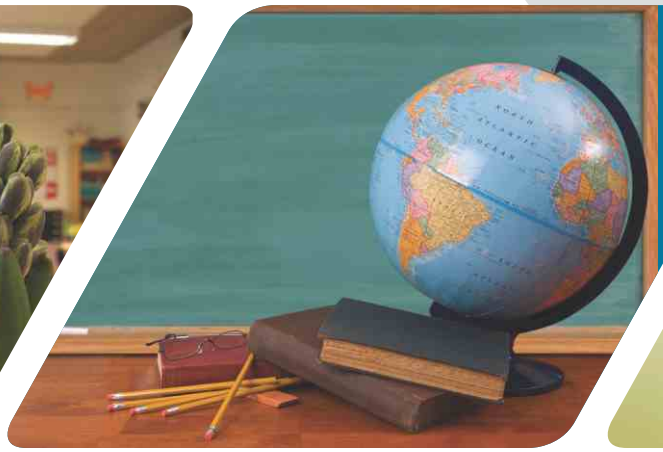
Kaizen Education (KE) Report

Update 2.2

Understanding the Sector


Kaizen

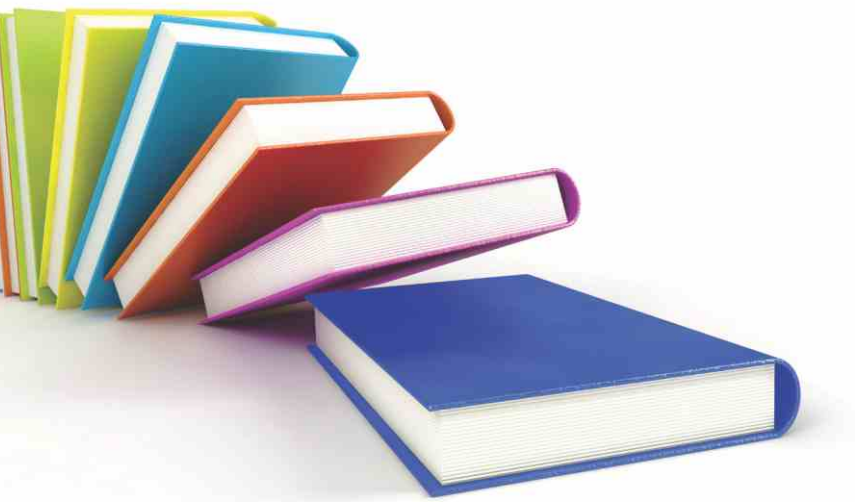


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1 Education

The education sector is currently in a transformative stage. There are opportunities and challenges for educators, investors, company leaders and students, as these stakeholders embrace the long-term trends transforming the sector.

'Disruptive innovation', a term of art coined by Harvard Professor, Clayton Christensen, describes a process by which traditional products and services are made more accessible and affordable, thereby reaching out to a much larger population.

The traditional education sector is going through its own 'disruption' as consumers of education are reaping the benefits of convenience, accessibility, simplicity, and affordability. Large infrastructure and investment deficits have created growing opportunities for disruptive start-ups and private institutions.

1.1 Mega-Trends in Education

The term "mega-trend" describes the gradual systemic evolution that affects multiple stakeholders in a sector. Currently, the Indian education sector is witness to four mega trends:

1) Individualization
2) Massification
3) Collaboration and
4) Convergence.

These, in combination, will mitigate the developmental challenges like quality, access and relevance in education.

1.1.1 Individualization

Individualization promotes educating students in response to their individual learning needs. Research has proven that an average student, when tutored, one-to-one using mastery learning techniques, performed two standard deviations better than students who learned via conventional instructional methods.

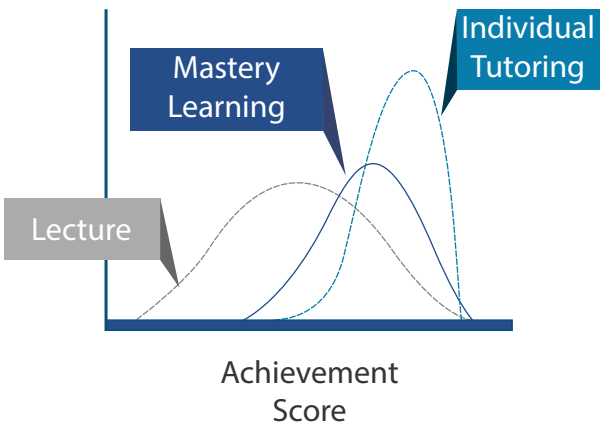


Figure 1: Individual Learning is Better than Conventional Instructional Methods
Source: 2-Sigma problem, Education researcher, 1984

New-age classroom teachers use technology to find customized content for individual student needs while traditional classroom teachers engage all students with standardized content. As students independently engage with customized content, new-age classroom teachers can distribute their time across more students.

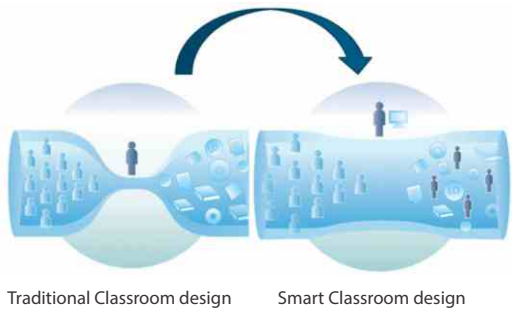


Figure 2: New-Age Classroom Design
Source: Image from School of One foundation

Unlike standardized textbooks, online content is customized based on the learner's profile. It is combined with sophisticated artificial intelligence based on keywords, analytics and user behavior. Individual Assessment for Learning and Adaptive Testing will enable teachers to give one on one relevant attention to the students. Personalized content will guarantee that all students achieve the same learning objectives in different periods and learning styles. New devices like tablets and smart phones will support this new wave.

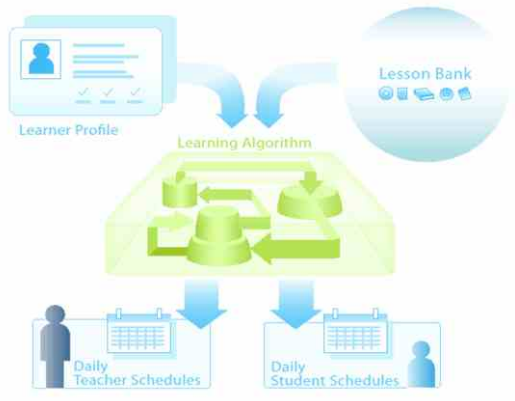


Figure 3: Learning Algorithm Drives Individual Learning
Source: Image from School of One foundation

1.1.2 Massification

Massification transforms a product/service, which was exclusively available to the privileged few, and makes it accessible to a wider market. Through innovation, the product costs are reduced while the quality is sustained. The traditionally believed inverse relationship between scale and quality is replaced with the concept of scale with quality in massification. India has and will continue to experience massification of higher and vocational education as well as educational products adopted by schools/universities.

Massification also gives an impetus to globalization of education. Academic leadership and repute are crucial to this process. International institutions, online courses and industry partnerships are positioning themselves to offer their services to the mass Indian market. For instance, companies such as GEMS, Laureate and Raffles have captured the Indian student population; online players like Coursera are developing traction with the second largest user base from India.

1.1.3 Collaboration

The new-age business model brings learners to a single platform through a 'network effect' that facilitates collaboration between individuals to build a massive social learning opportunity.

Network effect is an exponential growth in the value of the service due to the linear growth in the number of users. Like in Facebook, Dropbox and LinkedIn, the network effect between customers plays a significant role in growing the value as well as the sales of a social learning product/service.

For instance, unlike the traditional business model where the products/services are pushed to the users, the new model shown in figure attracts early adopters to drive acquisition of new target customers through word-of-mouth recommendations. The total value proposition, once experienced, convinces the customer to pay for the service. This payment in turn supports the development of additional learning tools.

Scientifically, it has been proven that people learn and retain more by collaborating. Smarter networks can create opportunities for lifelong learners around the globe to interact with experts and collaborate with fellow students in a highly customized manner.

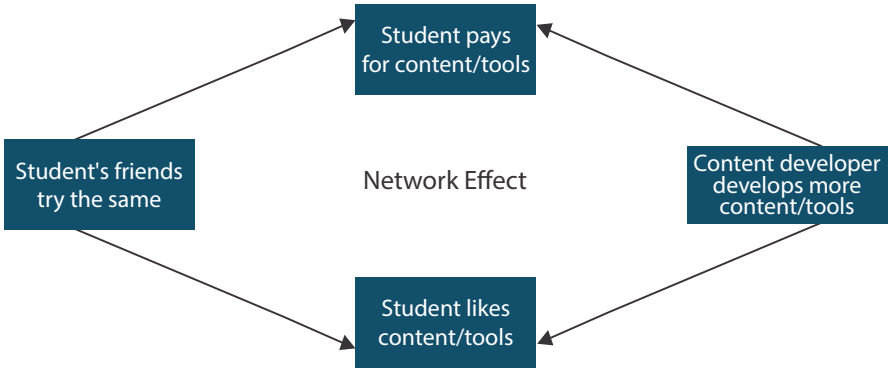


Figure 4: Network Effect Model

1.1.4 Convergence

Convergence occurs when companies enjoy economies of scale by bringing several related or complementary products, services, or even companies, under a common platform. For example, companies lower their customer acquisition costs by offering additional products/services.

Convergence in Entrance tests

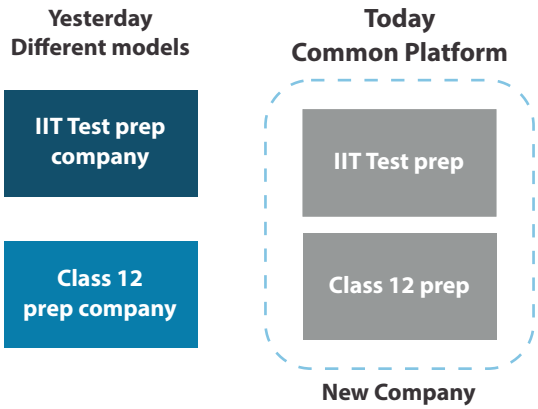


Figure 5: Convergence into a Platform

Convergence in products/services for K-12 schools

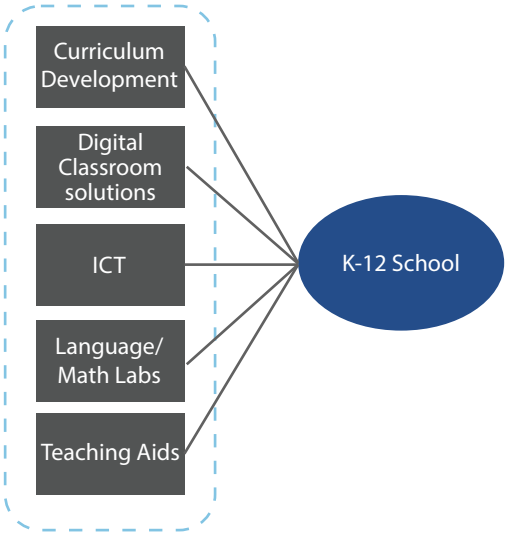


Figure 6: Convergence in Sales Channel

Case: Convergence into a Platform

Test preparation and tutorials are on the verge of convergence because different state-level engineering entrance tests and high school board exams will combine to create one common test "JEE". Common tests will help test preparation companies scale up across different states. Postgraduate engineering entrance tests, under graduate medical entrance tests, among others, are also being converged.

Case: One-Stop Shop

Schools/colleges buy different services from different vendors, resulting in high cost of customer acquisition and reduced margin for vendors. A large opportunity to build sustainable business exists by

- Improving the wallet share per school and
- Developing lean sales channel. For instance, different products like digital classrooms, math labs, experiential learning and curriculum development tools can be offered together through one-stop shop.

1.2 Education in India

India is characterized by a society that places a significant premium on education in comparison to such services as healthcare and shelter. Coupled with a lack of easily accessible high quality choices, the society, in general, is willing to pay an inordinate amount towards education. As a result, India has seen steady growth in government and private investment in the education sector.

The share of the private sector in the Indian education market has grown steadily. In particular, private players have made substantial leaps in hiring talented teachers, using innovative technologies/curricula and collaborating with employers/international partners to enhance both quality and access to education.

Such key developments are leading a gradual transformation in the sector. Innovative companies are adopting a holistic learning approach and providing students with resources to direct their own learning.

