

The Future Of India's \$2 Bn Edtech Opportunity

Report 2020



DataLabs
by Inc42

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Scope Of The Report

This report is based on the assessment of India's online education market and aims to analyse the impact of education technology or 'edtech' on the country's education landscape as a whole. It seeks to provide an in-depth view of the very factors which contribute to the adoption of online education platforms in the country. It focuses on the challenges faced by such platforms in driving users and creating awareness, and is aimed at delivering an overview of the sub-sectors within edtech, besides the adoption of new-age technologies and their defining trends.

The report — The Future Of India's \$2 Bn Edtech Opportunity Report 2020 also underlines the issues pertaining to skilling and reskilling, which has become a pain point in many industries at a time when India is riding on the edge of Industrial Revolution 4.0. The report spans the areas where edtech startups are making skilling and reskilling possible efficiently and effectively. Besides, it discusses at length the factors responsible for the popularity of test preparation and online certification startups among Indian investors.

From a consumer's perspective, a market analysis complemented with behaviour mapping of edtech consumers in India in both the B2B and B2C segments is included.

To provide a holistic view of the sector and the performance of startups operating within it, the report offers a juxtaposition of the funding, M&As and business operations of edtech startups in India. A comparative analysis of business metrics containing annual run rates, expenditure splits and revenue/loss trends included in the report offer a broader view of the money flows.

Overall, this report presents a market study of the Indian online education sector from its evolution to future prospects as a business opportunity for new as well as existing entrepreneurs. India in both the B2B and B2C segment is also included.

Executive Summary

4,450+

Edtech startups have launched in India

\$120 Mn+

GMV of edtech startups in the FY'2018

1,150+

Edtech startups have shut shop

20%

Share of funded edtech startups with female founders

194+

Edtech startups have raised funds

Bengaluru

Recorded the highest number of edtech deals whereas Delhi NCR had the highest number of funded startups

**BLUME
VENTURES**

*Most active VC firm in
edtech*

48%

*Surge in GMV of edtech
startups from 2017 to 2018*

Impulsive

*Buying
behaviour
evident
among
edtech
consumers*

2016

*Had maximum funding deals
in edtech space*

47%

*CAGR of capital inflow into
edtech startups in 2015-2019*

6.3%

*Growth in Indian
consumers'
expenditure on
education from FY12
to FY17*

56%

*Median revenue
growth of edtech
startups from FY'17 to
FY'18*

78%

*Edtech funding skewed
towards test preparation*

Introduction

India is all set to be a part of Industrial Revolution 4.0. With more than 39,000 active tech startups embracing technologies such as blockchain, artificial intelligence, machine learning and data analytics, the startup ecosystem in India is enabling a revolution in all major industries including education.

India has come a long way from being the land of *gurukuls* with an emphasis on traditional elements of teaching covering religious studies as well as Indian mathematics and Indian logic. The Gen C today talks about smartphones, gamification, live classes, online tests and school enterprise resource planning (ERP) systems as an integral part of the contemporary education system.

Education technology startups play a key role here. Challenging the traditional education ecosystem, online education has now grown deep into the community of young students and parents. Access to cheap data packages has made platforms such as YouTube and Tata Sky a popular medium to access education from a consumer's perspective. The rise in adoption of digital channels and cashless payments has led to significant growth in the sector.

Although startups have over time been able to deliver the right content to the right audience and clock aggressive topline growth, they still have a long way to go to gain both acceptance and prominence. According to DataLabs by Inc42, 186 unique edtech startups have raised \$1.73 Bn funding since 2014. The success of startups such as BYJU's, Vedantu and Toppr offers a mere glimpse of the potential in the sector.

From \$247 Mn in 2017, the opportunity in India's online education market is estimated to soar to \$1.96 Bn in 2021. Key driving factors include deeper penetration of the internet and smartphones, rising disposable incomes and the ever-growing demand for reskilling.

With education being the primary expense of Indian households, the education sector in the country has tremendous potential for the emergence of more unicorns like BYJU's.

India's Education Landscape

Key numbers to consider

1.5 Mn
Schools with
335 Mn
enrolled students

8.5 Mn
Teachers

903
Universities

39,050
Colleges

Top 50
Districts have about
32.6%
of total colleges in India

10,011
Standalone Institutions

*As of 2017-2018

500 *General*

126 *Technical*

70 *Agriculture & Allied*

58 *Medical*

22 *Law*

13 *Sanskrit*

10
Language Universities

Total enrolment in higher education has been estimated to be

36.6 Mn

with

19.2 Mn

boys and

17.4 Mn
girls

Large

English-Speaking

population allows easy delivery of educational products

Girls constitute

47.6%

of the total enrolment

As per

2011

census, India has an overall literacy rate of

72.99%

India was ranked

28

out of

88

countries in English Proficiency Index

2018

*As of 2017-2018

Edtech In India: The Beginning

In a dramatic shift from the age of *gurukuls*, the foundation of modern education in India was laid under the British Raj, which led to today's formal, multiple-layered structure of education divided between primary and secondary schools, to graduation, post-graduation, diploma and distance education courses. While schools are governed by education boards such as the Central Board of Secondary Education (CBSE) and the Indian Certificate of Secondary Education (ICSE), institutions providing higher education are governed by statutory bodies such as the Medical Council of India (MCI), the All India Council for Technical Education (AICTE) and The Bar Council of India (BCI).

Over a course of time, the informal structure of education has developed its roots parallelly with the formal system. This includes one-on-one tuitions, coaching classes, vocational courses and technology-based solutions to aid, supplement and replace the traditional modes of education.

With the rise of startups and technology in India, entrepreneurs in this segment have come across a number of gaps and pioneered new-age education with modern business models.

The key gaps identified in the Indian education space:

- **Lack of cost-effective, quality content**
- **Lack of connect between content curators and content absorbers**
- **Skewed teacher-student ratio, particularly in Tier II and Tier III regions**

For instance, the average cost of senior secondary education in India's private schools is INR 55K, which goes up to INR 20-35 Lakhs at the post-graduation level.

With more than 35% of India's 1.3 Bn population under 15 years of age, the scarcity of teachers is one of the biggest and most ignored issues in the country's education system today. Still, the pupil-teacher ratios are much better in private schools compared to their state-run peers (1:31-1:37 in government schools). Although the government is trying to improve the PTR in its schools, teacher absenteeism, and lack of training and proper school infrastructure are creating lacunas in primary education. This impacts K-12 education, significantly affecting the future prospects of students when it comes to clearing entrance exams for college admissions.

The situation is much worse in the higher education sector. India trails behind several countries such as Brazil and China in terms of higher education student-teacher ratio, according to a government report. The ratio of 24:1 in India is much lower compared with 19:1 each in Brazil and China. Among the eight countries compared, India's student-ratio has turned out to be the worst, much behind Sweden's 12:1, Britain's 16:1, Russia's 10:1 and Canada's 9:1.

The need for an alternative mode of education has given rise to the edtech ecosystem in the country, which is expected to grow its user base six-fold to 9.6 Mn in 2021 from 1.6 Mn in 2016.

With India geared up to be a part of Industrial Revolution 4.0, a deeper penetration of education technology portrays a revolutionary impact on the country's overall education system, transforming the way educational content is likely to be consumed in the near future.

Education To Edtech: The Evolution Story

Pre Vedic

2600-1500 BCE

Mode Of Teaching

*Oral recitations, debate and
Discussions*

Mediums Used

*Oral communication, debates and
Discussions*

1500-500 BCE

Mode Of Teaching

Beginning of the gurukul system

Mediums Used

*Manuscripts, debates and
Discussion*

Vedic

Medieval India

501-1857 CE

Mode Of Teaching

*Gurukul and madrassa system on peak
The advent of paper-based learning*

Mediums Used

*Paper-based learning
Debates and discussions*

1857-1991 CE

Mode Of Teaching

*Classroom-based teaching
Emphasis on grades rather
Than skills*

Mediums Used

*Pen and paper-based learning
A direct narration of topics
Exam based evaluations*

Modern India

Post Modern India

1991 Onwards

Mode Of Teaching

Shift towards a comprehensive evaluation
Introduction of more practical modules
Emphasis on non academic activities

Mediums Used

Pen and paper based learning
Direct narration of topics
Exam based evaluations
Internet based live discussion
Internet-based classroom activities

20-25 Years Back

Introduction to smart-boards in schools

Last 5-7 Years

Introduction of learning apps, steam kits, interactive videos and other
Technological advancements

Internet-based live discussion
Internet-based classroom activities

Ongoing Trends

Personalising education content

Inducing deeptech into platforms to better assess gaps and provide
Solutions accordingly

Edtech Startup Landscape In India

With the beginning of the 21st century, the Indian education sector is in a third wave of revolution:

First Wave

- The first wave started around 20-25 years ago with the adoption of smart boards and ERP software to manage day-to-day tasks in schools
- Smart-boards gained popularity in initial years; available to schools at negligible investment, smart-boards enabled schools to charge higher tuition fees

Third Wave

- The Indian edtech ecosystem is placed at the forefront of new-age technologies including AI/ML, deeptech and gamification, putting customisation and personalisation first; startups such as Cuemath, Emotix, iChamp and PlayShifu are leading the path

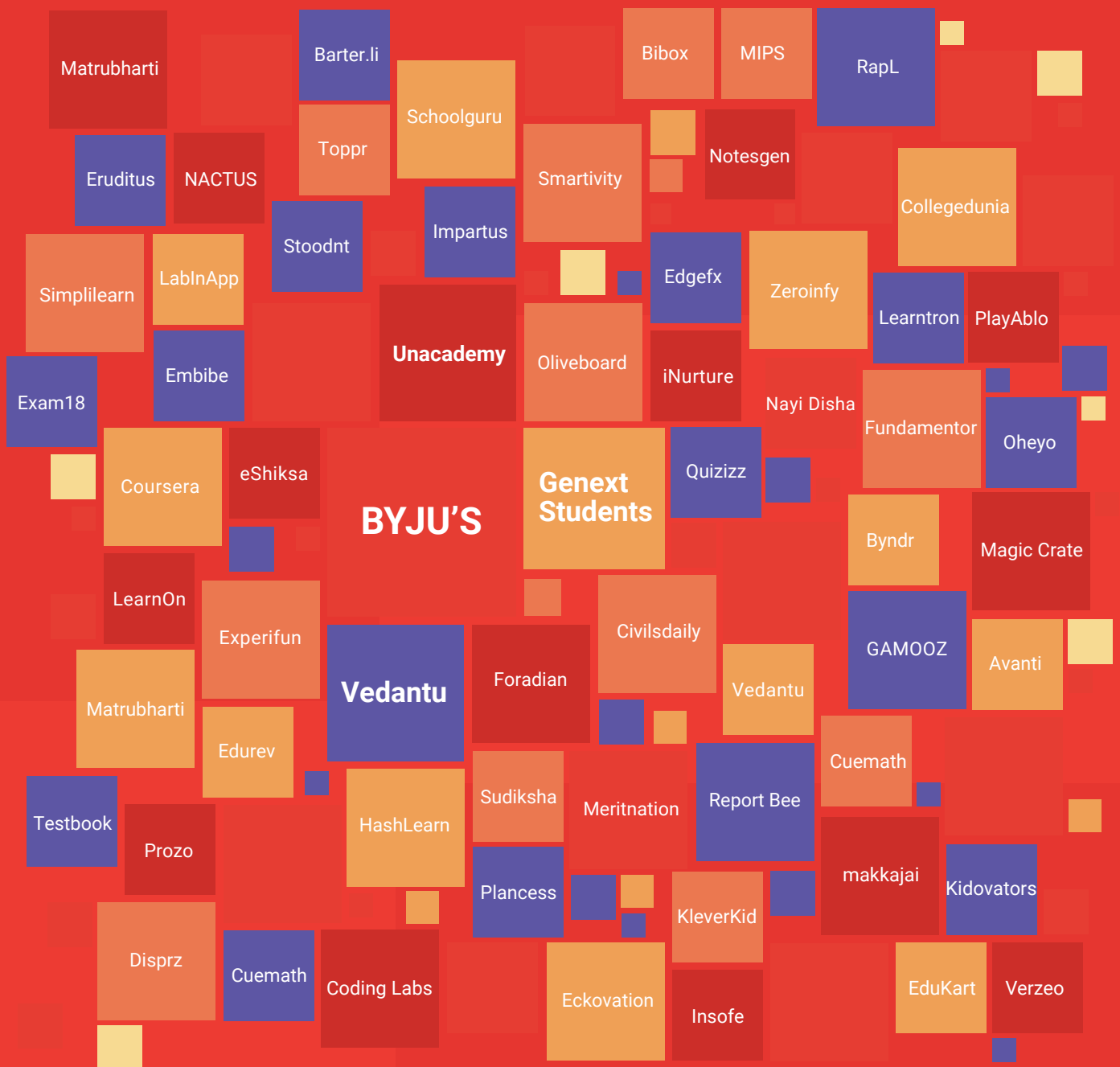
Second Wave

- Increased internet penetration and a fall in the cost of data and smartphone devices marked the entry of K-12 learning apps (Toppr, Simplilearn, BYJU's etc.) and online test preparation startups (TestBook, Embibe etc.)
- The adoption of edtech startups pushed entrepreneurs to dig deeper for sector-specific learning programmes in subjects such as IT and hardware, online certifications (Unacademy, Udemy etc), language learning modules, massive open online courses(MOOCs) and small private online courses (SPOCs)
- This expanded to the adoption of video-based learning (YouTube, Tata Sky), corporate trainings, teacher training, reskilling and STEAM (Science, Technology, Engineering, Art and Mathematics) DIY kits

Edtech In India Today

Startups

According to DataLabs by Inc42 estimates, there are a total 4,450 edtech startups operating in India currently. Between January 2014 and September 2019, around 1,150 edtech startups have shut operations. Key edtech players holding a majority market share in India's education system include BYJU's, Unacademy, Vedantu, Coursera, Toppr and Flintobox.



**only funded startups included, some of the startups have shut down or acquired or merged*

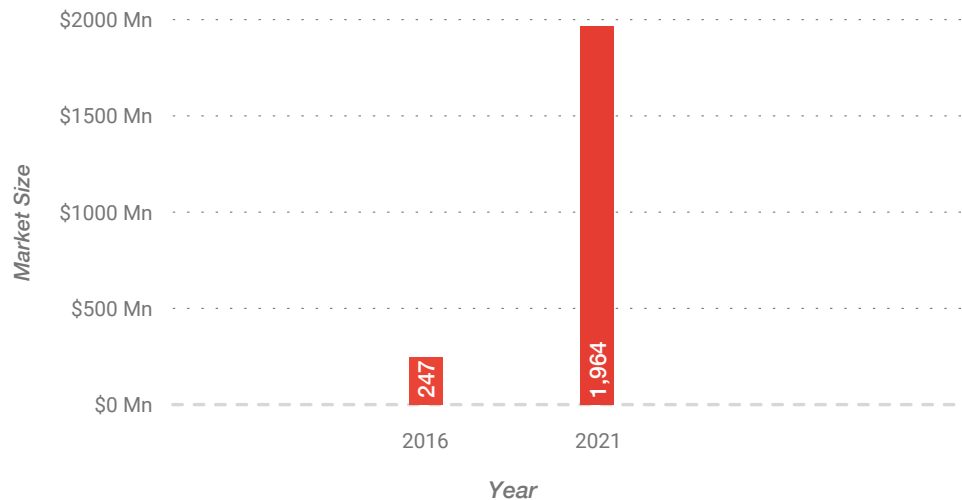
Market Size

In FY19, the size of India's education sector stood at \$101 Bn and its online education market at \$563 Mn. To put it into perspective, the country's online education system comprised a mere 0.56% of the overall education sector. India was ranked 28th among 88 countries in the English Proficiency Index 2018, highlighting the country's position considering a large English-speaking population allows easy delivery of educational products.

A large chunk of the total online education space will be captured by K-12 startups, which are growing at a CAGR of 60% currently.

Online Education Spearheading The Edtech Revolution In India

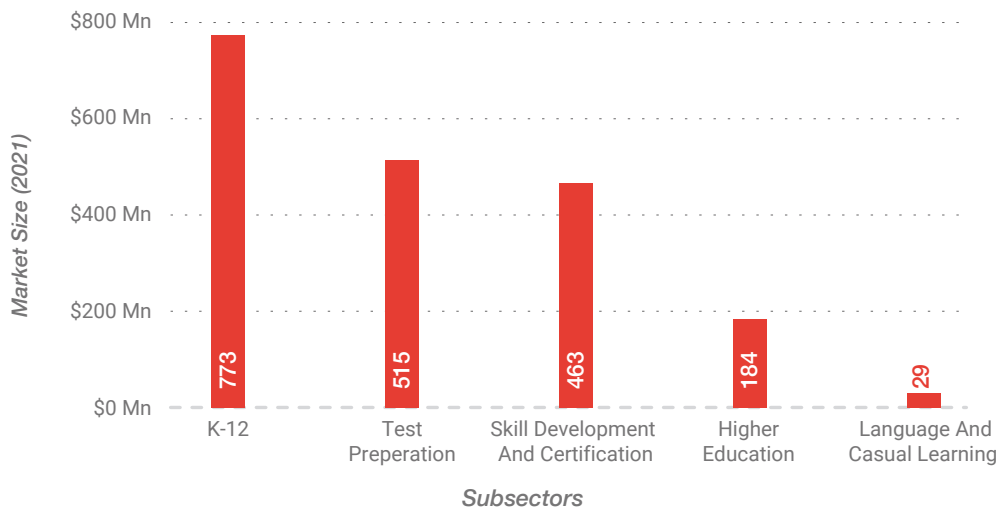
By 2021 the online education market in India is estimated to be worth \$2 Bn



*Source: KPMG, DataLabs Analysis

K-12 And Test Preparation Will Top The Charts In 2021

These two sectors combined are estimated to be worth \$1.3 Bn by 2021



*Source: KPMG, DataLabs Analysis

The pricing and availability of limited content remain key challenges in the K-12 supplementary segment, whereas lack of awareness and market saturation with the presence of a large number of brands — remain as main hurdles in the test preparation segment. Both segments combined are pegged at \$1.3 Bn by 2021, together accounting for 66% of the total \$1.96 Bn online education market opportunity.

"From the mindset of the consumer, gratification in test preparation and certification is measurable, quantifiable and achievable in the shorter term. Unlike in skill-building, there is no job guarantee provided by most startups. So even if it's highly subsidised, there is no or very less motivation at the consumers' end, hence facing the VC's negligence."

- Unitus Ventures

The Sub-Sector Split

The edtech sector is primarily divided into five categories: test preparation, online certification, skill development, online discovery, and STEAM kit and enterprise solutions.

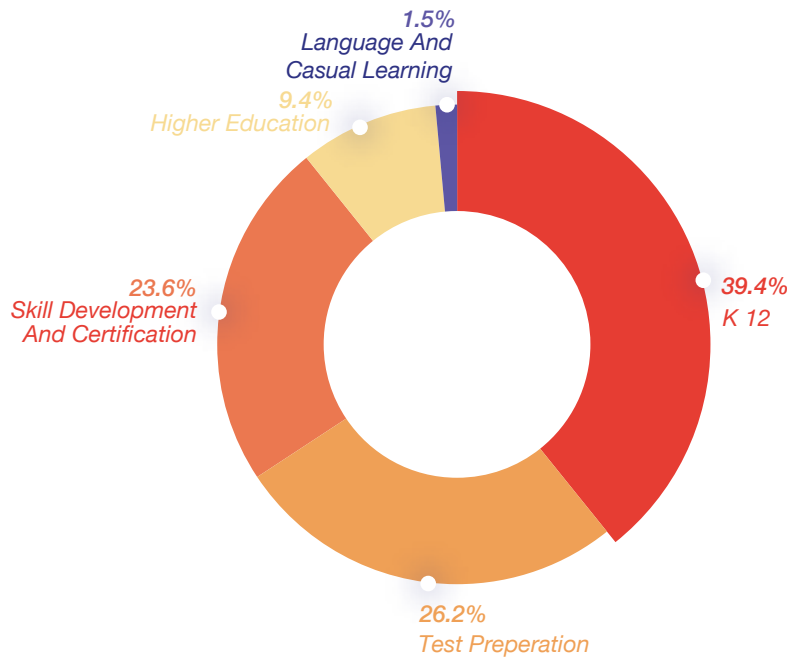
In terms of number of unique edtech businesses funded between January 2014 and September 2019, skill development-focussed startups are the most preferred. However, capital inflows into the test preparation and online certification segments are comparatively higher. Together, these two make up for 88% of the total funding in edtech startups.

