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BUILD TO SCALE: EDTECH REPORT 2017

WHAT INVESTORS LOOK FOR WHEN INVESTING
IN AN EDTECH STARTUP IN INDIA

CONTENTS

#01

INDIA'S EDTECH INDUSTRY
— A FUNDAMENTAL DISCONNECT

In 2016, India's EdTech industry threw up a big surprise – one company took home 81 per cent of the total funding. It's a worrying statistic, one which indicates a slowdown in funding for the majority of participants in the sector. In response to this, we at Unitus Seed Fund decided to take a deep dive in to the industry by speaking to the key drivers – entrepreneurs and investors - to identify the causes of the funding slowdown and understand where the industry is really heading. Over a course of two months, a total of 152 entrepreneurs and 15 investors responded to our surveys.

2
months of data collection

ENTREPRENEURS

152
EdTech entrepreneurs responded

4.5
avg. years of startup experience

INVESTORS

13
venture funds CVC & accelerators

25
EdTech startups funded

55
agg. years of investing experience

Investors include – Sequoia Capital, IFC, SAIF, Aarin Capital, S. Chand, TLabs, Pearson Affordable Learning Fund, Michael and Susan Dell Foundation and others.

ARE ENTREPRENEURS TRULY BUILDING INVESTABLE STARTUPS?

Exhibit 1 provides a cross-section of the EdTech industry, represented by the sub-sectors our entrepreneur respondents operate in and exhibit 2 contrasts this data with investors' funding interests in those sectors.

Vocational Training and / or Skilling

School / College educational operations
(Teacher needs, LMS, school-parent communication)

K12

School / College non learning focus operations
(Campus Security, Infrastructure, Enterprise Productivity etc.)

Language Learning

Early Childhood Education (ECE)

Test Prep

Higher Education

Curriculum Mapped Products for K-12

25%
16%
15%
11%
12%
12%
4%
3%
2%
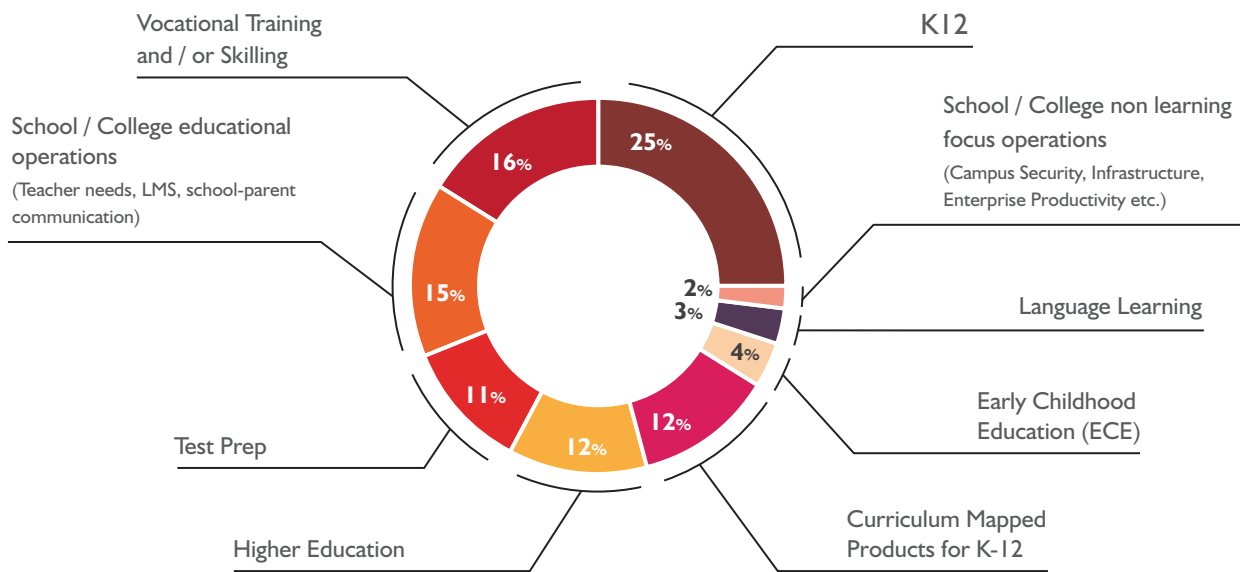
EXHIBIT 1. EDTECH OPERATIONAL SUB-SECTORS

Sector	Percentage
K12	93%
Higher Education	60%
Curriculum Mapped Products for K-12	60%
Test Prep	60%
Vocational Training / Skilling	47%
Early Childhood Education	33%
School / College non learning focus operations (Campus Security, Infrastructure, Enterprise Productivity etc.)	27%
School / College educational operations (Teacher needs, LMS, school-parent communication)	20%

0   20   40   60   80   100

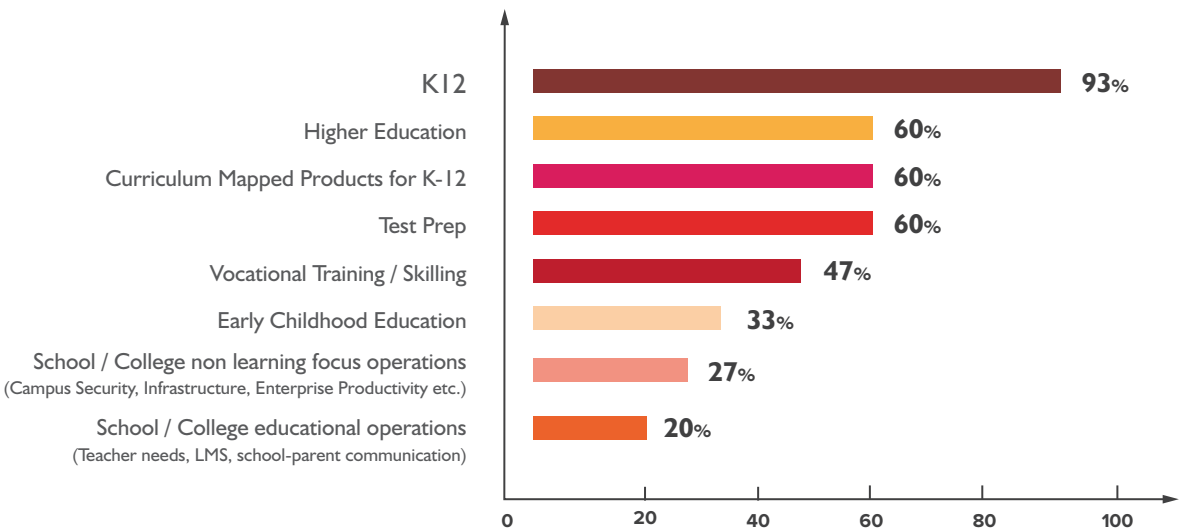**EXHIBIT 2. INVESTOR FUNDING INTERESTS**

WHAT'S THE KEY INDUSTRY DRIVER?

With 37 per cent of businesses either directly catering to K12 schools and students, or offering products mapped to the K12 curriculum, there's little surprise that K12 emerges as the most preferred sub-sector for investors to invest in. This segment offers a rich opportunity to entrepreneurs and investors for several reasons:

- **A large customer base drives scale** – India's K12 network is home to 250 million students, across more than 1.4 million schools

- **Lack of quality teaching** – According to the 2016 ASER report[1], repeated studies into teaching in India over the past 10 years have found that teaching methods are anchored by textbook content, with most teaching practices based on "chalk and talk". This leaves enough room for outside providers to step in and fill the educational void left by this teaching method.

Investors too have a strong affinity for K12 startups, with 93% indicating they are interested in investing in the sector. Summing up this statistic, *Mukul Arora, Managing Director at SAIF Partners*, specifically identifies K12 hybrid learning solutions as the single largest opportunity in the EdTech industry, over the coming years. Within this, he emphasized the need for K12 companies to adopt a mix of asynchronous and live content, indicating that companies face significant difficulties in monetizing purely asynchronous content in the Indian market.

IF ALL LOOKS GOOD, WHERE IS THE DISCONNECT?

The connect between entrepreneurs and investors, unfortunately stops at K12.

According to this research's findings, the next most preferred sector for entrepreneurs to start a business is vocational training (16 per cent). As of 2013, a dismal 7 per cent of India's working population had received some sort of vocational training. Fortunately, the Government of India has acknowledged the need to address this issue, and has set itself on an ambitious target to upskill 500 million Indians by 2022 through the National Policy for Skill Development and Entrepreneurship 2015.

Given governmental policy support and a broad economic need, the opportunity for vocational training startups to succeed is evident, and is undoubtedly attracting a sizeable number of entrepreneurs. However, the investors' perspective is alarming – 53 per cent of investors are disinterested in investing in the vocational training sector, a fact that 41 per cent entrepreneurs in this sub-sector have cited as a major challenge.

> *According to Will Poole, Co-founder and Managing Partner at Unitus Seed Fund, "Mounting debtor days, risks of payment and opaque mechanisms of allocating contracts have traditionally kept VCs at bay from this space. However, with new changes in few of the government-led projects (like Deen Dayal Upadhyaya Grameen Kaushalya Yojana), we might see some interest in the future if a startup is able to choose the right projects and manage working capital efficiently."*

The story is no different in the school operations sector, the third most well-represented sub-sector accounting for 15 per cent of respondents, who are running businesses focused on learning management systems (LMS), school/parent communications and teacher aids.