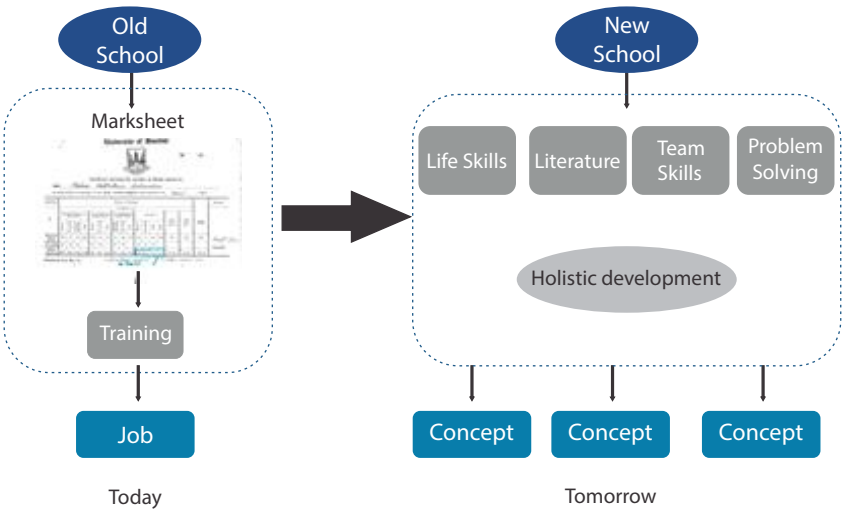


Figure 7: Education System Evolution

1.2.1 Overview

The Indian education sector caters to nearly 640 million people up to the age of 30 years. It is one of the largest capitalized spaces in India with an annual Government spend of US$63 billion (3.4% of GDP) and an annual private spend of US$56 billion. In addition, approximately 200,000 students travel to foreign countries every year and spend about US$13 billion on education. This adds up to an annual education spend of US$133 billion

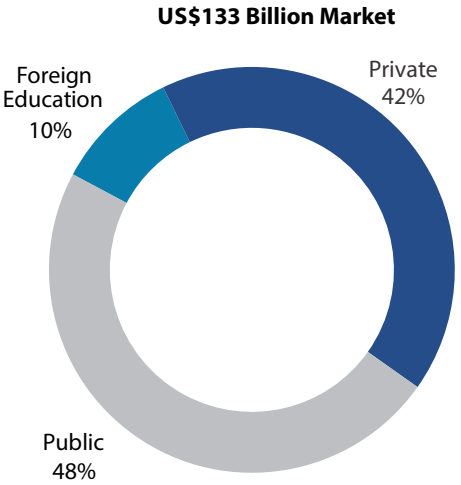


Figure 8: Education Sector Market Size

Source: Kaizen Analysis

Education in India is undergoing rapid transformation with increasing Government support for private participation. The sector is a highly attractive investment opportunity due to its "recession proof" nature, low working capital requirement and high-unmet demand. The Indian Government's education spend at 3.4% of GDP lags behind the average spend of 6% of GDP by developed and several developing countries. Hence, a significant investment will be required to reach the desired graduation levels among the target population

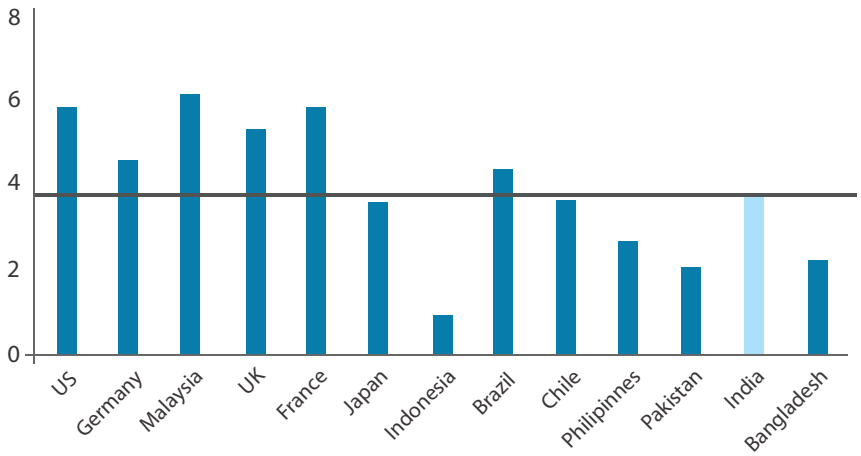


Figure 9: Government Spend on Education

Source: Kaizen Analysis
Source: UNESCO

1.2.2 Kaizen Education (KE) Map

Kaizen has developed a map, shown in Figure 10, to depict a simple yet comprehensive view of the education sector. Throughout this report, references will draw attention to the next two diagrams, which lay out the three education market segments

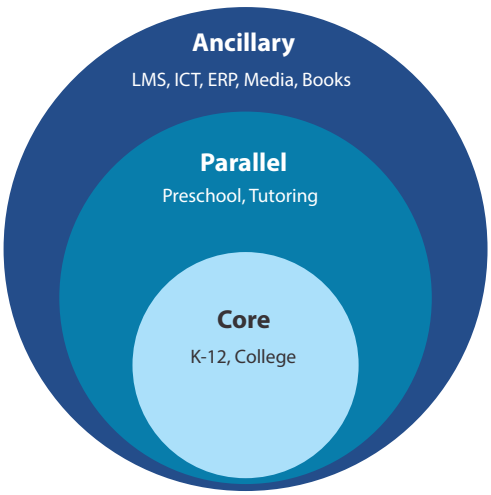


Figure 10: Kaizen Education (KE) Map
Note: Circle area ≠ relative market size

1. **Core Education:** This comprises fundamental education that culminates in a degree i.e., K-12 schools & undergraduate and graduate colleges (higher education).

2. **Parallel Education:** This segment consists of services that fill the gaps in core education including child care, preschools, vocational training institutes, tutoring and test preparation classes, teacher training and related services.

3. **Ancillary Education:** This segment includes products and services supplied to companies in the Core and Parallel segments, such as Information Communication Technology (ICT) and multimedia at schools, colleges and universities, books, stationery, etc.

Of the three segments, the Core Segment is the largest and remains the focus of all policy making. Private spend in the core segment constitutes approximately US$35 billion annually and faces the highest regulations as well as barriers to entry. The parallel education segment, with an annual private spend of US$16.45 billion, is moderately regulated, while the ancillary education segment sees an annual private spend of US$4.70 billion and is the least regulated segment. An overview of the three segments with their growth drivers is shown in the Table 1.

Education Segment	Market Size (US$ billion)	CAGR	Growth Driver
Core	35.27	12%	
K-12	24.27	11%	Largest target population globally
Higher Education	11.00	13%	Inefficient public system; Preference for public
Parallel	16.45	18%	
Preschool and child care	1.18	30%	Urbanization; Awarness of early childhood eductaion
Tutoring	10.58	15%	Poor teacher salaries in core segment
Test Preparation	2.03	25%	Limited opportunities for professional courses
Vocational Training	2.66	25%	Low employability; Gaps in Higher Education
Ancillary	4.70	15%	
Multimedia and ICT	2.00	18%	Improving learning effectiveness
Online & Social learning	0.20	18%	Growing penetration of Internet & e-devices
Books & Stationery	2.50	12%	Focus on parents and students as customers

Table 1: Education Market Segments and Growth Drivers

The figure below shows the characteristics of the three segments of the Indian education sector, which determine investment and growth strategies.

CHARACTERISTICS	CORE	PARALLEL	ANCILLARY
Investment	▲	◀▶	▼
Returns	▲	◀▶	▼
Scalability	▼	◀▶	▲
Barriers to Entry	▲	◀▶	▼
Regulation	▲	▼	▼
Market Size	▲	◀▶	▼
Strategy	Price Driven	Price + Volume	Volumes Driven

▲ High ▼ Low ◀▶ Medium

Figure 11: Segment Characteristics

1.3 Challenges in Education

As shown in the figure below, Quality, Access and Relevance are the three biggest developmental opportunities faced by the Indian education sector.

Quality	Access	Relevance
• Qualified teachers • Poor employability	• Low GER • Inflation in education cost	• Lack of cross-functional skills • Static curriculum

Figure 12: Challenges in Education

1.3.1 Quality

Shortage of Qualified Teachers

The student-teacher ratio of 35:1 in primary schools is one of the highest in the world, indicating the need for additional trained teachers. Due to the shortage of qualified teachers, institutions are forced to restrict the number of courses available to students. Over the past three decades, the number of students enrolled grew more than six fold while the number of faculty increased only by 4 (see Figure 13). The unmet demand of trained teachers offers opportunities for investments in vocational teacher training schools.

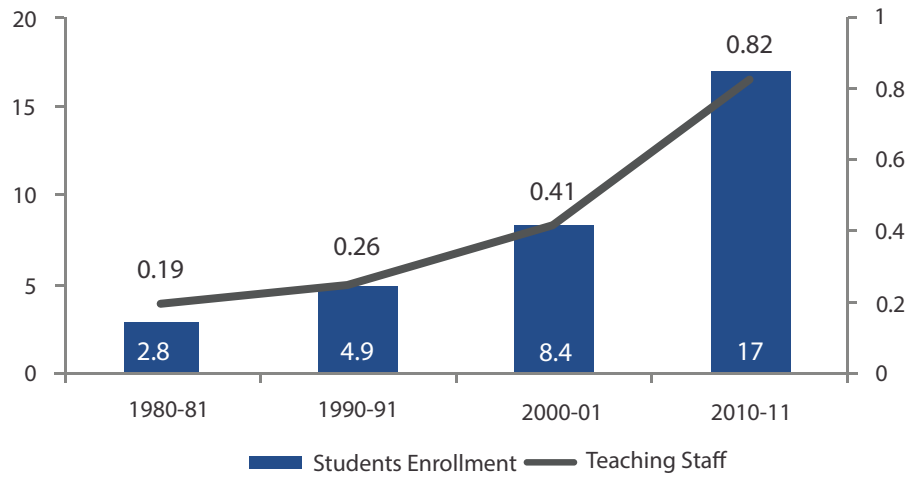


Figure 13: Faculty vs. Student Enrollment in Higher Education (in millions)

Sources: FICCI and E&Y 2012

Poor Quality of Education Delivery

The quality of education offered continues to remain a challenge for institutions in India. Despite the myriad of institutions in higher education, only 27% of the universities and 16% of the colleges are accredited by the National Assessment and Accreditation Council, reflecting questionable education quality at a majority of institutions. This can be improved through innovative content development, blended learning models and tutoring centers

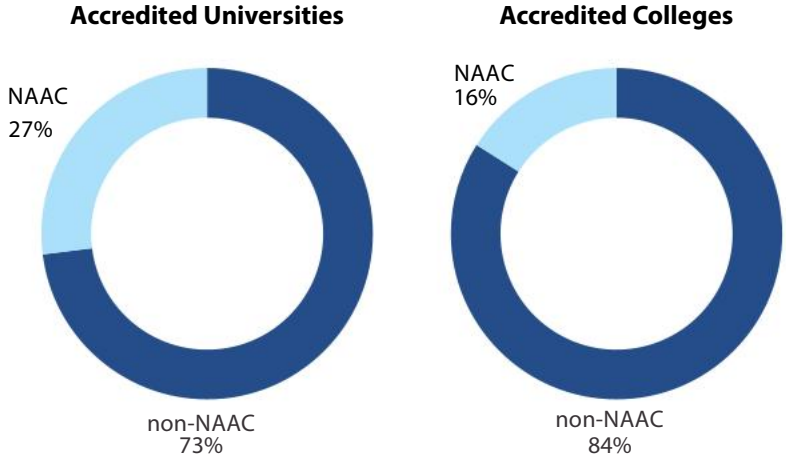


Figure 14: Low Proportion of Accredited Institutes

Source: KPMG Edge Report, 2012

Challenges in Employability

Despite India being demographically younger than its counterparts, 67% Indian employers face problems in filling available jobs, as seen in Figure 15. Curricula in most higher education institutes have not kept pace with the skills required by the industry. Thus, vocational training is essential to resolve this demand-supply quality mismatch, and is a critical segment for investors.

Percentage of employers facing difficulty in filling jobs



Figure 15: Large Proportion of Employers Facing Difficulty in Filling Jobs

Source: KPMG Edge Report, 2012

1.3.2 Access

Low Enrollment Ratio

Although India has managed a 100%+ gross enrollment ratio (GER) in primary education, enrollments plummet for higher levels of education, as shown in Figure 16.

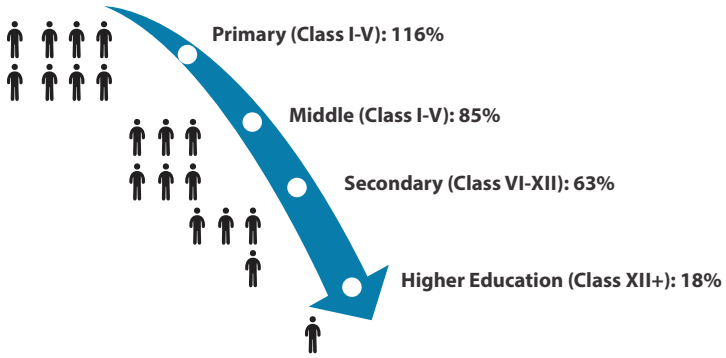


Figure 16: GER Across Various Levels

Source: DISE 2009-10, EY & FICCI Planning Commission Report, 2012

Only 60% of the students enrolled in primary school complete secondary education and 18% gain access to higher education. Further, the government has set a target to increase GER to 30% by adding 800 universities and 35,000 colleges. Limited access to schools/colleges may lead to education becoming further unaffordable to a large section of the population.

Lack of Government Funding for Capacity Development

Public expenditure on education is inefficiently managed by the government. 67% of the total budget of 2013-2014 accounted for unplanned expenditure. Unplanned expenditures are mainly maintenance and administration costs of existing institutions. Only 2.43% of the Indian government budget was directed towards capital expenditure.

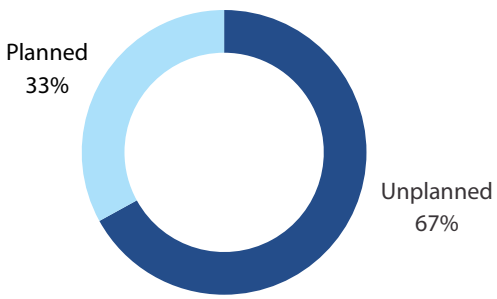


Figure 17: Public Expenditures on Education in 2013-2014

Source: Government of India Budget data, FY14

Rising Cost of Education

Households are spending a higher percentage of their income on education, up from 2.55% in 2008 to 7.5% in 2010 (Compared with 6.2% in China and 4.5% in Brazil). The cost of education has increased 5 times faster than the GDP per capita from 1999 to 2009, due to limited supply and a widespread willingness to pay. This presents a large opportunity for private players to meet the growing demand and facilitate access to quality education for lower and middle income households.

1.3.3 Relevance

The challenge of relevance in education rests in two areas: a) the process of instructing and learning, which signifies the value of knowledge today, and b) the process of creating value of knowledge/information for the future. Many education institutions are largely ignoring both these areas.

Outdated Curriculum

Schools and colleges fail to focus on developing cognitive skills that would enhance employability. College courses lack practical context and are not in tune with the dynamic nature of the workforce. The curriculum also limits a students knowledge for jobs like app developer, social media expert and market research data miner that did not exist earlier (Forbes Report, 2012).

To deal with the value of knowledge for the future, institutes should ensure the content is current and not static. Students should be able to translate their knowledge, attitude, skills and values into action.

From	To
Fragmented curricula	Integrated curricula
Specialized subjects	Learning areas
Content defined as knowledge	Development of skills and competencies
Centralized curricula	Diversification: regional and local curricula

Figure 18: Enhancing Relevance of Education

Source: UNESCO Education Research and Foresight Paper, 2011

1.4 Impact of Trends in Resolving Challenges

	Challenges		
	Quality	Cost	Access
Individualization	↑	↑	-
Massification	↓	↓	↑
Collaboration	↑	↓	↑
Convergence	-	↓	↑
Total Impact	↑	↓	↑

Table 2: Impact of Trends in Resolving Challenges

The trends of individualization, massification, collaboration and convergence will, in combination, gradually resolve the challenges of quality, access and relevance in the Indian education sector

As shown in Table 2, massification offers low quality education accessible to all but the dual impact of individualization and collaboration improves the overall quality available to the masses. Similarly, catering to individual learning needs is very expensive but technology has reduced overall costs, by enabling masses to collaborate and cater to each other's individual learning needs. Companies with business models that incorporate these trends are bound to become future market leaders and game-changers.