<i>Subsectors</i>	<i>Startups Funded (2014-2019)</i>
Skill Development	45
Test Preparation	41
Enterprise Solution	25
Online Discovery	23
Certification	19
STEAM Kit	16
Others	25

*Source: DataLabs Analysis

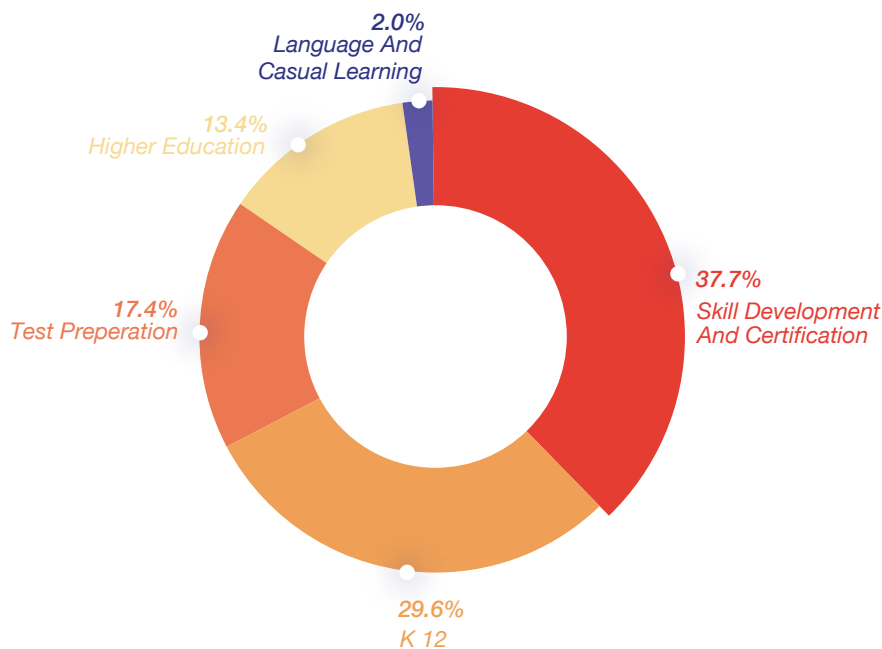
K-12 & Test Prep To Have Majority Share In Indian Education Market

K-12 and test preparation combined will make 66% (\$1.3 Bn) of the total online education market size in 2021



Skill Development Had Highest Share In Education Market In 2016

Market size of skill development and online certification in india was \$93 Mn In 2016



K-12

Market Size (2021)	\$773 Mn
CAGR (2016-2021)	60%
Key Challenges	Pricing and availability of limited content
Target Audience	Primary and secondary school students
Total Funding (2014-2019)	\$38 Mn+
Popular In	Tier I, Tier II, Tier III
Key Startups	Lido, Cuelearn
Key Modes Of Distributing Content	Mobile apps, web platform, video-based content

Test Preparation

Market Size (2021)	\$515 Mn
CAGR (2016-2021)	64%
Key Challenges	Awareness, Brand selection dilemma and Internet connectivity
Target Audience	Job focussed individual (Tier I) whereas Undergraduation focussed (Tier II)
Total Funding (2014-2019)	\$1.4 Bn
Popular In	Tier I, Tier II
Key Startups	Toppr, Vedantu
Key Modes Of Distributing Content	Mobile apps, web platform, video-based content, live classes, AI/ML-based assessments, community-based problem solving

Skill Development & Certification

Market Size (2021)	\$463 Mn
CAGR (2016-2021)	38%
Key Challenges	Connectivity, Pricing and Brand selection dilemma
Target Audience	Individuals working in the IT domain
Total Funding (2014-2019)	(2014-2019)
Popular In	Tier I, Tier II
Key Startups	Quizizz, Simplilearn
Key Modes Of Distributing Content	Video-based lectures, live classes, online assessment

Higher Education

Market Size (2021)	\$184 Mn
CAGR (2016-2021)	41%
Key Challenges	Employment opportunity, Authenticity of course/exam
Target Audience	People residing in regions where an offline alternative is missing (e.g. Eastern India)
Popular In	Tier II, Tier III
Key Startups	Upgrad, Edureka
Key Modes Of Distributing Content	Mobile apps, web platform, video-based content

Language & Casual Learning

Market Size (2021)	\$29 Mn
CAGR (2016-2021)	42%
Key Challenges	Connectivity, Asynchronous response and Pricing of advanced courses
Target Audience	Individuals in the age group of (30 to 40)
Total Funding (2014-2019)	\$24 Mn
Popular In	Tier I, Tier II
Key Startups	YouTube, Udemy, Tata Sky
Key Modes Of Distributing Content	Mobile apps, video-based content, games, face to face

Key Trends / Highlights

Online test preparation is one of the most prominent and aggressively-growing segments in the Indian edtech landscape

Edtech startups are gaining popularity as coaching for competitive examinations is becoming more affordable. Considering that more than 15 Mn students in India prepare for competitive exams, there is a vast market for edtech startups. Students are today facing rising competition for exploring opportunities in the fields of engineering and medicine (at K-12 stage), securing government- and public-sector jobs such as Short-Service Commission (SSC) and Bank Probationary Officer (PO) respectively, and cracking Common Admission Test (CAT) to take up management studies.

Edtech startups today run on lower costs and bandwidth, and are more technology-driven compared to traditional brick-and-mortar coaching centres. For these very factors, these startups are fairly popular in Tier II and Tier III cities, besides lack of access to more skilled teachers as in their Tier I peers. Many brick-and-mortar coaching institutes too are offering app- and web-based solutions in addition to core services to increase their online footprint. The presence of tech companies such as Telegram and Amazon India (Exam Central Book Store) in this area makes the opportunity in the segment even more appealing for edtech startups.

The need to upgrade skills in line with new age technologies has risen

With industrial revolution 4.0 knocking the doors of every industry, there is an ever-growing need to upgrade skills according to new-age technologies. Companies are opening roles such as data scientist, machine learning expert, software analyst and algorithm specialist. Limited availability of the resources required for technology- and experience-based learning in the Indian education system has only increased multifold the scope for edtech startups, which are offering short-term courses ranging from three months to one year. Even corporates find such offerings beneficial for training and reskilling their staff. Besides, Government of India's focus on its "Skill India" initiative has led to a number of players such as NABET INDIA, Neev and Upskill - joining hands to empower the youth with vocational training.

Flexibility, convenience and low cost are the factors gradually making the prospect of higher education online more appealing for students and professionals alike

With more than 35 million enrolled students and 850 universities, India's higher education ranks third in the world in terms of size, next only to the US and China. Working professionals and Tier II as well as less privileged students have adopted different modes of distance learning to earn the required degrees and certifications. Run by the central government, IGNOU is one of the most popular universities for distance learning in India. Various engineering and management institutes also offer distance learning education for post-graduate degrees such as MTech and MBA. Besides, courses such as NPTEL, MIT OpenCourseWare and Edx.org, along with a range of MOOCs, are available today. Although the online higher education programmes still have not gained as much as industry-wide acceptance as traditional brick-and-mortar programmes, factors such as flexibility, convenience and low cost are gradually making the prospect of higher education online more appealing for students and professionals.

Video-driven content set to disrupt the space

Deep penetration of internet and smartphones has given new wings to the Indian audiences, who are now taking their passions more seriously than ever. From dance, music and cooking to new languages, online platforms are making it all possible today. In India, nearly 100 Mn YouTube users consume a mix of content. There are currently 600+ education channels with more than 100,000 subscribers each on YouTube, making it a crowded marketplace. Players like TikTok are creating a unique impact in the video-driven world while enabling self-expression, something that is difficult to match for conventional, English-centric social media platforms. 'The Edutok campaign by TikTok alone has garnered over 42.5 Bn views since its launch in India'.

The Demographic Breakdown

The venture capital inflow in the edtech startup ecosystem remains highly skewed to the top three hubs in India: i.e. Delhi NCR, Bengaluru and Mumbai. Businesses based in these hubs accounted for 92% (\$1.6 Bn) of the total \$1.73 Bn raised by edtech startups across India between January 2014 and September 2019.

The startup ecosystem in these three cities is relatively more mature compared to other locations in the country. A stronger presence of venture capital in Delhi NCR, Bengaluru and Mumbai also makes them a preferred destination for entrepreneurs to nurture their ideas.

	Delhi NCR	Bengaluru	Mumbai
Count Of Unique Startups	61	60	28
Total Funding	\$77 Mn	\$1.37 Bn	\$195 Mn
Number Of Deals	86	89	46
Notable Startups	Smartivity Labs, Stonnes2milestones and Meritnation	Unacademy, Vedantu and Simplilearn	Whitehat Jr, Toppr and Imarticus

The Business Models

Currently, edtech solutions are available across the B2B, B2C, B2B-B2C and C2C domains. Edtech startups are now more than a mere middleman between content curators and consumers; they are now playing these roles themselves effectively.

B2B Model

- More popular in higher institutions and corporates
- Either institutions offer their own learning modules or partner with third-party content curators/aggregators
- Between 2014 and 2018, only 5% of total B2B edtech startups received funding
Examples: MadRat Games, EnglishLeap and eShiksha

B2C Model

- Edtech startups play the roles of content curators and marketplace
- Highly popular; they hold the maximum market share in edtech ecosystem (more than 94% of startups received funding between 2014 and 2018)
- Examples: BYJU's, Unacademy, Udacity, Simplilearn and Toppr

B2B-B2C Model

- Edtech startups cater to both ends of target audience
- Gradually gaining popularity; between 2014 and 2018, 4.3% of edtech startups drew investor interest
- Examples: Meritnation, CultureAlley and Embibe

C2C Model

- Platform connects potential content curators and consumers
- Most popular: YouTube
- Examples: Udemy and Coursera

The Revenue Models

There are five key revenue models identified in the Indian edtech sector. As shown in figure below, the test preparation and K-12 segments have high traction but a weak turnaround to paid consumers.

On the flipside, despite low traction, the segments of online certification and skill development have maximum paid users. This is because these segments are led by working IT professionals keen to enhance their key skills without committing to specific learning hours.

Types Of Revenue Models	Freemium - Pay as you go	Preferred Sectors	Advantages	Disadvantages
	<ul style="list-style-type: none"> Test preparation Skill development 			
	<ul style="list-style-type: none"> Online certification Test preparation 			
	<ul style="list-style-type: none"> Skill development Online certification 			
Types Of Revenue Models	Only pay as you go	Preferred Sectors	Advantages	Disadvantages
	<ul style="list-style-type: none"> High traction Wider engagement Increased popularity 			
	<ul style="list-style-type: none"> Cost advantage in product offerings Wider options range for customers Quality user base 			
	<ul style="list-style-type: none"> Eventually, a large proportion of users don't turn out to be buyers 			
Types Of Revenue Models	Subscription	Preferred Sectors	Advantages	Disadvantages
	<ul style="list-style-type: none"> Recurring revenue Substantial customer engagement Stability in revenue inflow 			
	<ul style="list-style-type: none"> Difficult to maintain the value creation in customers mind if the USP of the offering is not prioritised 			
	<ul style="list-style-type: none"> Higher dependency on traditional education enterprises & Unwillingness of the buyer to adopt new-age technology 			
Types Of Revenue Models	Enterprise Sales	Preferred Sectors	Advantages	Disadvantages
	<ul style="list-style-type: none"> STEAM kit Performance assessment providers ERP solutions 			
	<ul style="list-style-type: none"> The higher ticket size of revenue Post sales revenue The purchasing power of the buyer is high 			
	<ul style="list-style-type: none"> Higher dependency on traditional education enterprises & Unwillingness of the buyer to adopt new-age technology 			

Investment Trends In Edtech

\$1.8Bn

Total funding raised by edtech across 303 deal

47%

CAGR of funding amount (2015-2019)

194

Unique edtech startups funded

\$1.5Mn

Median funding amount in 2019

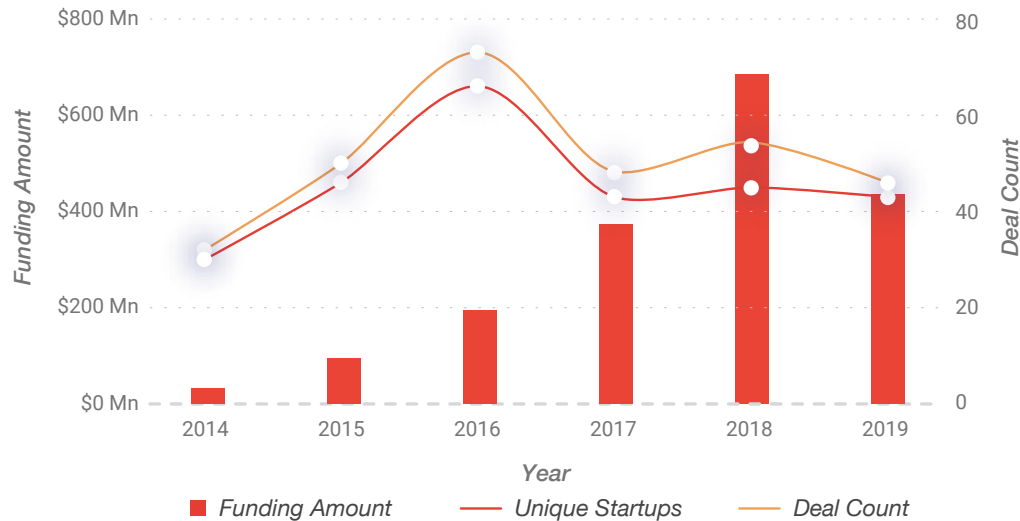
Skill Development

The most preferred edtech sub sector at seed stage

** Based on 2014-2019 Indian startup funding data*

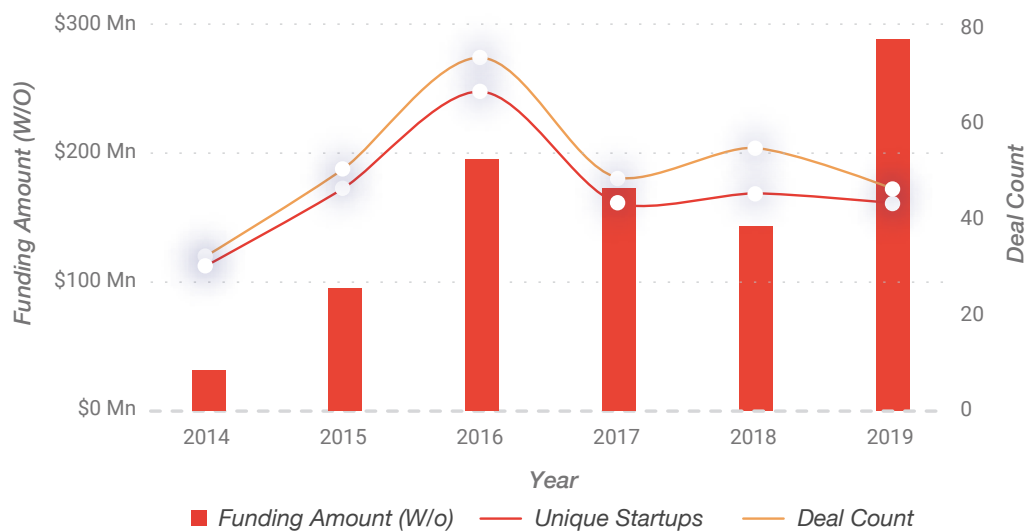
Capital Inflow In Edtech Startups Plunges In 2019

Compared to 2018 both the value of funding amount and deal count plunged by 36% and 15% in 2019



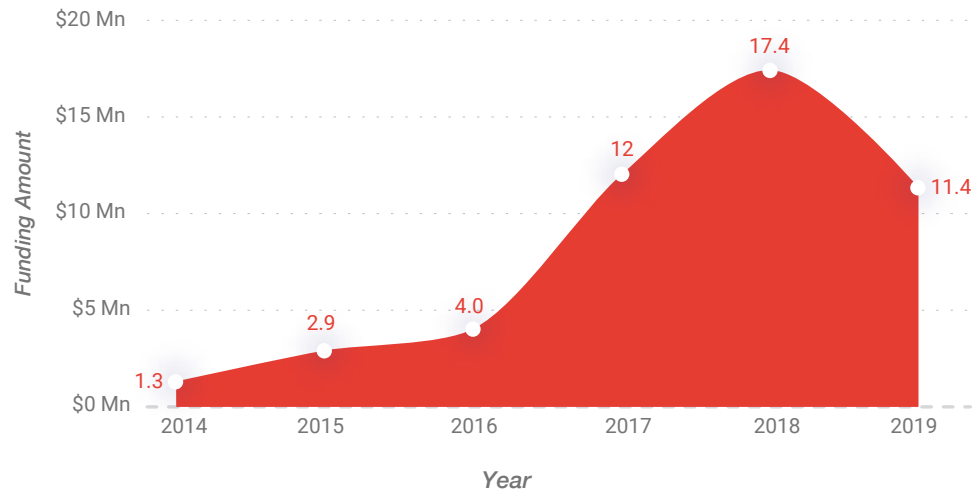
Capital Inflow Reached Historical Peak In 2019

Without outliers, the total funding amount surged 2x in 2019 (\$283 Mn) compared to \$140 Mn in 2018



Ticket Size Record Downturn In 2019

For edtech startups, the average ticket size of funding amount was 34% lower in 2019 compared to the previous year

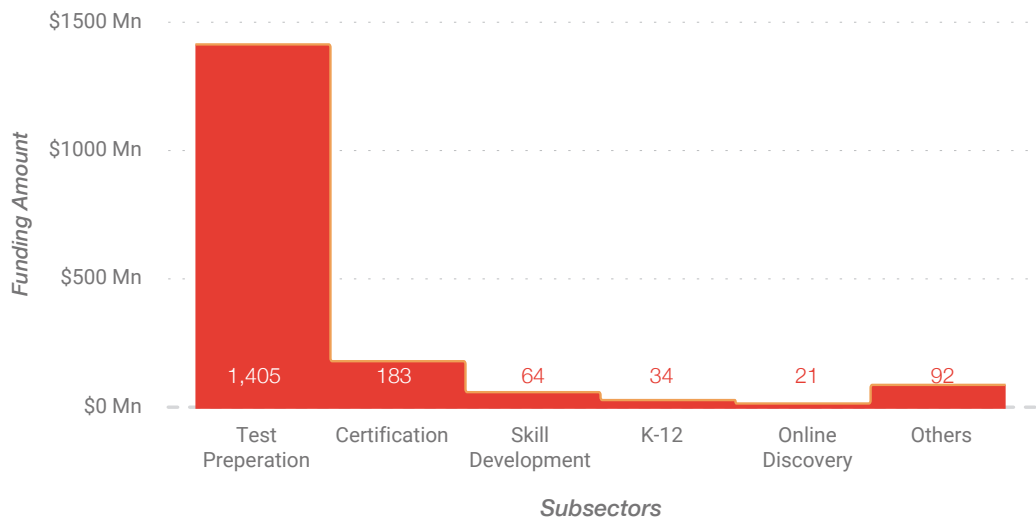


Key Trends

- \$433 Mn total funding poured in edtech startups in 2019 was 36% lower compared to \$681 Mn in 2018
- Both the number of funding deals and count of unique startups funded plunged by 15% and 4% respectively in 2019 compared to the previous year
- The average ticket size of funding amount in 2019 was \$11 Mn compared to \$17 Mn in 2018
- BYJU's was the top funded edtech startup in India for 5 years straight(2015-2019)
- 79% was the contribution of BYJU's in total capital inflow of edtech startups for the year 2018

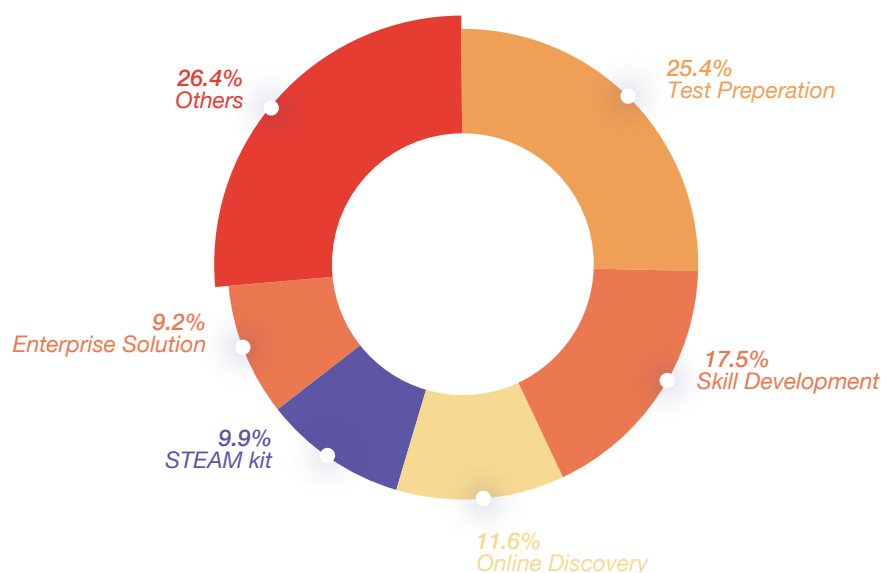
Capital Inflow Highly Skewed Towards Test Preparation Startups

\$1.4 Bn out of the total \$1.8 Bn poured in edtech startups (between 2014 - 2019) was in test preparation startups



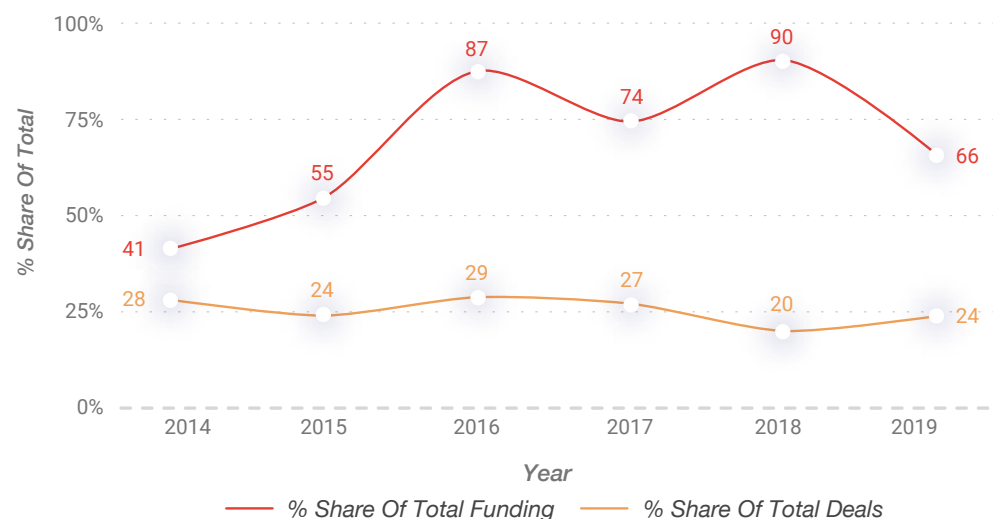
Test Preparation Startups Had One-Fourth Share In The Total Edtech Funding

In 2016, with 21 deals test preparation startups recorded the highest number of deals



