



**INDUSTRY ANALYSIS AND PROGRESS OF THE EDTECH SECTOR IN INDIA.**

**DR. ABHILASHA BHARTI**

**ASSISTANT REGISTRAR**

Indian Institute of Information Technology (IIIT), Bhagalpur.

**INTRODUCTION**

EdTech, short for "education technology," leverages computers, computer programs, and educational systems to deliver learning and training to students and personnel. Its aim is to integrate information and communication technology tools into the classroom, fostering engaging, comprehensive, and personalized learning experiences. The origins of modern EdTech can be traced back further than commonly perceived, as it naturally evolved alongside advancements in technology.

As early as the mid-twentieth century, educational institutions and training centers began utilizing available technology, such as copy machines and training films, for computer-aided learning. Governments in English-speaking countries started producing educational radio programs during the 1920s, introducing the concept that learning could be enjoyable and extend beyond the traditional classroom setting. In the 1960s, computers were already being experimented with in educational settings to assist in teaching subjects like math and spelling. Many millennials can recall the excitement of having a large TV and VCR rolled into their classrooms, making school more enjoyable. During this period, students benefited from games and software designed to enhance their learning experience in subjects like geography and history, with titles such as "The Oregon Trail" and "Where in the World is Carmen Sandiego" being prominent illustration. The early 2000s witnessed the widespread use of the internet and a growing recognition that computers would become an integral part of human life. Students began receiving regular computer lessons and touch-typing classes in schools. In 2007, the emergence of Facebook marked a significant shift in how technology was integrated into daily life. Search engines provided students with access to the most up-to-date information in history, revolutionizing the availability of knowledge. This new era of information and technology led to the incorporation of technology not only in classroom education but also in



various aspects of the outside world. Presently, app stores offer a wide range of educational options designed for diverse purposes. EdTech has come a long way from its roots in radio documentaries.

In recent years, the EdTech industry in India has experienced remarkable growth, positioning India as the global hub for EdTech. While the private sector plays a vital role, the public sector acts as a facilitator. The pandemic fueled a surge in EdTech funding within India's education sector. EdTech offers several advantages over conventional learning models that deserve consideration. It is time to redefine what the "new normal" should be for our education sector. Educators, parents, and students have long criticized the one-size-fits-all approach of traditional schooling. EdTech provides tailored classes and content access at a pace that suits individual students. By analyzing data on students' previous learning patterns and performance, personalized recommendations can be made. High-achieving students are no longer held back by catering to the average level of the class, while those requiring additional support can benefit from a slower learning pace and appropriate assistance. Through EdTech, students preparing for competitive exams have seen success rates increase to around 7%, compared to under 1% through conventional mass-teaching formats.

## **LITERATURE REVIEW**

Alexander Zheltov, (2022), India's edtech industry is growing tremendously and is estimated to reach \$10.4 billion by 2025 with 37 million paid edtech users. I've noticed this rise is fueled by the growing request for nonacademic courses in second- and third-tier cities and the demand for customization in the edtech industry. Over the past five years, the sector has raised about \$4 billion in private investment, bringing in global edtech leaders such as Byju's, valued at \$15 billion. We have also seen market leaders emerge, such as Byju's, Unacademy, upGrad, Vedantu and more. With a market size of \$700 million to \$800 million in 2021, the edtech industry is expected to become a \$30 billion industry in the next 10 years, driven by burgeoning demand and emerging business models.

India Brand Equity Foundation, (2023), There's a huge opportunity for India's Edtech industry to grow to around US\$ 10 billion economy by the year 2025. Numerous factors have been supporting the growth and expansion such as high penetration of the internet and smart devices, increase in online content consumption, and the demand for young skilled



professionals in the workforce. There has been prominent growth in the EdTech industry since COVID-19, as the education industry has been negatively impacted during that phase. The need for technological advancement in the existing traditional educational system has contributed to more companies entering this industry with better services. According to the PGA Labs and IVCA report, India's education sector is expected to grow from US\$ 117 billion in 2020 to US\$ 225 billion by 2025.

### **TARGET MARKETS IN THE EDTECH INDUSTRY**

When developing a successful EdTech start-up, one crucial aspect is identifying the appropriate target market. The education sector encompasses diverse audiences, so understanding the needs and preferences of your target audience is vital for creating a resonating product or service. Let's explore some of the largest target audiences in education:

1. **K-12 Education:** This market includes students, teachers, parents, and educational institutions from pre-K to 12th grade. It is a crucial segment for the EdTech industry, with a demand for interactive and personalized learning experiences.