Once again, investor interest is extremely weak, with 80 per cent investors disinterested in this segment. It's also worth noting that in 2016, only 9 out of 68 rounds of funding went to companies in this sector, accounting for only USD $1.3m, or 2 per cent of total industry funding.

Clearly entrepreneurs in both these sub-sectors need to be aware of the lack of funding interest, and plan their business models accordingly.

WHY ARE INVESTORS RISK AVERSE?

Below is a snapshot of where Indian EdTech startups are currently at. The data highlights that most of the companies surveyed are in the early-growth stage, looking for either seed, or series A round of financing.

ENTREPRENEURS' FUNDING NEEDS

INVESTORS' FUNDING INTERESTS

■ Pre-Seed / Angel   ■ Seed   ■ Series A   ■ Series B+
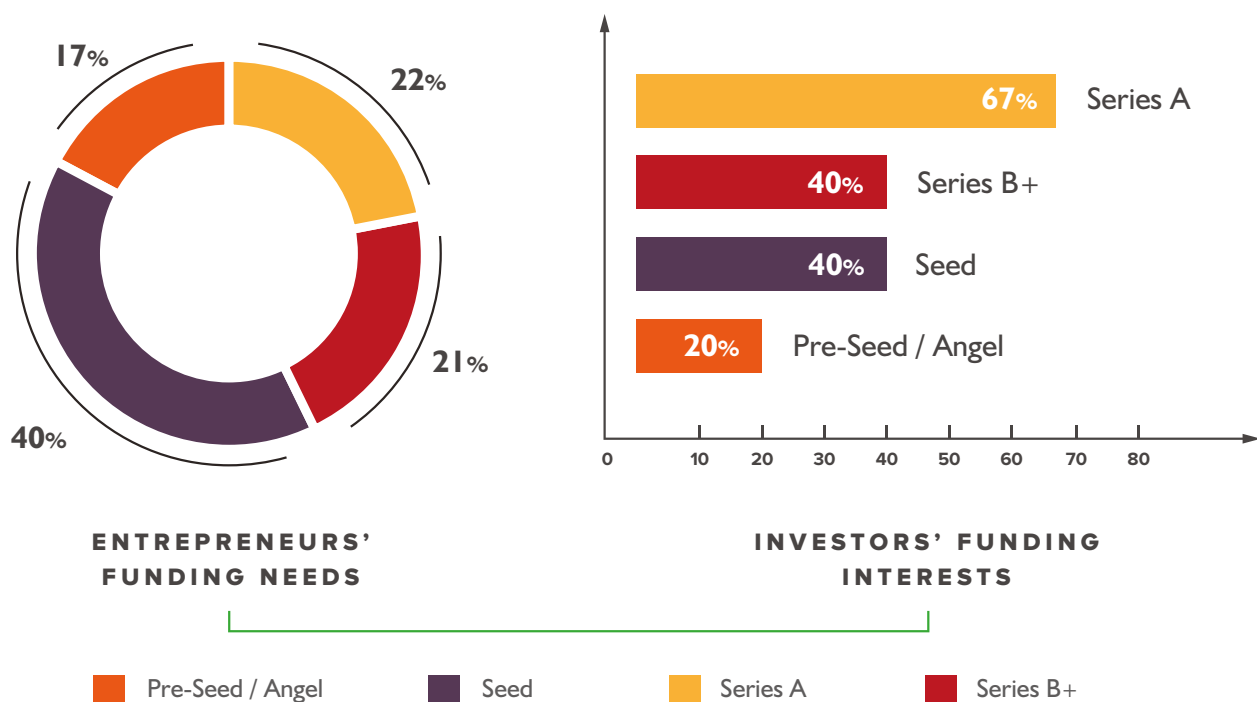
Corresponding this data with investors' interests again indicates lack of interest at the pre-seed and seed stages. Investors are far more attracted after companies have proven their business model and gained sufficient traction i.e. at the series A and series B stage.

> *Srikanth Iyer, Venture Partner at Unitus Seed Fund* highlights, "Education is a long gestation business and unless investors are willing to ride this journey for the long haul, there will be limited interest in the pre-Series A stage."

Another explanation to this can be seen in the investor responses to our question 'Why hasn't there been a breakout success in the EdTech sector so far?'. As many as 73 per cent of investors ranked a high number of 'me-too' startups as a primary reason for the lack of a breakout success in the industry. This indicates that investors are unwilling to take risks on businesses in a crowded marketplace until they are fully certain they are investing in a potentially industry leading business.

This is concerning news for entrepreneurs, given the already long-winded sales processes associated with the education industry and the longer gestation period required to prove a product's efficacy. They must overcome these hurdles it seems before an investor will take an interest in their business.

In the next chapter, we will deep dive in to the initial challenges entrepreneurs must overcome, for investors to consider a business as a potential investment candidate.
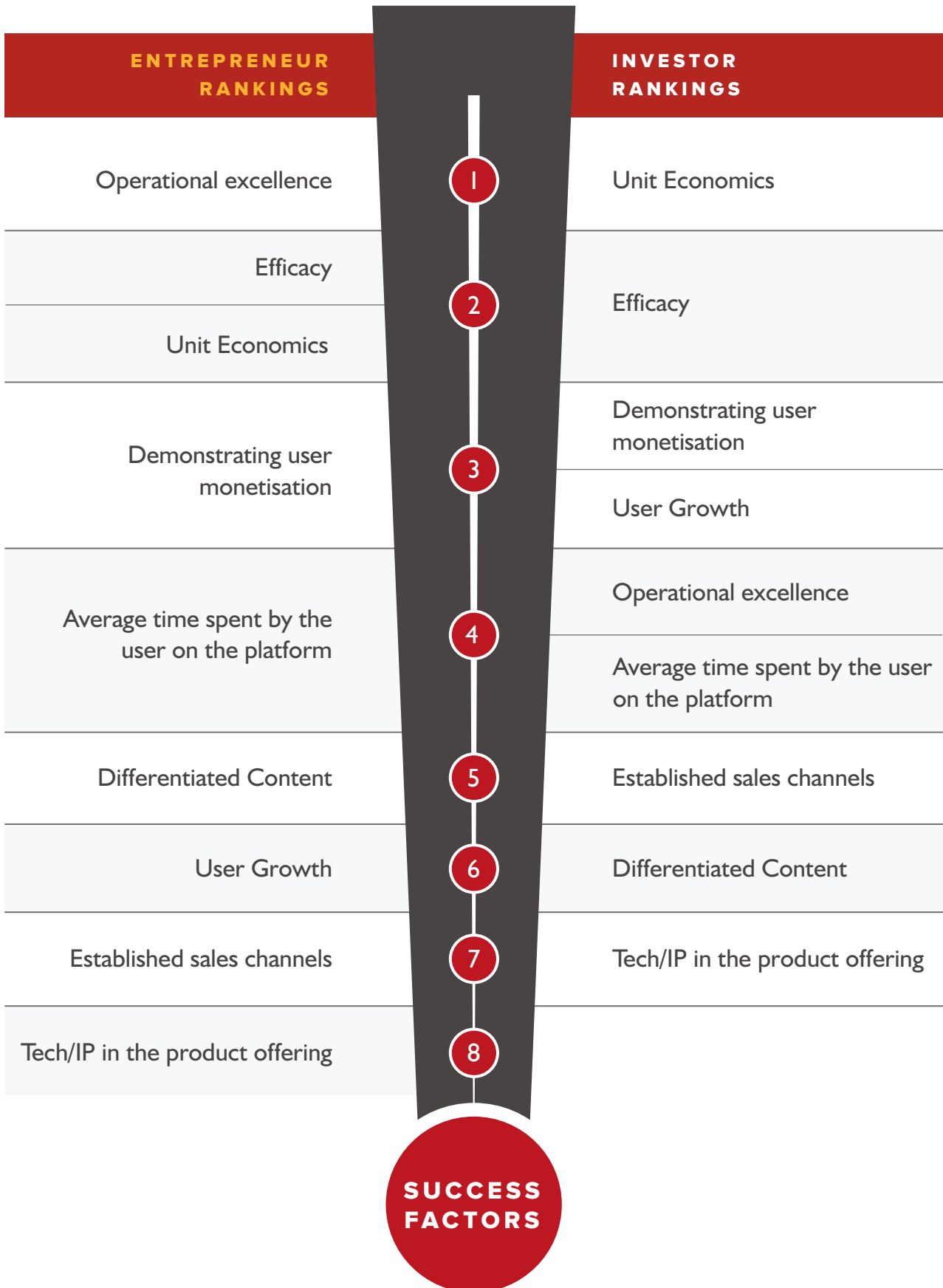
#02

ENTREPRENEUR SUCCESS FACTORS
— WHAT INVESTORS LOOK FOR

In the previous chapter, we highlighted how K12 is the most preferred sector for entrepreneurs and investors alike and also discovered that there is a fundamental, unaddressed disconnect between the companies that entrepreneurs are building and the ones venture capitalists are looking to invest in.

In this chapter, we aim to deep dive in to the key pain points which are – go to market strategy, customer acquisition, cost of sales and operational challenges. Our survey results have reaffirmed a number of existing truths such as – importance of operational excellence, difficulties presented by long sales cycles in the B2B market and more.

WHAT ARE THE KEY SUCCESS FACTORS FOR AN EDTECH STARTUP?