Test Preparations Startups Record Funding Downfall In 2019

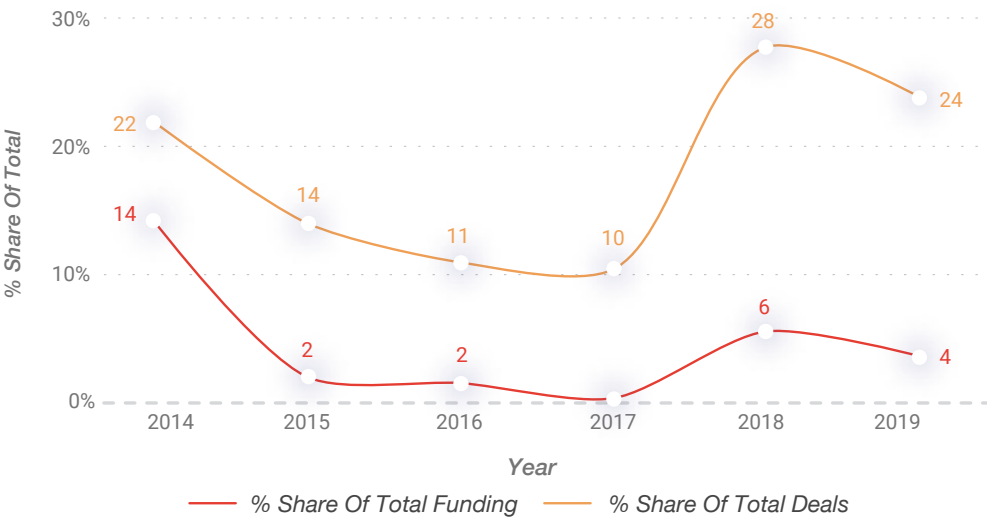
Between 2014 to 2019, the average share of test preparation startups to the total funding amount and deal count was 69% and 25% respectively



- The average annual share of test preparation startups between 2014 to 2019 was 25% compared to 18% of skill development
- In 2019, deal count in skill development startups made just 4% of the total funding deals the same year compared to 24% of test preparation
- The popularity of national level entrance exams (like IIT JEE, UPSC etc.) among Indian students and parents is fueling demand for more products in this space, whereas the age old Indian habit of ignoring skill development is the biggest bottleneck for lower adoption of these products in Indian market

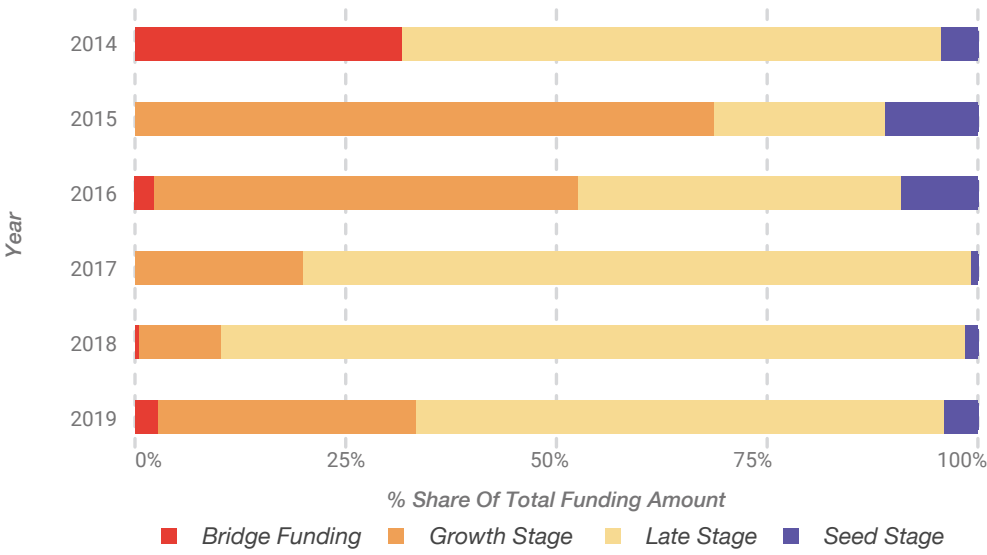
Skilling & Reskilling: Still Not On Investor Radar

Between 2014 to 2019 the average share of skill development startups to the total funding amount and deal count was 5% and 18% respectively



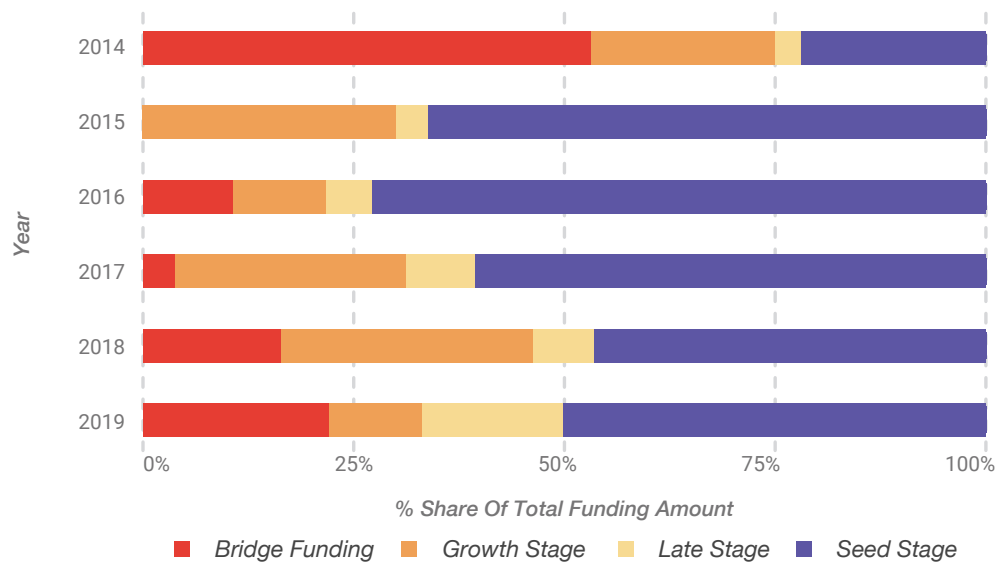
Growth & Late Stage Funding Shots Up For Edtech

The total funding amount in growth stage doubled (\$132 Mn) in 2019 compared to 2018's \$67 Mn



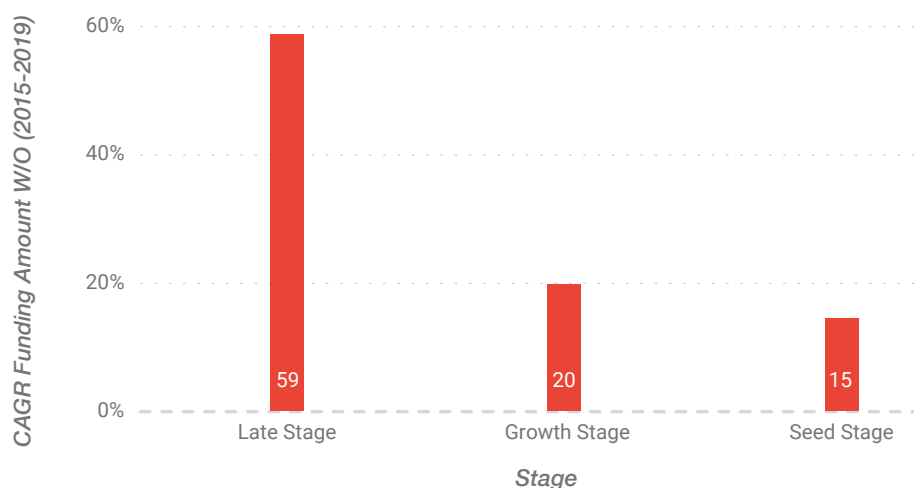
After Drop In 2018, Seed Stage Deals Record Jump

For edtech, the seed stage deals made 50% of the total deal count in 2019 compared to 2018's 46%. However, number is still less than 2016, when seed stage deals had 73% share in total edtech deals



Late Stage Record 59% Growth In Capital Inflow

Positive growth rate across these three major funding stages indicates that investor confidence towards edtech startups is high



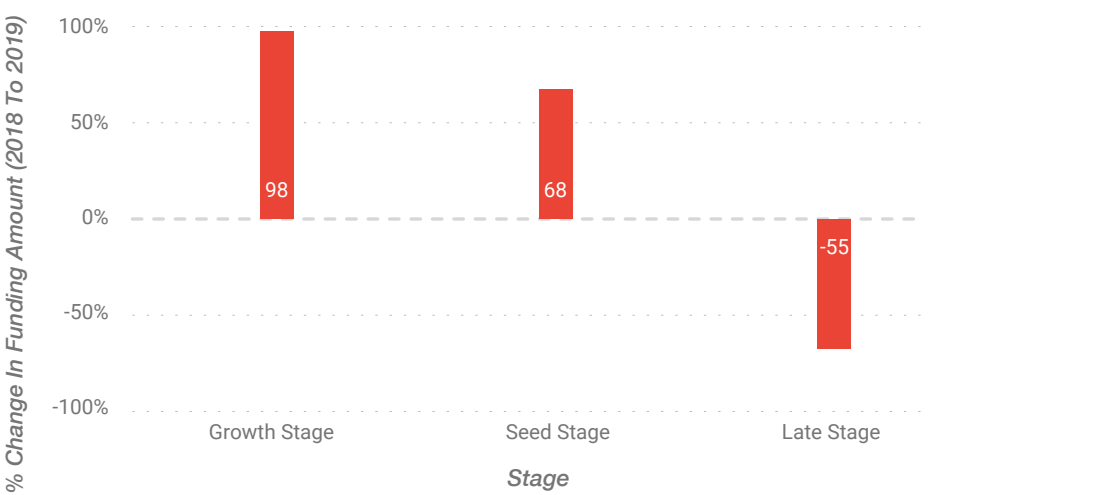
■ The success of test preparation startups like BYJU's, Unacademy, Vedantu etc. in terms of acquiring users is attracting high ticket investor at late stage funding rounds

■ Skill development is the most preferred edtech sub sector at seed stage indicating higher investor confidence towards new venture opportunity in this category compared to others

■ Between 2014 to 2019 skill development startups raised \$14 Mn across 36 deals at seed stage which is higher than other edtech subsectors

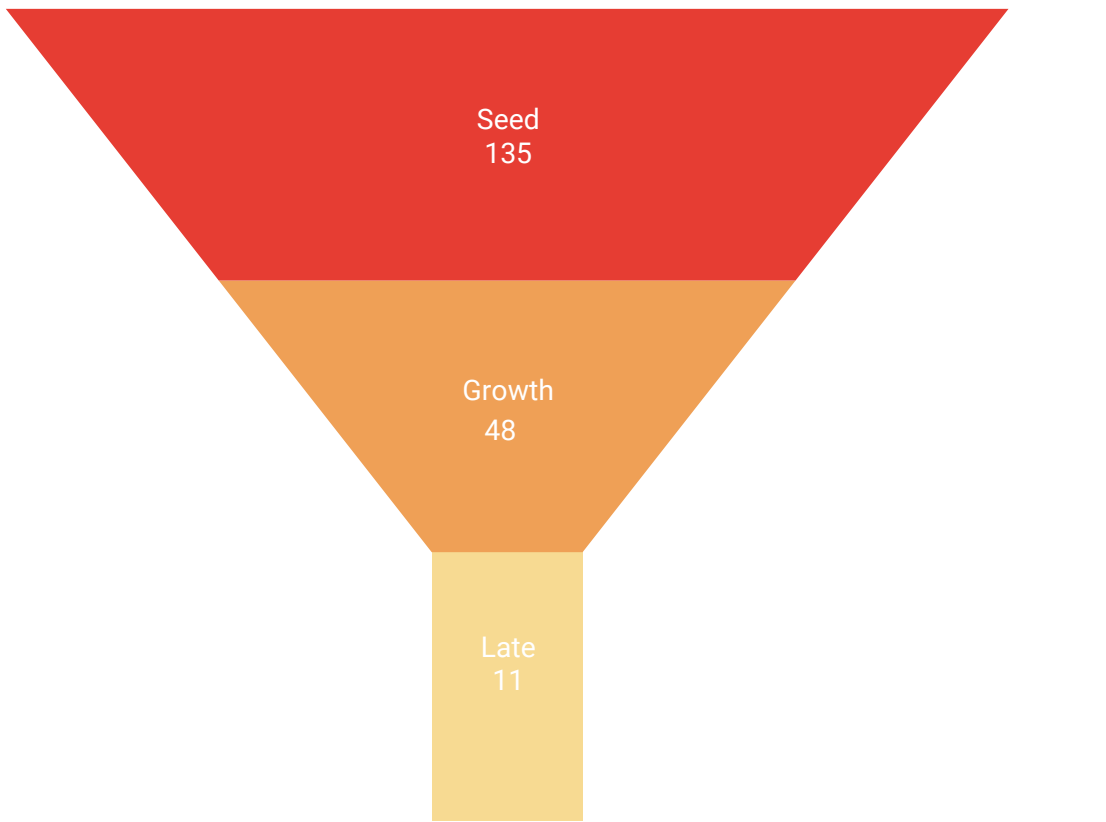
Growth Stage Funding Amount Record 98% Jump

Growth stage funding amount's share in 2019 stood at 31% compared to 10% in 2018



Only A Handful Of Edtech Startups Have Managed To Attract Investments At Late Stage

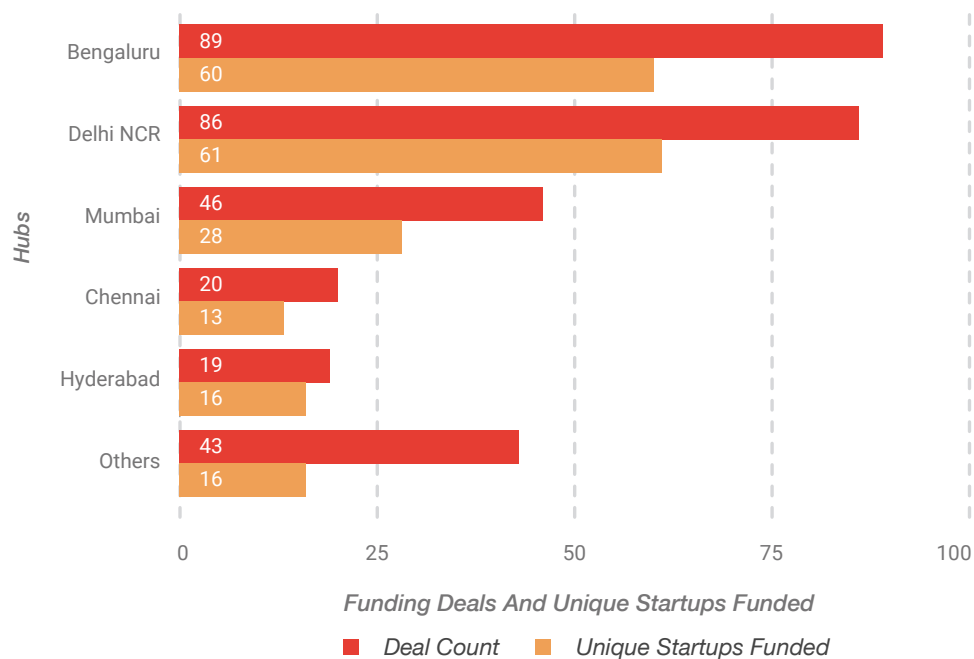
On an average it takes approximately 38 months for an edtech startup to raise their first seed funding round since their inception



Demographic Breakdown

Bengaluru & Delhi NCR Spearheading India's Edtech Ecosystem

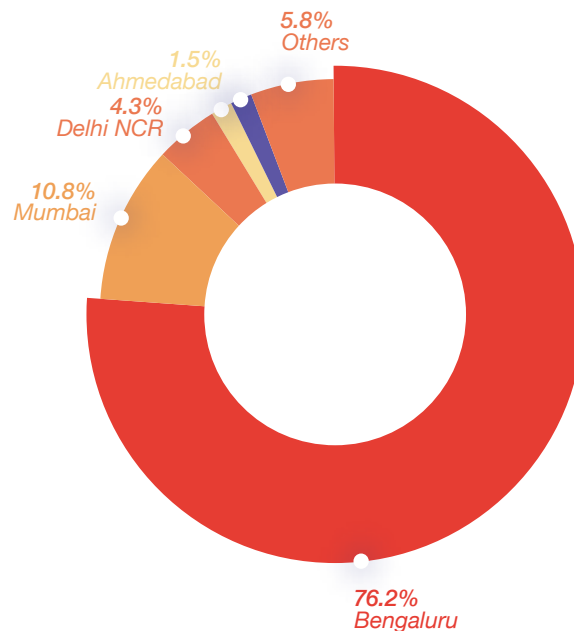
Between 2014 to 2019, edtech startups based in Bengaluru and Delhi NCR combined made 58% and 62% of the total funding deals and unique startups funded



- Mumbai recorded a surge of 11% in total deal count in the year 2019 compared to the previous year while the same in Bengaluru and Delhi NCR plunged by 20% and 44%
- Test preparation was the most preferred sub sector across Bengaluru, Delhi NCR and Mumbai in terms of investor confidence
- The median funding amount in Mumbai (2014 to 2019) was \$2 Mn — higher than its metro peers, Bengaluru (\$1.7 Mn) and Delhi NCR (\$767K)

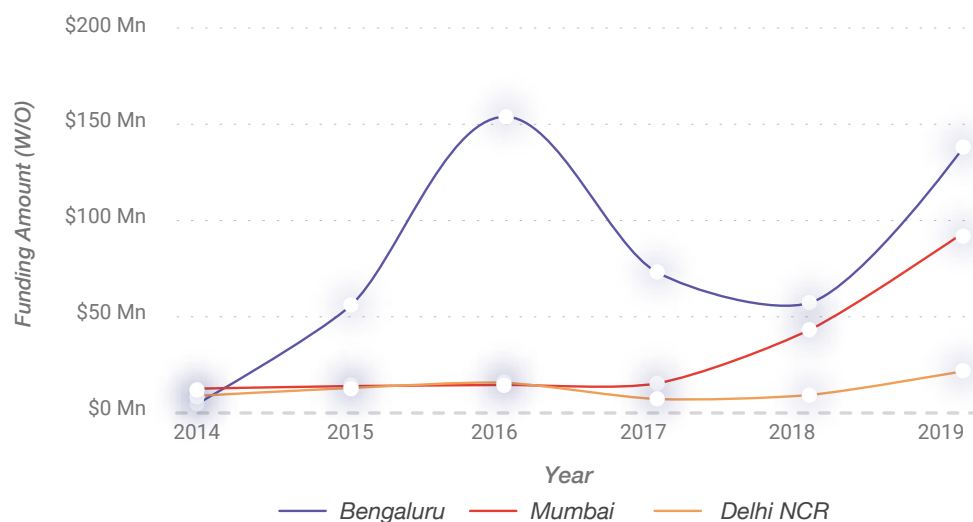
76% Of The Total Edtech Funding Went Into Bengaluru Based Edtech Startups

The total funding secured by Bengaluru based edtech startups was \$1.4 Bn, out of which \$1.1 Bn was captured by BYJU's alone



Bengaluru Destined To Be Edtech Capital Of India

Even without outliers, Bengaluru leads the edtech game in India. The capital inflow in city based edtech startups recorded exponential rise in 2019 (\$138 Mn) compared to 2018's \$57 Mn



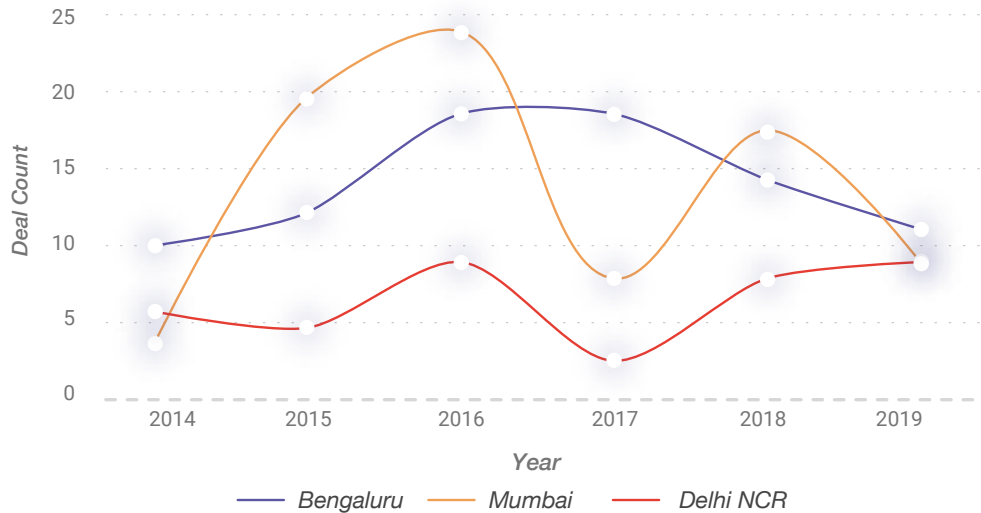
■ 49% share of outliers (greater than or equal to \$150 Mn) in total capital inflow in edtech startups between 2014 to 2019

■ Test preparation was a popular choice among investors even without the outlier funding rounds

■ Online certification had the highest median funding amount (\$2.6 Mn) without the outlier funding rounds