Successful EdTech companies in this space leverage technology, data analytics, and pedagogy to provide effective learning experiences and enable teachers to track student progress.

2. **Higher Education:** This market comprises individuals pursuing post-secondary education, including undergraduate and graduate students, as well as working professionals seeking further knowledge and skills through advanced degrees, certifications, or continuing education. The use of online platforms and technology tools such as Massive Open Online Courses (MOOCs), Learning Management Systems, and virtual classrooms is on the rise.

3. **EdTech companies targeting this market must understand the evolving needs and preferences of learners and develop innovative solutions to help them achieve their educational and career goals.**

4. **Professional Development:** This market caters to working professionals who want to upgrade their skills or acquire new ones to advance their careers. Professionals from various industries and career stages seek flexible and convenient learning solutions that can be delivered online or in-person. EdTech start-ups have a significant growth opportunity in this segment by providing effective professional development options.

5. **Corporate Training:** This market focuses on learning and development



programs offered to employees within organizations. It includes activities such as workshops, seminars, online courses, and on-the-job training to enhance employee productivity, job satisfaction, and overall company performance. EdTech companies targeting this market can provide scalable and effective solutions for businesses of all sizes to offer ongoing learning and development opportunities to their employees.

6.           Language Learning: This market caters to individuals who want to learn a new language, ranging from beginners to advanced learners. EdTech companies offer online courses, language apps, tutoring services, language exchange platforms, and immersion programs to meet the growing demand for language skills in today's globalized economy. Entrepreneurs and start-up founders can capitalize on this market by developing innovative language-learning products that meet the needs of language learners.

7.           Entrance Exams: This market focuses on qualification exams for admission to higher education institutions. These exams not only assess students' knowledge but also their persistence, hard work, efforts, and time management skills.

Other potential target audiences in education include adult education, special education, homeschooling, lifelong learning enthusiasts, skill-based training seekers, and individuals interested in international education. It's essential for EdTech start-ups to understand their target audience's specific needs and tailor their offerings accordingly.

### **EDTECHSECTORREVENUEMODEL**

To gain a comprehensive understanding of a startup's intricate workings, one must examine its revenue model. This model provides valuable insights into the most suitable revenue sources to pursue. For EdTech startups, it is crucial to have a solid grasp of the education sector before delving into revenue considerations. This understanding not only aids in developing a compelling offering for the company but also provides insights into the needs of students and teachers.

By comprehending the education sector, startups can avoid developing obsolete tools that fail to meet the evolving needs of the market. The education sector is a unique marketplace with abundant opportunities and complexities. If you have a groundbreaking idea for the education sector but are uncertain about how to monetize it, it is essential to explore the revenue models adopted by successful EdTech companies. These models can serve as valuable



guidelines for shaping your own monetization strategy.

1.               Freemium Model: The freemium model is a business approach where a company provides a basic version of its product or service at no cost while offering premium features or upgrades for a fee. In the EdTech industry, this entails offering a limited version of an educational platform or software for free, with the option to purchase additional features or services. However, this model can face challenges in the later stages when consumers are reluctant to buy the upgrades.
2.               Subscription Model: The subscription model involves customers paying a recurring fee, typically monthly or annually, to access a product or service. In the EdTech sector, this entails charging users a subscription fee to access educational content or services. This model offers a predictable revenue stream and enables the establishment of long-term customer relationships.
3.               Pay-Per-Use Model: The pay-per-use model requires customers to pay for each individual use or session of a product or service. In the context of EdTech, this means charging users for each course, lesson, or tutoring session. It provides flexibility for customers who may not wish to commit to a subscription or pay for features they do not utilize.
4.               Marketplace: The marketplace model involves creating a platform where buyers and sellers can engage in transactions for goods or services. In the EdTech field, this refers to establishing a platform where educators or experts can sell educational content or services to students or learners.
5.               Partnership Model: The partnership model entails forming strategic alliances with other companies to provide a product or service. In the EdTech industry, this involves partnering with another company or organization to offer educational content or services.
6.               Sponsorship and Grants: The sponsorship and grants model involve receiving financial support from sponsors or grant-giving organizations to deliver educational content or services. An advantage of this model is that by offering a high-quality free product to schools, usage rates can be significant, which is the primary concern for sponsors. Sponsors have the opportunity to create goodwill for their brand and enhance their visibility.
7.               Ad-Based Model: The ad-based model is based on offering a product or service to users for free while generating revenue through advertising. In the EdTech sector, this



means providing free educational content or services while displaying advertisements to users.