To begin with, we asked both entrepreneurs and investors what they believed to be the most important factor in the success of an EdTech startup, and the results were quite unexpected (see infographic on page 10).

ENTREPRENEUR RANKINGS		INVESTOR RANKINGS
Operational excellence	**1**	Unit Economics
Efficacy	**2**	Efficacy
Unit Economics		
Demonstrating user monetisation	**3**	Demonstrating user monetisation
		User Growth
Average time spent by the user on the platform	**4**	Operational excellence
		Average time spent by the user on the platform
Differentiated Content	**5**	Established sales channels
User Growth	**6**	Differentiated Content
Established sales channels	**7**	Tech/IP in the product offering
Tech/IP in the product offering	**8**	

SUCCESS FACTORS

The results clearly indicate that both entrepreneurs and investors recognize that strong business fundamentals are the most important factor when creating an EdTtech business.

Both sets of respondents highlighted the same factors of success in 3 out of their top 4 criteria, which are focused on profitable businesses with strong founding teams – unit economics, efficacy and demonstrating monetisation. Operational excellence has long been favoured as the sign of a winning company – *Chris Dixon, General Partner of Andresen Horowitz* indicates that this is an industry agnostic theme, "There is a widespread myth that the most important part of building a great company is coming up with a great idea…What you should really be focused on when pitching your early stage startup is pitching yourself and your team"[1].
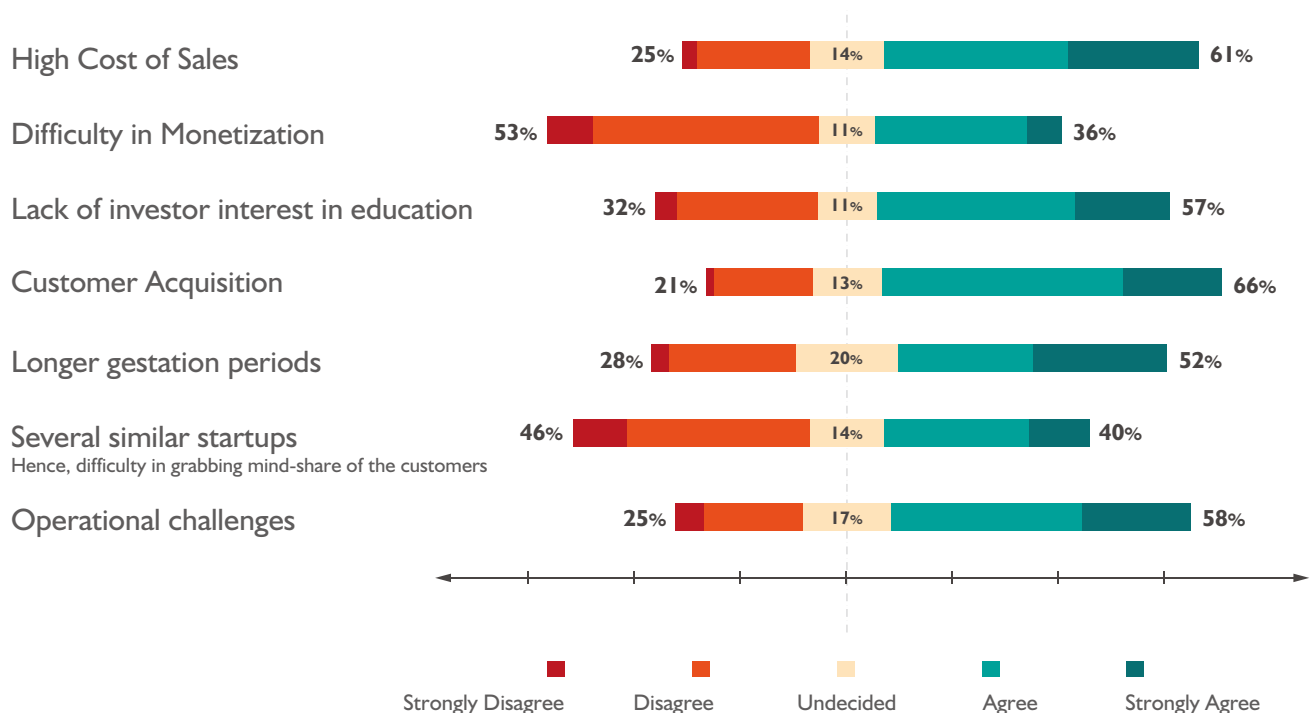
It's a positive sign that today's EdTech entrepreneurs are not focused on vanity metrics, but on building profitable and sustainable businesses – a necessity given the challenging environment present in the education industry.

Many EdTech businesses in India struggle due to negative unit economics which—given long sales cycles and lengthy journeys to grow user numbers—can lead to the business' failure. *Xu Hua, VP of Hujiang, China's largest MOOC (Massive Open Online Courses) provider* has previously explained how positive unit economics gave Huijang the platform to achieve the success it has. While "me-too" companies were focused on driving down price, Hujiang ensured that they were operating with positive unit economics. Hua explains that it's this focus on profitability that gave their platform the runway necessary to accumulate users, ensuring "sustainable development" of the business[2].

WHAT CHALLENGES DO EDTECH ENTREPRENEURS STRUGGLE WITH?

Entrepreneurs were asked, "As an EdTech startup in India, how challenging do you find the following factors?"

WHAT ARE THE MOST CHALLENGING FACTORS FOR AN EDTECH STARTUP IN INDIA?

Factor	Strongly Disagree / Disagree	Undecided	Agree / Strongly Agree
High Cost of Sales	25%	14%	61%
Difficulty in Monetization	53%	11%	36%
Lack of investor interest in education	32%	11%	57%
Customer Acquisition	21%	13%	66%
Longer gestation periods	28%	20%	52%
Several similar startups *Hence, difficulty in grabbing mind-share of the customers*	46%	14%	40%
Operational challenges	25%	17%	58%

Strongly Disagree   Disagree   Undecided   Agree   Strongly Agree

The weighted results (see graph) show that the sales process is the largest pain point for startups, **with customer acquisition** ranking as the number 1 issue facing startups, closely followed by the **high cost of sales** in the EdTech industry.

> *Given these challenges, Ravishankar GV of Sequoia Capital added "Mobile distribution is probably the #1 opportunity for EdTech startups to take advantage of. B2B2C is also a real way to build trust, provided the sales efficiency is good"*

It appears this is not a go to market strategy agnostic issue however. Whilst there is no discernible difference between responses of B2C and B2B businesses in terms of difficulties with customer acquisition, there was an unexpected response with regards to high cost of sales, with only 14% of B2C startups strongly agreeing this was an issue, compared to 37.5% of B2B startups. This breaks conventional wisdom that the cost of sales is a larger challenge for B2C EdTech businesses. The responses from entrepreneurs running B2B strategies explains why.

Neelash Pednekar from DigiEd Learning expressed that the "Biggest challenge…is that there is a lot of redtapism and bureaucracy" in working with schools, translating into a longer time requirement to persuade a school to even pilot a product, resulting in a costly process.

This view is also backed with clear data, with operational challenges such as too many stakeholders, and a disconnect from the end-consumer, placing second in the weighted ranking of responses – over 61% of respondents agreed or strongly agreed that this was a serious challenge.

IS THERE REALLY NO SIGNIFICANT COMPETITION?

At the other end of the scale, it's evident that there is a lack of understanding amongst EdTech companies around the competition they face. 53% of respondents either disagreed, or strongly disagreed, that they are facing significant competition from startups in the area they are focusing on.

For instance, in the Test prep space where 60% of respondents either disagreed or strongly disagreed, that competition was a major challenge, we find that from our respondents over 55% run online platforms focused on either IIT, IIM, or medical entry examinations alone. This suggests that entrepreneurs are severely underestimating the breadth of competition currently in the market.

Because of this underappreciation of the level of competition in the market, many startups are also therefore overestimating their ability to sell to consumers and schools. The impact of high levels of competition on a company's sales ability is highlighted by several entrepreneurs –

Nanda Ramaswamy of letspractice.com explains that *"Schools are wary of vendors due to the volume of pitches received on a daily basis. It's therefore tough to get an appointment and to get in touch with decision makers. Inevitably, this makes convincing decision makers a far more time consuming and costly process."*

SUMMARY: WHAT ARE INVESTORS REALLY LOOKING FOR?
HINT: UNIT ECONOMICS & EFFICACY

At the other end of the importance scale, there is a lack of value attributed to both differentiated content, and defensible Tech / IP in the product offering. This came as a surprise internally, given the ever-present notion that "content is king" within the EdTech industry. Looking further into the data shows that there is minimal sub-sector bias within this ranking to pin the blame on.