1.5 Regulation of Education in India - A High Level Perspective

The Core segment (K-12 and higher education) is largely regulated, while Parallel (Vocational, Tutoring, etc) and Ancillary segments (Multimedia and ICT, Online and Social Learning, Stationery, etc.) are unregulated.

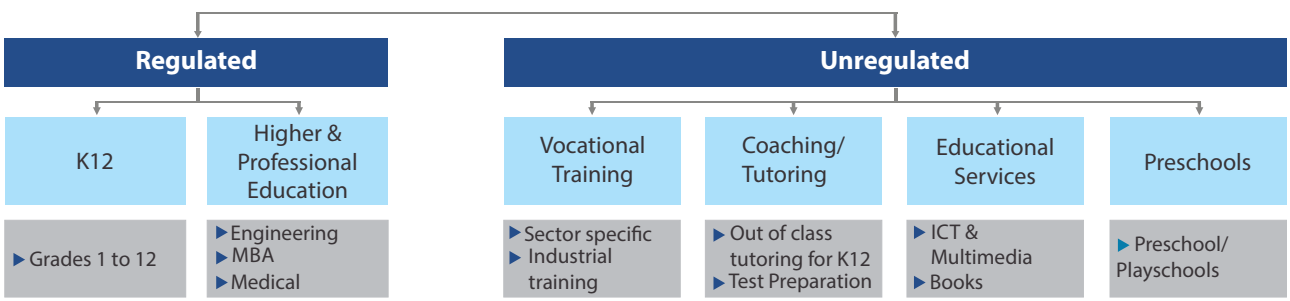


Figure 19: Key Legal and Regulatory Factors & Framework

Source: IDFC Education Report, January 2009; CLSA Education Sector Report, March 2008

Education regulation exists at the central and state levels, differing across states. The Ministry of Human Resource Development (MHRD) is the nodal regulatory body overseeing the Department of School Education and Literacy and the Department of higher education.

All institutions require recognition from their respective state authorities, without which they cannot commence operations. The Government, as the regulator of K-12 and higher education institutions, has five major functions including entry, accreditation, disbursement, affirmative action and licensing. As shown in Figure 20, all sectors except preschools, K-12 and private professional colleges face no regulatory control over profits or fees.

Key Regulatory Issues around Indian Education

Segment	Profit making Allowed?	Regulatory body?	Fee control	Market size (USD $ m)
Preschools	Ambiguous; "reasonable surplus" not defined	No	Ambiguous	985
K-12	Ambiguous; "reasonable surplus" not defined	No	Ambiguous	19,655
Text Prep	Yes	NA	No	1,664
Private professional colleges	Yes	Yes	Partly regulated	7,054
IT- Training-Retail	Yes	NA	No	187
IT- Training-Corporate	Yes	NA	No	38
E-Learning-Retail	Yes	NA	No	14
E-Learning-Corporate	Yes	NA	No	13
Tutoring	Yes	NA	No	5,351
Service Training	Yes	NA	No	1,365
Child skill enhancement	Yes	NA	No	777
Teaching training	Yes	NA	No	15
IT/BPO finishing school	Yes	NA	No	27
Educational Books	Yes	Yes, books follow set curriculum from boards	No	2,965
Educational Stationery	Yes	NA	No	1,326

Table 20: Summary of Regulations in Education Sector

Source: CLSA Asia-Pacific Markets, Discussions with professionals in education industry

Under the Indian Foreign Direct Investment (FDI) policy, 100% FDI in education or research is permitted under the automatic route, since the education sector is not included in the list of industries with investment restrictions. Regulated schools and colleges must be registered as a Trust, Society or Section 25 company (non-profit and tax exempt under the Indian tax law).

K-12 Regulations

All K-12 schools require a no-objection certificate (NOC)/certificate of recommendation from the State Government. K-12 schools can be accredited either by the state boards or by center, through the Central Board of Secondary Education (CBSE) or the Indian Certificate of Secondary Education (ICSE) boards, or by international boards such as the International Baccalaureate (IB). The National Council of Educational Research and Training (NCERT) advises the Central and State Governments on K-12 policy implementation.

Private schools could be established under a 2-tier structure wherein the 1st Tier, a Trust/Society/Section 25 Company, hires goods and services, such as land, school management and equipment providers, from the 2nd tier third-party companies.

The Government is also using the 2-tiered structure to encourage private partnerships, such as Build Own Operate Transfer (BOOT) in public schools and colleges where Government owned land is leased to private players at highly concessional rates. Other partnership models are summarized below:

Option	Asset Ownership	O&M	Capital Investment	Commercial Risk	Duration
Management Contract	Public	Private	Public	Public	3-5 Years
Lease	Public	Private	Public	Shared	8-15 Years
Concession (BOT)	Public	Private	Private	Private	25-30 Years
BOOT/BOO	Private/Public	Private	Private	Private	20-30 Years

Table 21: Summary of PPP Options

Source:EY-FICCI Education Report

Regulation in Higher Education

The higher education segment is more regulated than the K-12 Segment and the need to own physical infrastructure is a key challenge from a regulatory perspective. Universities, Colleges and Deemed Universities are some of the different types of higher education institutions in India.

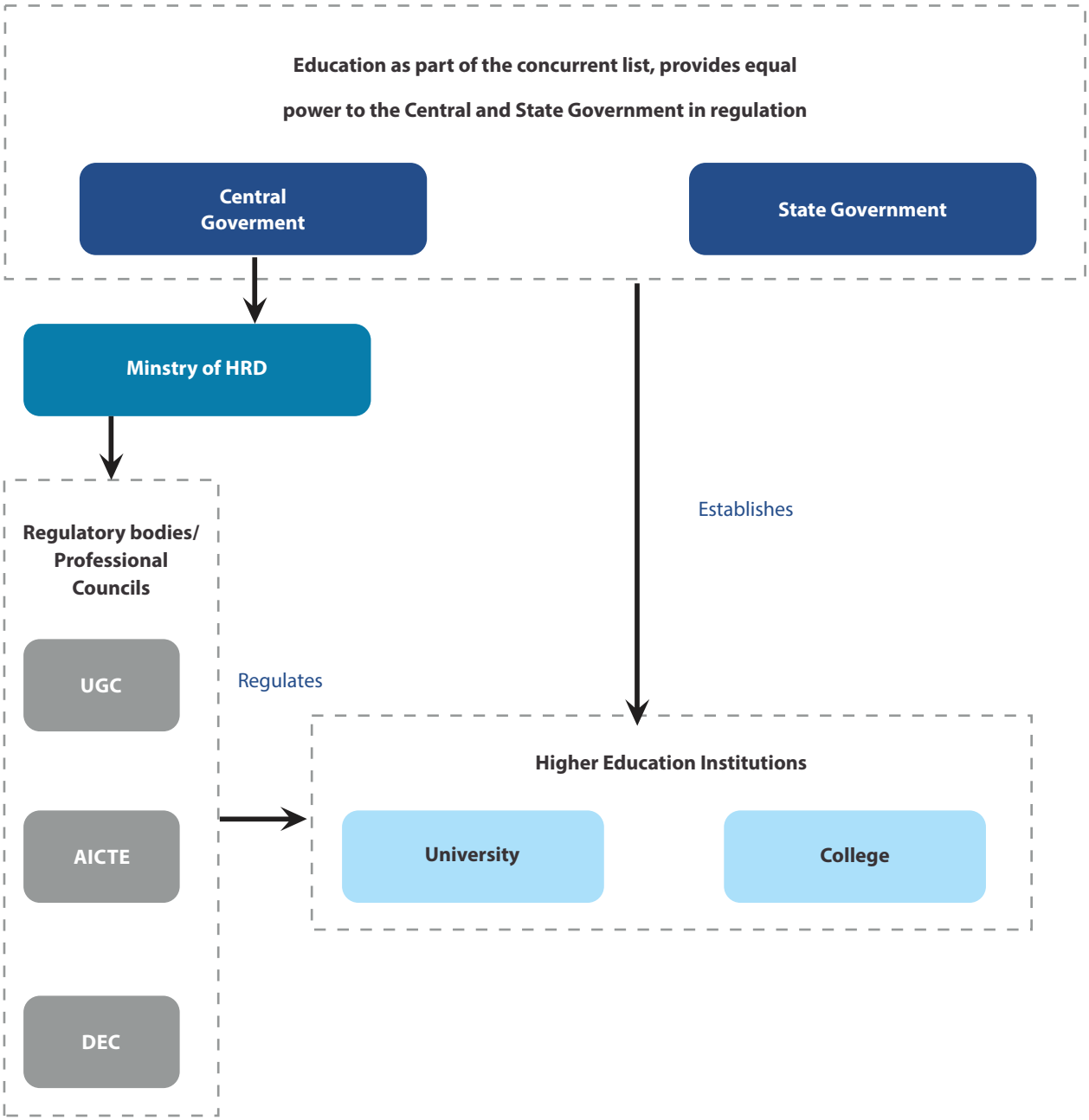


Figure 22: Regulation in Higher Education

All universities and deemed universities are established under State and Central Acts in the Parliament and are regulated by the University Grants Commission (UGC) for bachelor's or post-graduate degrees & diplomas courses of one year or greater. Both the UGC and the All India Council (AIC) regulate the technical education colleges:

• University Grants Commission (UGC) Act, 1956

UGC frames regulations, recognizes universities and ensures minimum standards for teaching, examination and research. While it is the only grant-giving agency in India for universities and colleges, it does not disburse grants to deemed universities

• All India Council for Technical Education (AICTE) Act, 1987.

AICTE regulates the staff and infrastructure recruitments, fee structures and admission processes for technical education with fields such as engineering, architecture, town planning, management, and pharmacy falling under its purview. It approves the set up of all degree/diploma-awarding institutions, introduction of new courses, and increase in student intake regardless of their funding sources.

	Private Universities	Private Deemed Univ.	Private & Govt-Aided Techical Edu. Colleges	Non-Techinal Education Affiliated Degree Colleges	Non-Technical Education (Independent) Diploma/Certificate Colleges
Autonomy in Fees & Structure	Y	Y	N	N	Y
Curriculum/ Examination Autonomy	Y	Y	N	Y (if granted autonomous status)	Y
Degree-granting powers	Y	Y	Y (if affiliated to university)	Y	N
College-Affiliating powers	Y	N	N	N	N
Regulator	UGC	UGC	AICTE	UGC	None

Table 23: Regulatory Measures Across Private Higher Education Institutions

Deemed universities are denied the right to affiliate colleges. Authorities intend to remove this category of institutions due to revelation of management malpractices.

Degree-granting colleges affiliated to universities have autonomy in the admissions process, but must follow the fee, examination, curriculum standards of the university. Diploma granting colleges, not affiliated to a university, can autonomously set fees and examinations.

Tuition fees at technical education colleges cover all costs of operating the institution. Additional development fees, fixed by AICTE/UGC and reviewed every 3 years, are charged to cover expansion and maintenance costs. Colleges that offer diplomas and certifications in non-technical areas are unregulated and organized as private limited companies with the ability to repatriate profits

	K-12	HEI
Regulator Body	No	Yes
Two Tier Structuring to Enable Profits	Optional	Yes
Fee Control	Partial	In goverment aided & degree institutions
Decoupling of Physical & Soft Investments allowed	Yes	No

Table 24: Summary of Regulations in Core Education

Recent Developments

The Government of India is attempting to aggressively overhaul the education system in India. Key indications include:

• Introduction of Foreign Educational Institutions (FEI) Entry Bill [12]
Approximately 200,000 students from India leave each year to study abroad, at a cumulative cost of US$13 billion. The FEI bill encourages foreign universities to invest adequately to set up their own campuses in India. However, franchisees from foreign universities are not permitted. Key aspects of the bill are:

- FEIs must acquire deemed university status from UGC to commence operations
- Institutions must maintain a minimum corpus of US$1.7 million (INR 10 crores) and implement prescribed admission quota
- Universities must utilize 75% of their income to further develop institutions in India and deposit 25% in their corpus fund

- **Foreign Curriculum Partnerships:** Recognizing the capacity constraint in higher education and rising foreign education spend of Indian students; the Government has permitted foreign players to establish a curriculum partnership in India via twinning programs. The Indian partner develops a major part of the curriculum while the domestic students get an opportunity to spend their final one/two years at the partner school abroad. Such programs offer a quality overseas degree and international exposure at a reduced cost and attract a much larger student base.
- **Public Private Partnership (PPP) Models:** The Central government announced the allocation of US$48.8 billion budget for PPPs in education during the 12th five-year plan (2012 - 2017) for 2,500 model schools with a capacity of 6.5 million students. Private participation will also increase in the parallel sector with 250,000 vocational schools expected to be setup under the PPP model over the next five years. The government realizes that private, for-profit participation helps achieve the objective of education for all in India at a faster pace.

2 Core Segment

2.1 K-12

At US$24 billion annual private spend, K-12 is the largest subsegment and it is growing at a CAGR of 11%. Serving a population base of approximately 359 million children in the age group of 5 to 19 years, K-12 schools differentiate themselves through affiliations to curricula and assessments such as State Boards (e.g., SSC), Central Boards (ICSE/CBSE) and International Boards (IGCSE/IB).