Out Of The Top 3 Startup Destinations In India, Only Mumbai Recorded Jump

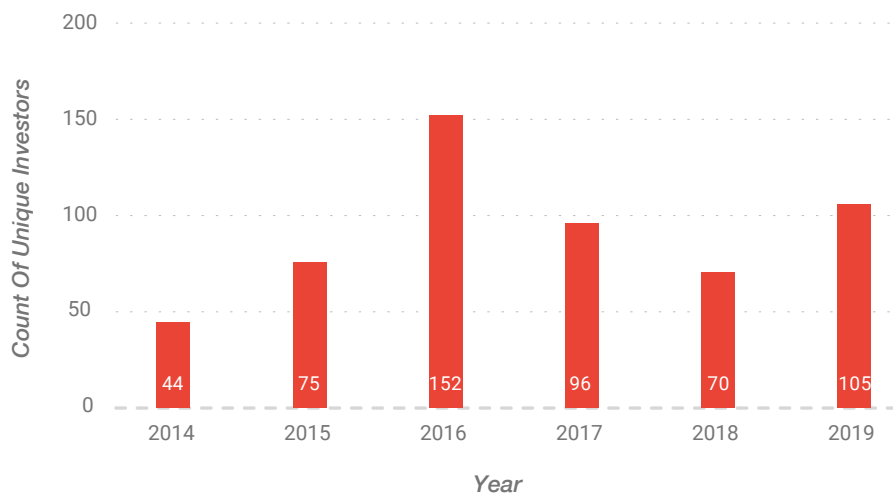
In 2019, deal count of edtech startups funded in Mumbai surged 11% compared to the previous year whereas the same in Bengaluru and Delhi NCR plunged



Investor Participation Trends

Investor Participation In Edtech Startups Recovers After 2018 Downfall

Edtech sector recorded 50% surge in unique investor participation in 2019 compared to the previous year



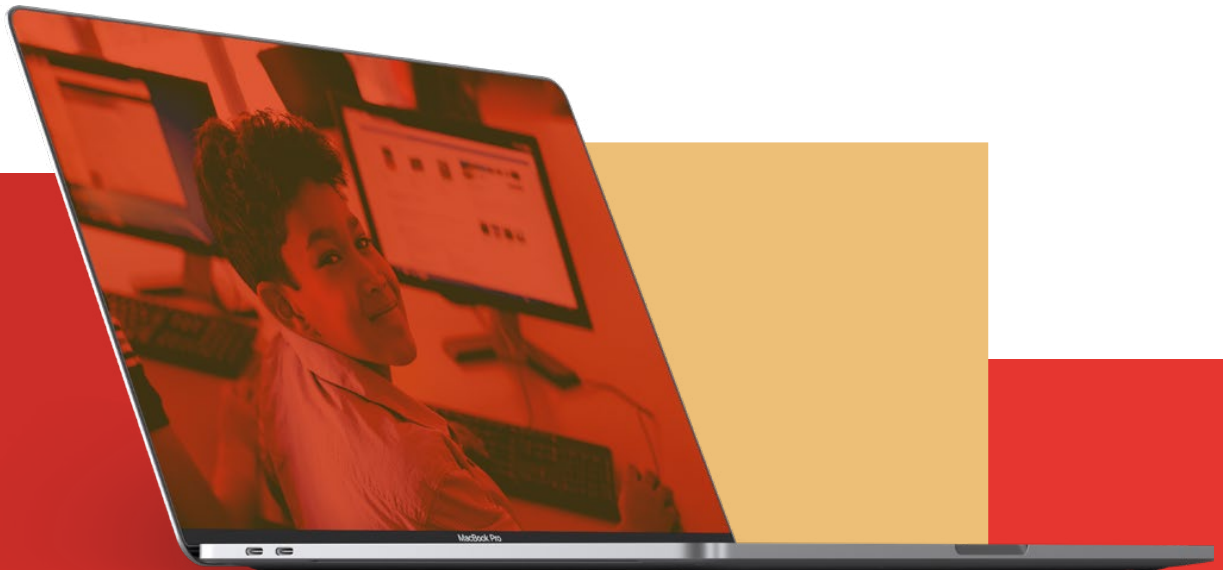
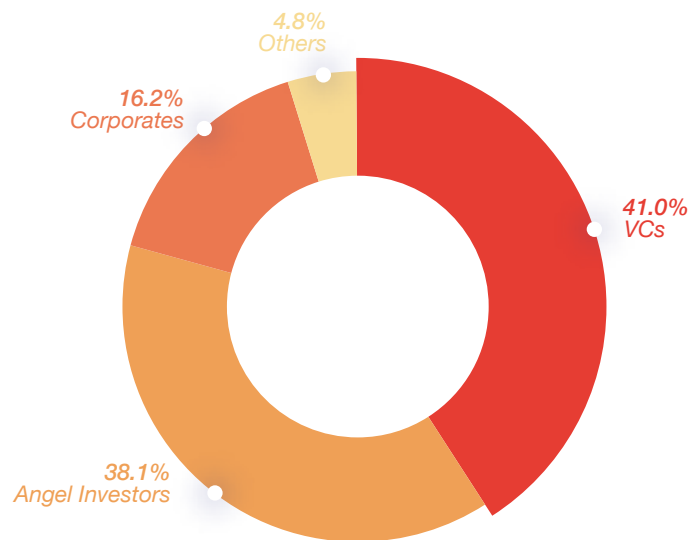
■ Top 10 investors made 22% of the total deal count, however, the fact that the contribution of these investors is slightly less than one fourth of the total deal count indicates that the investment landscape in the edtech sector is not dominated by the top tier investors in the country

■ 2019 witnessed a 50% surge in unique investor participation which indicates that the investor confidence towards edtech startups was higher compared to the previous year

■ 9% CAGR of the unique investor count between 2015 to 2019

Corporates Eying Edtech Opportunity

In 2019, 16.2% of the total investors who participated in edtech startup funding deals were corporates. While, 43 out of 105 unique investors were VC firms



Edtech Startups' Quest For Gaining Majority Market Share

49%

Of edtech startups acquired operated in online discovery and enterprise solutions

34%

Of total edtech startups acquired located in Delhi NCR, the highest among startup hubs

15

Acquirers (54% of total acquirers) in edtech hailed from the education technology domain

73%

Equity stake acquisition in embibe was carried out by Reliance Industries to add more products to its Jio ecosystem

Product Diversification

The primary reason behind acquisitions made by edtech companies in India

Determining the right exit strategy is always a complicated task for any startup. Two of the most prevalent exit strategies in any startup ecosystem around the world are: IPOs, and mergers and acquisitions (M&As).

Around 628 M&As have been concluded between 2014 and 2019. Of these, about 6% (35) were of edtech startups. Meanwhile, the Indian edtech startup ecosystem has seen the participation of 28 active acquirers, 54% of which hail from the education technology sector itself, including BYJU's (5), Xseed Education (2) and Next Education (2).

The potential market for edtech startups in India is in the 260 Mn children enrolled in schools. All these businesses need to do is sell their online learning apps to them. But the task is easier said than done. Only 5% of the population — mostly in urban areas, has the purchasing power to spend more than INR 10,000 per annum or INR 23,000 per annum, which are the minimum expenses the consumer has to bear to take a course by BYJU's and Toppr respectively. This brings the actual market size for these edtech startups down to 13 Mn users and a potential revenue pool of INR 29,900 Cr (\$4.2 Bn).

The market is not expanding due to lack of innovation. Therefore, consolidation is the only option.

Top Acquirers In The Edtech Domain



Between January 2014 and 2019, 54% of the 28 acquirers hailed from the edtech domain itself, with BYJU's (5), Xseed Education (2) and Next Education (2) being the top three.

Acquirers Are Inclined Towards Unique Content

According to DataLabs by Inc42 research, the acquisition of unique content was at the core of the M&A activity in the edtech domain. For instance, four out of five publicly-disclosed acquisitions of BYJU's content and learning modules. The remaining one, of Vidyardha, enabled BYJU's to try its hands in the enterprise domain (B2B). BYJU's had 150 schools as its clients at the time of the acquisition in 2017. DataLabs used a sample size of 35 M&A transactions in edtech that took place between 2014 and 2019.

Xseed Education, an enterprise based edtech company based in Singapore with operations in India, emerged another prominent acquirer. It acquired two startups, Pleo labs and Report Bee, both catering to B2B clients. That emphasises the importance of product diversification and ownership of unique content in the M&A activity in edtech.

The fact that a very large proportion of active acquirers are edtech solution providers themselves indicates that the current players in the education technology space are quite bullish on nabbing the majority market stake in their respective sub-sectors.

"The overall market is constant and not expanding. With investors shying away, and the consumer still indecisive in choosing between traditional vs online modes of education, consolidation remains as the only option."

List Of Active Edtech Investors In India

This list is based on edtech funding activity between 2014 and September 2019 publically available startup funding data

Investors	Deal Participation	Notable Startups
	11	Unacademy, MadRat Games
	10	BYJU's, Eruditus
	9	Vedantu, Whitehat Jr
	7	Quizizz, Unacademy
	6	Toppr, Unacademy
	6	EduPristine, Vedantu
	5	Toppr, Simplilearn
	4	Online tayari, Springboard
	4	Thinkerbell Labs, University Living
India Educational Investment Fund	4	ChipperSage, Oliveboard

About DataLabs by INC42

The research wing of Inc42 Media, DataLabs specialises in producing comprehensive data-driven and insightful reports about the ballooning Indian startup economy.

30,000+

Actively Tracked
Startups

2.6K+

Reports Sold

35+

Reports Published

15+

Startup Sectors
Covered

12+

New Reports
Published Every Year

54%

Of our audience are at
senior/decision making
positions

Quoted & Trusted By The Media Worldover

QUARTZ

The
Economist

Forbes

BUSINESS
INSIDER

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Skilling & Re-Skilling

India & Skill Deficit In Industrial Revolution 4.0

"More than half of India's workers will require reskilling to meet the talent demands of Industrial Revolution 4.0 by 2022."

Emerging skill requirements are primarily focussed on areas such as technology-led design and programming, complex problem solving, reasoning, ideation, emotional intelligence, critical thinking and analysis.

In India, the popularity and demand for specific skills in the job market have driven the learning aspirations of children as well as their parents. For a country only been independent for 72 years, it is only reasonable for individuals to chase skills that have a higher probability of securing a high-paying employment opportunities.

So far government policy has been inclined towards promoting the IT outsourcing industry, which boasts a never-ending opportunity. IT spending is projected to reach \$3.76 Tn globally in 2019, an increase of 3.2% compared with the previous year. It is expected to grow 2.8% to touch \$3.87 Tn by 2020; the projections are based on the current size of the Indian IT market. With the companies rapidly adopting new-age technologies, the youth are all the more required to gear up for future opportunities.

The current shortcomings in the Indian education system make innovation and new-age technology adoption a crucial challenge for the new generation, especially in areas that demand performance in actual industrial setups. While the IT boom has led to a gamut of employment opportunities to the Indian youth, the country lags way behind its developed peers in the context of technical skill development.

Underlying Problems Being Overlooked

- Focus on examination scores and certificates over skill development remains the biggest challenge in the Indian education system
- Female students have delivered better overall academic performance in schools than male students
- ICSE and CBSE students lack in applied academics
- At 16.5%, the literacy rate disparity between male and female students in India is the highest among BRICS countries
- India's output per worker is 97% lower than global average

IT Boom And High Aspirations: Where Do We Stand Now?

Passion-driven learning is a precursor to achieving mastery in any skill. In India, children's learning aspirations have been largely determined by the popularity and demand for a particular skill in the job market. It is not the students or institutions which are to blame, but a market that has set the bar too low when it comes to substandard skills. Don't hate the player, hate the game!

Since Liberalisation, Privatisation and Globalisation or LPG, several industries spanning from automobiles to manufacturing have bagged significant financial gains in the society. But none of them has been able to create an influence similar to one forged by the IT boom on the Indian job market.

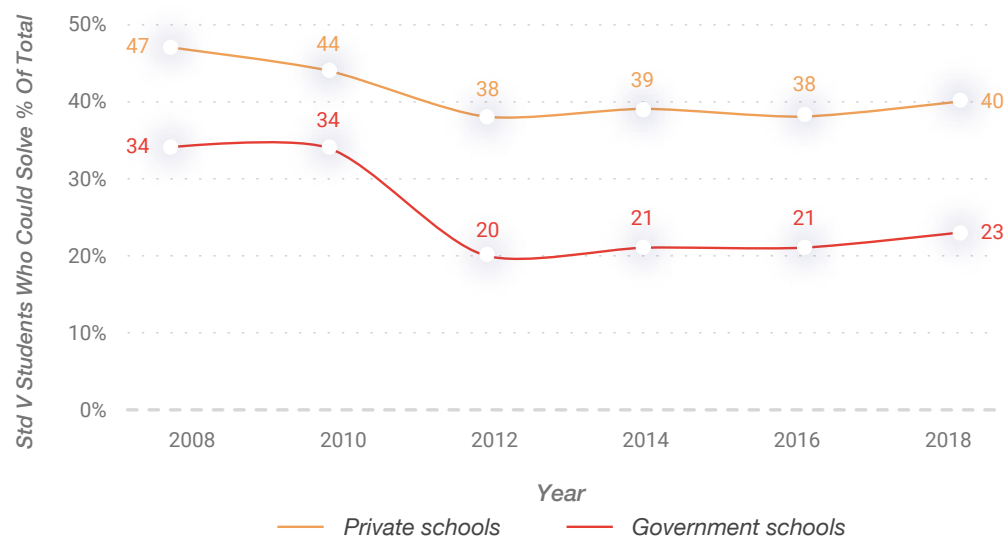
Remaining at the forefront of the IT boom in India, outsourcing has where on one hand created a plethora of employment opportunities, it has also dragged the required technical skill lower compared to developed countries. Indian IT companies have for years taken up low-skill opportunities – especially in the BPO and KPO segments – to secure high-value contracts and deployed aspiring engineers in the country on the job. This has taken a toll on the quality of education and training offered in a wide range of engineering colleges. The Indian society's higher emphasis on employment than passion has fuelled demand for a large number of institutions offering technical education.

The herd behaviour which has pushed the youth towards good grades in technical subjects has created a void that distances students from a deep understanding of underlying concepts. Here are some facts which showcase the impact this has created on the skillset of the Indian workforce and students at large.

According to the Annual Status of Education Report (ASER), the percentage of fifth-standard students able to solve basic arithmetic division problems in private and government schools has declined from 47% to 40% and from 34% to 23% respectively between 2008 and 2018. Meanwhile, the percentage fall in government schools has been wider at 11% compared to 7% in private schools.

More Than Half Of Fifth Standard Students Were Not Able To Solve A Simple Division

The percentage of standard fifth students who can solve a simple division is decreasing both in government and private schools

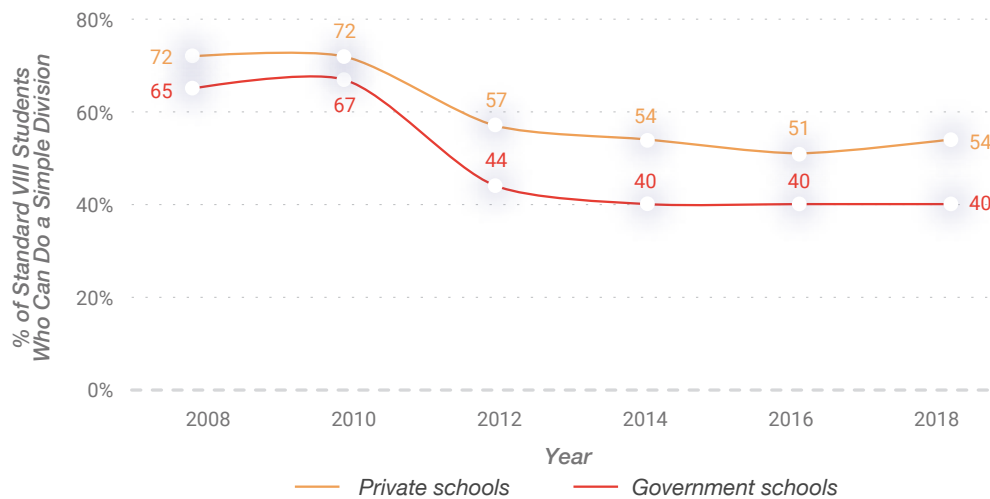


*Source: Annual Status of Education Report, DataLabs Analysis

Data on eighth-standard students reveals a similar trend. In government schools, the percentage of students able to solve a simple division problem dropped from 65% to 40% between 2008 and 2018, and from 72% to 54% in their private sector peers. In this case, the percentage fall was 25% in government school students as against 18% in private schools during this period. Mathematics is rightfully credited as the foundation of many technical subjects, and such a daunting learning gap among students highlights the alarming state of Indian schools. As a result, the same skill deficit is reflected in the entry-level workforce.

Difference In Teaching Quality Of Government And Private School Evident

Between 2008 to 2018, on an average 49% of the governments schools students were able to solve a simple division problem compared to 60% in private schools

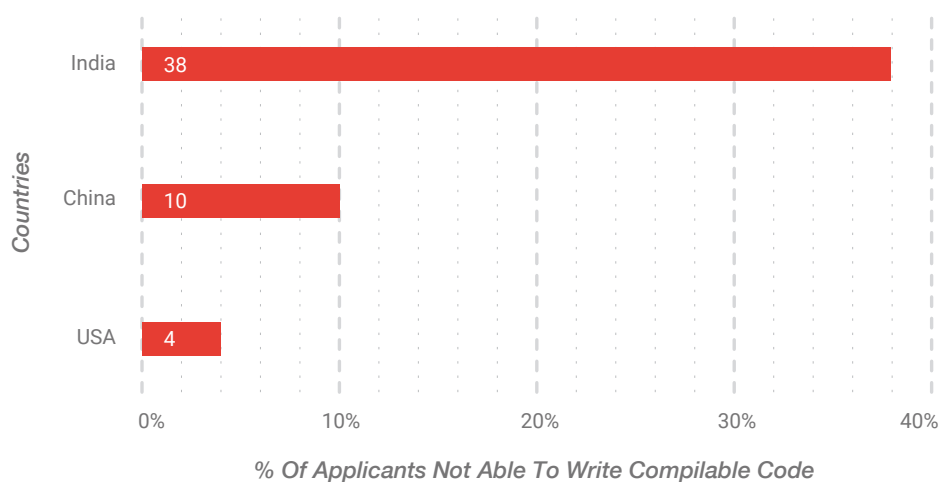


*Source: Annual Status of Education Report, DataLabs Analysis

The inability of Indian engineers to write a compilable script of code compared to their Chinese and American counterparts highlights the learning gap prevalent in the majority of technical institutions in India. The figure below indicates the prevalent large gap between the proportion of Indian IT engineers less employable globally compared to their American and Chinese counterparts.

Quality Of Indian IT Workforce Stands Inferior Compared To The US & China

38% of the Indian IT job applicants were unable to write a single compilable code

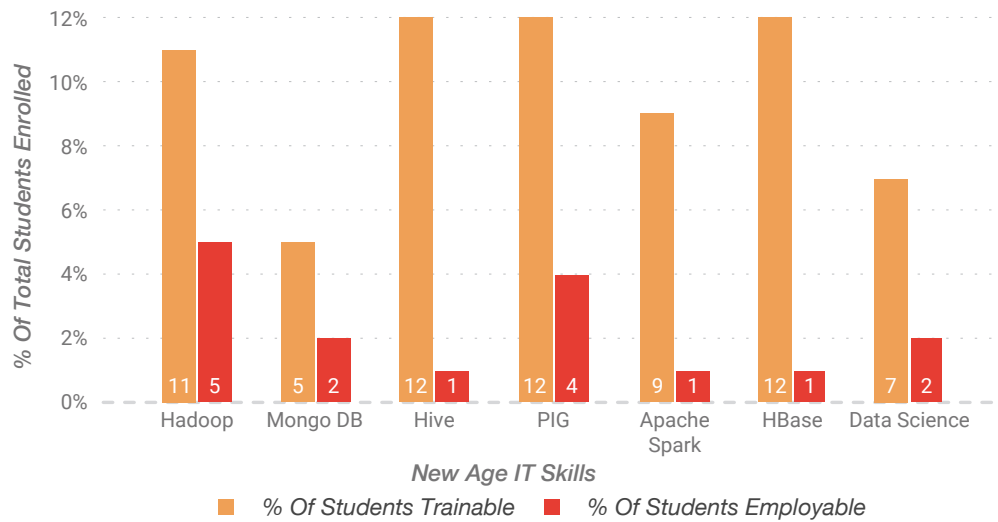


*Source: Aspiring Minds, DataLabs Analysis

The skill requirements of the IT industry keep evolving in tandem with technological development. The figure below highlights the ratio of the students who enroll in technical courses versus those who actually achieve employability.

Indian IT Workforce Lacks In New Age Tech Skills

The average trainable-employable percentage gap among the students in new age IT skills is 7.4%



*Source: Aspiring Minds, DataLabs Analysis

The lack of skill in the Indian workforce is not only limited to technical fields. But the technology industry makes up a substantial proportion of the Indian GDP. Considering the rising skill deficiency in the country's technical workforce, a greater emphasis on skill development during early schooling can help in bridging the skill gap.

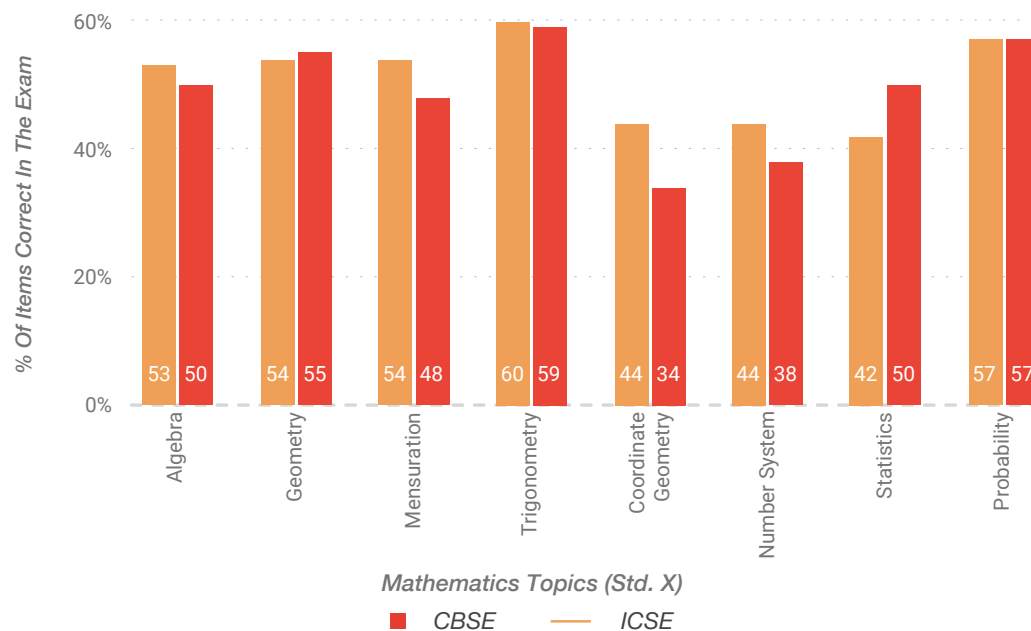
Skill development-focussed edtech startups can play a vital role in brushing up the technical skills of students in India. These startups can streamline the supply of interactive learning modules which are in turn more efficient compared with those employed in brick-and-mortar institutions and universities.