#### **EDTECHVALUECHAIN:**

The EdTech Value chain consists of five components viz. (a) Course contents; (b) Technology and devices; (c) app-based aggregators; (d) assessment and testing; and Institutional management.

Commercial EdTech in India comprises both software and hardware tools to enable the use of technology in education.

#### **GROWTHDRIVERS OF EDTECH SECTOR IN INDIA**

The demand for EdTech in India is projected to surge for several reasons. Firstly, there is a strong emphasis on education in Indian society, which fuels the desire for technological advancements in the education sector. Individuals, including working professionals and job seekers, recognize the need to enhance their skills and keep up with technological developments, leading them to seek online advancement courses through EdTech platforms. Secondly, the supply of EdTech solutions in India is growing, providing individuals with a wider range of options for their learning needs. As the market expands, more educational technology platforms and services become available, catering to the increasing demand for online learning. Government initiatives also play a crucial role in driving the adoption of EdTech. The Digital India initiative, aimed at creating a digitally empowered society, has encouraged the use of technology in education. Additionally, the government launched the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) to promote online courses in rural areas, making education more accessible. Furthermore, the National Education Policy (NEP) 2020, released by the Ministry for Human Resource

Development (MHRD), places a strong emphasis on integrating technology into education, which is expected to further drive the adoption of EdTech.

#### **EDTECH STARTUPS IN INDIA**

Presenting a compilation of prominent EdTech companies making a significant impact across the nation:

1. BYJU'S: Established in 2015 by Mr. Byju Raveendran and backed by





renowned investors like Sequoia Capital, Tencent, and Chan-Zuckerberg, BYJU's specializes in simplifying courses and subjects for school children through engaging animations. Its primary focus is on Math and Science, and it currently boasts a student base of 35 million.

2. Toppr: Founded in 2013 and headquartered in Mumbai, Toppr is an EdTech startup that provides customized learning solutions for various educational boards and streams. While Toppr gained popularity for its test series catering to different exams, it has since diversified into e-learning for grades 5 to 12 after securing funding in 2015.

3. Unacademy: Initially established in 2010 as a YouTube channel by Heemash Singh, Gaurav Munjal, and Sachin Gupta, Unacademy has made significant strides in the EdTech space. It offers certificate courses and presents strong competition to platforms like Coursera and Udemy in India, primarily due to its affordable pricing. Unacademy also offers 2,000+ free online courses, with certification provided upon payment.

4. UpGrad: Founded in Mumbai in 2015 and promoted by four founders—Mayank Kumar, Phalgum Komapalli, Ronnie Screwvala, and Ravijot Chugh—UpGrad stands out as a debt-free EdTech startup, funded by its promoters. It goes beyond online courses, providing in-demand services such as interview preparation and resume building.

5. Vedantu: With its headquarters in Bangalore, Vedantu is a rapidly growing EdTech startup. In just six years, it has amassed over 30 million users across 1,000 cities. Vedantu offers free content on platforms like YouTube for promotional purposes and has taken a unique approach to prepare students aged 3 to 12 for coding, providing them with a well-defined roadmap.

6. Gradeup: Founded in 2015 by Sanjeev Kumar, Shobhit Bhatnagar, and Vibhu Bhushan, Gradeup aims to assist candidates preparing for competitive exams such as NEET, JEE, IBPS, and UPSC. The platform offers live courses, diverse test series for all major exams, and an excellent feedback and support system, making it a standout choice for aspirants.

7. Physics Wallah: Established by Alakh Pandey and Prateek Maheshwari, Physics Wallah is a leading EdTech company in India. It offers comprehensive and reasonably priced learning experiences for students in grades 6 through 12, as well as those preparing for competitive exams like JEE, NEET, and BITSAT. The platform provides an array of



resources, including NCERT solutions, sample papers, and previous year exams, serving as a convenient one-stop solution.

## **EDTECHMARKETSIZE**

HolanIQ, Credit SuisseAG, a company engaged in the forecasting of the EdTech sector, the industry is expected to grow at 15 percent of CAGR between 2019-2025 and may touch the US \$ 400 billion. Education technology (EdTech) is a growth-oriented sector in the South Asian region, particularly the Indian context, and can potentially impact billions of people (Credit Suisse, 2020). In India, the market value of kindergarten to twelfth (K-12) was US\$ 1.16 billion, and the total market value of the EdTech sector was \$ 2.8 billion.