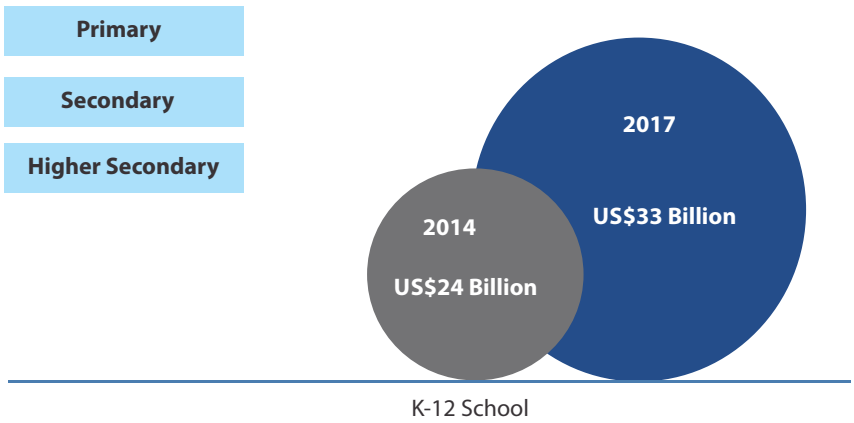


Figure 25: K-12 Market Size

Largest Network of Schools with the Poorest Quality Globally

India has one of the largest networks of schools in the world with over 1.3 million schools, which is thrice the number in China and almost 10 times that in USA (see figure below). With 100% primary enrollment and 60% secondary enrollment, finding quality schooling is a far greater challenge for parents than access to a school.

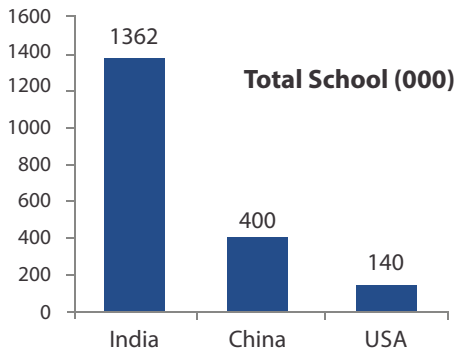


Figure 26: Comparison of Number of Schools in Different Countries

India has failed to deliver quality education compared to other countries. As shown in the table below, Indian students perform poorly on domestic and international assessments compared to their counterparts globally.

Study	Findings
OECG's Programe for International Student assesment (2012)	Indian 8th grader have math skills comparable to South Korean 3rd grader
PISA 2009	India ranked 2nd to last out of 75 countries. China has surged to 1st rank. Tamil Nadu and Himachal Pradesh, are better education performers than most Indian states, which were chosen for this survey
Trends in Mathematics & Science, DAS & Zajonc (2008)	Indices on mathematics performance found in Orissa and Rajasthan near the bottom of global ranking
Educational Initiatives Study	Indian students performed stunningly lower. 30% proficiency versus 70% globally
The APRest study led by Karthik Muralidharan & Venkatesh Sundararaman	Slow rates of learning progress in grade 2 to 5 in Andhra Pradesh
ASER (2010 2009) study supported by Pratham	Significant percentage of 8th graders cannot master 2nd grade curricular basics. In rular areas nationalwide, a third of 8th graders could not do simple division and almost 20 percent could not read a 2nd text

Table 3: India's Performance at Domestic and International Assessments Survey

Source: Kaizen research

Preference for Private Schools Due to Poor Quality in Government Schools

Although free government schools drive enrollment, they suffer from high attrition due to barriers shown in the table below. While private schools suffer from constraints such as inadequate infrastructure and high cost, they have been able to drive growth by focusing their resources on teaching and maintaining a high quality of education delivered.

Option	Drivers	Barriers
Goverment School	• Free education • Schemes for low income families • All schools are recognised. Hence, students can sit for board examinations	• Poor quality of education due to lack of teacher accountability and insufficient infrastructure/manpower • Inaccessibility as school are located at central locations
Private School	• Perceived to impart high quality of education (i.e. use of English & high teacher accountability) • Easy accessibility & choice	• School fees equals > 10% of household income (i.e. INR 700 per month)

Table 4: Drivers and Barriers for Government and Private Schools

Hence, parents choose private schools for their children over free government schools. As a result, a private school has almost twice as many students as a government school.

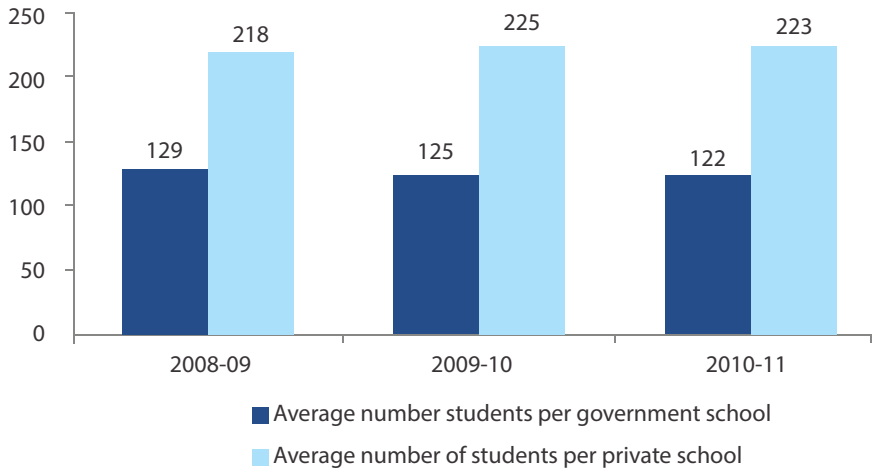


Figure 27: Average Number of Students in Government and Private Schools

Source: DISE statistics. Kaizen Analysis

Government Encouraging Private Participation in K-12 Segment

K-10 education is the government's immediate priority in the education sector, as reflected through record allocation to the Sarva Shiksha Abhiyan (K-7th grade) under the current budget and the 12th five-year plan. Under the 2014-15 Budget, the Right to Education (RTE) - Sarva Shiksha Abhiyan (SSA) received US$4.7 billion (INR 28,635 crores) allocation while Rashtriya Madhyamik Shiksha Abhiyan (8th-10th) received US$826 million (INR 4,966 crores). The government has emphasized the importance of delivering quality education through various Public Private Partnership (PPP) models. The figure below summarizes five different PPP models in operation/under consideration by the Central and State Governments:

Type of PPP arrangement	Finance: expenditure	Finance: revenue	Provision and monitoring
Model Schools	Facilities: The GoI provides a capital incentive payable over a few anual instalments through an escrow account Land for the school would be provided on lease at a concessional rate by the state goverment, or the private partner would be free to purchase suitable land fot it own.	50 per cent of seats in each school would be filled through sponsorship by the GoI from among the socio-economically disadvantaged students. GoI would provide a per capita recuring grant equal to the actual per capita cost incurred by the goverment in running similar goverment schools.	The release of the amount would be triggered through certification by an independent agency on achieving pre-determined performance standards.
Goverment- aided Schools	Facilities: The private partner sets up the school and bears the entire capital cost of land and building infrastructure Payroll: Some state goverments also partially or fully provides the non-salary recurring cost of the school based on certain noms.	Fees: School fee is regulated and is generally equal to the fee prevailing in the government schools. It is the general practice for the school management to charge a separate monthly fee from the students, but such charges may not be fully transparent.	Private partner appoints & manages teaching and non-teaching staff. Payment to such schools is not performance-linked. Once the school obtains the aided status, it continues indefinitely without reference to the number of students in the school, attendance of students and teachers or performance of students.
Residential schools in Andhra Pradesh	Facilities: Land is provided free of cost by the state government on a long-term lease. Private partner bears the entire non-recurring cost of construction, school buildings and school facilities.	75 per cent of the seats in the school would be reserved for students sponsored by the state government, for which the state would pay the recurring cost. The remaining 25 per cent of the seats will be filled by the management quota.	Private partner appoints and manages teaching and non-teaching staff.
Adarsh schools in Punjab	Facilities: The land would be given on a 99-year lease to the private partner by the government. 50 per cent of the capital cost would also be provided by the state government.	The operational cost of the school would be shared on 70:30 basis between the state government and the private partner.	There would be a two-tier management structure at state and school level.
Schools in Rajasthan	The private partner will bear the entire capital cost up front. State government would provide a capital incentive in installments.	The state reimburses a part of the recurring cost for the sponsored students through vouchers. 50 per cent of places in each school would be reserved for students sponsored by the state government.	

Table 5: PPP Models in K-12 Education

2.1.1 Trends

Declining Student Enrollment in Government Schools vs. Growing Private Enrollment

Private enrollment has steadily grown from 54.5 million or 29% of total students in 2009 to 59 million or 31% in 2011. It averages about 62.8% in India's urban areas and 22.7% in rural areas.

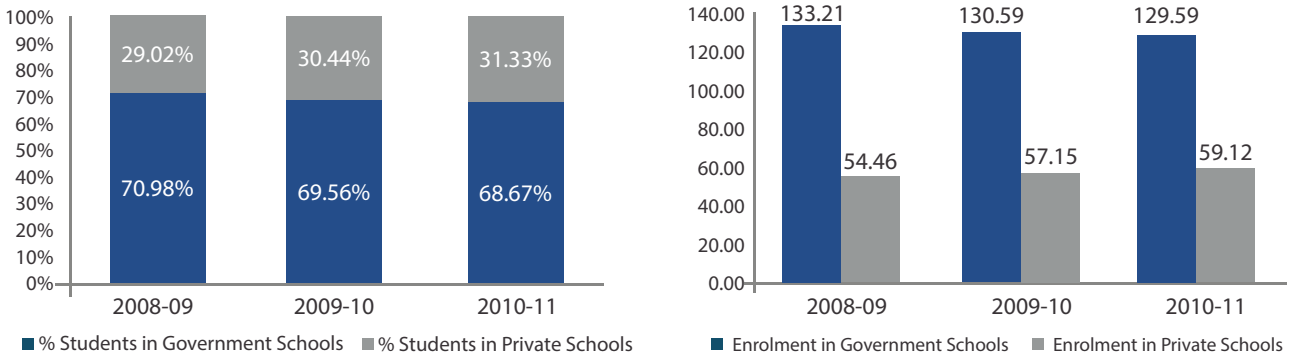


Figure 28: Growth of Private Schools since 2009

Source: DISE Statistics, Kaizen Analysis

These private enrollment growth rates are easily explained: India's public schools are ineffective, demonstrated by their low retention rates. For the past five years, while India's population has been growing at about 1.4% per annum, government primary schools have been losing between 1 and 2 million students yearly.

Growing Parents' Willingness to Spend

Parents have demonstrated their willingness to pay for private education. Household expenditure data between 2003 and 2008 shows that parents have increased education expenditure proportionally with income, averaging 8% yearly growth.

2.1.2 Market Assessment

In terms of the market opportunity, K-12 can be classified into the following:

- State board schools (SSC)
- The Central Board Schools (CBSE/ICSE)
- International Board Schools (IB/IGCSE)

The market segments for each of the boards have become distinctive. While the international boards have catered to a niche, wealthy segment of the society, CBSE and State boards schools primarily cater to the middle class. Scalability for International Board Schools is limited as a small population can afford them while the state board schools do not transcend state boundaries (see Table 6). The highest opportunity to scale and generate value is through English medium, CBSE schools catering to the mid-market segment. There is high willingness to pay for quality English education.

Segment-Private K-12	# of private schools	Avg. Fees (INR '000)	Scalability	Investment
State Board Schools	235,700	10	Medium	Medium
CBSE/ICSE	14,000	25	High	Medium
International Schools	300	100	Low	High

Table 6: Market Assessment of K-12 Subsegment

The success for K-12 ventures is highly dependent on the leadership of each school coupled with a philosophy of continuous learning driven by outcomes. Technology, infrastructure and faculty can also act as key differentiators.

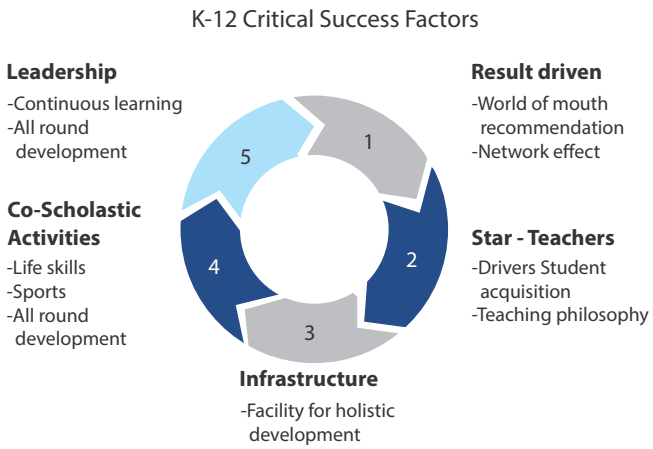


Figure 29: Critical Success Factors for K-12

2.2 Higher Education

At US$11 billion, higher education is the second largest subsegment expected to grow at a CAGR of 13%. Population data indicates that India has approximately 128 million people in the age group of 19 to 24 years, which forms the target population for this segment. This segment included 33,023 colleges and 634 universities in 2011.

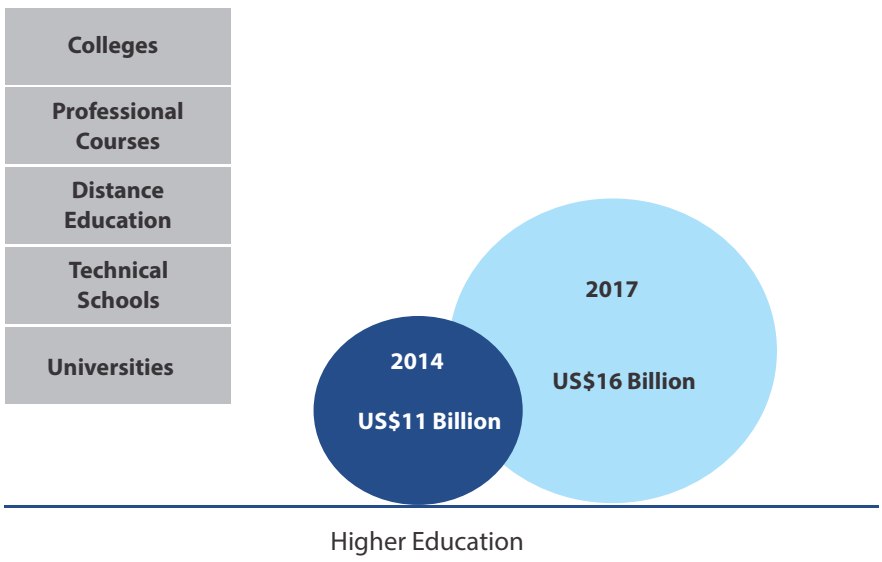


Figure 30: Higher Education Market Size

Capacity Shortage in Colleges

Due to limited government and private investments, the higher education market is grossly under supplied. Although the target population is an estimated 128 million (between the ages 19 and 24), the government figures indicate that only 24 million students were enrolled in such institutes in 2011. The huge demand is creating a capacity constraint leading to US$13 billion education spend outside the country.