The rising skill deficiency prevalent in India's technical workforce needs to be addressed urgently to prevent a large proportion of job aspirants from being unemployable due to their obsolete skill sets. This is a potential threat to the \$130-Bn Indian IT industry, which contributed 7.7% to the country's GDP in 2016.



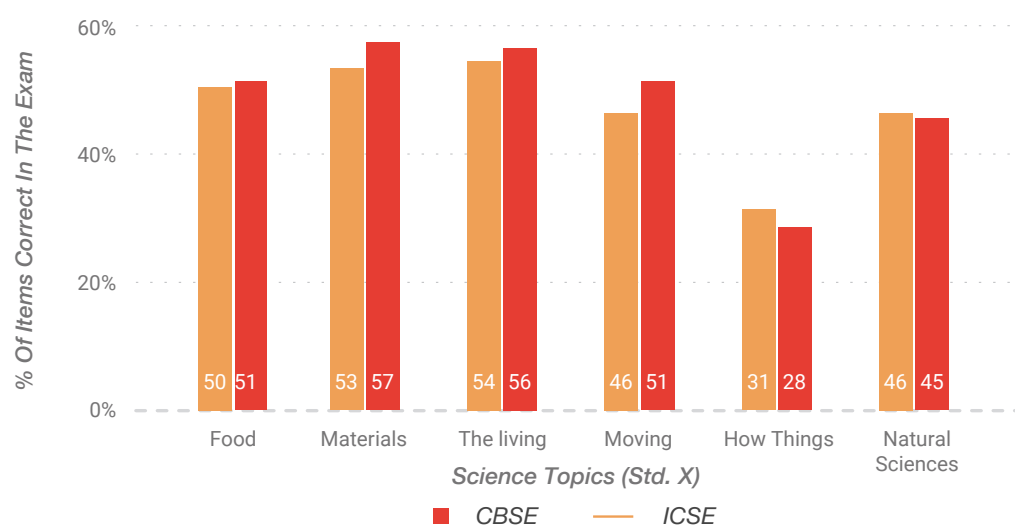
CBSE Vs ICSE: Xth Standard Student Assessment

The State Average Of CBSE Students Was Better In 5 Out Of 8 Mathematics Topics



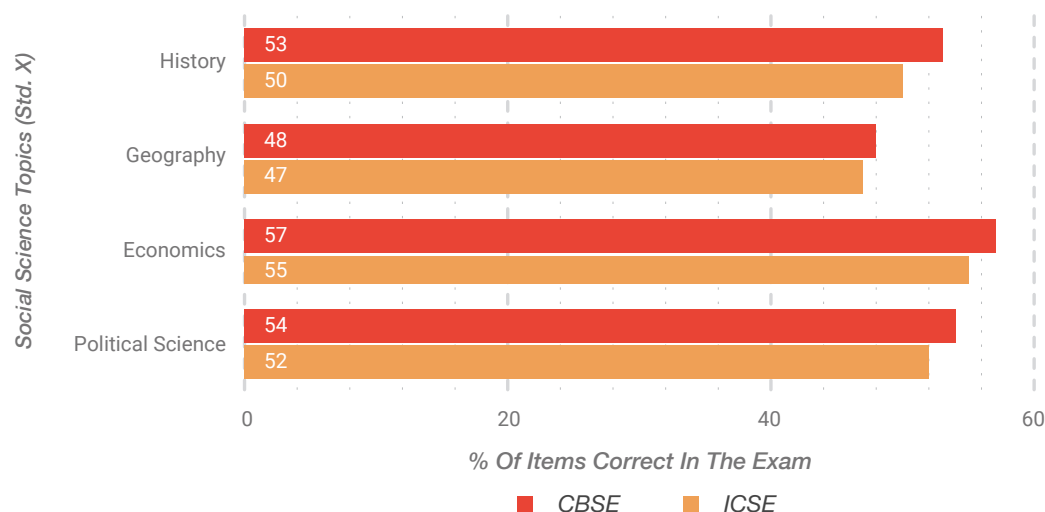
*Source: National AchievementSurvey (NAS) Class X- 2015, DataLabs Analysis

The State Average Of ICSE Students Was better In 4 Out Of 7 Science Topics



*Source: National AchievementSurvey (NAS) Class X- 2015, DataLabs Analysis

The State Average Of CBSE Students Was Better In All The Social Science Topics Compared To ICSE Students

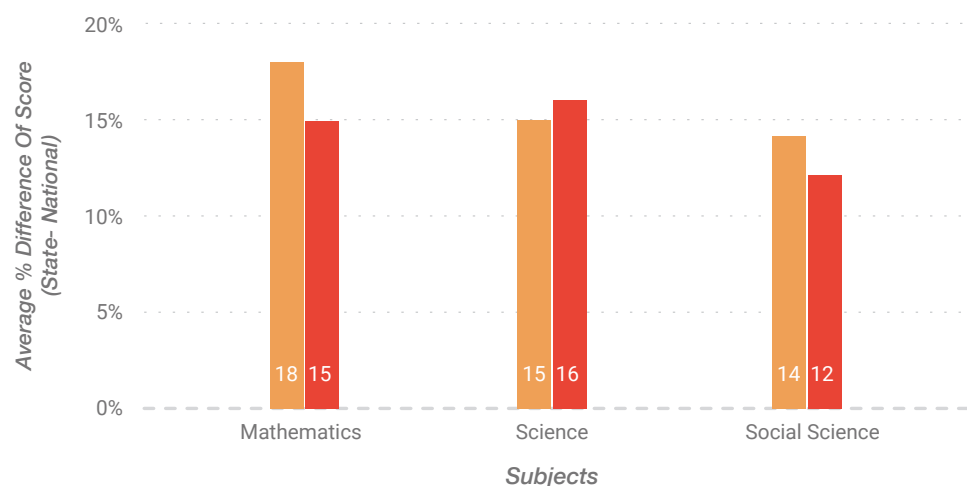


*Source: National AchievementSurvey (NAS) Class X- 2015, DataLabs Analysis

There is negligible difference in the performances of ICSE and CBSE students in the subjects of mathematics, science and social science. However, students of both curriculums have performed relatively better in subjects outside applied academics. Contrary to the subjects such as statistics, coordinate geometry and the number system, these areas of study don't cater to real-life applications and interpretation of theories and learning outcomes. Topics such as 'how things work' and 'natural phenomena' witnessed lower student scores in comparison to others.

The Average Percentage Difference Of State Level And National Level Score Highest Among CBSE Students

Performance of students in social science was equivalent in both state and national level



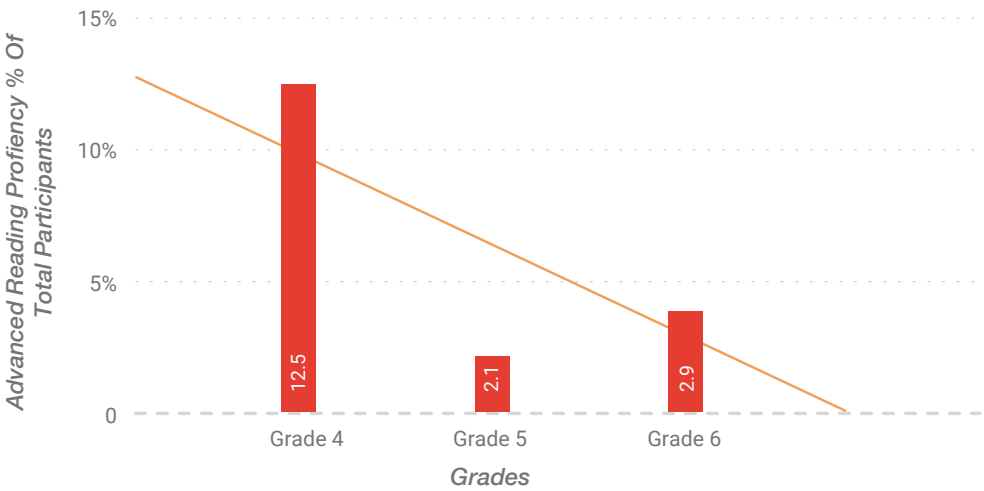
*Source: National AchievementSurvey (NAS) Class X- 2015, DataLabs Analysis

The Deteriorating Advanced Reading Levels Of Students

According to a study by Stones2Milestones, the advanced reading levels are decreasing among Indian students as they move to higher grades. According to the FAST tests reviewed by the Australian Council for Educational Research (ACER), this fall can significantly affect the students at the time of taking professional courses or research-based education. The FAST tests assess the reading skills of students across the fourth, fifth and sixth grades.

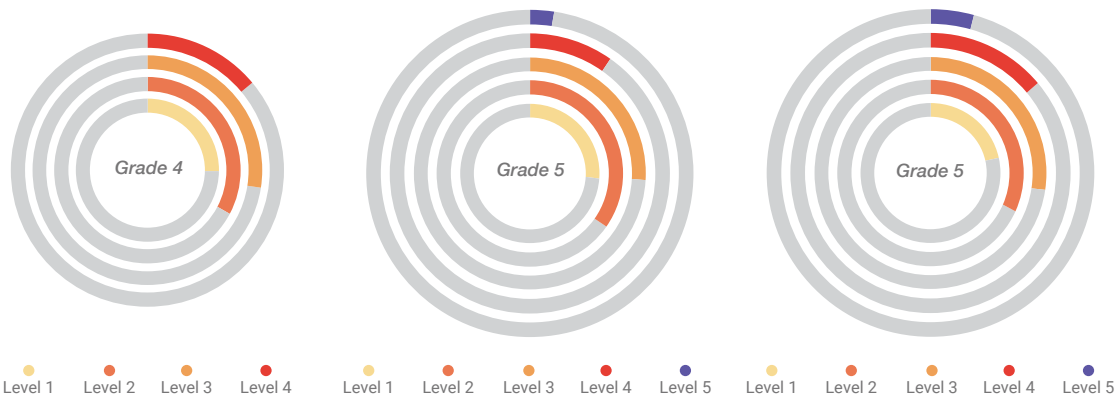
Average Reading Levels Of Indian Students

Extensive focus towards STEM subjects with higher grades is one key reason behind deteriorating focus towards comprehensive reading



*Source: Stones2Milestones, DataLabs Analysis

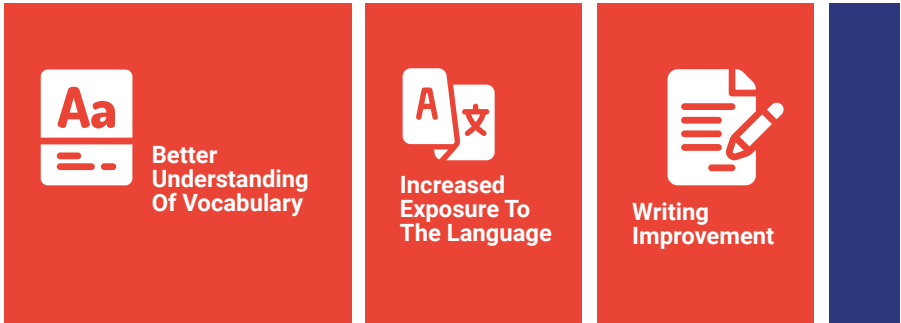
Fast Reading Assessment Scores Across Different Grades



Here are the results of a few samples undertaken as study:

	Sample Size	Score Range	Test Levels	Cut Off Scores
Fast 4	7288	200-800	Level 1	440
Fast 5	8268	200-800	Level 2	480
Fast 6	4209	200-800	Level 3	520
			Level 4	560
			Level 5	600
Year	2017-18			

Several researches have elaborated on the importance of a sound reading habit among young individuals. The development of a reading habit at an early age offers the following advantages:

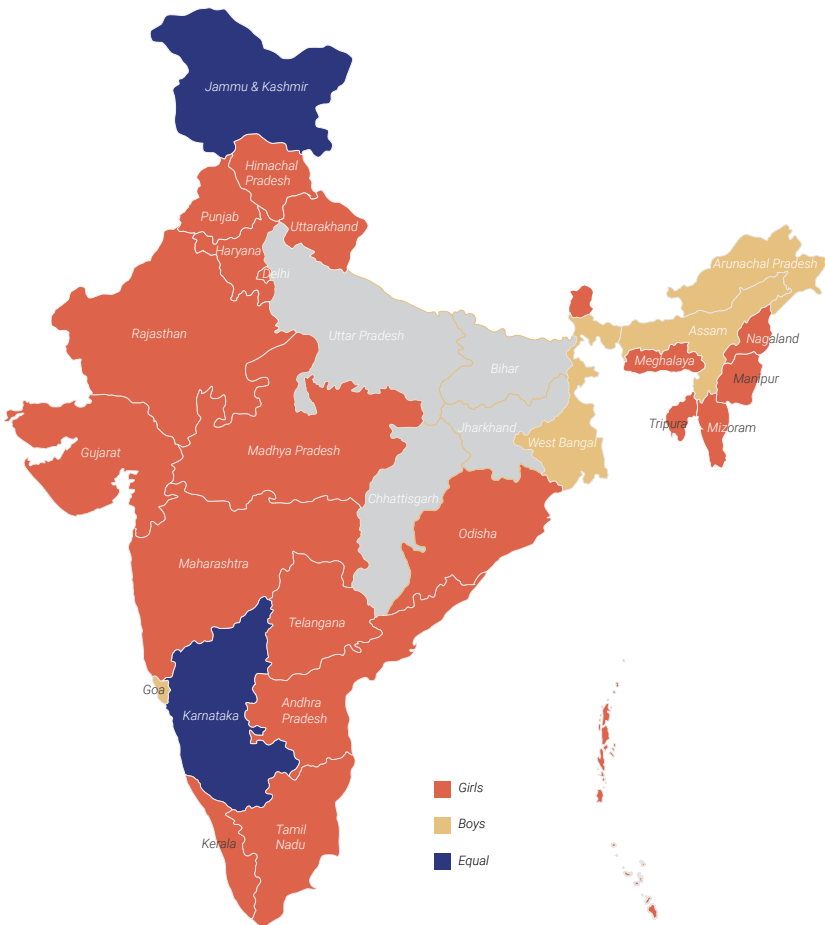


Gender-Wise Performance Assessment Of Indian Students

According to the National Achievement Survey of tenth-standard students, girls performed better in English compared to boys. In mathematics, the mean score of boys was higher in 14 out of 31 states and UTs compared to girls (higher in 12).

Class X Girls Scored Better Than Boys In English

In 24 out of 31 mentioned states and union territories, girls scored a better mean score than boys

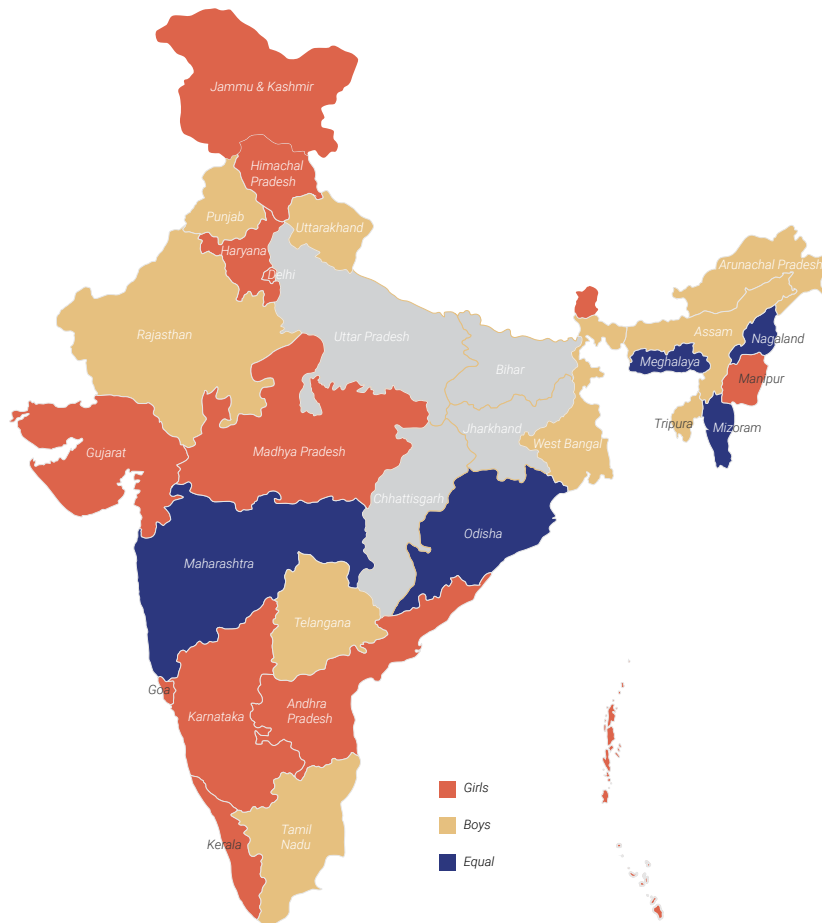


*States not visible means, data was not available

*Source: National Achievement Survey (NAS) Class X- 2015, DataLabs Analysis

Class X Girls Score Similar Scores Than Boys In Mathematics

In 14 out of 31 mentioned states and union territories, boys scored a better mean score than girls



*States not visible means, data was not available

*Source: National Achievement Survey (NAS) Class X- 2015, DataLabs Analysis

In English, Nagaland topped the list in terms of boys' performance, whereas Meghalaya ranked first in case of girls. In mathematics, Odisha topped the list in terms of the performance of girls and boys combined. In English, the top 10 positions held by boys were in the northeastern states, however the equivalent spots held by girls showed no such regional concentration. In mathematics, the southern states dominated the top 10 rankings in both categories.

Understanding The Skill Gap: India Vs The World

Even in 2018, 71 years since Independence, the percentage of Class II students who could not read a single word of short text or perform a two-digit subtraction problem was higher in India compared to countries such as Uganda and Ghana.

India's education system ranks among the worst in the world. Among 149 countries around the globe, India ranks 94th in the overall Prosperity Index and 104th in the Prosperity Index in education. In 2018, with a score of 0.44 on a scale of 0 to 1, India ranked 115th in the Human Capital Index (HCI), much lower than the average score of South Asian countries. The HCI, which covers 157 countries, gauges the amount of human capital that a child born today can expect to attain by age 18. The index determines the productivity of the next generation of workers compared to a benchmark of complete standard education and full health. It measures three factors: survival, expected years of quality-adjusted schooling and healthy environment.

Since early years of schooling in India, a greater emphasis is given on high grades rather than development of a diverse skill set. This is the key difference between the primary education in India and the United States. Juxtaposition of India vis-a-vis the world on the basis of parameters such as gender equality, average worker output and labour efficiency highlights the existing, intense gaps in the Indian education system, causing skill deficiency in the country.

Primary School System: India Vs The US

Primary education is the foundation stone of a person's academic career, especially for skill development. Lack of practical knowhow of real-life applications and awareness of current affairs among Indian students is a reflection of the learning methods applied in the primary school systems in India and the US

Subjects	Key Features Of USA Primary Education	Key Features Of Indian Primary Education
Computer Science	Understanding of e-governance, practical application based learning	Emphasis on textbook-based Learning, less practical involvement
English	Emphasis writings, speaking and vocabulary development using wider classroom discussion	Focus on story narrations, poems and rhymes
Fine Arts	Introduction to a wide range of subjects: drama, singing, playing musical Instruments, using recording instruments	Limited introduction: playing musical instruments and dramas
Foreign Language	Introduction to multiple foreign languages: Spanish, French etc.	No exposure to a foreign language at this point
Library	Encourage students to develop reading habits at an early age	Not considered as a primary subject, more taken for granted
Mathematics	Practical application of topics such as place value, estimation, measurement, algebra, geometry, fractions, and concepts of numbers are introduced and reinforced	Lesser emphasis on the practical application more focus on Problem-solving and syllabus Completion
Physical Education	Emphasis on mastery in any sports or Athletic activity	Not considered as a primary subject, more taken for granted
Science	Practical application of general science topics as well as new age technology	Lesser emphasis on the practical application more focus on theories and syllabus completion
Social Studies	Case study based approach introduced to enhance understanding of complex theories	More theoretical focus approach, no introduction of case studies and example-based learning

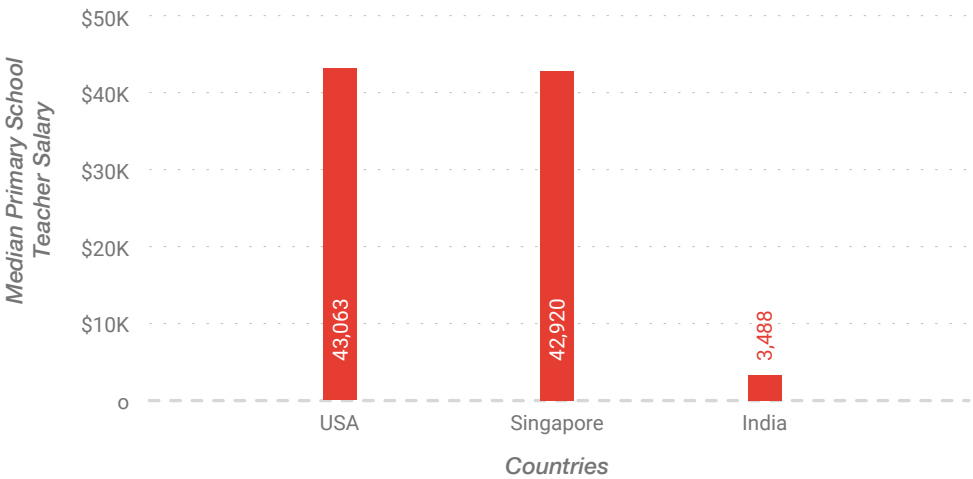
The primary education system in the US advocates the integration of practical knowledge with the basic curriculum from a very early age. Additionally, a wider emphasis is given to all-round development of the student rather than core academics. This ensures a higher degree of participation by the student resulting in a more practical understanding of concepts and theories backed by a relatively higher attention span.