According to industry projection, by 2025, the EdTech market size is expected to reach \$ 10.4 billion. Because of less diversity in the Indian EdTech sector, K-12 and Test-Preparation segment, followed by online certification, continue to dominate in the future. The market size of K-12 in 2020 is \$ 1.6 billion and is expected to reach \$ 4.3 billion in 2025. Similarly, the Test-Preparation market is presently pegging at \$ 0.8 billion and is expected to touch \$3.99 billion in 2025. The demand for EdTech will continue to increase further because of supply-side growth and government initiatives and schemes promoting digital technologies and transformation in the education space. It would provide impetus to K-12 and Test-preparation segments. There is a steady demand from the corporate sector for skilling and reskilling factors.

## **IMPACT OF COVID-19 PANDEMIC ON INDIAN EDTECH SCENE**

The global pandemic brought the entire world to a halt as lockdown measures were implemented worldwide, confining people to their homes. The closure of schools and universities led to the emergence of numerous EdTech platforms and services, resulting in a significant increase in their adoption. Governments, schools, universities, students, and professionals globally invested heavily in the EdTech sector. In response to the spread of the Coronavirus, school closures were authorized in over 180 countries, impacting approximately 1.6 billion children and youth. While this statistic is staggering, it is important to acknowledge that these measures were enforced worldwide to curb the escalation of COVID-19 cases. Nevertheless, prolonged school closures have long-term implications for employability and





the development of human capital.

India's EdTech industry, ranking second globally after the US, has experienced remarkable growth. Between 2014 and 2019, India witnessed the launch of 4,450 education-based startups. In 2020 alone, the industry attracted investments exceeding \$1.1 billion, with Byju's emerging as a key player. Byju's secured significant funding, including \$50 million from the Chan-Zuckerberg Initiative in 2016 and over \$1 billion in 2020 from investors such as Mary Meeker, Yuri Milner, Silver Lake, Tiger Global, General Atlantic, Owl Ventures, and DST Global. Unacademy, another prominent EdTech platform, raised \$150 million from investors such as SoftBank, Nexus Venture, and General Atlantic.

While integrating technology into educational institutions and adapting to it may have posed challenges for both institutes and students, the enforced adoption due to COVID-19 likely helped overcome previous barriers in their mindsets regarding EdTech. Educational institutions have also become more aware of the potential of EdTech solutions and the efficiency of investing in technology compared to traditional infrastructure. Additionally, as technology enables cost-effective expansion of educational reach, institutions may discover innovative ways to leverage technology within schools. The implementation of lockdown measures and the widespread fear of COVID-19 transmission have prompted educational institutions, including schools, colleges, and other learning centers, to transition to online platforms.

Notably, EdTech companies such as Vedantu and Byju's in the tutoring sector, Toppr in the realm of learning, and Unacademy offering video lessons, have experienced a substantial increase in their user base during the lockdown. Byju's, for instance, attracted 7.5 million new users during this period, while Toppr witnessed a remarkable 100% growth in its paid user base. The COVID pandemic brought about a significant shift in funding, a crucial factor driving the growth of the Edtech industry. In the first half of 2020 (H12020), there was a remarkable fivefold increase in funding compared to the same period in 2019 (H12019). The total funding reached \$847 million by August 2020, which already exceeded the entire funding amount for 2019, doubling it. Notably, a substantial portion of this funding came from Byju's and Unacademy, who collectively secured over \$300 million. Additionally, several new startups such as iNurture, Masai, Campk12, Pedagogy, Lido, and others also managed to secure funding during this period. The number of



funding deals also experienced a significant surge, rising more than 2.5 times, from 20 in H1 2019 to over 40 in H12020.

## **GOVERNMENT SUPPORT FOR DIGITAL TRANSFORMATION IN EDUCATION SECTOR**

The Indian government has undertaken various measures to advance its digital agenda, aiming to enhance the quality of education and increase the gross enrolment ratio (GER) across all levels of education in the country. The National Education Policy (NEP) of 2020 specifically highlights the importance of online certification for courses and programs offered by universities. This presents a valuable opportunity for the integration of educational technology (EdTech) within the higher education landscape. The implementation of NEP 2020 opens doors to innovative and cost-effective approaches in delivering educational programs, distributing content, and facilitating learning (NEP, 2020).

In the realm of higher education, there has been a significant emphasis on online and digital advancements. Over the past five years, various educational boards such as the Central Board of Education and regulatory bodies like the All-India Council for Technical Education (AICTE), University Grants Commission (UGC), and National Assessment and Accreditation Council (NAAC) have introduced several digital interventions. These measures have compelled institutions such as the Indira Gandhi National Open University and the National Institute of Open Schooling to expand their enrollments and academic offerings through a range of digital interventions. Furthermore, in the aftermath of the Covid-19 pandemic, the National Testing Agency (NTA), established by the Ministry of Education in 2017, has emerged as a pivotal player in student admissions for centrally funded higher education institutions, particularly the Central Universities. Recently, the UGC has entrusted the NTA with the responsibility of conducting common entrance tests for admission into all central universities. The NTA has also been assigned a significant role in facilitating online examinations for SWAYAM-MOOCs through its platform services.

