



Innovation in Education

Shaping India's Future

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Introduction

Historically, education - like many other services - has been delivered locally. Physical classrooms have traditionally been the primary units for learning, begetting challenges across access, quality, and affordability. Further, innovation was mostly centred around pedagogy with limited enhancement in information and learning tools.

Today, education is transcending historical barriers, it is much more interconnected than ever before and learning is no more confined within the local classroom. Students are increasingly migrating across geographies, and online channels enabled by technology, are bringing together students from across the globe within one classroom.

The integration of technology in education is helping education providers in making data-based decisions to improve both learning outcomes as well as operational efficiencies. With information available on the click of a button and internet enabling real-time information exchange, educators are now seamlessly interacting with students remotely.

It is only befitting to mention that India, with the world's youngest population, is at the forefront of this transformational movement. While on one hand, Indian students form the second largest base of internationally mobile tertiary students, just after China¹. On the other hand, global education operators are growing their presence here and India-based providers (both traditional and EdTech) are transcending borders. This has led to learners in tier 2, tier 3 towns to having more access to high quality online programs delivered by both Global and Indian education companies. Further, there is a significant surge of data and technology adoption by traditional institutions as they try to integrate data analytics and personalised solutions into their programs. These factors are driving innovation in what, when and how learning is getting delivered and consumed today.

This report attempts to outline key emerging trends across the various segments of education and how they are likely to play out in India. We hope you will find its contents useful.

¹Global Flow of Tertiary-level Students, UNESCO Institute of Statistics



Innovative business models in Early Learning

There are two macro trends that are making early learning a crucial segment for educators. Firstly, the household sizes are decreasing across the world because of job migration and changing family structures., which has led to an urgent need for external systems providing early learning and day-care facilities. In most emerging economies, public provisioning of childcare is insufficient or of low quality thereby creating an increasing reliance on private service providers to meet the growing demand for pre-K services.

Secondly, careers of the future are becoming increasingly uncertain and this is driving parents to begin their child's learning process at an earlier age. Learning outcomes are becoming an important factor for parents, and pre-K curriculum and pedagogy is emerging as the cornerstone of decision making. Additionally, with families becoming more nuclear and more women joining the workforce, parenting needs are changing dramatically. There is a significant surge in demand for high quality childcare support to keep children engaged through the working day.

We therefore see huge innovation in the early learning segment both in terms of product offerings as well as in business models adopted by providers.

Pre-K for All: Branded players capturing market through multi-brand / segment strategy

With increased disposable incomes and greater ability to pay per child per household, parents are now willing to pay extra for quality education. This has created an opportunity for private operators to expand their offerings with focus on quality, leading to the growth of branded providers over standalone mom-and-pop operators, in India.

An emerging trend in mature Pre-K markets such as Singapore is that the providers are adopting a multi-brand strategy in order to tap the growth across different quality and fee segments. For example BusyBees, one of the largest global childcare providers, has offerings for both mid-market and premium segments.

Table 1: Sample of Private Childcare Operators, By Segment (Singapore and Malaysia)

	Fees >\$20K	Fees \$10K-15K	Fees <\$10K
 Home country: UK		 Singapore	 Malaysia
 Home country: Singapore			 Singapore
 Home country: Australia			 Singapore

Source: EY-Parthenon Research and Analysis

India too, has at least one example of a Pre-K provider experimenting with a multi-brand strategy. In May 2017, EuroKids- a mid-priced brand in India, acquired Kangaroo Kids- a premium provider. The acquisition of approximately 80 elite pre-schools in

India, Dubai and Maldives made EuroKids the first multi-brand operator in the country. As the Indian market matures, operators can pursue a multi-brand strategy to cover demand across price segments and perceived quality.

New-age learning: Enabling meaningful learning through edutainment

Parents want their children to develop 21st century skills, but at the same time enjoy during the learning process. Recognizing these two potentially conflicting needs along with the desire to spend more quality time with their children, parents are now exploring avenues through which they can support their child’s learning at home in an enjoyable environment. For very young learners ‘Edutainment’ is emerging as an effective way to learn globally wherein

parents seek audio and video content, games, and physical kits (stand-alone or as part of subscription boxes) that can deliver age-relevant learnings in an entertaining manner.

In India, several providers have already positioned themselves in this space. Companies such as Flintobox and Smartivity offer fun experiential and activity-based learning for children through subscription boxes or kits. Further, BYJU’S and Disney have partnered to take this approach online by creating an app called Early Learn, targeted at young learners.

Table 2: Examples of Activity-Based and Media-based Learning Providers

Providers	Product Offering
Activity-Based Learning	
	<p>Offers a series of discovery boxes for 2-12 year old children, carefully designed for early development</p> 
	<p>Offers S.T.E.M. learning based educational D.I.Y. toys, Augmented Reality enabled activities, and tools based on Robotics and Internet of Things for children aged 3 and above</p> 
Media-based Learning	
	<p>App crafted for young children designed to build a strong foundation in basic concepts in a fun and interactive way</p> 

Home Away From Home: Reliable quality childcare

In most emerging markets, female employment in the service sector has grown rapidly over the past decade including in India where female participation in white collar jobs has grown substantially from 17% to 27% during 2008-18, according to International Labour Organization (17% to 27%).

This means that for branded Pre-K providers in these markets, childcare will increasingly be an essential offering and a point of differentiation. This is the reason

why in more mature pre-K markets like the US, childcare has evolved into a mainstream offering. This means that the primary challenge for the developed markets is reducing the cost whereas, for emerging markets organized providers are still solving for day care access and quality.

Several providers in India have already introduced specific day care routines in which the child is actively engaged in activities designed to enhance holistic development. Providers such as EuroKids, Podar Jumbo Kids are also increasingly targeting corporates to offer day care solutions that would enhance their attractiveness as an employer and support talent retention.

Table 3: Examples of Pre-K providers offering day care services

Providers	Description
	<p>Day care activities include yoga, drama, reading, indoor and outdoor games</p> 
	<p>Offers day care at all centres and also corporate tie ups</p> <p>Day care offering includes activities that focus on building executive function skills, social skills and team work</p> 

Holding Hands: Empowering unorganized providers with quality enabling tools

Around the world, across both emerging and developed markets, small unorganized providers delivering pre-K services have been working to improve quality and expand their enrolment however, have limited knowledge of industry best practices. A sizeable share of these providers would not be eligible for or interested in mainstream franchise partnerships, but could benefit from the quality-enhancing tools that such curriculum and training support.

This has need has led to the emergence of a new business model where branded pre-K operators or platforms are providing enabling tools to the unorganized providers to help them enhance service quality and experience. In this setup, unlike the traditional franchisee model, the owner retains its brand and control over the day-to-day operations and the branded operators, who share these best practices, are able to expand their market and creates an additional source of revenue.

An example of this is US based Wonderschool, which equips individual educators to run quality in-home pre-schools by providing mentorship and support around licensing, setup, marketing and operations, while monitoring parent satisfaction. In India, the model is still nascent but presents an opportunity for branded operators to tap into the vast pool of stay-at-home moms and stay-at-home-elders seeking to break into the organized pre-K market.