The Indian government has set a target of achieving a 30% gross enrollment ratio (GER) in the higher education sector by 2020, up from 18%, which is an incremental enrollment of 40 million students (Figure 31). Government can provide limited funding; hence, it is encouraging the private sector investment to propel growth in higher education.

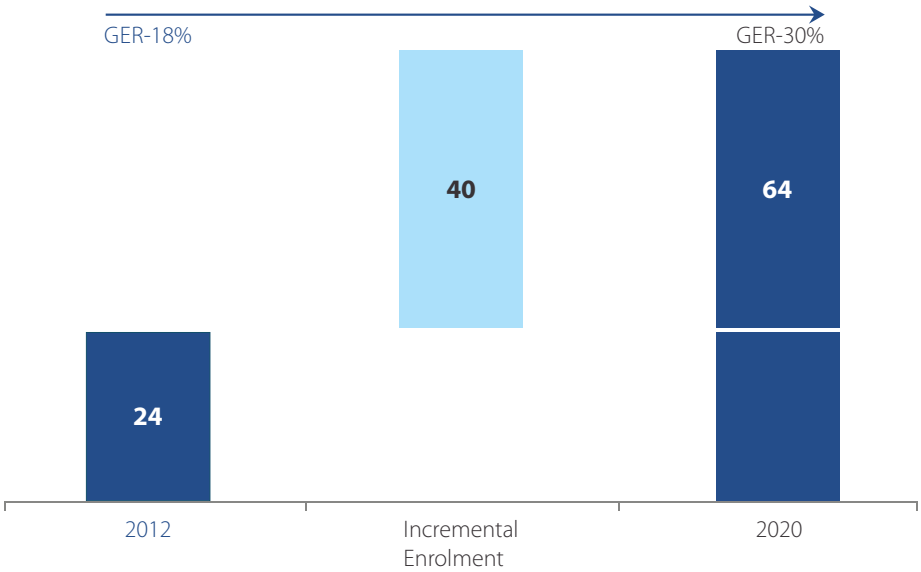


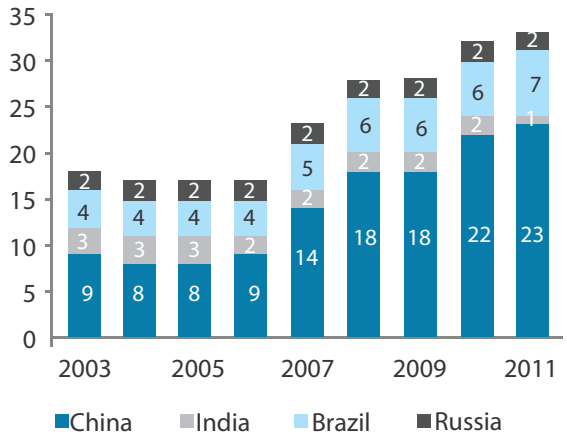
Figure 31: Incremental Student Enrollment (in millions)

Average Performance of the Indian Institutes Compared to its Global Peers

The Academic Ranking of World Universities (ARWU) 2012 or the Shanghai Rankings released in 2011, reflects the poor quality education that pervades all universities and colleges in India. While other BRIC countries have risen in the ranking, two of the three Indian universities have fallen out of the ranking. The recent QS Rankings in 2012 had no Indian university in World top 200.

As shown in the ARWU and UGC reports below, lack of enabling regulations, inadequate funding and infrastructure and shortage of faculty need to be overcome to create academic excellence. Implementing quality management systems in universities and more PPP's will be beneficial to improve rankings in the global scenario.

Top universities in the BRIC countries 14



Sourch: ARWU 2003-2011

Figure 32: Low Number of Top Universities in India

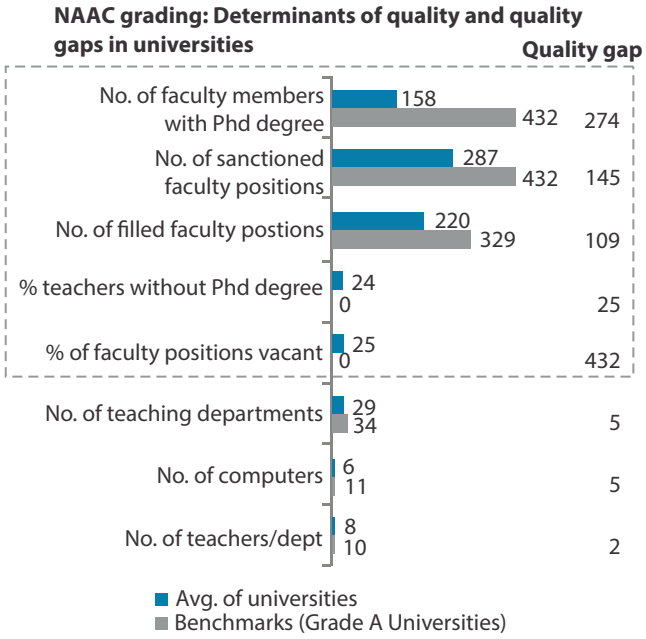


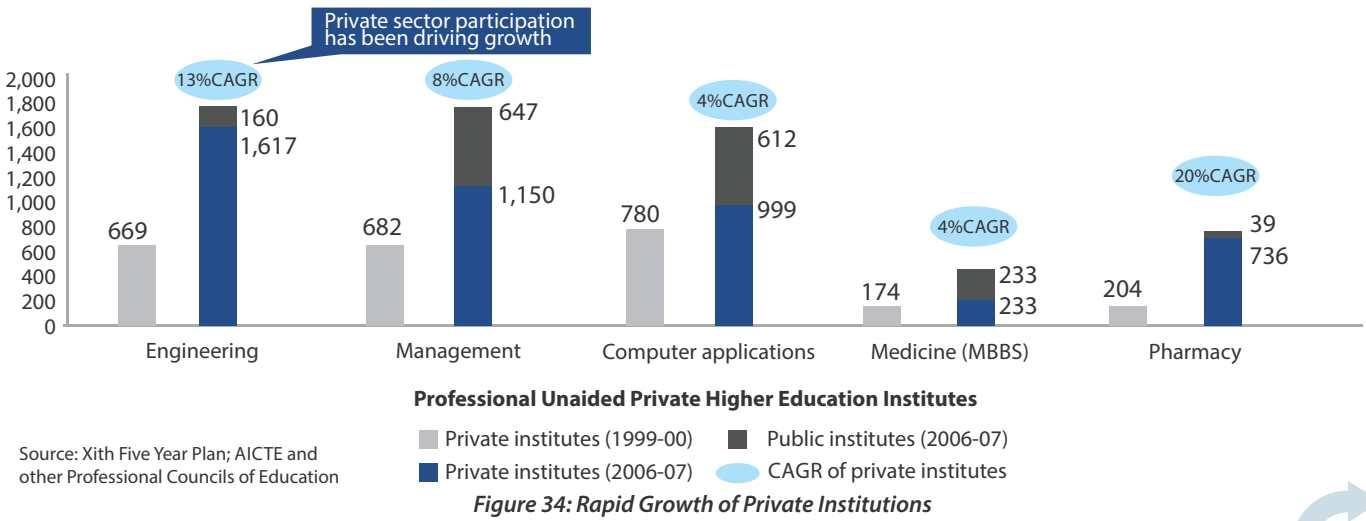
Figure 33: NAAC Grading for Higher Education

Source: UGC Report, 2008, UNESCO Institute of statistics and E&Y Edge 2011 Report

2.2.1 Trends

Privatization

Due to recent Government reforms, the private sector has driven the growth in Indian higher education over the past decade (see Figure 34). The private segment currently accounts for more than a third of overall enrollment and about 80% of enrollments in professional and technical education.



Source: Xith Five Year Plan; AICTE and other Professional Councils of Education

Figure 34: Rapid Growth of Private Institutions

Successful privatization instances include Manipal University, Indian School of Business (ISB), Lovely Professional University (LPU) and Amity University. Private players are attracted to this sector due to healthy margins. The table below lists recent higher education initiatives of large conglomerates.

Entity	Corporate Group
Vedanta University	Vedanta Resource Plc
Proposed multidisciplinary university in Noida	HCL Technologies
Institute of Infrastructure Management	Adani Group
Hero University	Hero Group
Proposed multidisciplinary university in Noida	Reliance Industries Limited

Table 7: Major Corporate Higher Education Initiatives

Source: Kaizen research

Vocationalization

As a demographically young country, India faces a staggering challenge of skilling 500 million people over the next decade. As a result, vocational courses leading to specific careers have become increasingly popular as an alternative to traditional higher education and are developed in partnership with the industry.

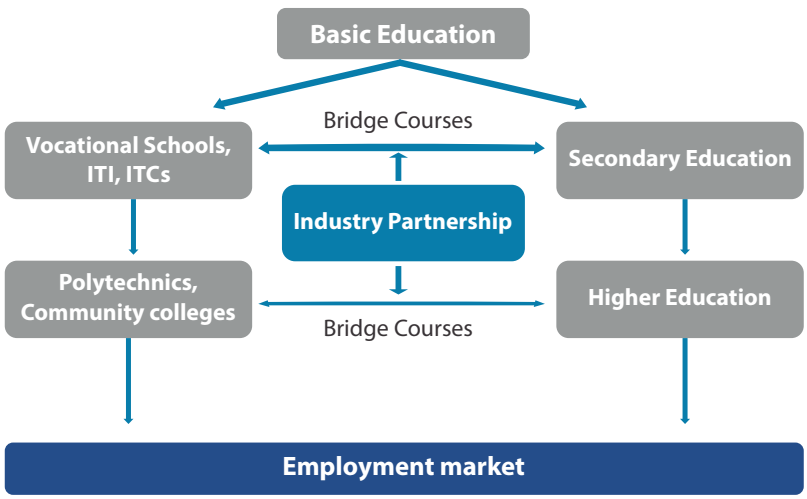


Figure 35: Vocationalization of Higher Education

Vocational courses include degree/diploma programs in industry-specific or functional areas like Hospitality, Retail, Aviation, Media, BFSI, Marketing, Sales, and Customer Service.

High demand has attracted many private players to introduce such courses in their portfolio. For example, Amity University offers 39 vocation-based courses while Manipal offers more than 20 such courses.

	Manipal	Amity	Symbiosis	ICFAI	Annamalai
IT	✓	✓	✓	✓	✓
BFSI	✓	✓	✓	✓	✓
Retail		✓		✓	✓
Aviation	✓			✓	
Hospitality	✓	✓		✓	✓
Media	✓	✓	✓	✓	✓
Functional*		✓	✓	✓	✓

Table 8: Cross-domain Expertise in Higher Education Institutions

Source: FICCI & EY

Growing Oversupply of Professional Programs

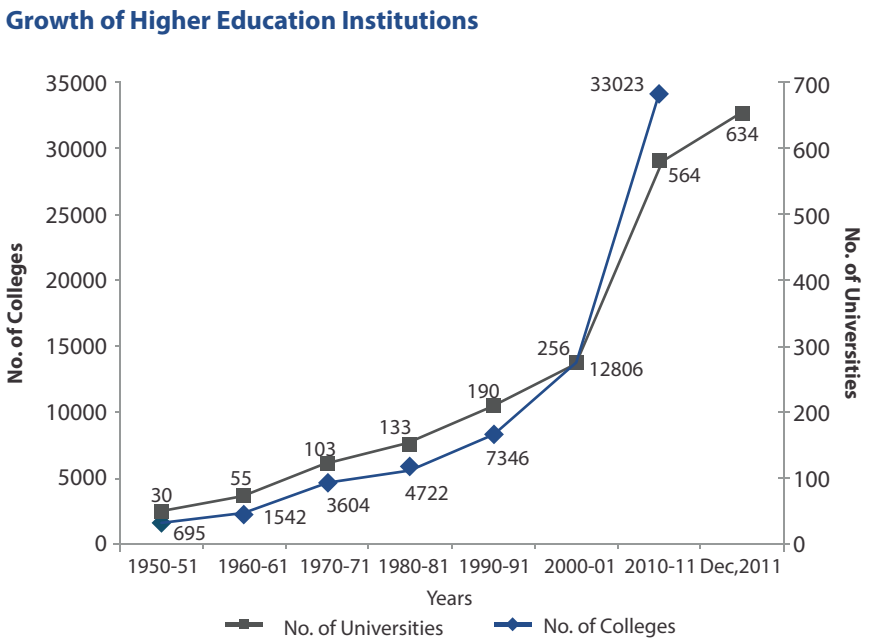


Figure 36: Growth of Higher Education Institutions in last 60 years

Source: HRD Ministry, 2011

As evident in Figure 36, the number of colleges nearly tripled from 12,806 in 2000-01 to 33,023 in 2010-2011, while the number of universities more than doubled from 256 to 564. However, the supply mix of institutions (i.e. type of courses by industry and function) has not kept up with industry skill requirements. As per the All India Council for Technical Education (AICTE) report, nearly 20% seats were vacant at engineering and management institutions, due to an oversupply of these institutions. This may lead to consolidation in over-supplied segments and rapid organic growth in underserved segments.

2.2.2 Market Assessment

Certificate, diploma and skills-driven colleges are more attractive to private-investors as there is no regulatory body to determine the fees, curriculum and course design, student admissions, academic infrastructure and academic processes. There is high demand for professional courses, such as hotel management, nursing, design, media and entertainment, etc., which lead to employment in related industries/functions. The table below summarizes the attractiveness of various courses based on ROI for students, skill gap and competition. Design and Media programs are the most attractive due to high student ROI and willingness to pay combined with low competition.

Course	Student ROI(X)	Avg. Fees (INR '000)#	Competition
Design	1.5x	120	Low
Media	1.8x	100	Low
Architecture	1.4x	100	High
Engineering	2.0x	80	High
Healthcare and Pharmacy	1.7x	80	Medium
Hospitality	1.4x	80	Medium
Management	1.4x	100	High

Table 9: Market Assessment of Higher Education Subsegment

- Fees in private colleges

Faculty remains the most significant facilitator in an institute. Focus on research and development, modular infrastructure and connectivity on campus are other traditional factors that determine world-class academic repute. Academia-industry collaboration in curriculum development and placement processes in order to boost student employability levels have become important success factors.