Unsurprisingly, school management systems placed content with a slightly lower importance than K-12 companies, but not by a statistically significant margin. An insight as to why the investors placed differentiated content so low in their rankings is provided by *Aarin Capital*, who suggested that it is the technology that delivers content, that is the real holy grail in the EdTech industry
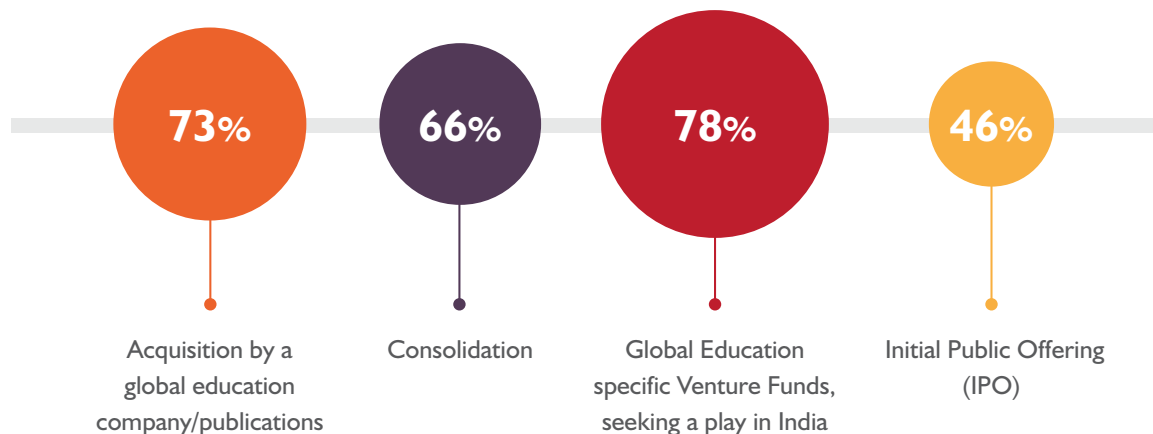
> *"Any education related technology which can make learning easier, more fun, more-lively, more interesting and solutions that are catered towards those objectives will become very relevant".*

This is a theme that was echoed throughout the investor responses. It seems at this time, both entrepreneurs and investors are focused on the same thing, not generating ground-breaking content, but creating businesses that make delivery of that content far more intuitive and effective.

WHAT IS THE EXIT STRATEGY?

The final area we wanted to understand is where entrepreneurs eventually see their businesses ending up. Quite simply, entrepreneurs were asked what they believe to be the most likely exit route for an Indian EdTech startup. The variety of responses can be seen (depicted in the graph on page 16).

WHAT IS THE MOST LIKELY EXIT ROUTE FOR AN INDIAN EDTECH STARTUP?

73%

Acquisition by a global education company/publications

66%

Consolidation

78%

Global Education specific Venture Funds, seeking a play in India

46%

Initial Public Offering (IPO)

Investment by a venture fund and acquisition by a global education company are in a close race for 1st and 2nd, with consolidation within the industry following up in the 3rd place, and an IPO by far and away, the least likely. But does this perception tally up with what we are seeing in the marketplace?

In terms of acquisitions, it is far more likely that an EdTech business will be acquired by a fellow education company as opposed to long term investment by a venture fund. So far, this year (up to June 2017), globally we have seen 42 acquisitions of EdTech companies. This includes the likes of *Byju's*, with their INR 50 crore acquisition of *Vidyartha*[3], *Udacity* acquiring *Cloudlabs*[4], *2U*'s acquisition of South African startup *GetSmarter*[5] and *WayUp* acquiring job hunting platform *Looksharp*[6].

However, in relation to the IPO market for education companies, the assertion that this is the least likely exit route for an education business appears to be correct. The IPO market for education companies is nearly bone dry, with only 2 Education IPO's taking place in 2016. The deals were for online english learning platform *51talk*, and overseas education platform *51liucheng*, both based out of China. Whilst there have been a couple of IPOs in 2017, with both *S Chand & Co.* going Public, it is still a reasonable assumption that entrepreneurs make when agreeing an IPO is the least likely road to go down.

#03

WHAT IS THE EDTECH INDUSTRY'S BACKBONE?

Companies catering to the K12 segment represented 37% of the respondents to our survey, a figure that excludes test prep and school operations sub sectors, which are heavily dependent upon K12 customers. The Indian K12 sector is home to ~250 million students across more than 1.4 million schools representing the single largest opportunity for Indian EdTech companies.

Given the sheer size and the opportunity it presents, it is worthwhile to have an in-depth look at the responses of entrepreneurs running K12 focused companies to identify the prevailing opportunities, challenges and trends shaping this market.

WHAT IS DRIVING THE MARKET FOR PRIVATE EDUCATION?

According to the 2016 ASER Report[1], government schools face many challenges - low quality facilities, high classroom numbers, vernacular medium of teaching and outdated materials. Perceived problems such as these have driven an increase in the number of students attending affordable private schools to around 40% of the total school network, with a continued 4% annual growth rate in the number of students.

Flexibility to adopt new
EdTech products

Stronger focus on improving
learning efficacy

Wide range of educational
resources available

**AFFORDABLE PRIVATE SCHOOLS – AN ATTRACTIVE
MARKET FOR EDTECH BUSINESSES**

This is great news for the EdTech businesses, as there are several reasons that makes the Indian network of APS (Affordable Private Schools), an attractive opportunity -

1. Schools have autonomy over their budget. Contrasting this to government schools, which are often tied into long term partnerships, it gives APS much more flexibility to adopt new and innovative EdTech products.

2. Parents are paying customers and they typically place far more pressure on APS management to innovate and ensure schools have the best educational resources available.

3. APS need to perform well to attract students. Given these are for-profit businesses, there is an incentive for school management to introduce technologies that will improve learning efficacy, and hence attract more students.

A combination of these factors has launched the market for intra-school products such as learning management systems, assessment platforms and newly thought up methods of content delivery into APS. This can be seen in the impressive adoption of technology by APS, with **60%** having computer labs and **58%** using smart classes[2].

> *Another area, where Gaurav Jhunjhunwala of S.Chand felt there is a huge potential – "Curriculum management services will become the biggest trend in education. Hence any technology that helps this convergence of teacher training, books, digital content learning platforms will stand to gain in the next 3 - 5 years."*
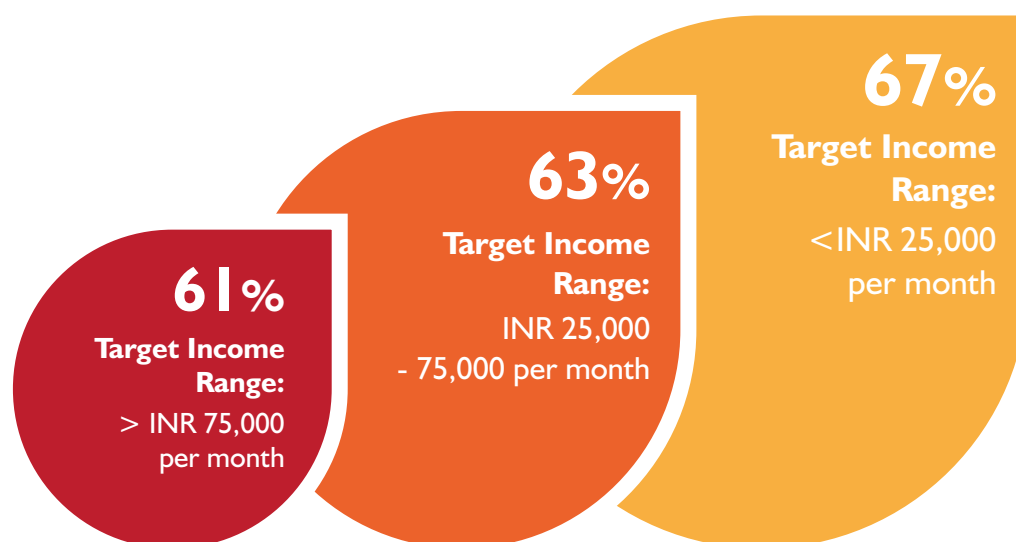
While the poor quality of schooling has driven a market for intra-school products, it has also spawned a secondary market for 'fringe' education products - test prep sector, tutoring marketplaces and language learning platforms; products that are able to advance students' ability outside of the classroom setting. It's here where Indians are increasingly proving their willingness to spend (highest globally)[3], pushed by an education system that places a premium on high test scores and an employment market that requires employees to attend prestigious colleges.

> *Prachi Windlass of the Michael and Susan Dell Foundation shared similar sentiments "High impact delivery solutions that will increase students marks/scores/results/test success rates/jobs will always be in demand."*

ARE K12 COMPANIES TARGETING AFFORDABLE PRIVATE SCHOOLS (APS)?

Targeting affordable private schools means entrepreneurs need to ensure that their products remain…affordable. Isolating themselves from India's ever increasing middle class by pricing products too expensively or developing tech inappropriate solutions that demand large investment from end users will prevent education businesses from the masses. Data collected from the entrepreneurs suggests that today's EdTech businesses are targeting middle and lower income families, those who form the masses. We asked if they have a product aimed at each of the income ranges shown below and the results are as follows:

67%
Target Income Range:
<INR 25,000 per month

63%
Target Income Range:
INR 25,000 - 75,000 per month

61%
Target Income Range:
> INR 75,000 per month

**BUSINESSES WITH PRODUCT AIMED AT EACH OF THE INCOME RANGES**

While this data is inevitably slightly skewed given our position as an impact investor, and therefore the audience we typically engage with, it still highlights the importance of those at the bottom of the economic pyramid to entrepreneurs running K12 businesses, with the most products aimed at those who have the lowest income.

It's something that investors also see crucial, with *Navin Honagudi of Kae Capital* agreeing that the biggest opportunity for EdTech companies is to reach 'the next

100 million', i.e. those who are just gaining access to the opportunities provided by the availability of cheap technology and data. It's a promising sign that of the K12 companies we spoke to, there are several solutions available for those at the bottom of the economic pyramid. Hopefully, as technologies' integration into schools continues, so would the trend.