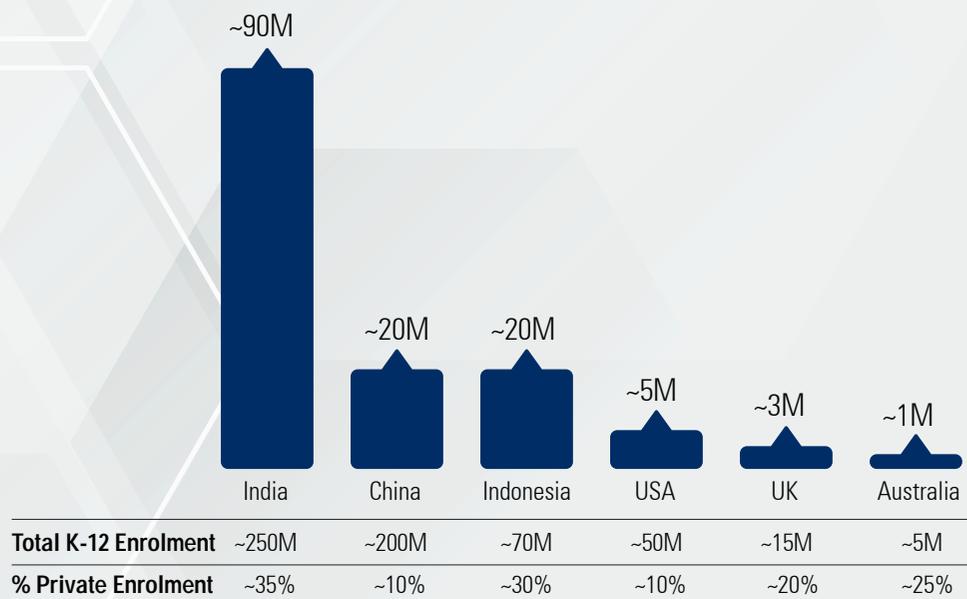


Innovative business models in K-12 education

India's K-12 school system is one of the largest in the world with over 1.5 million schools enrolling ~270 million students. Approximately 35% of these students are served by private providers, making India the largest base of private K-12 enrolment, globally.

However, the K-12 segment is faced with several multi-level challenges. Given India's diverse socio-economic fabric, these challenges vary across family income brackets.

Chart 1: Private K-12 Enrolment by Country (2018E)



Source: MHRD; UNESCO Institute for Statistics| Note: 2018 enrolment estimated on the basis of historical trends

- For families at the lower end of the income bracket, both access and quality are the major challenges. The quality of schooling for this income bracket varies substantially across states, geographical areas and social groups.
- At low-mid levels of the income, access is less of a challenge but quality remains an issue. Teachers serving students in this segment are often undertrained, limiting their outcome. Therefore, despite being enrolled, many children are at risk of not developing age-appropriate knowledge and skills. Parents are aware of this quality deficit and invest heavily in after-school tutoring, making after-school tutoring a mainstream element of a family's spend on education.
- At mid-high levels of income, access to good quality education is not a major challenge however, parents want their children to get the "best" for which they are willing to pay a premium for leading private schools that that promise right opportunities and skills for a holistic development.

The innovative business models described in this section will address the needs across the income spectrum and cover operators for both in-school and after-school learning.

Technology Immersion: Using technology for effective delivery in the classroom

In K-12 systems across the world, technology is revolutionizing education delivery by promoting pedagogy that puts the 'learner at the centre'. Several new tech platforms are using approaches such as personalized 'adaptive' learning and 'gamification' to make the process of learning more efficient, engaging and enjoyable for students. Apart from creating digital

learning content, technology is also being used to enable teachers to perform various classroom tasks more efficiently than before. For instance, learning management systems such as Canvas and Edmodo make it possible for teachers to design and distribute interactive digital lessons, monitor students' progress, provide feedback, and even collaborate with other educators.



Table 4: Learning Elements Provided by Tech-enabled Features

Tech-enabled Feature		Learning Elements	Feature Description
Knowledge Maps		Academic Standards	A framework (aligned relevant standards) that demonstrates how the learning of one skill interacts with others (e.g., learning progressions); used to produce individualized learning paths
Assessment Engine		Assessments	Formative and interim student assessment that produce data on what students know and how they are progressing
Learning Objectives		Content and Curriculum	An organized collection of content, practice and measurement items that are combined based on a single learning objective; resources to support scaffolding and student re-learning
Adaptive Algorithm		Scope and Sequence	Recommendation engines that consider learning level, history and optimal learning modality in directing students from one learning moment to the next
Student Portal		Student Relearning	Digital portal for students to complete work, monitor their own progress, access resources, etc.; includes DIY, student authoring tools, etc.
Teacher Portal		Classroom Organisation and Analysis	Digital portal for teachers to manage classroom (grouping, resource selection, administrative functions); includes teacher data analytics resources, as well as parent communication tools
Student-Teacher Collaborative Platform		Teacher Feedback and Communication	Digital platform facilitating student-teacher interactions; includes competency-based grading and feedback tools, communication and sharing capabilities, etc.
Student Portfolio		Recording and Reporting Student Achievement	Comprehensive storage of student work in all forms, easily accessible by relevant parties and shareable; integrated data flows with internal and external systems (both academic and administrative); facilitates proactive communication among teachers, parents, and students
Back-end Data Systems and Reporting			

Source: "The Connected Classroom", Nellie Mae Foundation and EY-Parthenon

For the majority of the Indian schools, the push for digitisation started with basic digital infrastructure, such as smartboards, and digitisation of curriculum content. However, the use of advanced technologies such as gamification and adaptive learning in Indian classrooms. Companies such as Mindspark (Educational Initiatives), Cuemath and XSEED have developed innovative tech solutions that employ such approaches to learning. While these are becoming increasingly popular among urban private schools, further penetration into mid-tier schools, will facilitate children from low – mid income brackets to get access to better quality education.

Drivers of Tutoring and Test-prep²



Presence of high-stake exams



High selectivity for limited good-quality seats in higher education



Lack of quality K12 leads parents to remediate and supplement with tutoring



Presence of various niche segments that are underserved by traditional education providers

Online Delivery: Extending access to quality tutoring and test-preparation services

Emerging economies have limited capacity in high-quality higher education institutes. These highly sought-after seats give rise to high-stake exams and ‘tiger parents’, who want their children to be academically strong at every stage of their education life cycle. This aspiration, combined with poor quality of education in schools, fuels the tutoring and test-preparation industry, making it an attractive education segment for private providers.

²Ministry of Human Resource Development, Government of India

After-School Tutoring

The after-school face-to-face tutoring market in India is highly fragmented and dominated by small standalone providers who typically cannot guarantee high quality. Further, access to high-quality providers is limited, a gap that gets magnified in smaller towns and cities.

Innovative online products such as BYJU's, Toppr are trying to address the need for good quality, reliable supplementary learning offering by a branded provider thereby, capturing the largely fragmented after-school tutoring market.