Academic excellence—which helps improve rankings—and branding efforts are essential to build mindshare among target population, position alumni as advocates, and improve capacity utilization in this competitive environment. Finally, technology deployment such as online classrooms and laboratories is critical to rapidly scale higher education and make it affordable for India's large underserved population.

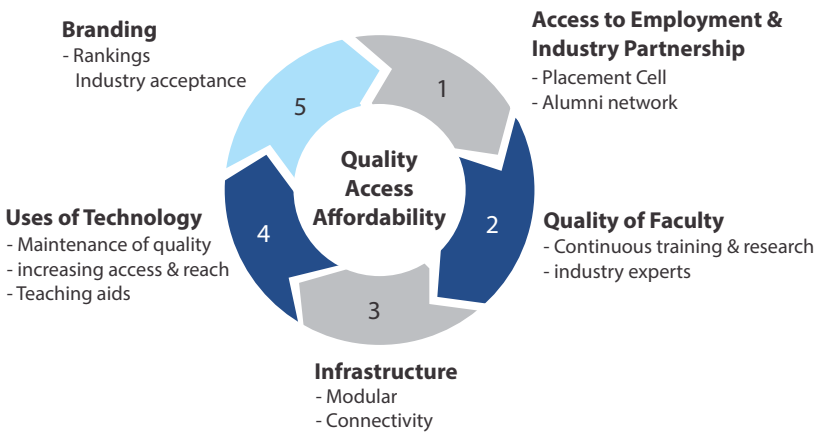


Figure 37: Critical Success Factors for HE

3 Parallel Segment

3.1 Preschool and Childcare

With a market size of US$1.18 billion, India has the highest number of pre-school children enrolled globally. Although enrolment has expanded from 1% to more than 50% in 20 years, demand for preschool and childcare will continue to grow at around 30% CAGR to reach USUS$2.6 billion in 2017, due to an increasing number of nuclear families and growing proportion of working women. Number of female university graduates is nearly the same as men and women's participation in private sector jobs has increased from 14% in 1971 to 26% in 2001[18].

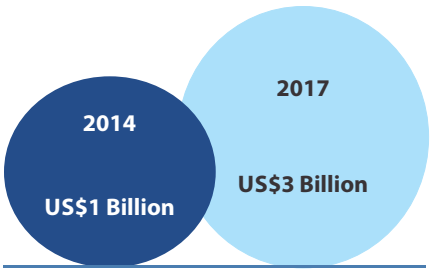


Figure 38: Preschool and Childcare Market Size Growth

Awareness of Early Childhood Care and Education

There has been an increase in awareness relating to early childhood education (ECCE) among parents. Parents now question the curriculum and learning methodology at preschools and childcare centers. There is an increased focus on the ECCE programs which:

a) offer health and nutrition services that promote physical health and
b) contribute to intellectual and social development thus, reducing dropout rates and improving the child's performance.

The government has also taken active steps in recent years. For instance, the Ministry of Women and Child Development has recently proposed a "National ECCE Policy" that will establish the curriculum, quality standards, and an apex body as the regulator.

Competitive Market

The preschool and childcare subsegment is highly fragmented and competitive. Several non-organized players operate out of single centers without any standardized curriculum. Most of the organized players have consistent offering in terms of infrastructure, play area, books, curriculum, etc. Parents prefer organized schools with a standard quality of learning methodology.

3.1.1 Trends

Geographic Expansion

Previously limited to the metros, the preschool market is starting to reach tier 2 and 3 cities. Preschools in these cities benefit from lower rents and operation costs as well as better infrastructure facilities. Geographic expansion of the preschool business reflects an increase in demand and revenues, thereby ensuring a healthy growth for the sector.

Expansion to K-12 School Segment

The main preschool players are investing in building K-12 schools, to gain better opportunities to scale and have a longer duration of customer retention (as seen in Table 10).

Players	# Of preschool centers	# Of K-12 schools
Kidzee	900	62
Eurokids	884	17
Kangaroo Kids	122	17
TreeHouse	411	14

Table 10: Expansion to K-10 segment
Source: Kaizen research

3.1.2 Market Assessment

Preschools go beyond basic childcare and learning and are increasingly adopting innovative curriculum, educational tools, and toys. However, quality is also constrained by a shortage of qualified teachers and caretakers. There are minimal regulatory challenges for the preschool segment. Both preschool and childcare centers are promising in terms of scalability and ROI.

Type	Revenue/Student (INR Annual)	EBITDA/Student (INR Annual)	Capacity/Center
Pre schools	30,000	12,500	160
Child care	90,000	25,000	100

Table 11: Market Assessment of Preschool and Childcare Subsegment

High quality delivery supported by trained teachers and educational toys are the primary prerequisite for preschool education. Word of mouth recommendation and brand building drive the student acquisition. To enjoy sustainable healthy growth, companies must overcome the revenue ceiling in preschool education by improving the asset utilization.

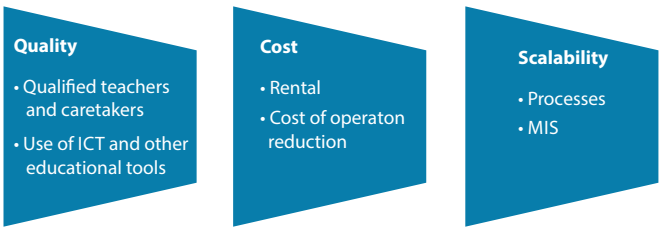


Figure 39: Critical Success Factors for Preschool and Childcare

3.2 Tutoring/Test preparation

Tutoring, the largest segment in parallel education is expected to grow at a CAGR of 15% from US$11 billion in 2014 to US$16 billion in 2017, while test preparation will grow from US$2 billion to US$4 billion at a CAGR of 25% during the same period. Both tutoring and test preparation segments demonstrate students' willingness to pay for quality education and prepare for competitive examinations, whether it is to pass the 10th and 12th grades or to enter the graduate programs.

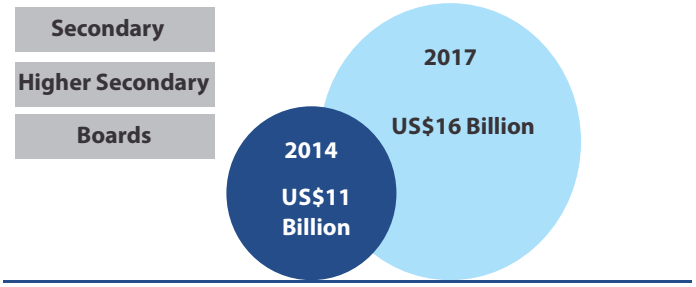


Figure 40: Tutoring Market Size Growth

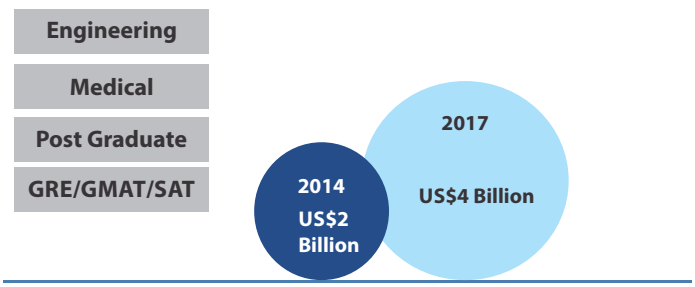


Figure 41: Test Preparation Market Size Growth

High Demand & Willingness to Pay for Results Driven Education

Poor quality teaching in full-time school drives the demand for additional classroom training through tutorials and test preparation centres. Due to a lack of regulation, tutorial and test preparation fees are proportionately higher than regulated fees charged in full-time schools. However, the high fees also illustrate both parents/students willingness to pay for quality education and talented teachers.

Usage of Online Platform

Tutoring and Test prep companies have integrated brick and mortar centers with online tuition web portals, tablet devices and Very Small Aperture Terminal (VSAT) based technology. Leading test preparation companies use an online and VSAT technology supported model to enable every student to access the star-teacher, teaching methods, and superior content. The online medium customizes education as per individual needs and provides access to relatively more students, while maintaining affordability.

3.2.1 Trends

Standardization of Tests

The academic curriculum for K-12 and HE across India is undergoing a significant change. For example,

a) there were multiple entrance tests for under graduate engineering colleges, such as IIT-JEE for entrance in IITs, AIEEE for National Institute of Technology (NITs) and Regional Engineering colleges (RECs) and State CETs for admission into state engineering colleges. After the recent amendment by the HRD ministry, a common entrance test was created that was standard admissions into all types of engineering colleges.

b) Public Sector Units (PSUs) and Post graduate engineering colleges have also integrated their various admission tests to create the Graduate Aptitude Technical Examination (GATE).

c) Out of the 32 state-level education boards, 19 boards had adopted a common syllabus that showed the emergence of the common curriculum.

Standardization of tests allowed the leading tutorial and test preparation companies to rapidly scale up nationally through organic and inorganic growth strategies. Recent private investments in the sector includes Tata Consultancy Services (TCS) with a US$5 million contract to conduct the Combined Aptitute Test (CAT) examinations for the Indian Institutes of Management (IIMs).

Diversification

Due to the limited market size and localization of the tutoring/test preparation business, the highly competitive landscape forced these companies to diversify to other parallel and core education segments, in order to monetize the synergies between the businesses (see Figure 42). For instance, K-12 schools are feeder for tutorial and test-preparation companies while the latter acts as a feeder for under-graduate and graduate schools. These companies could transfer their strengths in attracting top teaching talent and deploying online platforms to the core education segments, thus improving quality, access and accountability in higher education and K-12 segments.

Perceiving improved market potential and a more sustainable business model, several leading test preparation companies listed in the table below are diversifying from the unregulated supplementary education segment to the formal school education space.

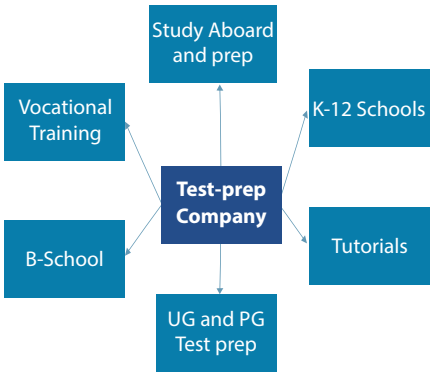


Figure 42: Diversification of Test Prep Companies

Test prep Player	Tutorial	K-12	HE	Vocational Training
Career Point	Y			
Career Launcher		Y	Y	Y
Time		Y	Y	Y
FIIT-JEE		Y		Y
Ace Creative Tutorials	Y	Y		
Resonance	Y	Y		

Table 12: Top Indian Test Prep Players

3.2.2 Market Assessment

The tutorial market is localized and competitive. Large tutorial players generally co-exist with test preparation players. Based on the parameters of market size, scalability and competition in table below, different areas of the tutoring and test preparation had been assessed.

Segment	Target market (MM)	Avg. Fees (INR '000)	Competition
Tutoring	30.2	14	High
Engineering Entrance prep	2.5	40	Medium
MBA Entrance Prep	0.5	20	Medium
Medical Entrance prep	0.4	40	Low
GRE/GMAT/SAT Prep	0.1	15	Medium
Others	0.5	15	Medium

Table 13: Market Assessment of Tutoring and Test Preparation Subsegment

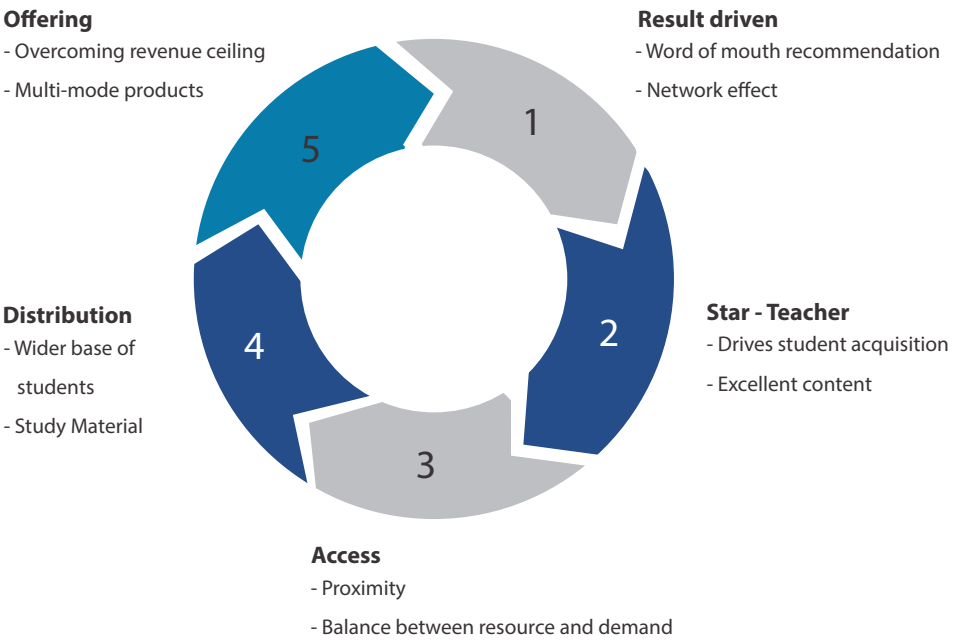


Figure 43: Success Factors for Tutoring and Test Preparation

Access to new students every year and established distribution channels are critical success factors in the tutoring and test preparation business. Moreover, alumni have a huge influence in attracting new students mainly through word of mouth recommendations. Success of graduated students in previous examinations drive a continuous stream of new students. Hence, results-driven companies will grow rapidly and acquire students through word of mouth recommendation within the network.

Student training and exam results are supported by differentiated content and high quality teachers. The results also help develop a strong brand association with the teachers.

3.3 Vocational Training

Vocational training is a US$3 billion opportunity, growing at 25% CAGR and serving the demands of 500 million people that would enter India's workforce by 2022.