## **CHALLENGES IN INDIAN EDTECH SCENE**

The EdTech market in India is characterized by intense competition and overcrowding, operating within a confined space. Out of the 4,500 start-ups in this sector, only a few have managed to successfully scale their operations and achieve positive earnings before interest,



taxes, depreciation, and amortization (EBITDA) margins. Many companies struggle to generate positive EBITDA margins and fail to expand their reach.

While technology in education can complement traditional educational systems, it cannot fully replace them. There are a few reasons for this:

**Lack of credentials:** In India, a significant portion of the working-age population (54.1% of the total population) still requires an educational degree recognized by authorized boards or authorities for most job opportunities. Since many EdTech players lack recognition from these authorities, they are unable to provide formally recognized degrees. As a result, they often limit themselves to a complementary role rather than offering comprehensive end-to-end educational services.

1. **Open-ended curriculum and limited personal attention:** Technology- based solutions in education face the challenge of effectively addressing the specific learning needs of students due to the absence of face-to-face interaction with teachers and peers. Moreover, the current technology solutions primarily cater to parents' motivations, which can sometimes lead to lower pedagogical effectiveness, especially in primary and secondary education, as they struggle to enforce learner discipline. As a result, parents may prefer offline education over online alternatives that offer more structured learning experiences.

3. **Low user base and customer loyalty:** Due to a lack of differentiation, the availability of free content, and low switching costs, most platforms find it challenging to retain users, particularly those who pay for their services. Many EdTech start-ups struggle to stay relevant in the minds of users, leading to product failures.

4. **Pricing challenges:** Many EdTech start-ups struggle to determine the appropriate pricing for their offerings. Setting a product or service at a high price may hinder the conversion of active users into paid users, while a lower price point may imply lower quality. In either case, the platform risks losing users.

5. **High customer acquisition costs (CAC):** With prices ranging from INR 5,000 to over INR 100,000 (for professional courses), platforms engage in extensive digital and offline marketing efforts, resulting in high acquisition costs. During the initial growth phase, platforms often spend 200-400% of their operational revenue on advertising and marketing. Although expenses may decrease to 40-50% after achieving a desired scale of growth,



marketing costs remain one of the highest expenditures alongside platform and content development.

6. Lack of diversification: Most EdTech platforms operate within the overcrowded space of K- 12 education and test preparation content delivery, targeting the same customer segment without exploring the latent needs of other potential customers.

## **CONCLUSION**

In India, online and digital-based learning have the potential to overcome barriers to access and promote equity. These methods are particularly appealing to digital native learners and receive support from parents. EdTech platforms have played a crucial role in providing flexible and affordable learning options without compromising quality, tailored to meet the specific needs of students. The future of education will rely more on digital technologies rather than physical infrastructure. EdTech can act as an enabler, bridging the social gap between education and learners, and thereby supporting the government and society.

India boasts over 4000 EdTech brands, with new ideas constantly emerging to elevate online learning. It is essential for brands in this space to be present and proactive at every stage of a student's journey. They must not only engage in proactive communication but also continually innovate to bridge the gap between traditional education and online learning. The pandemic served as a catalyst for the EdTech industry, allowing numerous brands to innovate, address problems, and differentiate themselves from the competition. According to studies, becoming a preferred brand amidst the clutter requires a unique product and an effective communication strategy. When students embark on a course, several factors determine their perception of its effectiveness. These include the quality of course materials, performance in assessments, and teaching standards. To retain students, it is crucial to introduce new methods that enhance these experiences and deliver the expected quality. Moreover, creating an online classroom environment and facilitating interaction among peers and tutors can give brands a competitive edge.

Notably, certain EdTech startups like Udemy and Coursera have achieved great success by capitalizing on the higher education landscape during the pandemic, establishing partnerships with universities and corporate sectors. The growing working population and corporate sector



are expected to further fuel the growth of the certification segment in EdTech. The increasing demand for EdTech services also brings forth numerous job opportunities, contributing to economic growth in the years to come. Considering the rapid influx of new brands in the market, with even the ones introduced in 2020 securing significant funding, EdTech organizations need to remain agile, innovative, and responsive to stay ahead.

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