WHAT ARE THE KEY CHALLENGES FACING K12 BUSINESSES IN INDIA?

A far more challenging area in the K12 industry is the high cost of sales. It's long been echoed that selling to schools is a tough process; confirmed by the results below – high cost of sales and customer acquisition rank as entrepreneurs' two biggest challenges.
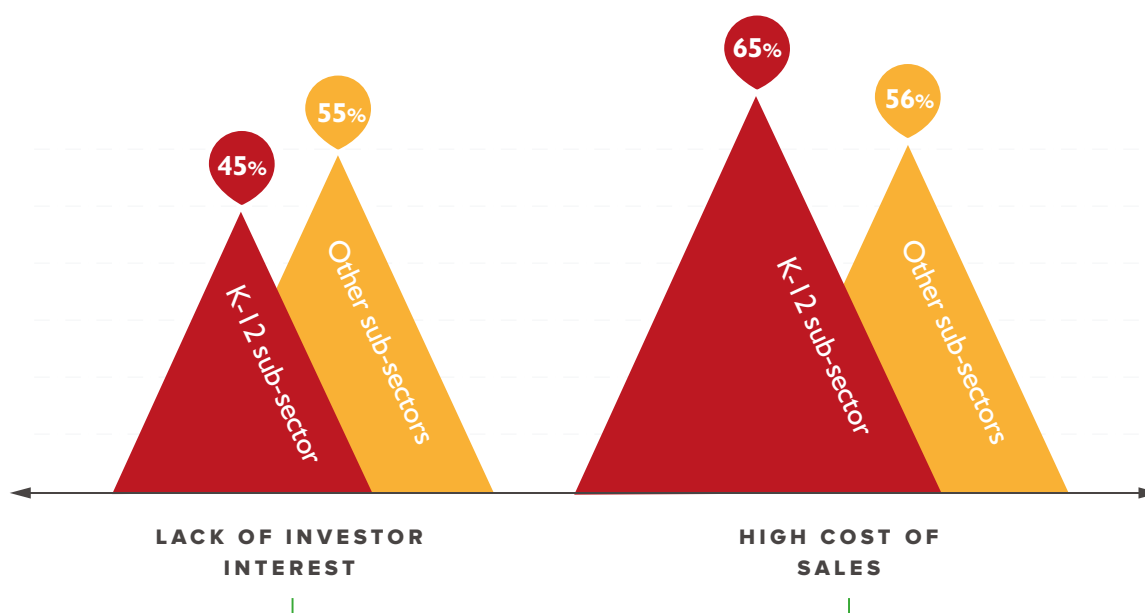
The high cost of sales for B2B businesses is strongly correlated to the factor placed 3rd on the K12 entrepreneurs' list of challenges – operational challenges. Given that school management, teachers, students, and parents all have a justified interest in the products the school is using, an EdTech business must convince all decision-makers. This leads to an inherently long sales process, which proves costly in terms of time, and consequently money.

At the other end of the scale, it is encouraging to see that K12 businesses are not troubled by a lack of investor interest, as other sub-sectors in the EdTech space are. Compared to other sub-sectors, which placed this as their second greatest challenge, K12 companies placed this in their 3 least challenging factors.
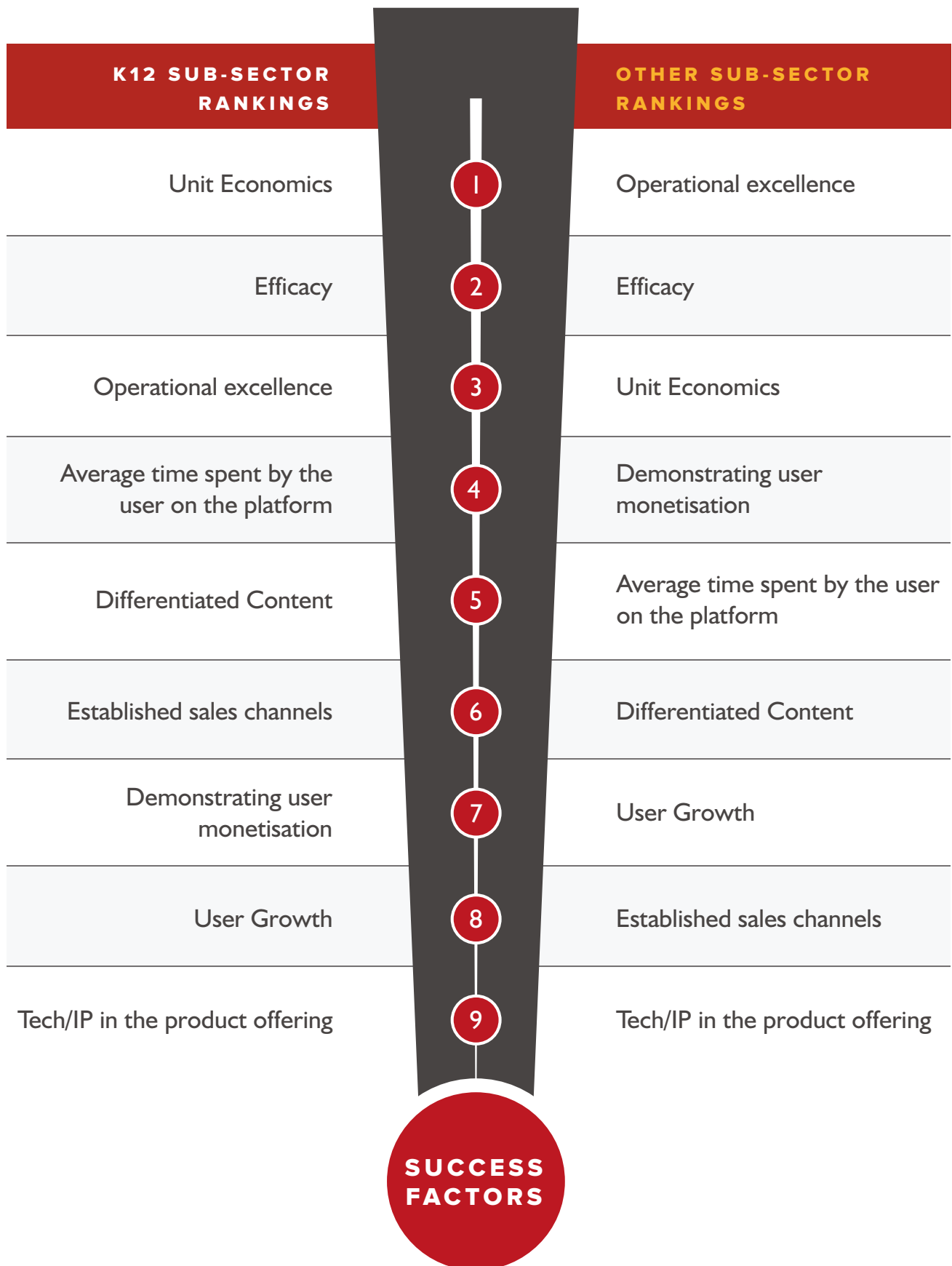
Data collected from investors seems to confirm this position, with 93% of investors suggesting they actively look for opportunities in the K12 segment – more than any other subsector. As discussed, investors are attracted by the sheer size of the market, the room for improvement in K12 learning methods and finally, the interest all stakeholders have in improving learning outcomes.

SO, WHAT MAKES A SUCCESSFUL K12 BUSINESS?

Reviewing the data from K12 entrepreneurs (see infographic on page 23) as to what they view as the key to a successful EdTech business, reveals factors linked inherently to the challenges within their subsector. Having established sales channels is considered noticeably more important within the K12 subsector than outside.

Speaking to the entrepreneurs who pass through the doors of Unitus Seed Fund, we realize it's also the most requested 'value add' service that entrepreneurs look for from investors – hoping that the investor will have ties to the largest APS chains, enabling them to substantially reduce time and effort spent canvassing schools and parents. It's highlighted best by *Arvind Palanisamy, Head of Strategic Partnerships at Report Bee*, who claimed that the most important factor is the "ability to leverage an existing sales eco-system; especially if you are selling directly to institutions".

The responses from our entrepreneurs further highlighted two key ways to negate the impact of the difficult sales environment. The first, proposed by *Raghu Pandey, founder of iMature.in*, who noted the "crippling" nature of institutional selling. He suggests EdTech businesses must have products that work around difficulties of the sales cycle, by offering some products which can be sold perennially to institutions, directly, or via B2C channels. By doing this, it lengthens the growth runway and enables startups to minorly negate long sales cycle.

K12 SUB-SECTOR RANKINGS		OTHER SUB-SECTOR RANKINGS
Unit Economics	1	Operational excellence
Efficacy	2	Efficacy
Operational excellence	3	Unit Economics
Average time spent by the user on the platform	4	Demonstrating user monetisation
Differentiated Content	5	Average time spent by the user on the platform
Established sales channels	6	Differentiated Content
Demonstrating user monetisation	7	User Growth
User Growth	8	Established sales channels
Tech/IP in the product offering	9	Tech/IP in the product offering

SUCCESS FACTORS

> *The other option to survive the K12 sales challenge, as recognized by* **Nanda Ramaswamy, founder of letspractice.com**, *is the need for an outside capital infusion. Nanda commented that "Finances enabling the startup to survive long enough to gain appreciable traction for consumers and/or institutions" is one of the biggest keys to success in the industry.*

It's rare to find an education startup these days that hasn't benefitted from an infusion of venture capital on their path to growth; with the likes of *Byju's*, *Toppr*, and *Simplilearn* leading the way.