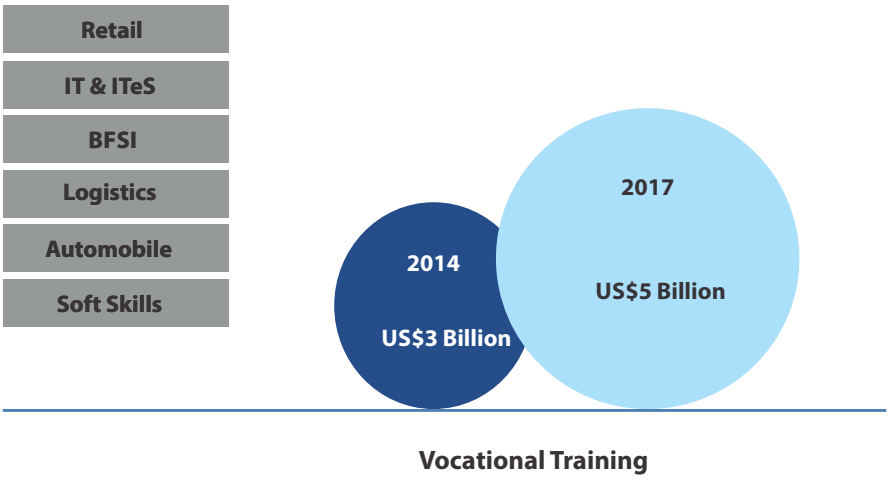


Figure 44: Market Size Growth for Vocational Training

3.3.1 Characteristics

The Job Market Paradox Driving Demand for Vocational Education

India has the second largest population of potential employees globally; however, ILO Report 2012 stated that 48% of employers are facing difficulty in filling job vacancies; 14 % points above the global standard of 34% in 2012.

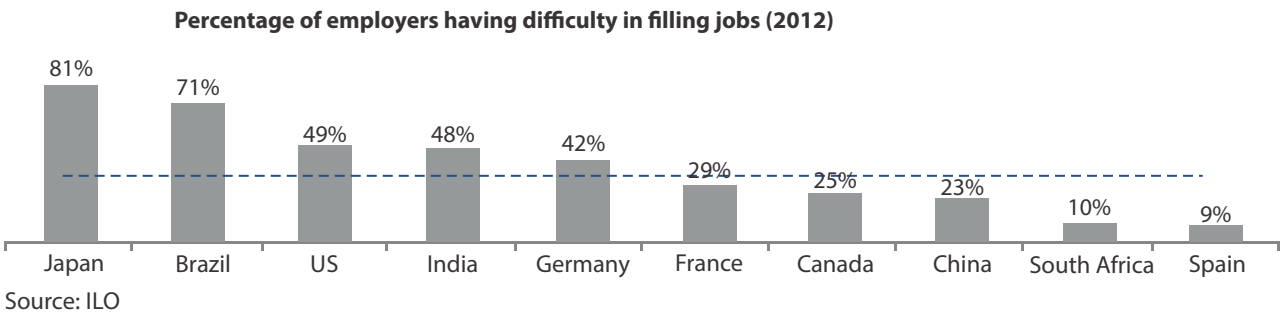


Figure 45: India is One of The Leading Countries with Largest Skill-Gap

Employers face challenges in finding applicants with sufficient technical/soft skills specific to the industry.

Low Vocational Education Supply

Compared to other countries, only 10% of the total workforce in India received some skills training (2% with formal training and 8% with informal training). Further, 80% of the entrants into the workforce do not have the opportunity for futher skills training.

Need for Skill Standards for Growth of Formal Vocational Training

The Government and various industry bodies have realized the importance of setting skill standards specific to the industry job requirements. Vocational training companies should tailor their programs to industry needs and fuel growth in student training and employment.

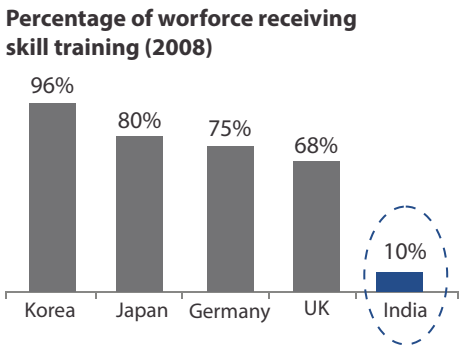


Figure 46: Percentage of Workforce With Skill Training

Source: Planning Comission Report (2008)

3.3.2 Trends

Growing Industry Involvement Serving as Proxies for Standards

In the absence of a national standard for industry skills, private vocational training companies have partnered with industries through corporate-accredited courses, industry association recognition, and earn-while-you-learn programs. Corporations such as Infosys launched their own training programs due to widespread shortage of applicants (see Table 14). These models have been highly successful in ensuring that students are sufficiently trained to secure jobs.

Current Models	Examples
Corporate Accredited courses	IFBI – JV between NIIT and ICICI bank
Industry Association recognition	ASSOCHAM conducts skill assessment in 19 sectors & issues certificates to successful trainees
Earn while you learn programs	WLC – Traineeship program
Captive Training Centers	Infosys - Global Education Center in Mysore

Table 14: Different Engagement Models for Vocational Training

Regulatory Mainstreaming & Formalization of Vocational Training

As shown in Table 15, the government has taken the following measures to promote curriculum design, standardized certification and recognition for vocational training:

Mainstreaming of Vocational training education occurring through : -	
National Vocational Qualification Framework (NVQF)	Curriculum Framework to provide degrees, diplomas
National Vocational Education Qualification Framework (NVEQF)	Institutionalization of vocational training in schools and polytechnics
National Skills Development Authority (NSDA)	Regulatory Body
Degrees	Bachelor's in Vocational Training in 10 sectors – under AICTE

Table 15: Regulatory Bodies for Vocational Training

The objective of developing a National Vocational Qualification Framework (NVQF) is to collaborate with the Sector Skills Councils (SSCs) to build industry recognized skills with industry specific diplomas, degrees and certificates. The framework allows students to accumulate credits at their own pace while transferring across different schools towards a final certification. The framework also aims to recognize the certifications between domestic and international schools and colleges.

Similarly, the National Vocational Educational Qualification Framework (NVEQF) is established at the school level for vocational education/polytechnics. It facilitates the mobility of students across domestic schools and is internationally recognized from secondary to post-doctorate levels of education.

3.3.3 Market Assessment

Many companies have formulated their business models to accomodate government contracts, where the government compensates the companies that train and place low income students. While government support helps vocational businesses accelerate and generate high revenues in a short span of time, delays in receivables can lead to a working capital constraint in the short term. Since the customer validates the quality of training and market success of the business, a successful and scalable vocational training business must be driven by private student fees and not by Government funding.

Although building and construction require more manpower, this segment is still less attractive due to the aspiration of most youth for a white-collared job. A low pay scale implies limited price flexibility for the training product and high dependence on government financing. Conversely the BFSI segment has standard qualification tests for a job, higher pay scales and higher prices for the training program. Hence, although the demand is relatively small, the ability to commercially scale in the BFSI segment is high.

Vertical	Job Vacancies by 2022* (MM)	Pricing Power	Dependence on Government
Building & Construction	33.0	Low	High
Real Estate Services	14.0	Low	High
Organized Retail	17.3	Moderate	Low
Textile	26.2	Low	High
Auto & Auto Components	35.0	Low	High
IT & Ites	5.3	High	Low
BFSI	4.2	High	Low
Food Processing	9.3	Moderate	High
Healthcare	12.7	Moderate	Medium
Tranportation & Logistics	17.7	Moderate	High
Education & Skill Development Services	5.8	Moderate	Medium

Table 16: Market Assessments for Vocational Training Subsegment

The overall success of a vocational training enterprise depends on the percentage of students being placed, highest salary post-training and the average salary of all students. Other factors include systems and processes developed to standardize the training across different geographies.

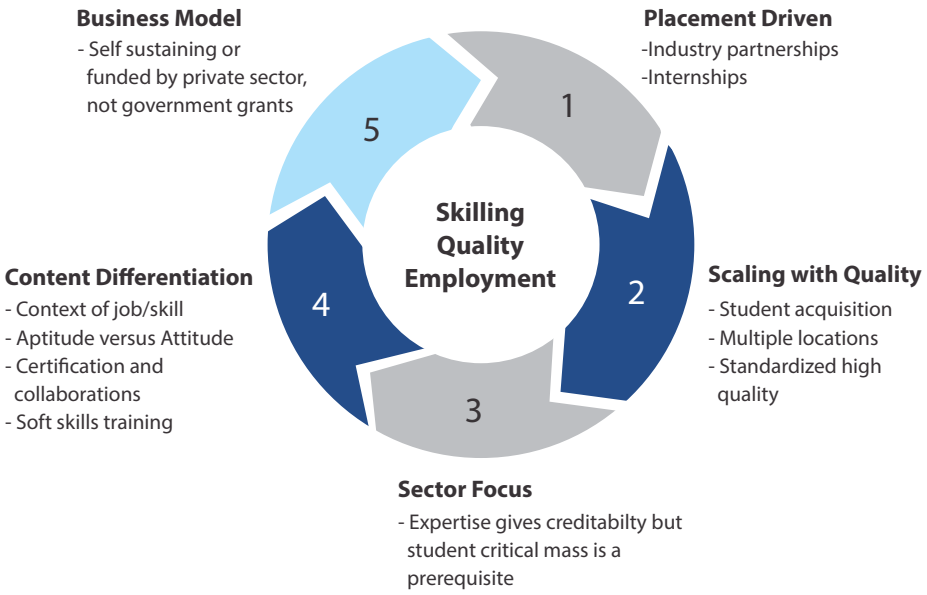


Figure 47: Success Factors for Vocational Training

4 Ancillary Segment

4.1 Multimedia and ICT

The market size for Multimedia and ICT is US$2 billion and is expected to grow at 18% CAGR. Education multimedia companies rely heavily on technology to deliver content and hence, have to keep pace with the technological evolution.

Multimedia content (audio, video and text), that essentially is an interactive form of the traditional book, started in disconnected individual classrooms. It evolved towards VSAT (very small aperture terminal) connected classrooms and is now moving towards simulation products with emphasis on personalized learning. We believe that pure multimedia is only a phase in the evolution of classroom teaching.

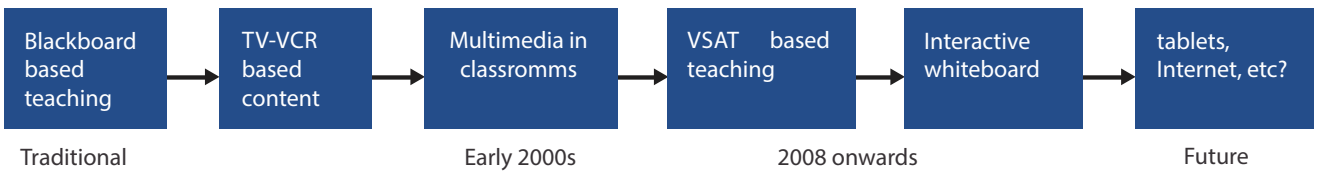


Figure 48: Evolution of Classroom Teaching

Source: Report on Multimedia in Education, Religare, 2011

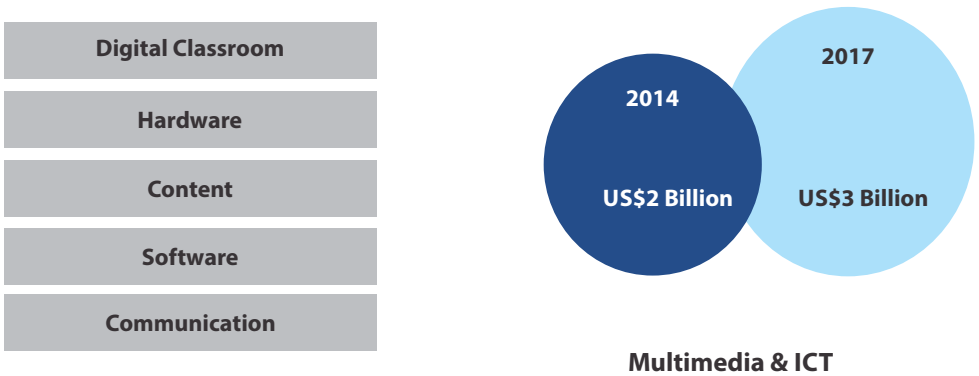


Figure 49: Market Size Growth for Multimedia and ICT

Increasing Adoption

Digital classrooms, where teachers use technology to facilitate learning, are growing in numbers at private schools in India. Recent Business Standard news article in March 2012 estimated that 15,000 schools across the country have either fully or partially adopted a 'digital classroom' system in their campus. Adoption is driven by demand for technology and the shortfall of teachers in number and quality.

As shown in in the figure below, the adoption has increased by 100% CAGR in the last four years with current penetration of around 15% in urban secondary/higher secondary classrooms.

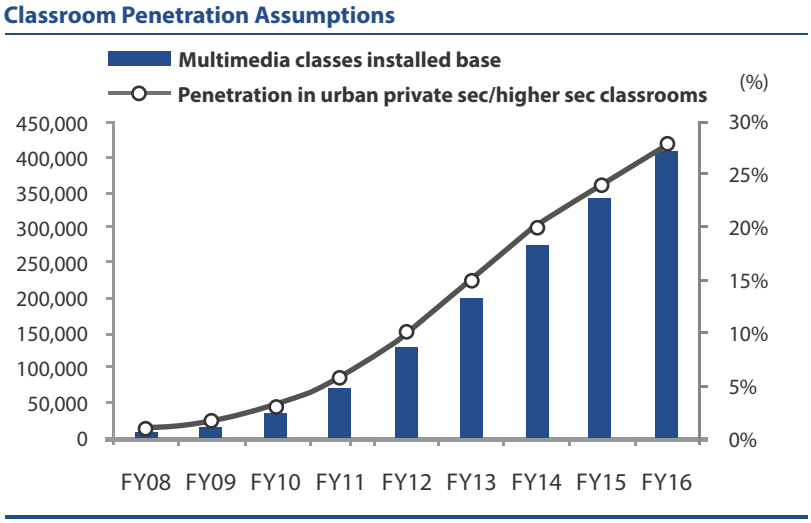


Figure 50: Increasing Penetration of Multimedia and ICT

There is evidence that tier-two and tier-three city schools are beginning to adopt the latest technology. Wharton Research suggested that a digital classroom company established in early 2011 had acquired 900 schools, with more than half represented by tier two and three cities. This trend is primarily being driven by the difference in learning methodologies and availability of qualified teachers in tier one and two cities. Another player claimed that 60% of its customers are from smaller towns.

Around 50% of the order book for multimedia companies is focused on education content, while the remaining is a mix of content and services around ICT hardware. State governments make up a large percentage of the market for ICT hardware contracts for public schools.

4.1.1 Trends

Diversification

As part of multimedia companies starategy, they develop their K-12 school relationships by increasing revenue through cross selling. For example, companies offer additional curriculum services, classroom management software, personalized learning tablets and assessments. Such diversification helps the companies to offer higher margin products through the same sales channel and improve their profitability.