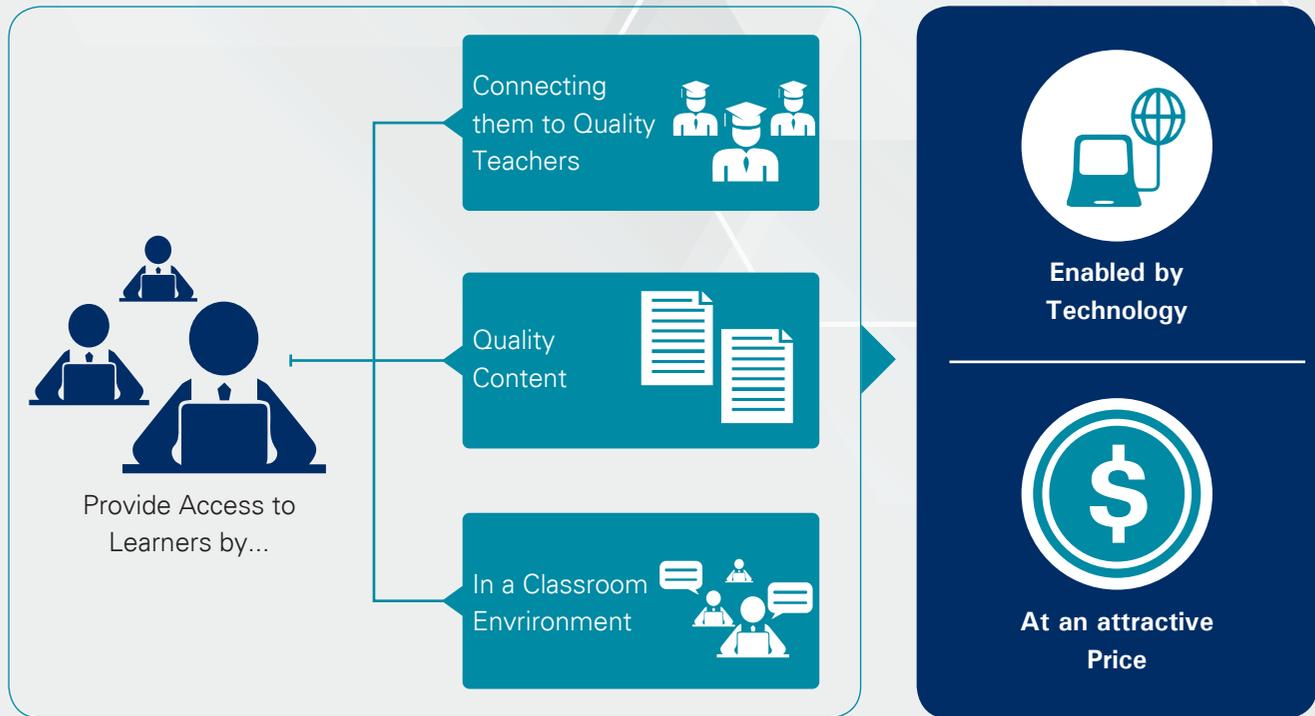
High-Stakes Test Preparation

A large number of branded brick-and-mortar providers currently exist to cater to the demand of quality test-preparation centres in India and have also produced strong academic outcomes. Providers such as

Aakash, Allen and FIITJEE deliver high-quality teaching through a standardized curriculum and trained faculty. However, beyond the Tier 1 cities and a small number of test-preparation hubs such as Kota, the demand for high-quality branded services is highly dispersed and these providers cannot leverage economies of scale, making offline delivery financially unattractive.

Emerging online solutions by providers such as Vedantu and Aakash (through Aakash Live) are attempting to address this market gap. These providers connect experienced teachers with students through live video lectures in a two-teacher model, wherein the curriculum/lecture is delivered by the instructor through online live teaching, and the teaching assistant(s) are physically or virtually present to support doubts etc.

Figure 1: Value Proposition of Live Online Tutoring and Test-Prep



Source: EY-Parthenon Research and Analysis

This model is informed by the experience of more mature markets such as China, where test-preparation providers evolved into offering live tutoring including erstwhile self-paced offering providers such as Yuanfudao and TAL to pivot to a live virtual classroom model.

Glocalization: Adapting international curricula to local context

Affluent parents in developing countries are looking to expose their children to international education at an early age. As a result, more parents are enrolling their students in international curriculum schools (schools having IB or British curriculum). Many of these students aspire to study in universities abroad and perhaps even get jobs in their host countries. Further, in countries with large migrant working populations such as Dubai and Singapore,

these schools also fulfil expats’ demand for providing quality, and internationally accredited school education.

The last few decades have witnessed the emergence of several large global K-12 chains, such as Nord Anglia, Cognita and GEMS Education, addressing this need. These chains have expanded across continents, and have targeted South East Asia, the Middle East, Latin America and, more recently, China.

Table 5: Select Scale K-12 Chains, 2016

Name of Institute	Number of Schools (2016)	Geography focus	Estimated Tuition Revenue (2016)
NORD ANGLIA EDUCATION	43	Global	\$500–1000M
GEMS EDUCATION	91	Middle East	\$500–1000M
COGNITA TEACHING EXCELLENCE	68	UK, Singapore	\$250–500M
SABIS	31	Middle East	\$250–500M
BEACONHOUSE	170*	Pakistan	\$100–250M
CURRO	54	South Africa	\$100–250M

**In addition to ~170 self-owned schools, Beacon House has an additional 600 schools as franchises
Source: EY-Parthenon Research and Analysis*

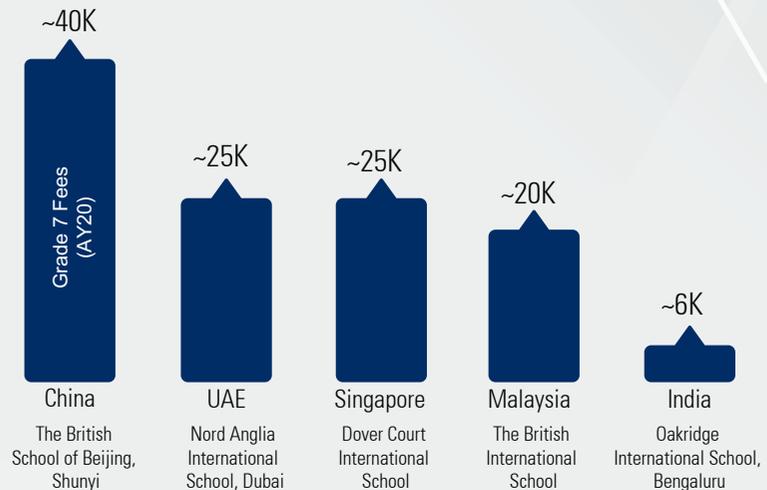
Table 6: Select Scale K-12 Chains, 2016

Country	Adapted Features
 China	<ul style="list-style-type: none"> International schools are required to be 'dual curriculum' or 'bilingual' i.e. teach Chinese national curriculum in primary and secondary grades Schools pivot to international curriculum only in high school
 UAE	<ul style="list-style-type: none"> Schools are required to integrate Arabic language and Islamic teachings in their curriculum
 Saudi Arabia	<ul style="list-style-type: none"> Many international schools are gender-segregated after primary school Schools are required to integrate Arabic language and Islamic teachings in curriculum

However, it is critical to note that with international schools, it is important to remember that one size does not fit all. Providers must adapt their offering to suit the local cultural context, parents' concerns and purchasing power.

In India, international curriculum providers are setting the fees considering affordability. For instance, Nord Anglia, a premium international chain, entered the Indian market in 2018 by acquiring a premium chain Oakridge, which is priced nearly three to four times lower than its schools in other Asian countries. (in terms of dollars).

Chart 2: Annual Tuition Fee (Grade 7), Select Nord Anglia International Schools, AY20



Source: Nord Anglia Website

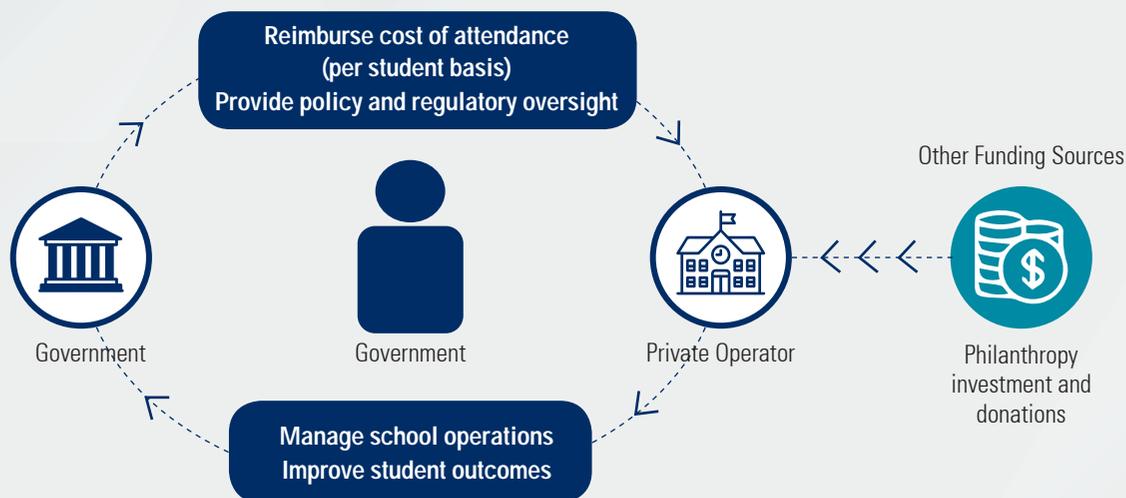
Pathbreaking Partnerships: Uplifting quality and outcomes

Governments around the world are exploring private sector participation to help them extend access to quality public schools.

