 students. The website has crossed 10 million users and claims to be adding 8000 new K-12 students every day, of which >60% are mobile users. In addition, 30% users are from Tier-2 cities and below. Meritnation reported revenue worth US$ 3.2 million in 2014-15.
LearnSocial: It works on an aggregator model and offers live instructor-led online courses on a wide range of topics including technology, languages, business management, robotics and arts such as music, editing and others. The platform supports low internet speed; thus extends its reach to remote areas. It has partnered with >200 experienced industry experts and has >200,000 users; raised US$ 5 million in Series A funding.

Intellipaat: Established in 2011, the company provides online training to IT professionals through corporate training and self-paced courses and offers >80 technological courses across different domains. It has witnessed ~1,000% increment in terms of growth and has >2,000 users. The company caters to corporates such as Genpact, Ericsson, Sony, Cisco, TCS, Wipro and Tata Communications.

Everonn: The company started delivering VSAT-enabled education in India in 2004, and by June 2011, it had >8 million students at 10,139 learning centres across 27 states. The company provides a blend of traditional and digitalised content to schools, colleges and retail segments. Everonn’s strategy has helped in offering quality education to students even in the most remote parts of India. It recorded revenue worth US$ 4.26 million in 2015.

Educomp: It is the largest education company in India and the only company spread across the entire education ecosystem. Educomp has >30 million learners and educators across 65,000 schools since 1994. The company is a leader in digital content solutions for the K-12 segment. Its flagship product, the Educomp Smart Class is a teacher-led educational content solution using VSAT (very small aperture terminal) and focusses on K-12 courses and test preparation. It claims to have improved educational outcomes in private schools. It generated revenue worth US$ 91 million in 2015-16.

NIIT: NIIT offers learning management and training delivery solutions to corporations, institutions and individuals in 40 countries. Since 2006, the company has been offering courses on corporate training, vocational training for services sectors and education & training for schools. It generated revenues worth US$ 57 million in 2014-15.

Open and distance learning universities: Distance learning initiatives by Indian universities involve online education dissemination. IGNOU (Indira Gandhi National Open University) offers the largest number of certificate courses at affordable rates. It started the ‘Virtual Classes Initiative’ (VCI) in collaboration with Edexel in the UK and the Government of India’s Ministry of Information Technology. Sikkim Manipal University also offers executive education programmes under the ‘Open and Distance Learning’ (ODL) mode, along with Symbiosis Centre for Distance Learning and several other universities.

**CHALLENGES**

The Indian online education market is concentrated with global and Indian players who offer specialised courses across all age group and interest levels.

**Key Global Players:**

Insufficient digital infrastructure: While the government has been making efforts to create and improve the digital infrastructure across the country; however, there has not been any noteworthy progress. According to the World Economic Forum, in India, only 15 out of 100 households have access to the Internet and mobile broadband is a privilege for only a few students, with only 5.5 subscriptions for every 100 people. Further, at present broadband reaches just ~600 corridors, largely in and around the top 50-100 Indian cities, leaving rural areas with poor connectivity.
Poor learning engagement: In traditional classrooms, student-teacher and peer-to-peer engagements are high; learners can approach their instructors and fellow students for feedback or discussions and get their concerns addressed on-the-spot. While, e-learning is not yet been well developed to stimulate open-ended or crowd learning, unless the courses are conducted live with the help of an online instructor.

and quality: The lack of standardisation of online programmes and their formal acceptability remain a concern. E-learning players offer multiple courses on the same subjects with different levels of certifications, methodology and assessment parameters. Online courses are designed and conducted by different instructors, who may be given the autonomy to design the curriculum. So, the quality of courses differs across various e-learning platforms. Most online courses do not get academic credits, credibility and recognition in the traditional educational ecosystem.

Lack of standardisation, credibility

Language of the courses: India is a multilingual country and majority of the population is from non-urban areas. The online courses mostly focus on English content limiting itself to the English-speaking diaspora. Lack of quality content in regional dialects limits self-learning opportunities for students from vernacular medium.

Low completion rates: Online courses are based on self-paced learning. There is minimum or negligible motivation due to lack of face-to-face interaction. Hence, the completion rate of online courses is low.

STRATEGIES

Building a powerful and credible brand: It is important for online learning providers to build a trusted credible brand. Users make a very conscious call when it comes to choosing any learning platform as it is going to impact their jobs, career, and their life for the next 30-35 years. As the audience varies across school children, parents or a professional, it is necessary for online learning companies to build a strong brand perception.

UI/UX and content: Since consumers are spending more and more time on apps, organisation, categorisation and discoverability of the content are important, especially with multiple streams being available. It is important to have FAQs and ‘Live’ chatbots for ease of interaction and access.