In Indian schools, teachers are forced to prioritise the completion of curriculum using methods such as word-by-word recitation of lessons in classrooms, instead of adopting a practical-oriented approach, which often causes a lower degree of participation in-depth understanding of real-life applications of concepts and theories. This limits the extent of understanding by the student, slowly contributing to the overall lack of basic skills required in order to acquire and nourish new-age skills.

A series of government measures undertaken by successive administrations without a vivid understanding of the actual problem has been largely ineffective in addressing the real problem: the lack of passionate teachers in Indian schools.

Median Salary Of Primary School Teachers In Singapore Is 12x Higher Than Of India's

Increasing the pay scale of primary school teacher will improve the quality of education delivered in the classroom



*Source: PayScale, DataLabs Analysis

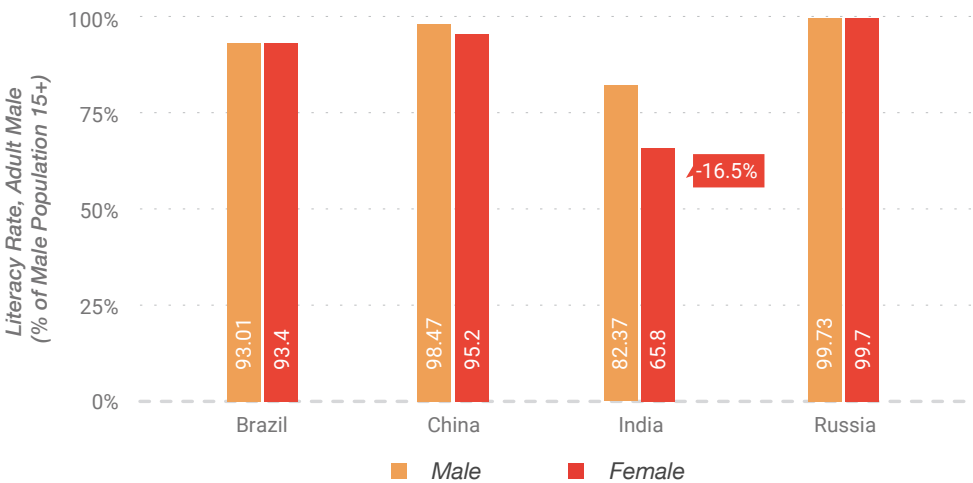
According to DataLabs research, an increase in the pay scale of primary school teachers can help in attracting more skilful and passionate individuals to the profession, which can enable improvement of the skill development of the Indian workforce as a whole.

Singapore, a country which is said to have one of the best education systems in the world, provides a median salary of \$43K per annum to the primary school teachers.

Output Comparison Of Education System: India Vs The World

Gender Difference In Adult Literacy Highest In India Among Among BRICS Nation

The difference in male and female literacy rate in India stands at 16.5%



*Source: World Bank, DataLabs Analysis

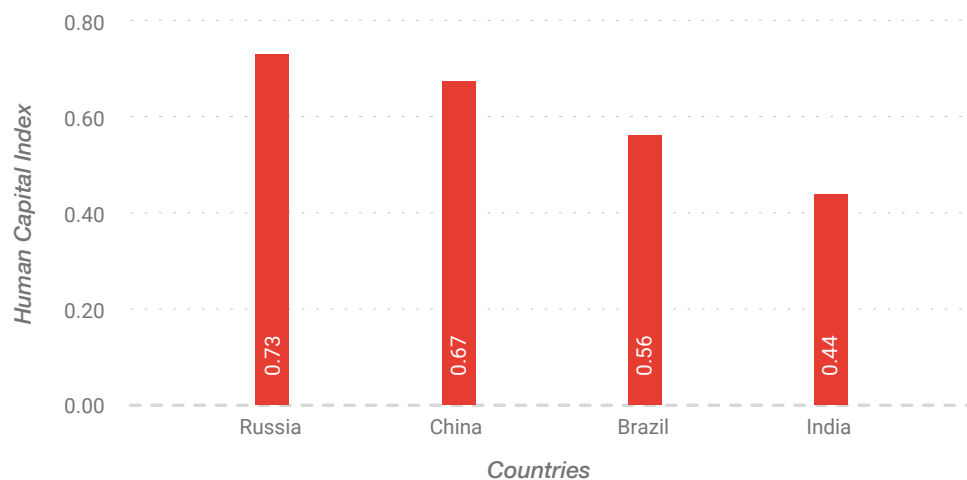
Despite some progress in the recent past, India still lags behind many of its developing peers in terms of gender inequality, labour productivity and human capital development. The figure above (Page 47) indicates that the gap in adult literacy (age 15+ in the population) of males and females in India is the highest among the mentioned developing nations. This is the outcome of the age-old menace in the Indian society where girls at all stages of education, be it primary or tertiary, are discouraged from focussing on professional studies.

Assessing The Efficiency Of India's Workforce

According to International Labour Organization (ILO), modelled estimates (in PPP terms), the output per worker in India is the lowest among BRICS nations. It is 97% lower in comparison to the world average. This indicates that the efficiency of the country's workforce is relatively lower in comparison to the world average. The very preference of the Indian education system on high grades over skill development is the main reason behind the poor labour efficiency in the country.

India Scored Lowest In The Human Capital Index Among Other Developing Nations

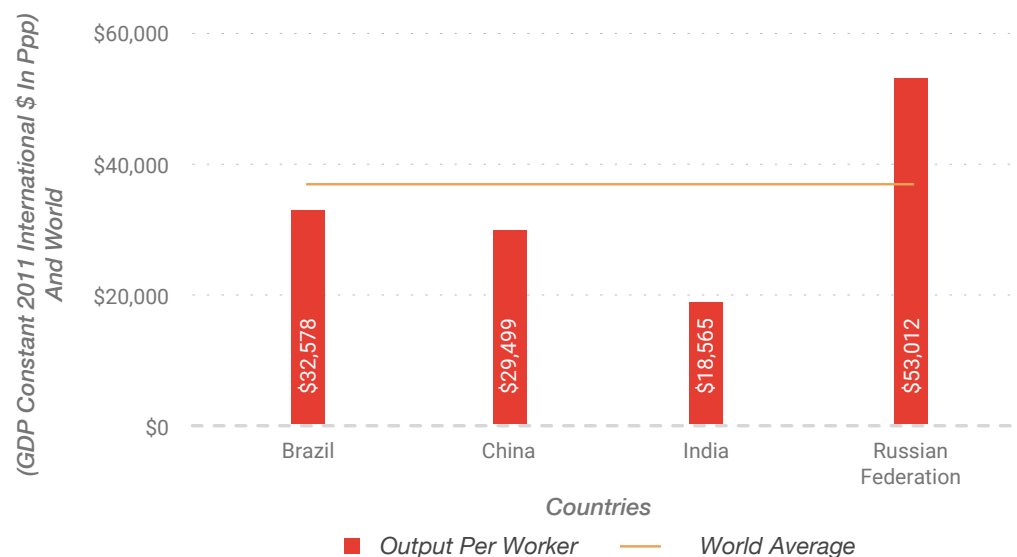
India's Human Capital Index score was 34% lower compared to China



*Source: World Bank, DataLabs Analysis

Despite Abundant Labour Capital Output Per Worker, India Lags Behind Global Peers

India's output per worker is 49% lower than the world average



*Source: ILO, DataLabs Analysis

Edtech Startups Supporting Skilling

India's lagging performance in areas such as labour productivity and technical skillset necessitates a significant government push towards achieving a market equilibrium in skill development. Technological advancement in the Indian market over the past two decades, stimulating both the investment world and the state, still falls short of effective value creation.

For instance, there have been multiple instances of mismanagement in the operations of the government of India's ambitious 'Skill India' initiative, including fake certification and the emergence of middlemen. Surveillance remains one of the biggest challenges when it comes to optimal implementation of these schemes.

A higher emphasis on skill development from early schooling can significantly improve the skill gap among the Indian students. Skill development-focussed edtech startups can play a vital role in brushing up the technical skills of Indian students compared to the traditional modules followed in brick-and-mortar institutions and universities.

Edtech startups XploraBox, Flintobox, QtPi Robotics, CueMath and Meghshala, among others, are already working in areas such as improving the creativity, logical reasoning and other analytical skills of young minds early in life.

India already has a startup focussed on graduation-level technical skill-building in Pesto, which offers a 12-week, intensive training programme that enables the software engineering talent to explore international tech careers through full-time remote jobs. Pesto boasts a six-fold increase in salary on average. HR tech startups such as HackerRank, HackerEarth and Codility along with edtech startups such as Udemy, Unacademy and upGrad are some of the notable names moving to upskill India's engineers and entry-level workers. The National Skill India Mission, the Atal Innovation Mission and Skill India are among Government of India's flagship initiatives to promote skilling in the country.



What Is Driving Edtech In India

Market Related Factors

- *Higher internet penetration*
- *Higher penetration of smart devices*
- *Increasing online content consumption*
- *Young employable population*
- *Increased demand for skilled professionals*
- *Aligned government initiatives*

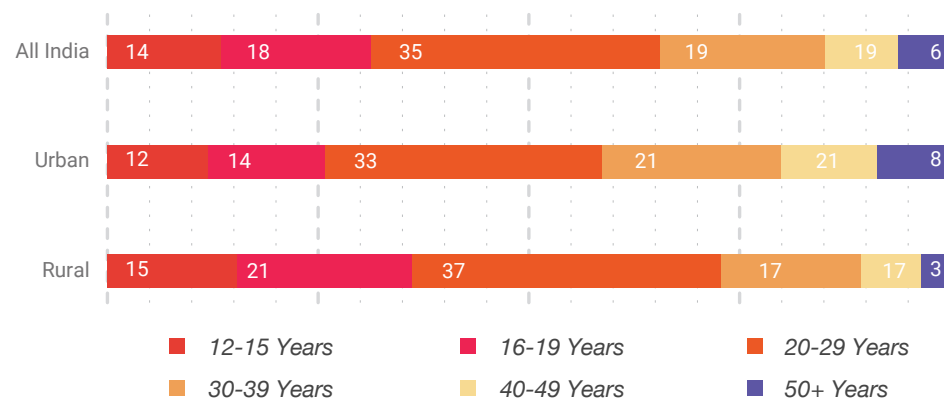
Edtech And The Indian Consumer: What Really Drives The Decision To Buy

- *Cost advantage over physical coaching*
- *Success factor marketing*
- *Ease in content consumption*
- *Employability quotient*

Market Factors Behind Edtech Growth In India

High internet penetration

According to the "India Internet 2019" report by IAMAI, India currently has 451 Mn active internet users above five years of age as of March 2019. Of the overall internet population, 385 Mn are 12+ years old and 66 Mn are in the age group of 5-11 years. Two-thirds of the internet population is in the age group of 12-29 years.



This explains the opportunity Indian edtech startups are eyeing currently. If tapped well, the scope of rural education can enable edtech startups to access an entirely new market and cater to even the remotest regions in the country.

"An average consumer is now using 11 GB data per month. This automatically means that he is willing to download different apps and try them out. With edtech now solving user-specific pain points, they can now reach the consumer in a much easier manner. This we think is something very remarkable to a lot of startups."

Unitus Ventures

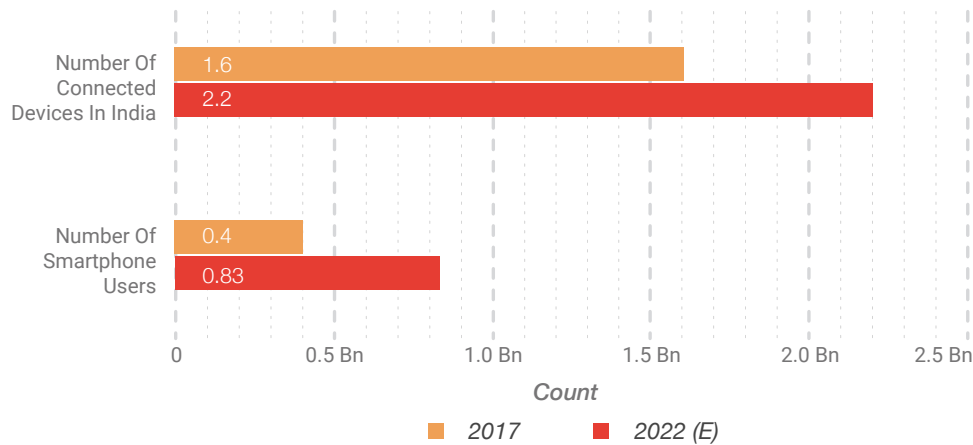
Higher penetration of smart devices

The penetration of smart and connected devices is picking up in India. According to Cisco estimates, the number of connected devices is growing at a rate of 7%. On the other hand, the number of smartphone users in India is expected to nearly double to 859 Mn by 2022 from 468 Mn in 2017, translating into a CAGR of 12.9%, according to a joint study by ASSOCHAM and PwC.

With mobile being the most preferred gateway for online content consumption in India, a deeper penetration of high-speed internet and smartphones will create a sustainable network of digital users who will be exploring the internet for applications beyond social media and ecommerce, and creating another open opportunity for edtech startups.

Technology Penetration To Surge Exponentially By 2022 In India

Both, the number of connected devices and smartphone users are expected to surge 38% and 108% respectively by 2022 compared to 2017



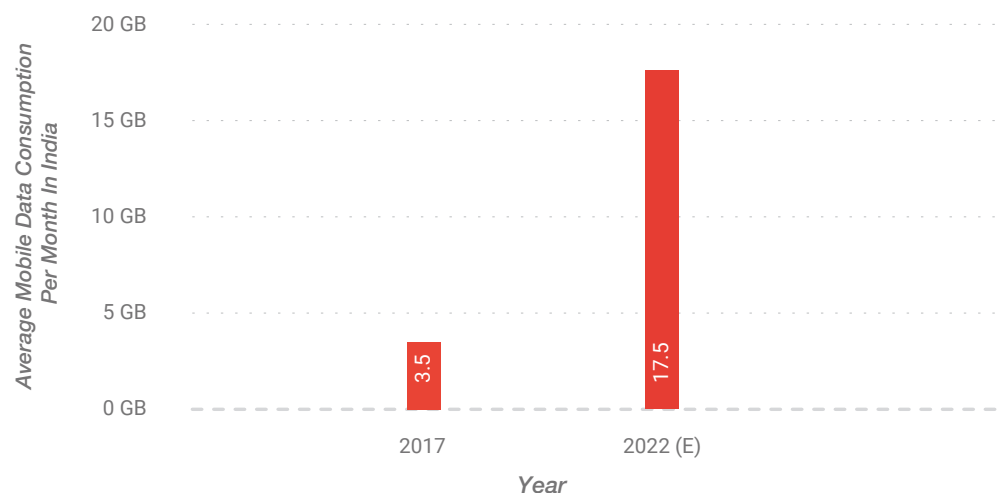
*Source: Cisco, DataLabs Analysis

Increasing online content consumption

The majority of edtech startups in India today have a line of products in video format, besides visual and textual offerings. With the share of video consumption in overall internet traffic estimated to rise to 77% by 2022 from 58% in 2017, the traction of online educational content in the country is poised to grow exponentially.

Mobile Data Consumption Skyrockets

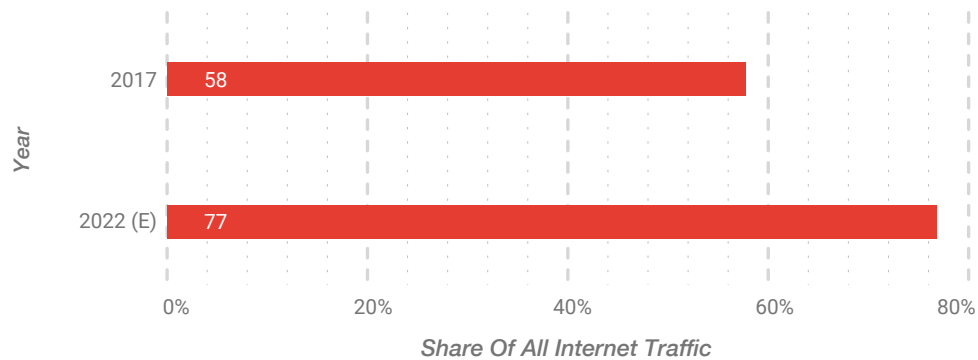
Average mobile data consumption in India is growing at a compounded annual growth rate of 38% (2017-2022)



*Source: Cisco, DataLabs Analysis

More Than Half Of India's Internet Users Are Consuming Video Content

77% of the total internet users are poised to consume video content by 2022



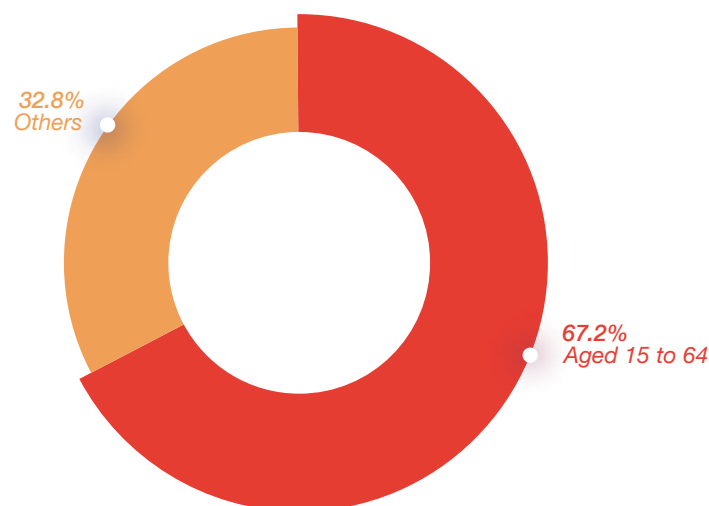
*Source: Cisco, DataLabs Analysis

Young employable population

The majority of edtech startups in India today have a line of The working population in the age group of 15 to 64 years comprises the existing employed or employable groups as well as the people potentially joining the workforce in the near future. As of 2018, this working population made up for more than 67%(UN estimates) of the total population in the country. The two important parameters for ensuring employability in today's market, skillset and certification, underpin the foreseeable demand for companies providing skill development and online certification. products in video format, besides visual and textual offerings. With the share of video consumption in overall internet traffic estimated to rise to 77% by 2022 from 58% in 2017, the traction of online educational content in the country is poised to grow exponentially.

India Has The Second Largest Working Age Population In The World

As of 2018, 909 Mn out of 1.35 Bn people in India were under the age group of 15 to 64 years



*Source: United Nations, DataLabs Analysis

Increased demand for skilled professionals

New age technologies such as machine learning, artificial intelligence, blockchain, augmented/virtual reality and natural language processing have already contributed to millions of jobs in India. But these domains need people with specific skill sets often missing in Indian graduates. That in turn means it is essential for graduates and professionals to upskill by unlocking the potential of online learning platforms.

With around 280 Mn hopefuls expected to enter the jobs market by 2050, the demand for reskilling and acquiring new skills is poised to become the need of the hour for working professionals.

Government's pro-active participation

The government is aiming to increase the digital intensity in education. In the last few years, the authorities have taken a slew of measures to promote online education and skill development in the country.



Skill India

Launched by Prime Minister Narendra Modi in July 2015, the Skill India campaign is aimed at training more than 40 crore people in the country in a variety of skills by 2022. Initiatives such as National Skill Development Mission, National Policy for Skill Development and Entrepreneurship, Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Skill Loan Scheme and Rural India Skill are part of this campaign.



SWAYAM

Rolled out in 2016, SWAYAM seeks to bridge the digital divide for students still untouched by the digital revolution. The courses hosted on SWAYAM are categorised into four quadrants: video lectures, specially-prepared downloadable or printable reading material, self-assessment tests through tests and quizzes, and an online discussion forum for clearing the doubts. The government has taken a number of steps to enrich the learning experience through multimedia and contemporary pedagogy aided by state-of-the-art technology.



SANKALP

The SANKALP or Skills Acquisition and Knowledge Awareness for Livelihood Promotion project aims to implement through its core sub-missions the mandate of the National Skill Development Mission (NSDM), launched in July 2019 by the Ministry of Skill Development & Entrepreneurship.

STRIVE

The Skills Strengthening for Industrial Value Enhancement (STRIVE) initiative is an INR 2,200 Cr central sector, outcome-focussed scheme. The programme, half of whose outlay is sourced through World bank loan assistance, is marking a dramatic shift in Government of India's implementation strategy in vocational education and training from inputs to results.



DIKSHA

Launched in September 2017, the DIKSHA platform offers teachers, students and parents engaging learning material relevant to the prescribed school curriculum.



eBasta

The eBasta project provides a framework to make school books accessible in a digital format. As part of the initiative, a portal connects publishers with schools. eBasta was launched by the Centre for Development of Advanced Computing (C-DAC) under the Ministry of Electronics and Information Technology (MeitY) in 2015.



National Digital Library

Set up in August 2019, the National Digital Library claims to host 40.64 Mn academic resources covering topics including social science, computer science, mathematics and psychology.