Finally, it's worth commenting on the importance given to Unit Economics in the K12 industry. Startups are realising that given the years it can take to sign up a large customer base, it's crucial that K12 businesses are able to operate with positive unit economics.

> *For instance,* **Sumanth Prabhu, co-founder of Vesto Educational Services**, *a company that works with schools to design and develop content and pedagogy highlighted that "having regular cash flow, right from first day" was one of the key priorities for Vesto.*

As discussed time and again, without regular cashflow and positive unit economics, the long runway required for growth can suddenly fall away, with businesses unable to generate sufficient capital to continue operations.

Thankfully most entrepreneurs are rooted in the age-old adage of "cash is reality" and are not mindlessly looking at unsustainable growth.

#04
THE FUTURE OF LEARNING
— NEW TRENDS AND SECTORS

During the research leading to this report, we ensured we spoke to entrepreneurs from across full spectrum of the EdTech industry – from entrepreneurs running ventures just a few months old, to those who have been running education companies for 15 years, and from those incorporating limited technology, to those using the latest deep-tech available.

While working with these entrepreneurs, one thing has become clear – that rather than considering themselves EdTech companies, the majority consider themselves education companies that are leveraging the use of technology to improve their product offering. Considering this, we wanted to understand exactly what the most important upcoming technology "tools" available to education companies are, and how they are being used.
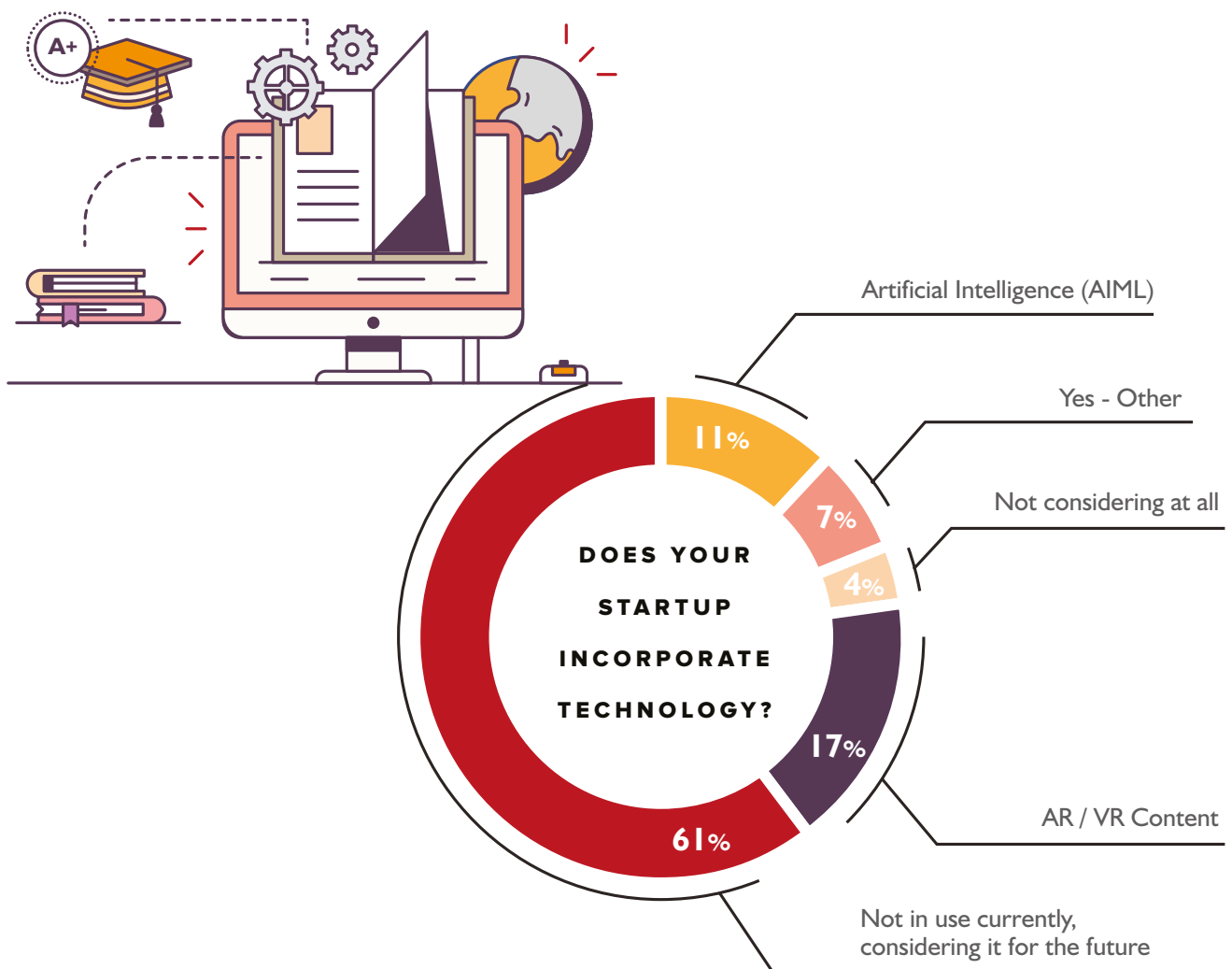
> *It's something that is summarised most acutely by an investor, Chinmay Deo, from Asha Impact. He commented, "We [Asha Impact] do not view EdTech as a sector – rather, tech is a theme that is a must have for any education company". It's a viewpoint shared on both the investor and entrepreneurs side of the table.*

Entrepreneur *Harshad Bhagwat, founder of WordsMaya (an English learning App)*, has a similar view, stating that education companies should not be incorporating technology for the sake of it, instead "tech enablement should be solving the core problem, which is not being solved without technology".

ARE STARTUPS TRULY INTEGRATING DEEP TECHNOLOGY? OR IS TECHNOLOGY A MERE ENABLER?

We asked, "Does your startup incorporate deep technology (cutting edge technology and not just as an enabler) of some sort", and a breakdown of the responses can be found below -

Artificial Intelligence (AIML)

Yes - Other

Not considering at all

11%

7%

4%

DOES YOUR STARTUP INCORPORATE TECHNOLOGY?

17%

AR / VR Content

61%

Not in use currently, considering it for the future

It's evident that a majority of the companies we spoke to aren't currently using any deep-tech tools. In speaking with investors and entrepreneurs, it indicates that a majority of founders believe there is currently too much technological resistance in the education industry throughout India, to promote the introduction of deep tech into their products.

> *Keeriyat Premanand, Founder of Theertha Info Solutions, a company providing a range of e-learning tools, explained the struggles with a technophobic attitude that many technologically advanced education companies face, "Indian EdTech customers are reluctant to innovations; status-quo prevails for low-quality hardware bundled content".*

It's a problem that many are attributing to the generation gap – *Balaji of Edudharma* (an online educational fundraising platform) suggests the generation gap is inhibiting a large number of EdTech companies, with an attitude that "lacks acceptance of new products in schools and college management" all pervasive. But it isn't only the attitude of school managements that must change, there are also physical limitations throughout the country as well.

> *Kush Beejal, Co-founder of NeoStencil (an online coaching platform), commented that one of the major challenges facing his business is the lack of consistent technology across the country, with "internet infrastructure not being the same across the country, the user experience differs from city to city".*

Technical issues such as patchy internet or lack of sufficiently advanced hardware throughout the country, inevitably reduces the incentives for entrepreneurs to incorporate deep tech products into their offering.

WHICH ARE THE MOST POPULAR TECH TOOLS IN EDTECH?

Of the deep-tech that has been implemented by EdTech businesses, Augmented and Virtual Reality are the most popular tools in use, with 17% of companies currently using some form of one of these pieces of technology. It's promising to see the adoption of Augmented and Virtual Reality technologies, tools which undoubtedly have the ability to make content more entertaining and stimulating for students.
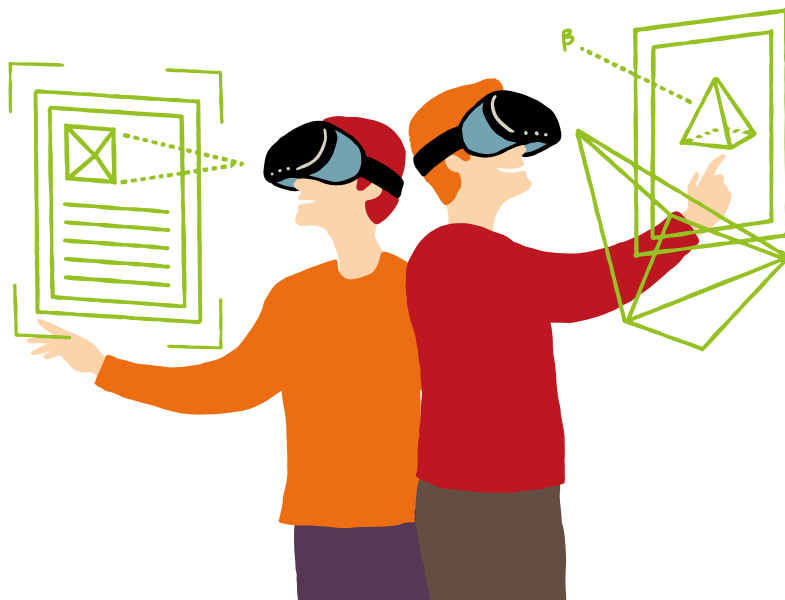
VIRTUAL REALITY TECHNOLOGIES TO MAKE CONTENT MORE ENTERTAINING AND STIMULATING FOR STUDENTS

In the K12 sector, these technologies are promising the ability to generate immersive content, giving options for experiences such as virtual field trips, and previously impossible lab based experiments; all of this complementing existing content to provide a more engaging learning experience.