Price points and packages: Price is a very important factor. Companies are offering lower/midlevel price points courses based on region or geography to make courses accessible to people from all walks of life.

Site/App crash monitoring: Companies are keeping a close check on site and app traffic to avoid fraudulent activities. Steps are undertaken to monitor site and app load to prevent server crashes when multiple students are simultaneously logged in, as uninterrupted learning is an important requirement by users.

Certification and gamification: To retain the student’s interest,
companies are offering live games among peers or with an interactive chatbot for learning operational innovations. Also, companies are offering certification on courses that act as beneficial incentives for students.

**Partnerships:** Companies are partnering with exclusive educators to help establish brand loyalty and user retention. Also, they are focussing on both live and recorded classes for increased interest.

**Changes in the Education System**

In recent times, the COVID-19 pandemic has severely impacted the education sector, accelerating the shift to digital learning models as the educational institutes are closed due to the virus outbreak.

**A shift in education from schoolroom to homeroom:** As classroom sessions are no longer feasible during the lockdown, educational institutions have quickly innovated and augmented their digital capabilities to make up for the lost teaching hours. Most private schools in urban India have started offering online classes that support student-teacher interaction on a real-time basis. However, this has not been offered by government-aided schools and low-fee category educational institutions as they have limited resources and cannot offer the same quality of digital learning options. Some of India’s leading educational technology start-ups have also began providing free access to their learning platforms. Top edtech start-ups have witnessed a steep surge in demand for their content. DIKSHA, a digital platform for school education launched by the Government of India, registered over six million views during the first three weeks of the lockdown.

Current trends indicate that digital formats will be an integral part of educational institutions in the post COVID-19 world. With some meticulous planning and access to research tools, digital formats can help achieve the three vital aspects of education, i.e., reach, equity and quality.

**Change in infrastructure:** In the wake of the pandemic, the focus on education is likely to shift from physical to digital assets, which may ease some of the pressure on the already stretched physical infrastructure in India. This also implies that large parts of rural India, financially and socially marginalised sections, and especially, underprivileged women and children, will be at a disadvantage due to unavailability of digital infrastructure. To overcome this problem, few state governments have started exploring the use of low-cost digital platforms for dissemination of learning content to the masses. For example, the Government of Kerala announced to set up neighbourhood study centres for students who do not have access to televisions, smartphones, or the Internet. These centres will be provided televisions at a subsided cost.

**Role of peer groups:** Learning at schools and colleges is not limited to classrooms but also include peers and cohort groups. With the switch to digital learning, many lifestyle and behavioural lessons are lost. It is necessary for education institutes to address these issues through digital teaming or a mixed mode of combining face-to-face meetings, along with digital lessons, to achieve this objective. A detailed plan with inputs from experts in the field of education as well as from teachers, students, parents and psychologists needs to be developed to incorporate the holistic purpose of learning.

**Future**

At present, due to the global pandemic, schools and universities across countries have switched to digital or online models to allow students to continue their learning. This has potentially disrupted the well-established models in school (K-12) education and university formats permanently. The popularity of tech-enabled learning solutions in the Indian education system is only going to accelerate further as educational institutions, teachers,
parents and governments become increasingly willing to adopt technology. The sector is likely to witness heightened activity in innovation, new ventures, investments and mergers & acquisitions (M&As) in the future.

**New Education Policy 2020:** With varying circumstances, changes have been made in the education policy focussing on the importance of leveraging technological advantages. In the policy, various initiatives will be undertaken such as pilot studies for online education, content creation, digital repository and dissemination, setting up digital labs, providing training incentive for teachers and need for standards on content, technology and pedagogy for online/digital teaching and learning.

**Covid-19 influence on the edtech market:** Various government initiatives such as Swayam, DIKSHA and E-Vidya and individual state initiatives, during the COVID-19 pandemic, reflect that transformation of the education sector is the need of the hour and that the edtech companies are the ones that have a significant role to play in this change. Therefore, while the edtech companies are improving their digital ecosystem to reach out to more students and working professionals, the government must design initiatives and reforms to encourage online learning in the country. The digital infrastructure must be improved across Tier 2 and Tier 3 cities. Digital platforms need to cater to the user experience for regional viewers with options of translation and transliteration of the online learning interface. Lastly, innovative pricing model must be worked out in collaboration with schools and the government.

**Post Covid-19 influence on the edtech market:** As growth in the sector is likely to decline in the future, the number of users might not drop as they have already invested in digital tools such as smartphones or laptops to access the online learning courses. In a Forbes India article in 2020, Arjun Mohan, CEO of upGrad, India said, “COVID-19 gave the edtech sector an opportunity to service customers who had never used such platforms before. If their experience was good, they’ll stick on.”

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