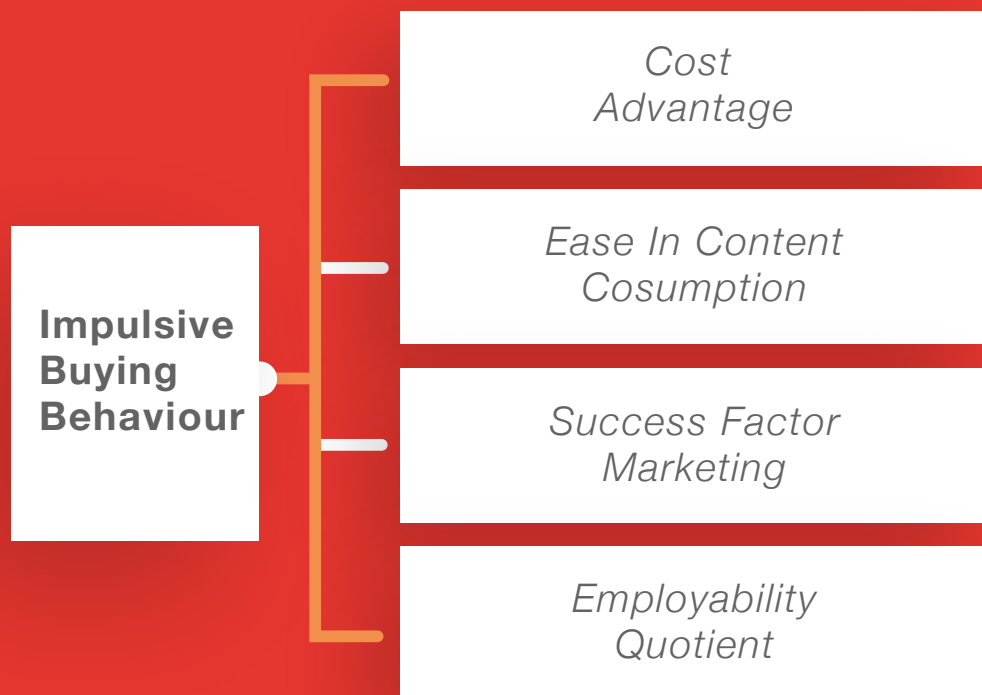
Edtech And The Indian Consumer: What Really Drives The Decision To Buy

According to DataLabs by Inc42 research, consumer decision-making in edtech on both the B2B and B2C fronts is largely driven by impulse than logic.

In the B2B context, the fear of missing out enrollments among edtech solutions providers due to their lack of technological edge than rival schools or institutions is a more conclusive factor compared to the impact of these schemes on the overall performance of the students. Decisions in the B2C space are largely driven by online education/certification providers.

"Consumer decision-making in the edtech domain both on B2B and B2C fronts is largely driven by impulsive buying decisions over rational."

The following external stimuli are playing a vital role in shifting the consumer preference from brick-and-mortar education service/certification providers to their online peers:



Cost advantage over physical coaching

A high degree of price sensitivity prevails over the mindset of an average Indian consumer, whose motto by large across income levels is: 'Optimal value creation with minimal investment'. The average transaction cost for online graduate-level courses in India is to the tune of INR 15,000-20,000.

Graduation (Public/Aided)	Public	Private
Engineering	5 to 6 Lakhs	8 to 10 Lakhs
Medical	5 to 10 Lakhs	18 to 20 Lakhs
Commerce and Arts	2K to 15K	2.5 to 5 Lakhs

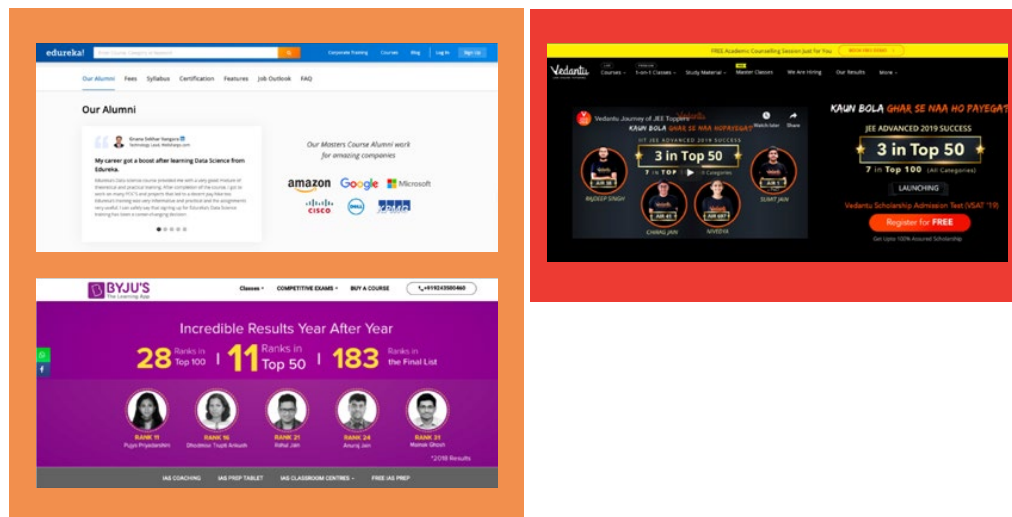
Post Graduation (Overall)

Engineering	20 to 30 Lakhs
Medical	30 to 35 Lakhs
Commerce and Arts	15 to 20 Lakhs

Success factor marketing

Two of the most prominent sub-sectors of online education in India, test preparation and online certification, are together estimated to be responsible for 50% (\$978 Mn) of the total \$1.96 Bn online education market opportunity in India by 2021.

A trait commonly visible in the marketing campaigns adopted by startups operating in the two sub-sectors is the promotion of claimed success stories of their students. This can be clearly seen across the campaigns of prominent test preparation and skill development startups including BYJU's, Edureka and Vedantu.



Ease in content consumption

With more than 600 Mn internet subscribers across India as of 2018, the availability of devices such as smartphones, PCs and laptops is ever-growing. The combined presence of high-speed internet and smart devices in the market has made it easier for the consumer to access high-bandwidth content — such as HD quality, interactive videos which are the most commonly available content in the online education domain.

A wide array of options and easy availability of content and interactive explainer modules are enough for online education providers to attract potential users.

Employability quotient

As more individuals enrol in online courses, even the slightest success of a known enrollee would in effect attract more aspirants to the course pool. In the case of online certification, the association that the market players share with regulatory bodies such as AICTE and UGC along with established universities/institutes help in making their offerings appear more appealing among peers in terms of recognition and employability.

Is buyer's impulsive decision-making key to revenue growth for edtech startups?

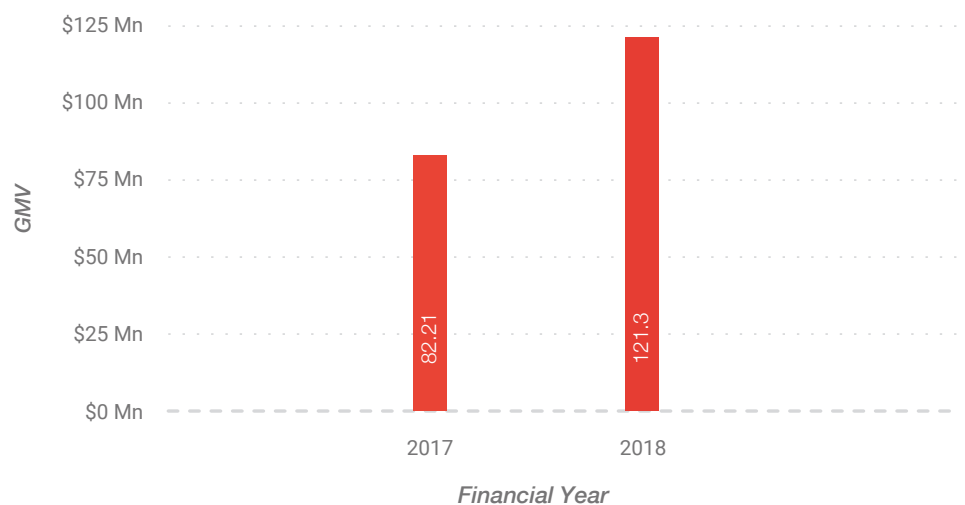
From a business's perspective, impulsive decision-making of edtech customers can boost edtech startups' revenue substantially in the short run. The GMV of edtech startups has surged 48% to \$121 Mn in FY2018 from \$82 Mn in FY2017.

In the long run, however, rationality prevails as the external stimuli influencing the impulsive behaviour becomes less impactful. At such a stage, only products with a larger number of unique selling points(USPs) and a wider value creation are able to sustain sound financial cash flow.

Financial Performance Of Top Indian Edtech Startups

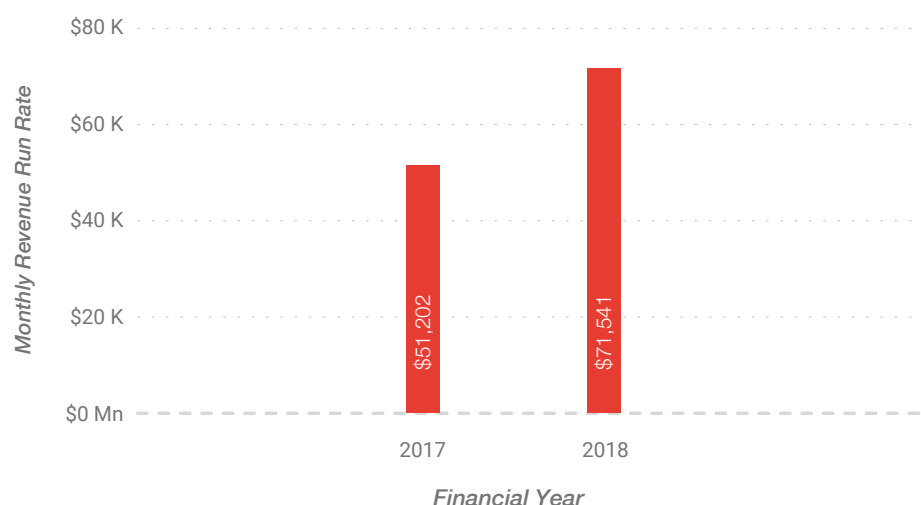
GMV Of Edtech Startups In India Has Surged 48% From 2017 To 2018

Growing demand for online education is fuelling the sales of edtech products



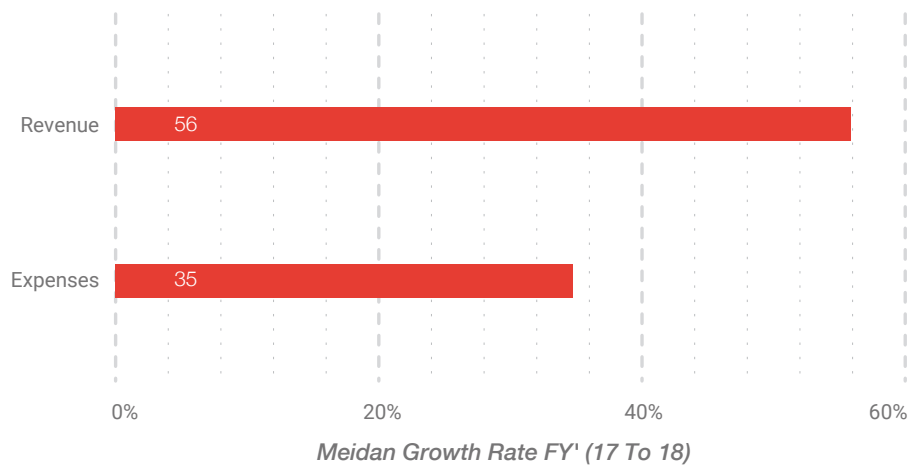
Sale Of Edtech Products And Services Are Growing On A Month On Month Basis

Median monthly revenue run rate of edtech startups has surge 40% from 2017 to 2018



Revenue Grew Higher Than The Expenses

The higher median percentage growth of revenue over expenses during FY'17-FY'18 portrays a positive picture of the financial growth in the edtech sector



- Edtech startups' GMV surged 48% to \$121 Mn in FY'18 from \$82 Mn in FY'17. This is a sign of growing sales volumes of edtech startups in India
- Increasing adoption and sales volumes of edtech startups can be further ascertained given that the median monthly revenue run rate clocked a percentage growth of 40% from FY'17 to FY'18
- Taking into account all of the three indicators, the overall revenue-generation side of the Indian edtech market appears to be in a positive trend

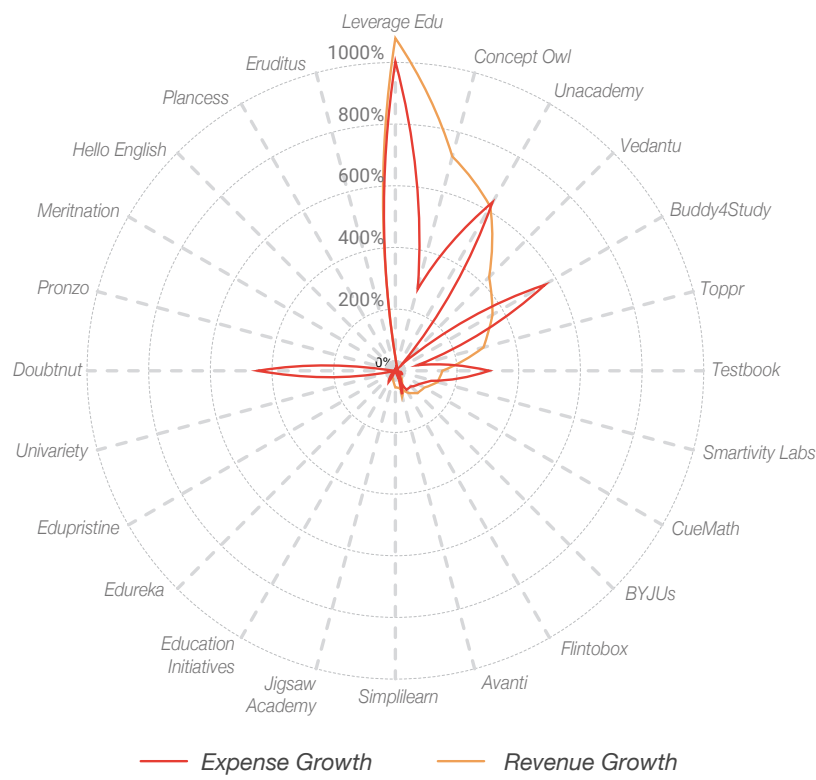
In order to assess the financial performance of startups where the culture of capital expenditure for scaling up to a critical mass is a common practice, measuring financial performance based on traditional financial ratios is not a very compatible method.

DataLabs has formulated a few quadrants based on its analysis of Indian edtech startups' growth in revenue and expenditure.



Edtech Startups Aggressive On The Scaling Front

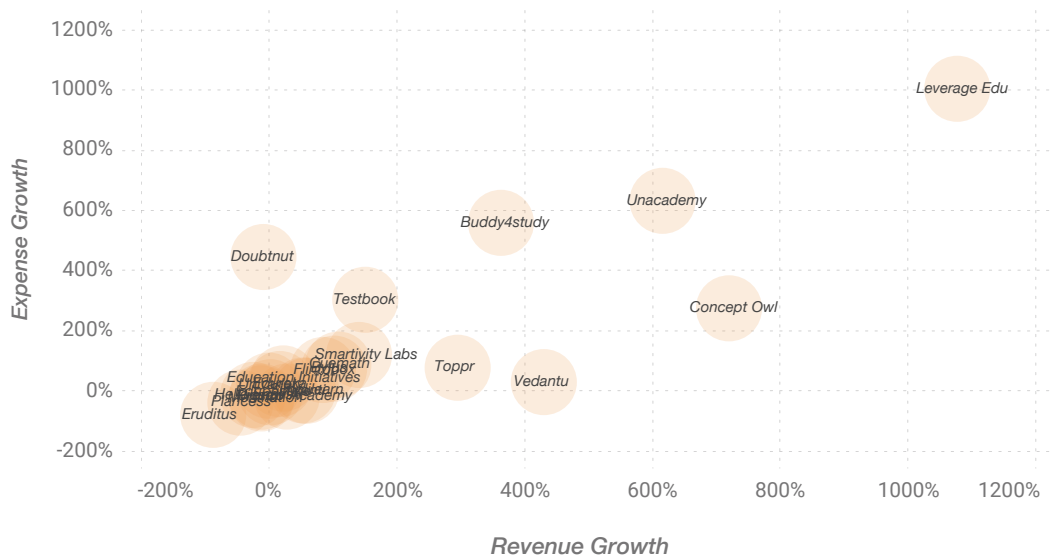
The median difference between the percentage growth of revenue and expenses from FY'17 to FY'18 was 10%



The figure above point out a 10% median difference between the growth in expenditure viz-a-viz revenue. This indicates an aggressive scaling up of businesses in this domain. Simply put, the quest for grabbing a majority market share is intense. Sustainable and robust demand for effective education products is a primary catalyst convincing the edtech startups to spend more on marketing and customer acquisitions.

Leverage Edu And Unacademy Higher On Cash Burn As Well As Revenue Surge

Majority of the edtech startups in India have recorded similar revenue and expense percentage growth from FY'17 to FY'18



Meanwhile, new and early-stage startups are forced to spend more on marketing and customer acquisition.

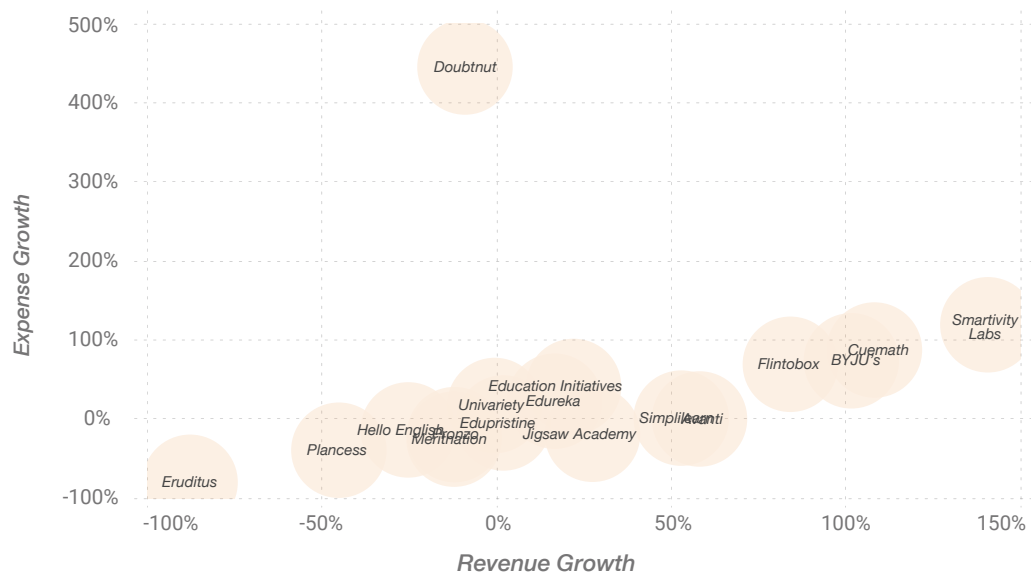
"What remains the same between education and edtech is that both are a very brand-driven game. The consumer will end up choosing a more popular product in comparison to some of the lesser-known products most of the time, forcing new startups to more money on brand recall."

Unitus Ventures

The figure below contains an expanded version of the lower quadrant, which shows that Leverage Edu, Unacademy, ConceptOwl and Buddy4Study have recorded the highest degree of aggression on the expansionary front. Edtech unicorn BYJU's recorded a 102% surge in revenue compared to 74% in expense between FY2017 and FY2018.

However, other existing and newly-launched startups seem to be struggling to maintain a steady revenue stream and control their expenses. Of these, three-year-old startup DoubtNut appears to be in a bad position with 9% contraction in revenue over a 445% surge in expenses.

Expense Vs Revenue Growth Of Indian Edtech Startups



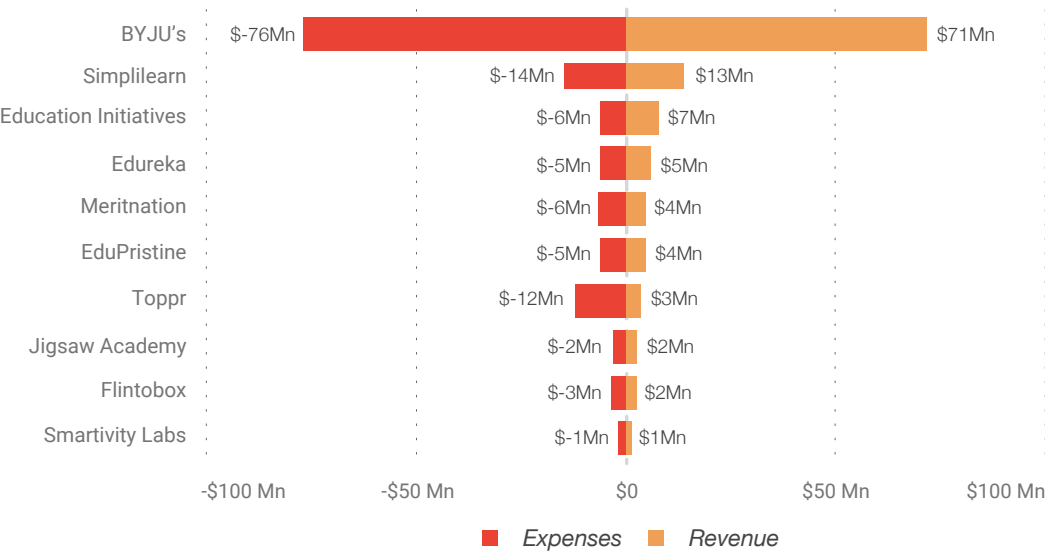
With late stage players like BYJU's enjoying a higher degree of investor confidence and a significant market share, the customer acquisition costs are rising drastically for new players. In the last six months, DoubtNut's monthly count of active users has grown six-fold to 7 Mn, and the number of daily users count multiplied eight times. This has led analysts to consider it as one of the key competitors to BYJU's and Unacademy.