With relatively low setup costs, it's possible VR could be adopted widely throughout India. In a joint report by *NMC/CoSN* (The New Media Consortium and The Consortium for School Networking) titled 2016 K-12 Edition[1], it was reported that

"In a recent survey at the Consumer Electronics Show, 37% of attendees indicated that VR would find its most significant impact affording enhancements to teaching and learning, as the barriers to entry are lower than many other technology solutions" [2].

With VR headsets available for as little as INR 399, and mid-range smart phones offering the technology required for an immersive VR experience, VR represents a genuinely implementable solution for a wide range of K12 schools. The NMC/CoSN Horizon Report[1] suggests a timeframe of 2-3 years before VR is widely adopted, with a skew towards more tech-friendly markets such as the US and China driving the first wave of adoption.

In India, there have been several education companies starting to effectively incorporate VR technology into their product offering such as *Simulanis*, a startup providing a variety of augmented and virtual reality training options to engineers – significantly reducing training costs for employers. Focusing on early childhood education, *PlayShifu* has built an augmented reality product designed for early childhood learning, designed to offer a more engaging user experience, which in turn should improve learning outcomes. Even with these early adopters leading the way so far, it is fair to say there has been no breakout success in the Indian market.

ARTIFICIAL INTELLIGENCE, ALL HYPE?

Following on from AR and VR technologies, Artificial intelligence (AI) and Machine Learning (ML) technologies were the next most common in use by survey respondents, with 12% of respondents employing the use of one of these technologies.

> *This opinion was also shared by* **Rikin Kapadia of IFC** *"With the advent of machine learning driven technologies, learning experiences can be dramatically improved to provide better learning outcomes and provide timely parental feedback on child performance".*

Whilst these two tools are subtly different, in the education space they can be applied for similar use cases. Hence, for the purposes of this analysis we are grouping them together.

Currently, AI has a number of uses outside of education - for instance, AI in healthcare is helping radiologists detect breast cancer earlier[2], in the political and legal world, hardly a technological hotbed, *Fiscal Notes* is making sense of endless legislative changes to keep customers updated on rules and regulations that affect their industry. In financial world, companies such as *Baidu* are leveraging the power of AI to run credit checks on customers, allowing a more efficient rating process and ultimately lower interest rates.

However, in education, AI is being leveraged to target a different set of problems, ranging from the costliness of hiring a private tutor, to combating the large class sizes present in India. For example, the average class size across all levels of schooling is 42 students, with some states facing far higher numbers; Bihar and Jharkhand's average class sizes of 78 and 67 students per classroom respectively[3]. Large class sizes like this create difficulties attributable to a lack of personalization available for students – personalization that those who can afford to pay for do so in the form of private tutoring[4].

Artificial Intelligence is beginning to play a key role in fighting this lack of personalization in learning, by delivering education that is personalized to the learner; whether that is through improved recognition of learning deficiencies, prompting timely intervention of a human teacher, or empowering students to define their own curriculum.

Adaptive learning platforms, in all their different forms, will allow the student to receive a far more tailored, and thus effective, learning experience. As futurist *Thomas Frey* predicted, that by 2030 machine learning will accelerate in the education space and online bots will tailor lessons according to the students' strengths and weaknesses[5].
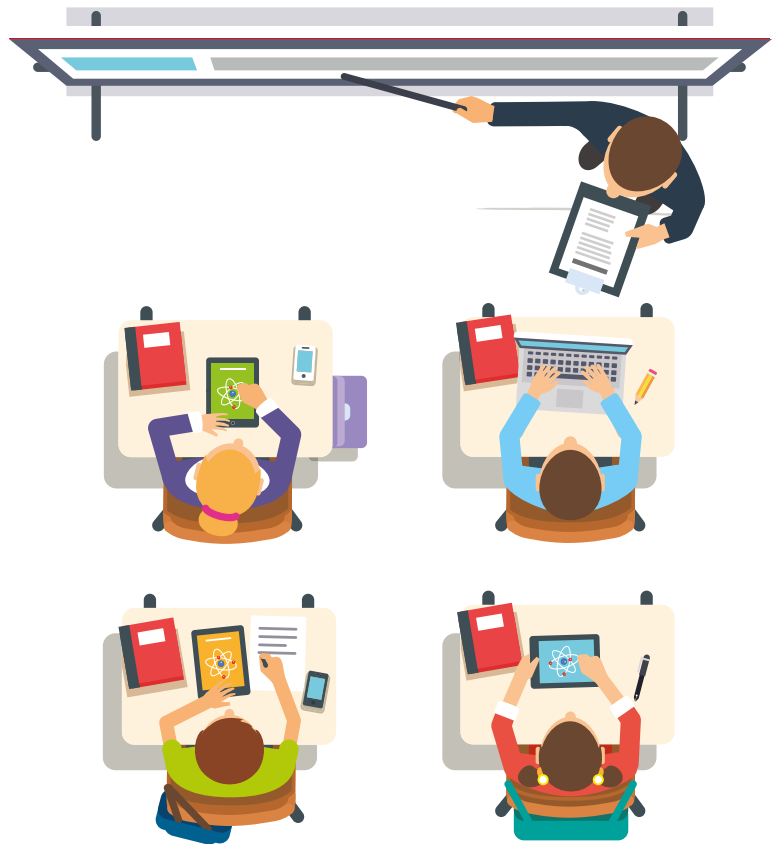
USING ADAPTIVE LEARNING SYSTEMS FOR TAILORED EDUCATION

> *When asked what the future of education is, Pulkhit Poddar, Founder of Reach and Teach was very clear – "Personalization, personalization and personalization! Anything that can specifically address to a particular individual's needs will find buyers" and it's in this area that AI and ML promises to shine.*

Embibe, represents one of many Indian EdTech startups using AI to make significant progress in this field. Founded by *Aditi Avasthi, Embibe* has taken on a small corner of the goal of true personalized learning in EdTech, focusing on AI driven analytics. Whilst learning analytics is still a juvenile field, with the long-term benefits as of yet

uncertain[6], Embibe has put together some promising results using a three-pronged approach to improve learning efficacy through analytics.

They apply AI learnings to three key areas – **Mentor Intelligence** - which ensures smart content recommendation and learning intervention where necessary, **Student Intelligence** - which analyses student learning styles and conducts user profiling, and finally, **Content intelligence** - which tags subjects appropriately and allows auto ingestion of content into the system. All these combine to provide students with information on where and why they are performing poorly, and serves content tailored to improve these areas.

The results are impressive, with Embibe claiming a 62% improvement in scores over 10 tests[7]. Now imagine the help such deep learning analytics could provide to one of the 78 students sitting in a classroom in Bihar. Whereas before, she would just receive a score out of 100 for a maths test, with AI driven learning analytics she could now understand, where, why and how she can improve her score – helping reduce the challenges of studying alongside her 77 classmates.

At this point in time, it seems the Indian education sector is yet to fully embrace the use of deep tech in its product offering. Judging from our survey respondents, pervasiveness is low, yet interest in these technologies is high. As the inevitable increase in adoption of technology continues throughout India, here's hoping Indian education companies will be global leaders in utilising promising technologies that will one day undoubtedly be commonplace throughout global education.

TOOLKIT FOR EDTECH ENTREPRENEURS

Having seen more than 800+ education startups since we started investing at Unitus Seed Fund, we wondered if we could put down all that we have learnt. Would it help entrepreneurs avoid the common pitfalls, if there was a ready reckoner to answer some of their common questions?

As we see many more entrepreneurs venturing into the EdTech space, we believe that we can share some basic pointers that will help them prepare better for some of the most common challenges. This is our attempt at laying down the building blocks to help someone think about starting, growing, and scaling an education venture.

LAYING DOWN THE FOUNDATION TO START, GROW AND SCALE AN EDUCATION VENTURE

SECTION I:
WHOSE PROBLEM IS IT ANYWAY!

WHY ARE YOU DOING THIS?

Typically, in the first ten minutes of meeting an entrepreneur we try to understand why someone would quit their steady paying job to enter this not so glamourous space. Answers range from personal experience of lack of access to quality education, to a dearth of opportunities whilst growing up, to minimal exposure to career planning services. While these are critical elements that shape an individual's mettle, most often what is found lacking is a clear understanding of what and whose problem you are attempting to solve.

Below is a quick and dirty questionnaire that entrepreneurs should attempt to answer before committing themselves to their venture.

1. Is this a real problem felt by large number of people?
2. How have you figured that this is a problem?
3. Have you met with and spoken to enough number of people to validate this?
4. Whose problem are you solving?

If more than three of your answers were in the negative, then you need to spend time getting answers to these questions before deciding to take the plunge. A lot of times we've seen that entrepreneurs are trying to solve problems that have not been well defined and therefore trying to force fit the product to solve an ill-defined problem. This is the start of the downfall and no matter how great the UI of the App, or the content of the course is, if it is not a genuine pain point felt by a large number of people, the business model will always be shaky and will soon meet its end.