Two of the most successful examples of public-private partnerships are the ‘charter’ school and ‘academy’ school models in the US and UK respectively. In these models, publicly-owned or funded schools are

managed by private entities. These schools have greater autonomy than regular public schools, especially in decisions related to faculty and pedagogy. Enrolments in both these types of schools have grown faster than in other schools, following which, countries such as the UAE have also adopted this approach of engaging private sector expertise to run public schools.

Figure 2: EY-Parthenon Research and Analysis



In India, public-private collaboration is still low, and depends largely on the initiative of individual state governments. Whole-scale outsourcing of public schools to private providers is rare, and even when done, usually involves NGOs (e.g. Akanksha Foundation operates over 20 public schools in Maharashtra). However, there is scope for more private providers in India, including large business conglomerates, to gain inspiration from the charter/academy models and partner with the government in operating schools.

Further, In India we are also witnessing “Marriottisation” of private schools, as known K12 operators are providing management / advisory services to third party private school owners to grow their greenfield institutions and improve their existing ones. The model can be pure advisory service, such as Shri Educare, which provides a vast array of support including new school setup advisory, specific operational verticals advisory and even training programs for teachers and management. It could also be a near full stack service wherein the operator runs the entire school and lends its brand to

the institution. As the penetration of private schools grows and competition intensifies, such operators will be increasingly sought after, particularly by new entrants to jumpstart their set up.

Capital Solutions: Financing quality improvement initiatives in private schools

In emerging markets, where the quality of public schools is a persistent problem and where low-income parents are willing to invest in education, a sizable affordable school segment exists. These schools are typically bare-bones in terms of infrastructure and have low fees, which is why they struggle to accumulate enough funds to upgrade and expand their set up. Thus, access to capital is often a challenge.

In Africa, a number of small local finance companies that provide micro-loans to affordable schools are gaining pace across the continent (e.g. Edify, IDP Rising Schools). In India too, there are examples of providers such as Varthana and ISFC in the school finance space, which are enabling affordable

schools to bring up their overall quality by filling infrastructural gaps. For example, Varthana provides loans for small improvement initiatives (e.g. purchase of lab equipment, furniture, IT infrastructure) as well as for large ones (purchase of land, vehicles for student transport, new

construction). Thus, as affordable schools grow increasingly aware of emerging financing options, firms in this space are likely to witness growth in-turn improving quality of education for low-income household children





Innovative business models in Higher Education

India's tertiary gross enrolment ratio (GER) is approximately 25%³, much below the OECD (Organisation for Economic Cooperation and Development) average of 45%. Highlighting the significance of this, the Indian Government in its Draft New Education Policy 2019 has proposed a target GER of 50% by 2035, at par with current tertiary participation rates in the UK and Australia.

To achieve this ambitious target, India will require exponential increase in the number of higher education institutions. However, providing access alone will not be enough, we also need students graduating from these institutions to have future-

³MHRD

ready skills that can drive economic growth.⁴ So far, the formal higher education system in India has been slow to respond to the changing needs of the industry, creating an alarming skill gap in the workforce. Paradoxically, while graduates are struggling to find jobs, employers are struggling to find fresh talent that can hit the ground running. Hence, the higher education providers have to solve for not just doubling the scale but also quality that can make 37 million students today, and another 37 million in the next decade or so employable.⁵

Further, one can also witness the trend of more and more students from India and across emerging markets, choosing to study abroad as parents demand internationally-recognised programs that give a global career option. Over 300,000 students from India are pursuing graduate or post graduate programs abroad. However, there is a large pool of students who cannot afford such expensive programs and end up reconciling with options in India.

Innovative business models transforming higher education sector described in

⁴AICTE

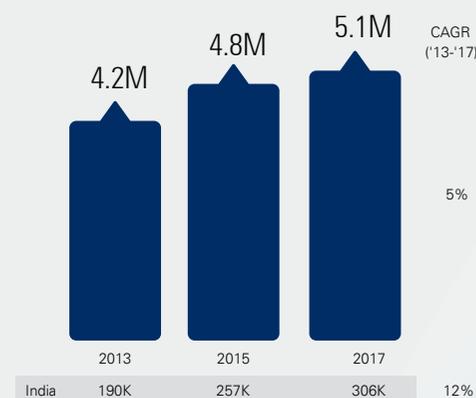
⁵MHRD AISHE

this section are addressing the above three demands from higher education ecosystem: greater access, better employment outcomes, and education standards at par with international universities.

Ivy League Education in India: Delivering international standard higher education

A growing number of students from emerging economies are studying abroad to obtain world-class education.

Chart 3: Number of Students Enrolled in Higher Education Institutions outside their Home Country, World, AY13-17



Source: UNESCO Institute for Statistics (UIS)

These institutes aim to provide holistic student life, industry-aligned programs, excellent career support and international exposure, which can be seen in the form of a diverse cohort. However, not all students seeking the “Ivy League” experience are willing or able to leave their home country to experience it. This had led to a compelling need for setting up such universities in our country.

Table 7: Features of an Ivy league university

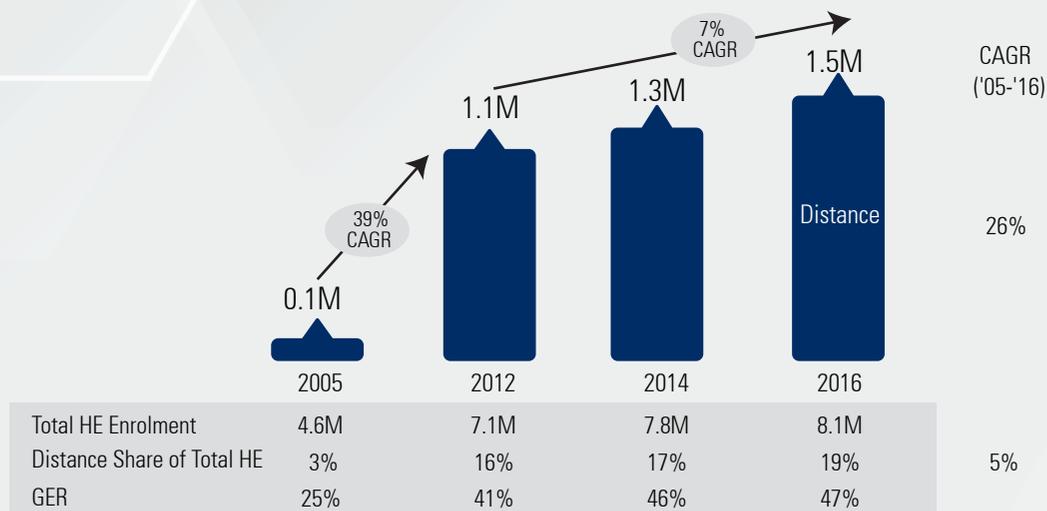
	Course Offering and Research	Providing in-demand and relevant course and research offering
	Career Development	Preparing students for life after graduation. Working with students and faculty to help identify career goals, secure internships and job opportunities
	Athletics and Fitness Facilities	Diverse sports curriculum to meet the needs and interests of the entire University Wide range of educational, recreational and holistic wellness solutions in personal, group and class settings
	Rich Student Life	Breeding ground for student interest groups, leadership (student government), service, community outreach, intercultural education, and spiritual life
	Holistic Residential Education	Safe residential environment to support intellectual curiosity, social network, and exposure to the customs and cultures
	International Exposure	Exposure to diverse culture and experience through exposure to international student/ faculty/ location
	Access to Financial Aid	Access to scholarships, waivers and other forms of financial aid

Source: EY-Parthenon Research and Analysis

International universities are responding to this growing demand from emerging geographies in novel ways. Some of the world's most prestigious universities such as Yale, NYU and INSEAD, have ventured outside their home countries to set up foreign branches while providing quality education at a much lower cost. There are

more than 250 foreign branch campuses across the world that enrol approximately 180,000 students and over 50% of these campuses were established in the last two decades⁶. However in India, the regulations have so far restricted the direct entry of foreign universities seeking to offer degree programs.