Test preparation & certification startups take lead in expansion

The figure below also highlights that except Buddy4Study, which is focussed on student scholarships, aggressively expanding startups are in either of the test preparation and online certification domains. This also shows robust demand in the two sub-sectors.

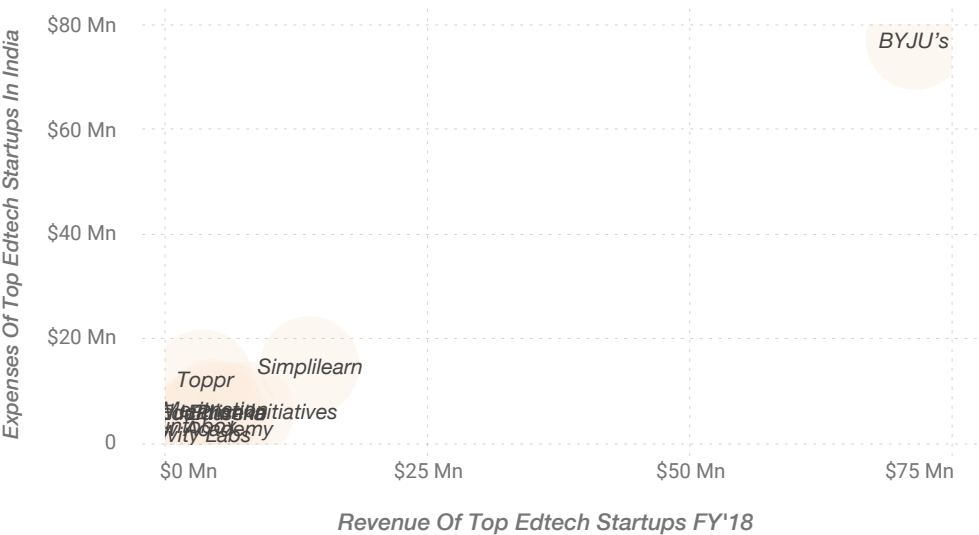
Test Preparation & Certification Startups Tops In Revenue Generation

BYJU's total revenue surged 2x in FY'18 compared to FY'17



BYJU'S: The Edtech Outlier

BYJU's total revenue for the financial year 2018 was approximately \$72 Mn whereas the total expenditure stood at \$77 Mn



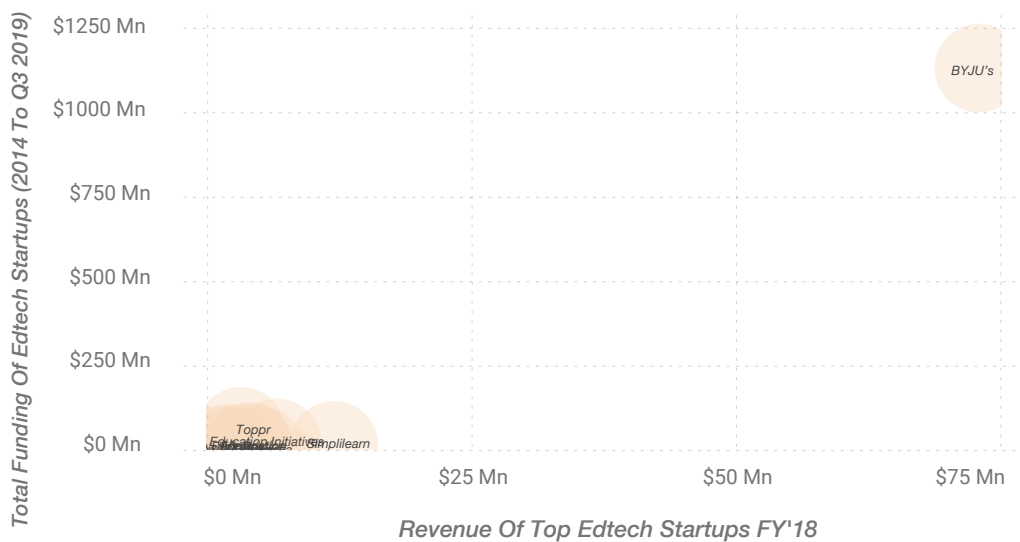
BYJU's total revenue stood at \$72 Mn and total expense at \$77 Mn in FY'18, making it an outlier.

Startup Name	Revenue Growth% FY'17 to FY'18	Expenses Growth% FY'17 to FY'18
BYJU's	102	74
Simplilearn	53	1
Educational Initiatives	22	41
Edureka	17	23
Meritnation	-12	-25
EduPristine	2	-5
Toppr	295	77
Jigsaw Academy	27	-19
Flintobox	84	69
Smartivity Labs	141	119

BYJU's exceeds all other key players in terms of growth in revenue as well as total funding. A high-volume capital backing makes revenue streams expansion a piece of cake. To establish the business efficiency quotient among these startups, the top-funded edtech startups are placed on the basis of total funding amount versus revenue generation in the following figures.

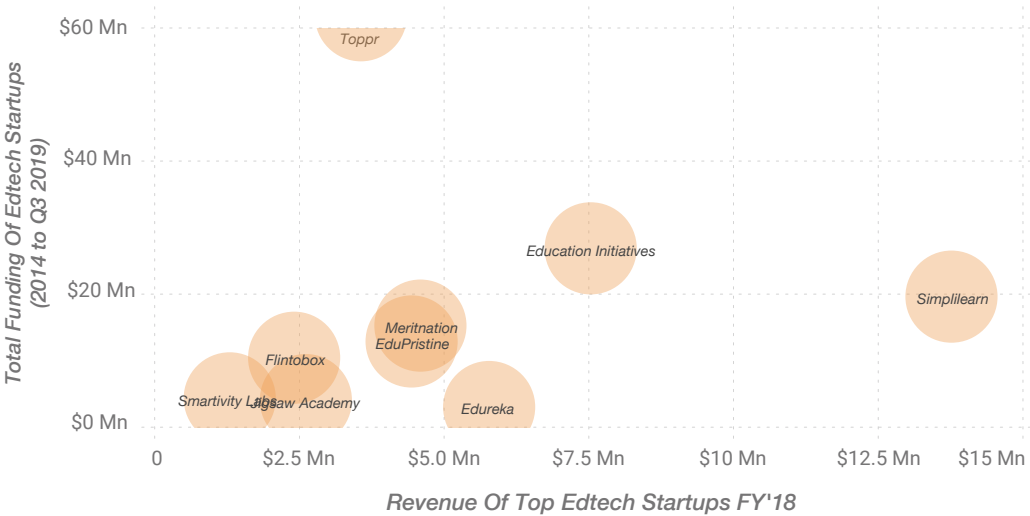
BYJU's Leads At The Revenue Vs Total Funding Quadrant

The high volume capital inflow in BYJU's compared to other edtech startups has given a push to its revenue generation as well



The outlier nature of BYJU's financial performance outshines its peers.

Performance Of Indian Edtech Startups



Why Edtech Adoption Is Still A Distant Dream

Edtech startups in India have come a long way in the last 10 years. Distribution has remained the biggest challenge for initial stage edtech startups. Identifying and reaching out to the right consumer is an obstacle which has pushed many startups to a shutdown.

This has forced early entrants to take the B2B route, which is challenging because of the multiple layers of decision-making involved: from trustees to principals, and from teachers to parents. This makes the approval processes at schools, institutions or universities not only time-consuming but also cumbersome, giving birth to more hurdles against scaling in the long run.

By 2019, however, the industry observed a shift towards the adoption of B2C startups by consumers. Riding on the wave of increased internet and smartphone penetration, as well as the parents' willingness to find alternative solutions in line with the existing school curriculum and eliminating after-school tuitions, the friction has been eliminated between the content provider and the content consumer to a great extent.

Yet, edtech has not been able to achieve the expected disruption. Here are some of the main reasons behind this:

Lack of technological infrastructure at ground level

Central Square Foundation, a philanthropy venture fund and policy think-tank focussed on improving K-12 education for children from low-income communities in India, mentioned in a report that allocating resources to technology infrastructure without complementary teachers has led to ineffective professional development. This is absolutely the case with India, creating a hindrance in the adoption of edtech at ground level.

Lack of understanding of teachers' needs

While many edtech startups are focussed on enhancing the student's learning experience, only few are addressing the teachers' concerns. Although teachers today are more tech proficient by large, the edtech industry is not able to provide them with the rightly designed solutions.

High customer acquisition costs

Content distribution remains a key challenge for new and early-stage startups. Late stage startups' shadow over the early stage ones is making customer acquisition costlier, forcing them to spend excessively on marketing.

Lack of trust among consumers

Apart from distribution and high customer acquisition costs, there is still a lack of trust among consumers. Online education platforms are still viewed as an alternative or an additional means of education. While many edtech business models have been launched in the second wave with an aim to bypass the traditional education system, they are often considered nothing more than an alternative to after-school, one-to-one tuition in the K-12, and coaching classes in the test preparation segment.

Difficulties in Tier II and Tier III expansion

Edtech startups, when scaled to Tier II and Tier III segments are exposed to challenges such as lack of trust for digital payments, disrupted content streaming, language barrier and brand discovery-related issues as well as lack of technological knowhow at the parents' end.

Challenges in implementation of education in technology and possible solutions

Existing Challenge	Why?	Possible Solution
<i>Lack of awareness of the value created</i>	<i>The impact of edtech will be more prominent if more schools join the bandwagon in adapting technology-based learning modules in their classrooms for K-12 students. This will promote student interaction and involvement and enhance their understanding of fundamental concepts from a very early age.</i>	<i>Proactive government participation to help edtech startups provide solutions based on the freemium model will promote adoption of technology in classrooms across schools.</i>
<i>Parental bias towards traditional means</i>	<i>Despite a pickup in modernisation and adoption of education technology in the Indian society, the preference to traditional means of education such as coaching classes and books still remains the educational purchase of choice for their children. This makes it harder for startups offering online courses and interactive learning modules to capture most of the parents spends towards educational products compared to traditional players.</i>	<i>This problem can only be solved by using a more experience-oriented marketing strategy such as below-the-line (BTL) marketing campaigns where relevant startups can provide free demos in residential societies to their potential customers, the parents.</i>
<i>Value gap between the certification issued</i>	<i>Although the friction in adoption of technology is relatively lesser in the area of professional certification, the value gap in the impact which a university-backed, full-time degree provides in an individual's career is much higher compared to online courses.</i>	<i>This is more of a regulatory issue given that the current framework in India does not place online degrees at par with their full-time counterparts. The development of a framework can place the learning experience through an online medium at par with the one derived without compromising on quality. It will be a boost for startups operating in the online certification segment, and will enable those residing in remote regions to get easy access to quality education.</i>
<i>Lack of understanding of the education ecosystem</i>	<i>Edtech players are often too focussed on building technology-led platforms without understanding the actual need of the system around which they are working.</i>	<i>A solution could lie in refraining from assuming what is best for the student and the teacher. Thorough research and the placement of educators who have been in direct touch with the system to understand the existing pedagogy to the fore. An attempt to understanding the education culture can also help in bringing about a change in this regard.</i>

Existing Challenge	Why?	Possible Solution
Brand discovery challenges	At the time of first purchase, the Indian consumer is more biased towards popular brands rather than those having the potential to cater to their needs. This creates brand discovery and brand recall a big challenge for new startups.	New brands need to create offline channels in order to reach out to consumers. Reaching out to the consumers during the research-and-pilot phase will help in creating brand awareness and a higher brand recall.
Language barrier	In Tier II and Tier III cities, most households might have a first child of the family studying in an English-medium school or attempting a high-level competitive exam. In such cases, if the entire content is in English language, it makes it difficult for the parents to understand the value being passed on to the student.	Startups need to build more vernacular products. Some startups are now teaching in 'Hinglish', a mixture of English and Hindi. This is a must in India in order to scale up in the near future.
Disrupted content streaming	In Tier II and Tier III cities, internet connectivity-related issues still prevail. This creates a hurdle for online education platforms to deliver their services effectively.	Startups need to build low-bandwidth products. Providing downloadable content as well as the provision to lend/give away CDs with videos and lessons can be an effective solution.
Less number of repeat paid users	Most edtech startups operate on the freemium model. With education still dominated by offline stakeholders, there is still a limited number of paid subscriptions. Many opt for one-time test preparation courses, which makes it difficult for platforms to push for repeat buyers.	Survival is the key. Raising and burning too much investor money is not a solution. Instead, one needs to innovate the revenue and marketing strategies at regular intervals. Region-specific revenue strategies can also help.

Edtech has been adopted well in Tier I and metro cities. Even in Tier II locations, practically everyone has access to YouTube videos today which provides an insight about the edtech penetration. With regards to paid users, edtech has a proliferation in Tier I cities. The question is: how can this be percolated to Tier II and Tier II cities? This is bound to happen considering the mindset of Indian parents, especially in households where the highest allocation of income goes into education.

When the aspiration is very high, it is only a matter of time till most edtech startups will be able to crack distribution. So if a student scoring 60% marks using an edtech product for 2-3 years reaches 70-75%, it will automatically lead to smarter adoption and virality of edtech products. This is very much poised to become a reality. The question here is: who will crack it and how soon will it happen.

Future Trends & Technologies

According to an analysis incorporated in the Economic Survey 2017-18, which studies the behaviour of Indian consumers in relation to select commodities across varied income levels, the income elasticity on education is estimated at 0.93 compared to 1.95 in healthcare. This indicates that be it any income level, the Indian consumer will prefer investing more on education than healthcare. The analysis uses Engel's law of income elasticity to arrive at the quantity demanded of a particular good at a specific income level of the buyer while assuming that all other demand determinants remain unchanged.

Commodities

Elasticity In Response To PFCE

Food And Beverages

0.61

Housing.electricity, Gas, Etc.

0.78

Education

0.93

Transport

0.98

Communication

1.09

Household And Furnishing

1.39

Clothing And Footwear

1.44

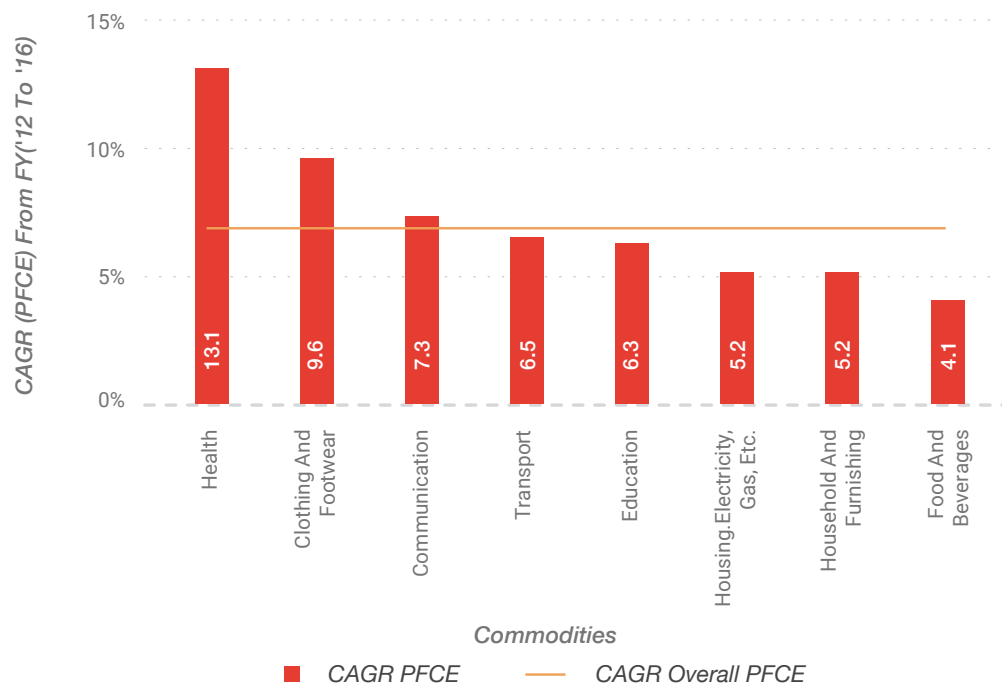
Health

1.95

**PFCE is Private Final Consumption Expenditure in the domestic market*

Education Among The Top Five Fastest Growing Commodities In Terms Of Consumer Expenditure In India

Consumption expenditure towards education is growing at a CAGR of 6.3%



*Source: Economic Survey 2017-18, DataLabs Analysis

With a growing disposable income, the spending power of the Indian consumer is increasing day by day. Considering the importance given to education by an average Indian consumer coupled with the growing demand for advanced skills in the job market, the proportion of individual income towards education is poised to increase going forward.

According to DataLabs analysis, the following trends will prevail in the Indian edtech market in the coming years:

Online test preparation and online certification will continue to spearhead the edtech market

- In addition to certifications in AI/ML and Big Data, specialised certifications in technologies such as Blockchain and Quantum computing are expected to rise
- More aspirants from streams such as UPSC, Chartered Accounting, Law, JEE and Medicine - which are currently dominated by Brick-and-Mortar coaching centres - will move towards online coaching

- Live online classes will gain popularity. Technologies such as facial recognition to track whether a student is paying attention in an online class — is one among many hi-tech tools available today. These are bound to grow
- The combined market size of the online test preparation and certification segments is estimated at \$978 Mn by 2021

Impulse over rationality will continue to dominate customer decision-making in B2B and B2C segments

- Curiosity and FOMO (fear of missing out) triggered by the success of edtech startups marketing campaigns will continue to rise with increasing technological advancement on the B2C front
- On the B2B side, the fear of losing the technological edge over rivals will remain the most influencing factor for education enterprises including private schools, colleges and universities
- Performance-monitoring tools will have a higher demand in the edtech enterprise solutions sub-domains

Demand for online casual learning will increase

- The quest for skilling up on hobbies will drive the demand for casual learning in India
- User-generated content will occupy a large proportion of the overall content volume in this domain
- The viewership of hobby-related YouTube videos surged three times from 2017 to 2018

Tier II and Tier III specific products will continue to trend

- A product offering a combination of vernacular languages is a must. In many families located in Tier III cities, children are first to attempt online learning. Vernaculars will help in creating better trust among parents
- Low-bandwidth products and downloadable videos will be more popular in remote areas due to data connectivity-related issues
- Business models able to utilise content distribution will be able to scale up and have a revenue model in the next wave

AR/VR-based learning modules will have a higher demand in the K-12 domain

- The attractive and interactive nature of AR/VR-based modules will be a crucial factor in their popularity among children
- Gamification will add to the interest of young users and drive easy simulation of concepts, besides knowledge enhancement and increased user acquisition
- A detailed visual explanation of concepts will be a crucial factor in its adoption among senior students
- In addition to K-12, AR/VR modules will also be used in training for job titles such as firefighter, pilot and mechanical engineer

The popularity of short-length explainer videos will rise

- The popularity of short-length video is on the rise; In 2018, the average video length was 4:07 minutes compared to 6:07 in 2017, indicating a plunge of 33%
- The entry of TikTok in edtech market will be a driving force. TikTok had more than 240 Mn downloads in India as of 2018
- K-12 supplementary education will be the primary target for short-length content

Methodology

This report presents the study of datasets related to edtech (which means the application of technology in educational products and services both on B2B and B2C fronts), the datasets are collected from both primary and secondary sources. The investment activity recorded in the report for the year 2019 is dated from 1st January to 26th December. The default base year for calculating growth rate (CAGR%) is 2015, unless mentioned otherwise. The segregation of funding stages in this report is done on the following basis— seed stage (before Pre Series A), bridge (transition funding rounds like Pre series A,B C), Growth Stage (Series A and B) and Late Stage (Series C and beyond).

The median is calculated using quartile two of the data set. Forecasting of funding amount and deal count is done using exponential smoothing on annual trend of capital and deal inflow. The top 5 technologies to look out for in 2019 are based on the problems these technologies are capable of solving in context of the Indian economy. We arrived at this list by considering the social and economic problems these technologies will be able to solve better than their contemporaries. The top sectors and startup hubs are based on the number of deal counts poured in the respective sector/hub between 2014 to 2019.

The roadblocks section has been formulated by analysing the impact of these policy changes on the investment activity post and pre implementation. Our definition of tier I cities include—Delhi NCR, Bengaluru, Mumbai, Chennai, Hyderabad, Pune, Kolkata and Ahmedabad. Whereas the “top three startup hubs” in the report is referred to Bengaluru, Delhi NCR and Mumbai, derived from their dominance in overall startup investment activity since 2014.

Glossary

Edtech Startups	<i>An organisation or firm which facilitates technology enabled products and services in the education sector</i>	PFCE	<i>Private Final Consumption Expenditure</i>
Test Preparation	<i>An edtech startup which has product/service focusing on preparing aspirants for an exam</i>	Seed Stage	<i>Upto seed funding round</i>
Skill Development	<i>An edtech startup whose primary goal is development of professional/personal skills</i>	Bridge Stage	<i>Any transitional funding rounds</i>
Online Certification	<i>An edtech startup whose core focus is on providing online certification courses to aspirants</i>	Growth Stage	<i>Series A and B funding rounds</i>
Enterprise Solutions	<i>A startup providing enterprise level solution to enhance academic operations in educational institutions</i>	Late Stage	<i>Series C and beyond funding rounds</i>
STEAM	<i>An edtech startup providing physical kits for development of skills in science, technology, engineering, arts and mathematics domain</i>	VC	<i>Venture Capital</i>
Online discovery	<i>An edtech startup providing an online portal to discover academic products and services</i>	YoY	<i>Year-on-Year</i>
		TAM	<i>Total Addressable Market</i>
		\$XXK	<i>XX Thousand USD</i>
		\$XX Mn	<i>XX Million USD</i>
		\$XX Bn	<i>XX Billion USD</i>

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