WHOSE PROBLEM ARE YOU SOLVING?

Unlike most other sectors, education businesses are in the unique position of having to deal with four different sets of stakeholders, each with completely different (sometimes opposite!) expectations. Attempting to solve all their problems in one go will spell disaster. As an entrepreneur, you have to be very clear in your approach, as to whose problem you are solving.

1. **School Management** / **Administrator:** If it is an ERP product, it is the school's problem that you are solving and the parent is not going to pay for it. Keep this in mind as you decide on the pricing. Which budget will you be biting into, does the school have the ability to spend on your product, and will it face the axe if budgets are reduced in subsequent years?

2. **Teacher** / **Influencer:** If you have created modules for teacher planning sessions or to reduce the administrative burden, think of why school management would be willing to buy this. Will parents see value for their children because of your solution?

3. **Parent** / **Customer:** Does the parent get to see that her child will score higher marks? Whilst new age parents might want more for their children besides marks, we can safely assume that most Indian parents want better results for their children in high stakes exams. As has been demonstrated by the growth of several EdTech companies, parents are willing to pay for these products.

4. **Student** / **Consumer or User:** Most solutions today cater to the student/learner. Be laser focussed if that is what you are doing, and define which of the learner' problems you are solving.

WHAT HAVE YOU LEARNT FROM YOUR CUSTOMER?

Before going further, spend some time thinking over the answers for the below questions. We will talk more about market insight and how critical it is before developing the product.

1. Are you adopting the product for the classroom based on learnings from a child at home?
2. What kind of schools are you catering to?
3. What kind of delivery are you attempting?
4. Who is going to pay for this?
5. What is the best way of reaching my product to the target audience – via schools/online/App/any other way?
6. If I am selling into schools, what's the best way of reaching schools?
7. If I have a direct sales team, how many schools can one salesperson close in a year? Is the selling seasonal?

In many of scenarios, an entrepreneur's sample is a child learning at home, and the problems they face, problems which are then extrapolated to the classroom setting. The underlying assumption is that a student learns in the same way both in a classroom and at home, which is a flawed assumption from the get go. Understand the need for context while designing the product and that learners behave differently based on the environment.

> *TIP: Learn from your consumer in the context of the problem you are solving.*

When posed this question, the response is typically, "Looking at higher end schools, but we can gradually sell to APS and Govt. Schools". If only it was that easy to straddle across the three segments. If Indian FMCG giant, Cavin Kare, had to rethink a commodity like shampoo and introduce it in sachets when selling to rural customers,

it's only fair to assume that the same product that is sold to the top 25k schools, would not be applicable in the same design for the balance ~1.25M schools. Think of how you would re-design the product, so that the consumer sees value in it and is willing to pay for it.

> **TIP: One size fits all will not work while selling to different segments of schools.**

"I am going online", if that was your answer to the third question above, have you thought of what kind of behavioural habits you will be changing of the consumer? If you have developed insights based on blended learning in a classroom, or face to face after school tuition, then rethink your approach.

> **TIP: Understand that the mode of delivery drives the product content and design.**

Unlike e-commerce, which has demonstrated customer's willingness to pay, online education continues to struggle with willingness and repeatability when it comes to payment. There have been limited successful models in India and being cognizant of how much wallet share of your customer you are targeting is critical. If you are catering to K-12, where the parent is paying she will weigh this as part of the overall education spend (school fees, after school tuition fees, education CDs/books etc.) and that's the mind share you are competing with.

However, if you are catering to Higher Ed where the student is mostly the decision maker, you are competing with their non-education spend, which they also need to allocate budgets for.

> **TIP: Think of the consumers' total spend (both education & non-education), and from which portion you are requiring a slice.**

Selling to schools has been a big beast and the cause for many a startups downfall. If the economics of your product do not justify the presence of a direct sales channel, do not invest in one (If Avg ticket size of a contract * No. of institutions converted/ salesperson < Annual Salary of Salesperson, fire your salesperson). In this scenario,

you are better off partnering with vendors who are already selling into schools/ colleges, partnering with marketplace players, textbook publishers etc. where there is a natural synergy of your product with their distribution channel. A better than average salesperson will not be able to convert more than 10-12 institutions annually.

Do not extrapolate your sales prowess to your entire team, they are not as motivated or vested as you are in the product. Understand product-market fit, before hiring a full-fledged sales team in a new geography. Do not invest ahead of the cycle without having done the ground work else be ready to see cash depleting faster than you earn.

TIP: Always underestimate the sales pipeline, conversion % and the contract sizes and overestimate the time to close out a contract and the cost of hiring salesperson.

SECTION II:
I HAVE THE ELIXIR OF LIFE

Most often, entrepreneurs are so caught up with perfecting their product, that they forget to evaluate a few key parameters. It's now time to step back and think about your product not as the designer, but as the user.

A few questions to get you started:

1. Can the user look at your product and highlight the top **3** differentiators from what she is using currently?
2. In the absence of your product, is the user facing a glaring problem?
3. On usage of your product will they see an immediate improvement in scores/ productivity?

If your answer to the above was in the negative or "maybe", then there is a fundamental mismatch between your product and the user's need for it. In education, users will not pay for "nice to have" products and if there is no critical need for it, adoption will be slow. It has to be a "must have" solution. If your product is unable to immediately demonstrate a reward in terms of improvement of scores of students, a reduction in time for teachers to complete a task, or highlight a pathway to an increased salary, it is unlikely that your user will pay for it repeatedly and spread the word around.

Once we have confidently answered questions around the need of the product, it is worth considering whether or not the different design elements you are including genuinely serve any purpose.

1. **"Super light App that looks extremely slick"**
   Have you included it only because everyone has an App and it is the flavour

of the month. Instead, think of whether your product is naturally mobile-first vis-à-vis it being an afterthought and creating an App to make it cool. Coolness doesn't always result in customers paying for it and certainly not in Education.

2. **"All scoring is gamified, there is a weekly scoreboard and students can compare their performance."**
   Sure, for kids any sense of competing with their peers will drive them to spend more time on your product. However, what needs to be uncovered is, are they spending time doing activities that are only helping in increasing their points and not improving their learning. If it is the former, the App has failed them and gamification for the sake of it is pointless.

3. **"I have built this using some cutting-edge technology and it is the first of its kind."**
   Does the user care for this tech, does it make her life better, simpler, easier, because of using this? Have you over- engineered the product without thinking of why it was being built in the first place? If your user is an average teacher, she has neither the time nor the motivation to spend extra time learning to use a new platform that is complicated to understand.

SECTION III:
I DREAM OF SCALING

Now comes the last pit stop, before you run the final few laps of the race. If you have survived the first two phases, you deserve a pat on the back. This is the trickier bit and very few education companies in India can claim success in this department (CL Educate, MT Educare, S. Chand to name a few who have gone through to IPO or are on their way there).

Why is it that most Ed companies reach a stage beyond which they either stagnate (if they are at least profitable, this is not too bad!) or end up being heavily dependent on Government funding. Could we build an organization anticipating these roadblocks, so that it can grow into a truly large and sustainable education business in India?

1. You have identified who your consumer is, what their pain point is, and are clocking revenues too. However, is this an early adopter problem wherein you will get to an annual revenue of ~$1M, but beyond that your market is quite limited? Is your problem inherently only a middle-class problem, and hence will never have mass appeal? Be aware of this early on, lest be shocked once you have saturated your initial market. Can the user look at your product and highlight the top 3 differentiators from what she is using currently?

2. Have you started building visibility for your brand and offering? Do your users know who you are and what you stand for? In education, specifically, if word of mouth doesn't kick in early on, it will be extremely tough to acquire customers. This is especially true if we are talking about startups; businesses with limited resources and minimal budgets. On usage of your product will they see an immediate improvement in scores/ productivity?

3. Very often, you have estimated and accounted for the time and cost involved in making sales to educational institutions. Often non-trivial details

such as after sales support, and feedback from customers is ignored. This can prove to be perilous, and costs can escalate rapidly. This may not seem a major cost item in the first few years of running the business, but once the business starts scaling, costs will mount up quickly.

4. Have you considered well entrenched partners in the space with whom you could be partnering? Not all partners are competitors and don't shy away from even having that initial conversation. Don't get into the rigmarole of drawing up lengthy MOUs, NDAs and forget the larger picture of figuring out how to partner and grow sales. Ensure you matter to the partner and your presence is a genuine value add to their product portfolio. If so, then go ahead and start a pilot.

5. This is probably the most important of the lot, any false notion of generating money only after you hit scale needs to be thrashed today. If you are not able to get a consumer to pay for your content or service today, it is unlikely this will change dramatically because you have reached a million users. Why is this the gospel truth in education? Consumers have enough options to choose from, and have already allocated budgets towards school fees and tuition fees; there is only so much capacity left to make them pay for your product. You need to be able to prove that customers are willing to pay for your product today, not years down the line.

TILL WE START AGAIN

The journey of an education entrepreneur is challenging; entrepreneurs tend to get caught between the notion of wanting to universally improve education standards vs building a sustainable business. It is possible to do both by keeping a hawk's eye on business metrics. Define whose problem you are solving and why it is critical to solve it. If you cement these two pillars, you have built a strong foundation to then grow a sustainable business.

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