Chart 4: Distance Higher Education Enrolment, Brazil, 2005–16



Source: Oxford Economics, Higher Education Census INEP

⁶Cross-Border Education Research Team (C-BERT)

On a more local level, India's own top universities also have many of the above features of an 'Ivy League' university but have failed to attract international enrollments. Addressing this, some new-age universities such as Ashoka University, have successfully adopted strategies such as hiring foreign faculty, forming foreign academic collaborations as well as creating student exchange programs. This has shown significant positive impact on the foreign enrollments of the institution.

As the demand for international exposure continues to grow, Indian universities will have to deploy similar approaches and make internationalization a valuable differentiating factor. These programs are popular among non-traditional students such as part-time or full-time working students, those with dependents, and those studying non-degree programs.

Online Program Management: Empowering higher education institutions achieve expand scale with quality

The popularity of online education is on the rise across geographies. In 2017, 3.6 million students had enrolled in some form of online higher education in the US i.e. nearly one-

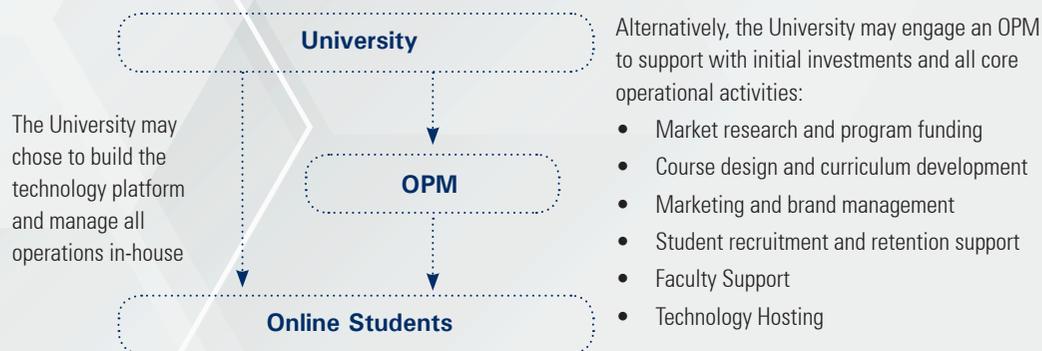
fifth of post-secondary students⁷. This proliferation of online learning options is not unique to developed economies. In Brazil, approximately 1.6 million students enrolled in online education, forming ~20% of the higher education enrolment. This rapid growth of online education has helped Brazil almost double its tertiary gross enrolment ratio (GER) from 25% in 2002 to 47% in 2016⁸.

Universities and non-traditional education providers are tapping into this opportunity by introducing new programs or expanding the reach of their existing programs. However, offering online programs requires large initial investments and substantial operational and technical expertise, which traditional brick-and-mortar universities might not have. Thus, Online Program Management (OPM) providers present exciting opportunities for such universities to participate and expand their reach.

⁷National Center for Education Statistics, Fall 2017 Statistics

⁸Brazil Higher Education Census INEP

Figure 3: OPM Model Overview

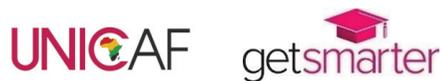


In developed markets, Online Program Management providers are already popular for example Pearson Embanet, Bisk, and 2U.

Even in emerging markets like Africa, online education is gaining acceptance. UNICAF, founded in 2012, is an online platform in sub-

Saharan Africa that is making international standard higher education accessible to African professionals and young school leavers. It offers local and internationally accredited courses in partnerships with foreign universities targeted for African students.

OPMs in USA and Africa



- Africa's OPM market has UNICAF as the largest provider with a longtail of other providers
- UNICAF enrolls ~20K students and aims to reach 100K mark by 2023 by offering affordable education to African students



- There are multiple scale providers enrolling 160K students
- Most of the large OPMs now provide professional skill based courses in addition to traditional degrees
- Providers offer a variety of services which can be bundled or unbundled as per university requirements

India does have a long history of distance education, though online degree and diploma programs are yet to take off. Approximately, 12% of higher education enrolments are in distance learning programs, where students complete degrees remotely using printed materials with minimal live faculty interaction.⁹ Online graduate and post-graduate programs have recently been clarified with the ODL (Open and distance learning) and Online Degree regulations enacted. The Government has granted permission to select universities (with the highest rating of NAAC A+) to offer online distance learning courses and also started the process of enabling high-quality colleges and universities to award online degrees. Third party OPM players such as TalentEdge, Upgrad, Emeritus etc., which were earlier partnering with higher education institutions for the unregulated short-term certification programs, are taking note of these regulatory trends and working towards launching online graduate and post-graduate programs. These players have the potential to plug the access and quality gap help India achieve its GER ambition.

⁹All India Survey of Higher Education (AISHE)

Employment-ready programs: Helping traditional universities stay relevant

For universities to remain the trusted intermediaries of knowledge in the future, they need to recognize that the boundaries between universities and the industries are already blurring. It is becoming increasingly essential for universities and industry to collaborate on curriculum design, guiding research and career services.

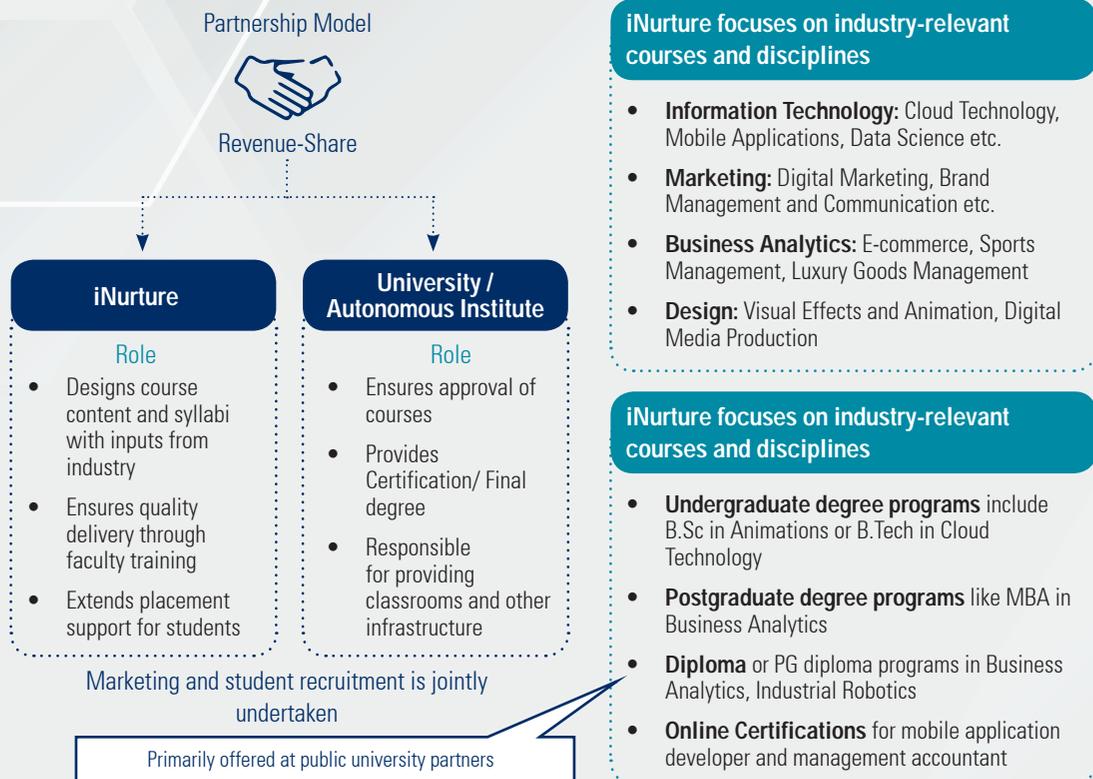
Universities, now more than ever, are seeing the need to reinvent themselves and adopt a market-oriented approach to ensure that the labour market continues to trust university degrees as a signal for skilled talent. However, the most traditional universities across emerging markets still struggle to integrate industry-academia linkage and keep pace with rapidly changing employer trends.

To help universities address this gap, innovative third-party 'program managers' have stepped in and support them in developing and delivering employer-relevant programs, acting as catalysts in the change process. Companies such

as iNurture have an innovative model, wherein they make upfront investments to develop new-age industry-relevant tertiary programs that can be embedded seamlessly within a university's offerings. They help

partner universities acquire students for these programs and adopt an outcome-based revenue model, which insulates universities from the risk of under-performance.

Figure 4: iNurture Business Overview

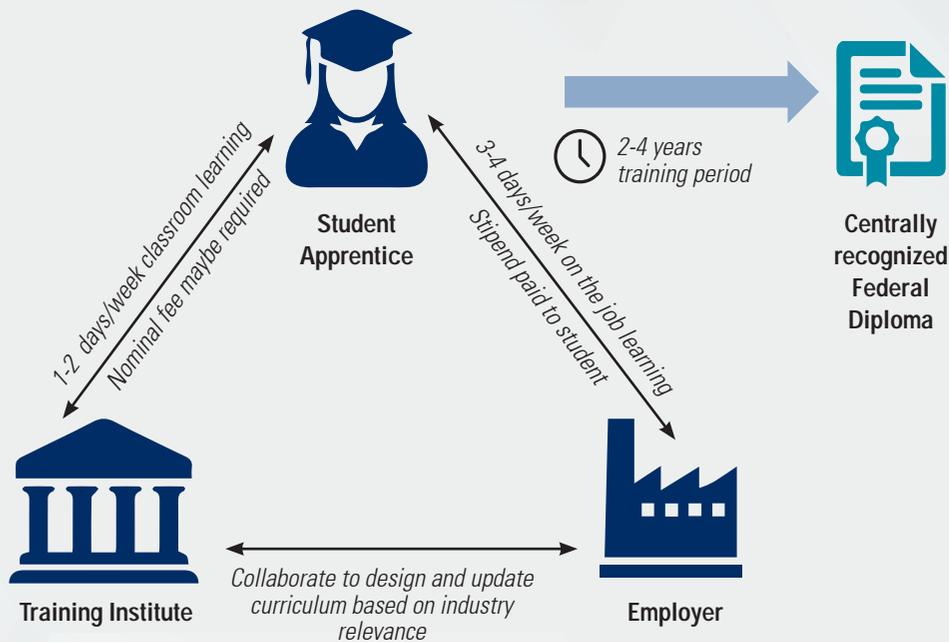


Source: iNurture's website; EY-Parthenon research and analysis

Industry Aligned Vocational Education: Strengthening collaboration in vocational learning ecosystem

With globalisation and rapid technological innovations leading to huge migrating workforce, employers across the world are facing a shortage of skilled labour in vocational services. Recognizing that a skilled workforce is vital for economic recovery and sustainable development, some European countries have established innovative education framework for that exemplifies how Government and businesses can join hands to foster skill development.

Figure 5: Collaboration Model: Dual Track (Apprenticeship) Education – European Nations



Source: UNESCO, OECD, EY-Parthenon Research and Analysis

Germany, Switzerland, Finland and Luxemburg practice the dual track apprenticeship system for students pursuing vocational education. Trainees divide their time between vocational school and a public or a private enterprise. The employer gives stipend to the student and bears the cost of training thereby, reducing the total cost of instruction for the Government while the student gets education for a nominal fee. Some countries even issue vouchers, which can be redeemed by students

to receive skills training from approved training providers. Vouchers may be issued directly to unemployed students, like in Germany, or to employers who then use it to secure training for their employees, like in UK. Vouchers are potentially more efficient than providing subsidised education through public providers, as it allows students to exercise greater choice in selecting training providers and the type of skills they want to learn.



NSDC aims to promote skill development by catalysing enterprises, companies and organizations to build capacity via diverse vocational training programs

Training Partners

- NSDC provides affiliation to training providers which include corporations, private universities, society or trusts
- Funds up to 70% of the training project cost as debt @ 6% simple interest
- Training provider commits to 70% placement guarantee



Industry Partners

- Offers various models for industry partnership including apprenticeship programs, direct sponsorship and setting up of training labs
- For partners offering apprenticeship, NSDC reimburses 25% of prescribed stipend (1500/- per month limit per apprentice)



Source: NSDC, EY-Parthenon Research and Analysis

By 2027, India will outpace China and will have the world's largest workforce (15-64 years) crossing a billion mark. Not all of them can be taught in traditional universities and get into white collar jobs. Skilling them in vocational services based on industry needs will play a significant role in job readiness and boosting India's overall productivity. However, private participation in the vocational education infrastructure has historically lacked scale and was fairly fragmented. Recognizing the need to strengthen the TVET (Technical and vocational

education and training) infrastructure, the Indian government has set up the National Skill Development Corporation (NSDC) to facilitate public-private partnerships. These partnerships cover both apprenticeship programs as well as vouchers like mentioned for the European countries, but have been refined w.r.t. payment terms etc. for Indian context. While building and scaling up a robust TVET ecosystem in a large country like India will take time, such a framework was long due and one hopes it turns out to be a huge success.



Online Vocational Courses: Expanding access

Most vocational education systems, like we covered in the previous section, largely rely on conventional methods of education delivery. These take time to scale up. However, a public vocational education provider in Australia, Technical and Further Education (TAFE), has demonstrated how vocational education can also be delivered online.

Figure 6: TAFE Digital, TAFE NSW's platform for online courses has enabled TAFE NSW to offer blended courses as well as completely online courses



Source: TAFE NSW Annual Report 2017-18; EY-Parthenon Research and Analysis

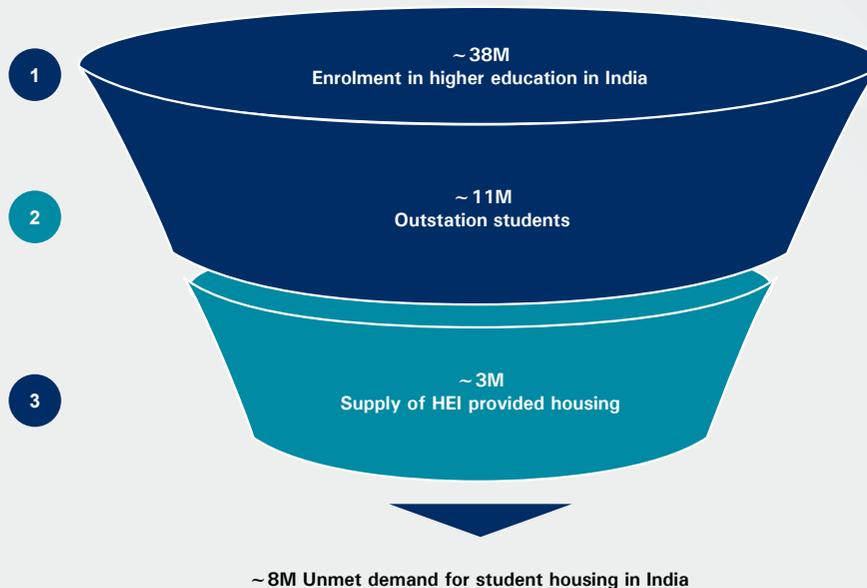
Combined with the need to skill and reskill India's youth, online delivery of vocational education can boost India's employability at a large scale and in a cost-effective manner. While this trend is yet to pick up pace in India, it will be an attractive area to explore for program managers such as NSDC and private education providers.

Student Accommodation: developing quality accommodation for mobile students

As tertiary gross enrolment ratio (GER) and the demand for quality education grows in emerging markets, the number of students attending higher education institutions away from their homes is also increasing. There is a need for quality, cost effective and convenient student housing. Across

the world, there exists significant demand- supply gap. In India, there are approximately 11 million students enrolled in higher education institutes outside their home town, out of which only around 3 million have access to university housing¹⁰.

Figure 7: Unmet Demand for Student Housing in India



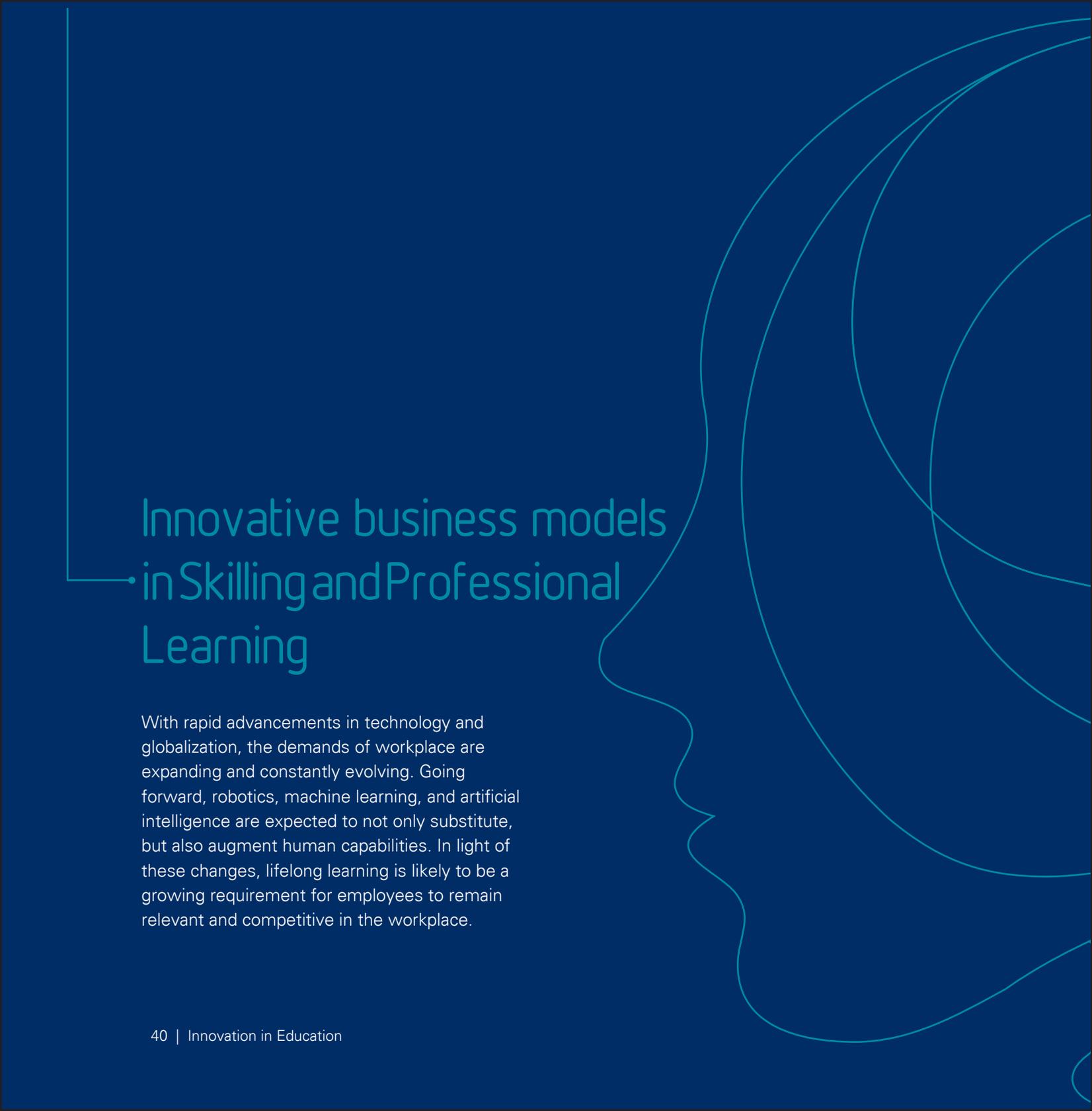
¹⁰ Student Housing in India, JLL (2017)

In recent past, a host of providers have entered the market with strong investor support. Examples include Good Host Spaces backed by Goldman Sachs, Stanza Living backed by Accel, Sequoia and Matrix Partners among others. There are three distinct models adopted by providers, both in India and abroad:

Table 8: Student Housing Business Models

		Lease and Refurbish	Greenfield Development	Managed Services
Model		Leases out property from owners, refurbish and remodel for student housing	Constructs purpose-built student accommodation near universities	Takes over the management and operations by buying or leasing existing university provided student housing
Examples	Indian	Stanza Living, OxfordCaps	IndeCampus near UPES, Dehradun and CampusVille in partnership with Jain University, Bangalore	Good Host Spaces with TAPMI and Manipal University, Jaipur
	International	Nido, Unite	Urbanest near University of Westminster, Regent's University etc.	Hello Student with University of Bath

Source: EY-Parthenon Research and Analysis



Innovative business models in Skilling and Professional Learning

With rapid advancements in technology and globalization, the demands of workplace are expanding and constantly evolving. Going forward, robotics, machine learning, and artificial intelligence are expected to not only substitute, but also augment human capabilities. In light of these changes, lifelong learning is likely to be a growing requirement for employees to remain relevant and competitive in the workplace.

Table 9: Customer Segments for Professional Learning

Learner Segment	Description
 Career Starter (< 0 years)	<ul style="list-style-type: none"> • This comprises of traditional students i.e. secondary school graduates/ current college students/ recent college graduates • The focus of this segment is to gain skills that are in demand in the job market
 Career Switcher (1-5 years)	<ul style="list-style-type: none"> • This group comprises of people looking to switch their career to a different field • They place a high value on the institution's association with the labour market and its ability to prepare them for their career transition and put them in touch with relevant employers
 Career Accelerator (5-10 years)	<ul style="list-style-type: none"> • Career Accelerators aim for advancing their career at their existing company or within their current industry • These are primarily working adults with work-experience who value non-traditional delivery methods, particularly online courses
 Executive Education (>10 years)	<ul style="list-style-type: none"> • These are professionals who are stable in their career and are transitioning to top management, or are already at the top management positions • Their focus is to advance their knowledge and skills to keep themselves relevant to the changing industry needs

Source: EY-Parthenon Research and Analysis

There are four broad types of learners emerging in the market defined primarily by the years of professional experience they have. Within each of these segments there is a demand for up-skilling, re-skilling and sometimes transformative re-skilling. Even as traditional universities try to adapt to these changes, non-traditional providers across the globe have introduced new services aimed at these segments of lifelong learners.

Lifelong learning: Preparing individuals for Future-of-work

Training providers both globally and in India, are exploring different models to help working professionals transform their careers. These providers are leveraging technology to deliver training through online and blended channels, allowing greater flexibility than face-to-face programs.

Table 10: Types of Offerings by Training Providers

Learner Segment	Description	Delivery
	<p>Self-branded Certificates</p>	<ul style="list-style-type: none"> • Training providers offer this program using their own brand name • Programs are either delivered independently (in form of Bootcamps) or in partnership with university as a supplement to the university curriculum • Programs are typically short-term and result in a certificate 
	<p>School- Partnered Model</p>	<ul style="list-style-type: none"> • Training providers offer this using the credentials of a partner university • Programs can result in a certificate, diploma or a degree issued by/ in association with the partner university 
	<p>Self-Branded Accredited Model (Diploma and Degrees)</p>	<ul style="list-style-type: none"> • Training providers have accreditation from the relevant bodies to issue a diploma or a degree 

Source: EY-Parthenon Research and Analysis

These business models have evolved over time since the 1990s when Google and Wikipedia for the first time in history of mankind offered vast amounts of information at just a click. The information bank model evolved into content libraries and MOOC platforms that hosted curated content and offered it to learners for free. While it had its challenges of completion rates and limited outcomes, they triggered an explosion of online content consumption and laid the groundwork for future lifelong learning models. In the last decade, we have seen the rise of models such as OPM (2U), Bootcamps (Trilogy), online skilling (Udacity, Emeritus), online colleges (OpenClassrooms). These companies have succeeded in identifying specific segment needs and configuring their model to serve them appropriately.

Today, training providers either develop the content themselves or source it from third-party creators / publishers. Some providers also partner with traditional universities for content thereby leveraging the institute's existing brand and accreditation. A third business model for providers is to get their self-developed programs accredited. Each of

these models has demonstrated potential for success but the choice will remain subjective for each student. Providers can also operate through more than one model and may migrate across models, say from a school-partnered model to a self-branded model.

Globally, there are multiple players across the three types of offering however, in India, the third model is remains unfeasible due to regulatory framework that does not accredit pure online program providers. In India, several non-traditional higher education providers such as Emeritus, UpGrad, Simplilearn, Talent Edge and Manipal ProLearn offer short-term and long-term certifications aligned to various industries. Management programs and technology-related courses in Data Science, Machine Learning and Software Development are the most popular offerings. Thus, these providers are playing an instrumental role for Indians in ushering them into the new age of digital education with the potential to mirror the success of India's software revolution of the 1990s and early 2000s.

Bootcamps: Crash course on job-ready skills for Career Starters

India's large population of young men and women has often been described as a 'demographic dividend', but this dividend has to be earned, and it's not going to be easy. While over 12 million students graduate every year with the hope of a job, only 40-50% are employable, and only 1-1.5 million additional jobs are created every year in the organised sector. This significant gap in skilling and employability can be addressed through alternative skilling platforms aimed at making entry-level candidates job-ready.

One model that deserves attention is boot camps, which provide intensive 2-3 month training in functional skills, either in classroom or online. Globally, boot camps have emerged as popular training models, with enrolments growing 1.5 times in 2017. There are almost 100 boot camps across US and Canada, with attendees getting 10-20% pay hikes post-completion.

In India, while classroom-based bootcamps have been in existence for a while, bootcamps at par with global standards are just starting to get set up by players such as Great Learning, Imarticus etc. What is needed is a blended delivery model—an intensive, facilitator and industry-led offline training coupled with an online 'supplement' and active career support. Additionally, the providers need to integrate peer-to-peer learning, live projects, internships and interactions with industry experts in their products.

Employers are seeing boot camp graduates as more employable and such blended-learning based models are expected to scale faster in a skill deficit market like India.

Education Financing: Extending training access through income sharing models

Access to education financing still remains a challenge as traditional financing continues to mandate a proven credit history, collaterals and offer inflexible repayment structures. The new non-traditional student financing models, on the other hand, such as Income Sharing Agreements (ISAs) are emerging globally as a compelling alternative. ISA providers give students an option of post-employment repayment instead of paying an upfront tuition fee. Unlike regular loans, ISAs use holistic parameters to assess candidate's eligibility and his / her ability to get a job. This does not put an immediate financial pressure on students as repayments start only after students achieve a minimum income. Additionally, it incentivizes the training provider and the student to ensure that they get industry-relevant training and become employable quickly.

Training providers have also started to tie-up with a financing companies for factoring their receivables to manage

cash flows and transfer partial risk to the financing company. For example Andela, an Africa-based firm, recruits unemployed youth with no prior experience in coding and trains them to become full-stack software developers without charging an upfront fee. After the training, Andela places them within their partner technology companies and receives a portion of their salaries for a fixed time period, and also charges a recruiting commission from the employer.

In addition to the above, an income-sharing model is also emerging in India. Pesto, a Delhi-based company, offers a 12-week intensive training course in software engineering without charging any upfront tuition. Graduates are prepared for full-time remote employment with leading Silicon Valley technology companies and pay Pesto a share of their income after the course. Such models are expected to proliferate as they create the right incentives for the all the stakeholders – the student, the training provide and the finance company.

• The Way Ahead for India

India, with its massive demographic-driven market and education delivery challenges, is likely to benefit from riding the global technology-enabled education innovation wave. With the largest K-12 enrolment base in the world, second largest higher education enrolment base after China¹¹, and approximately 400 million people consuming around 10GB per month of internet data per head¹², India is ready to embrace the technology-based learning and delivery solutions to improve outcomes at every learning stage.

There are strong regulatory tailwinds supporting this innovation and the Government launching initiatives to alleviate the quality deficit through progressive policies and regulations.

Very recently in 2019, the draft of the New Education Policy was released with an “aims to meet the changing dynamics of the population’s requirement with regards to quality education, innovation, and research...”¹³.

Therefore, across every education sector in India, there exist opportunities for current providers to adopt global trends ahead of the curve as well as for the new providers to enter and disrupt traditional methods of delivery and learning. For both, the time is now!

¹¹ UNESCO Institute of Statistics

¹² “Year in Search – India: Insights for Brands”

¹³ New Education Policy (2019), MHRD, Government of India

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About

Bertelsmann India Investments

Bertelsmann India Investments (BII) is a venture capital fund of Bertelsmann, a media, services and education company that operates in about 50 countries around the world. BII focuses on series B and C stage investments in pioneering companies in the digital, education, media and services sectors. Since its official launch in 2012, BII has invested in 10+ companies including Saavn (music streaming service), Pepperfry (online furniture marketplace), iNurture (higher education services), Lendingkart (digital lending platform for SMEs) and Eruditus and Emeritus (IVY league programs for working professionals) among others. BII is part of Bertelsmann Investments, which houses the group's other corporate funds such as BAI (China), BDMI (US and Europe) and BBI (Brazil) and cumulatively has almost 200 investments.

Further information is available at www.biifund.com

About

EY-Parthenon

EY-Parthenon is a global consultancy dedicated to the education sector providing end-to-end services to education providers, policymakers and investors. We have served as strategic advisors to the global education sector since 1991, completing more than 900 projects across 80 countries. By working across both the public and private sector, we offer clients a perspective that is challenging for any single organization to access: we see both the "supply" and "demand" sides of education around the world, and monitor trends as they play out on a national and global level. Parthenon, in combination with the broader EY organization, offers our clients a whole suite of capabilities, from strategy through implementation. We leverage our experience to help our clients develop actionable strategies for growth so your organization can reach its full potential.

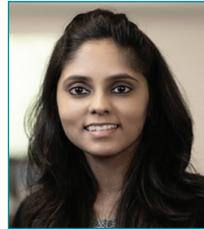
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