Company	New Segments
Next Education	ERP, School Audit, Tablet-based solutions, Robotics
Class teacher	ERP, Virtual Learning Environment, Hardware, Tablets

Table 17: Diversification of Companies in Multimedia and ICT

Increasing Competition

A recent Gartner report on Enterprise IT spending (May, 2012) stated that the education segment had achieved the strongest percentage growth in 2012 and was expected to grow in the future. Few emerging players like Datawind, Pantel Technologies, myEduTab, and Micromax are focusing on education institutions like K-12 schools, higher education institutes, test preparation companies, and publication houses to develop and distribute content.

With many new entrants ranging from traditional education companies (ex. Everonn, Navneet) to IT heritage companies (ex. NIIT, HCL) and start-ups (ex. iDiscoveri etc.), the competitive intensity in the Multimedia and ICT market has significantly increased over the last few years.

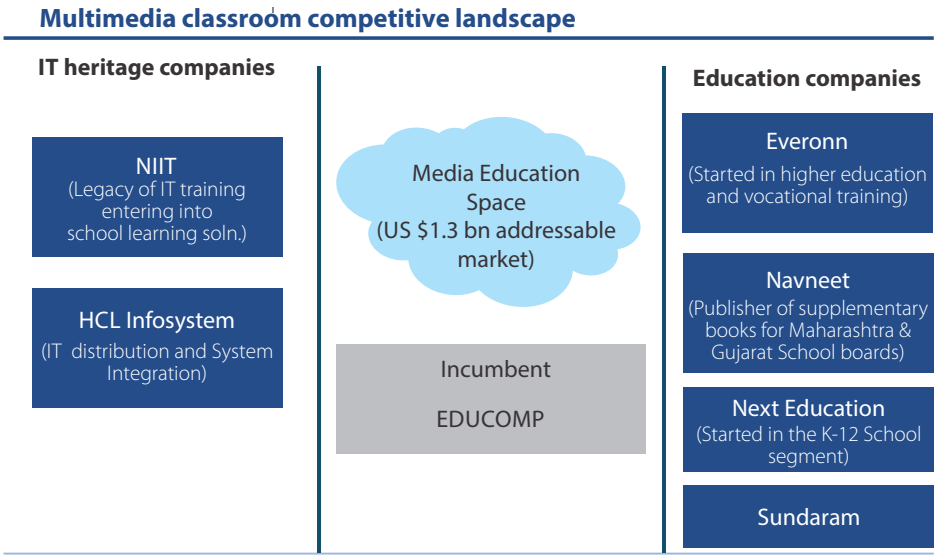


Figure 51: Increasing Competition

A new entrant faces a barrier of US$ 83 million (INR 5,000 million) to build another multimedia leader (see Table 18). With increasing competitiveness and pricing pressure, the barrier continues to increase each year.

Capital requirement for	INR million
Hardware	2,000
Average hardware cost per classroom	0.1
Number of classrooms required to break even (assuming Rs 3,500 per class per month)	20,000
Content	1,000
Content creation	1,000
Operating expenses	1,800
Average operating expense per year (including sales and marketing)	600
Number of years that takes to reach to 20k classrooms	3
Entry barrier	4,800

Table 18: High Entry Barrier in Digital Classroom Market

Source: Kaizen research

New entrants are expected to target personalization as the next evolution. Products like Language Lab, Math Lab, and Assessment engines that promote personalized learning and assessment have higher margins than the typical multimedia classroom.

4.1.2 Market Assessment

The competition is stratified by quality. Customers are in one of the two categories: Quality seekers that pay monthly INR 4,500+ and quality agnostic customers that will pay less. The proportion of the latter category, which buys to keep up with their competitors, is relatively higher today.

The pricing pressure would increase over the next couple of years as the competition increases and as companies penetrate schools in Tier-III/IV towns or those with lower purchasing power in larger towns.

Technology is highly dynamic in nature and could affect prices in two ways—first, technology continues to become cheaper over time and second, evolution of new technologies will constantly lead to product obsolescence thereby prompting vendors to cut prices and potentially sacrifice margins. There is always the threat of a new technology disrupting the hardware-based-land-grab position that many incumbents enjoy.

Vertical	Target Market (# of schools)	Competition
ICT	1.5 Million	High
Multimedia	70,000	High

Table 19: Market Assessment of Multimedia and ICT Subsegment

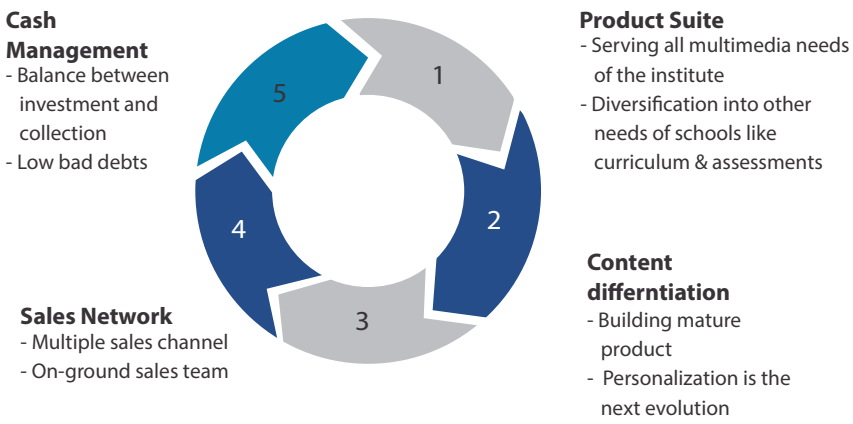


Figure 52: Critical Success Factors for Multimedia and ICT

With substantial investment in customer acquisition, it is critical for multimedia businesses to capture a larger share of each customer's budget by offering a wide product suite ranging from digital content to assessment and curriculum.

To remain successful a business must continuously innovate and develop mature products that differentiate them from others in this highly competitive market. Since most business models are dominated by hardware, less capital intensive businesses such as personalized teaching programs, accessible through common hardware such as laptop or tablet, will have higher margins.

Cash management is also one of the critical factors as it involves significant upfront investments from vendors, while schools and students pay on a per-month basis. Hence delayed payment/bad debts can cause significant impact on the product's IRR.

4.2 Online and Social Learning

The online/social learning subsegment can be segregated into:

a) digital content, games and Apps,
b) MOOCs and focused learning; and
c) enablers and assessments.

Based on annual spend by core and parallel segments, the market size of the online and social learning subsegment is approximately US$ 0.2 billion. Due to early adoption and the opportunities to scale, the subsegment is expected to grow by 18%

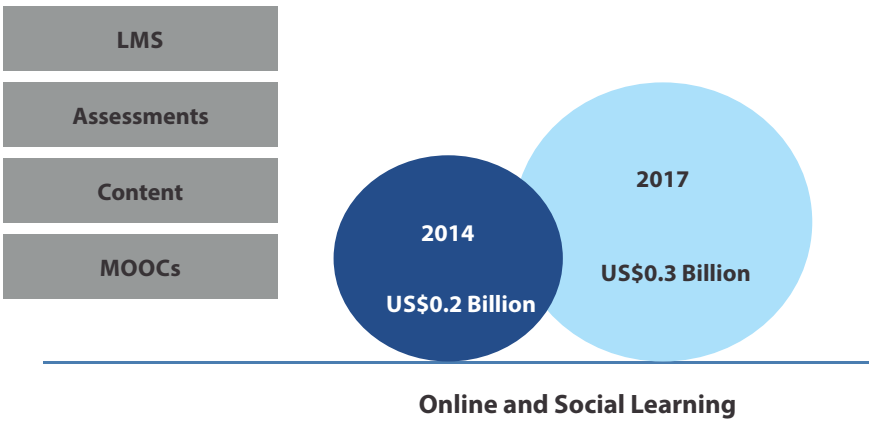


Figure 53: Market Growth for Online and Social Learning

Market Penetration

There are several anecdotal evidence of technology led education expansion in India. EdX, the not-for-profit online initiative initiated by Harvard and MIT, recently expanded to Asia by getting seven universities on board. Similarly, Coursera started its first MOOC in Asia in early 2013 as there was a high percentage of Asian students in the US. SE Asia and S Asia have highest number of searches for "study online", "Coursera" and "edX" after the US and the highest searches for "studying abroad".

India has the highest number of searches for Coursera and edX

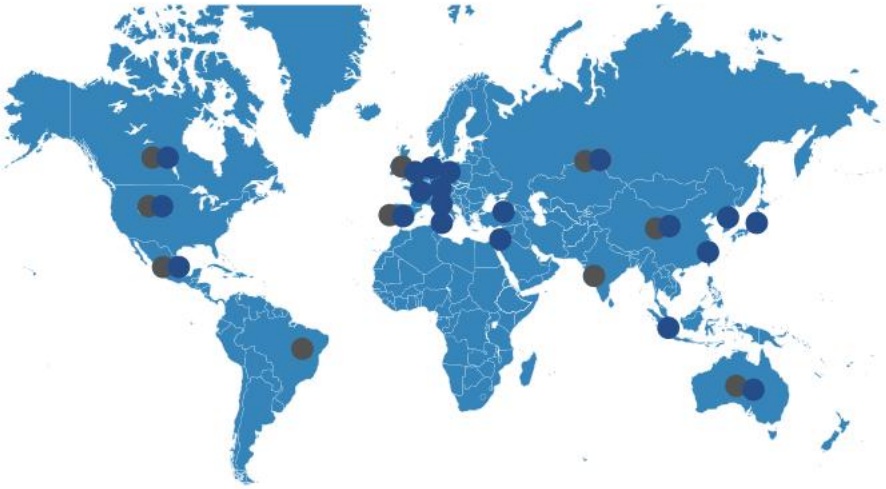


Keyword search: Coursera

Keyword search: edX

Figure 54: Heat Maps for Google Searches for Online Courses

COURSERA AROUND THE WORLD



Top 10 countries by user base

1. United Stales - 31.7%
2. India - 8.4%
3. United Kingdom - 4.3%
4. Brazil - 3.8%
5. Canada - 3.5%
6. Spain - 3.1%
7. China - 2.9%7. China - 2.9%
8. Mexico, 2.2%8. M
9. Australia, 2.0%
10. Russia, 2.0%

(By percentage of the user base)

Countries with university partner

Australia
Canada
China
Denmark
France
Germany
Israel
Italy
Japan
Mexico
Netherlands
Russia
Singapore
South Korea
Spain
Switzerland
Taiwan
Turkey
United Kingdom
United States

Figure 54: India accounts for the 2nd Largest User Base for Coursera

Source: Coursera Blog, October 2013

4.2.1Trends

Cloud Adoption

Cloud technology is helping institutes enhance the quality of delivery. Reputed schools like Delhi Public School, American School of Bombay, KR Mangalam have adopted Microsoft Live@edu, a cloud based service. Microsoft Live@edu enables institutions to build a brand through social and professional collaboration and a knowledge repository that leads to career opportunities.

Increased Penetration of e-devices

Globally, there are 2 billion users connected to a tablet or smartphone. In June 2013, India was ranked second in tablet penetration and these devices generally target the country's youth. Favourable government initiatives like PPPs for technology infrastructure and services tax exemptions have created significant opportunities to expand the market for devices like laptops, tablets, etc.

4.2.2 Market Assessment

Online and social learning is an emerging space that supports the Core and Parallel sectors but has different relevance for each of the sub-segments, as shown in Table 20.

Type	Examples	Core		Parallel	
		K-12	Higher Education	Tutoring & Test Prep	Vocational Training
Digital content, Games & Apps	Pearson and Class Teacher	High potential, Successful in certain categories. Needs expansion	Customized solutions for universities. Needs expansion	Could prove to be a differentiator	Relevant but significant customization is required
MOOCs & Focused learning	WizIQ, UTS, Sunstone Business School		Currently limited penetration. High potential		Opportunity limited to English learning, Programming, etc. Also, High potential for Employee skill enhancement courses
Enablers & Assessments	WizIQ, Upside Learning, Magoreader	Focused on private schools	Untapped market; Few focused players	Highly relevant for online assessments	Used for internal assessments & recruitment

Table 20: Relevance of Online and Social Learning on Different Segments of Education

For the companies in the Online and Social learning subsegment, product development strategies are critical as pure technology based innovation may not work well in emerging markets. Blended services that leverages on a low cost base is promising in India. Due to the nature of the business, the company's management will need to differentiate their products from those of the competitors'. Choice of market is also critical, as B2B may be a challenge for smaller players while B2C requires higher brand value and marketing efforts. The success factors are shown in Figure 56.

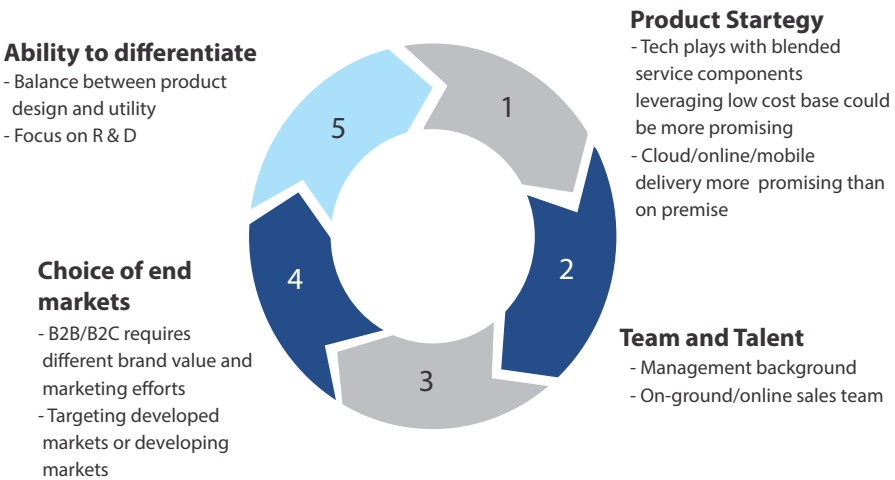


Figure 56: Critical Success Factors for Online/Social Learning

4.3 Books and Stationery

Books and stationery account for US$2.5 billion revenue, representing 10-15% of the total private spend on education. The growth rate of this subsegment is lower than the overall education sector because books are re-useable and stationery is treated as a consumable.

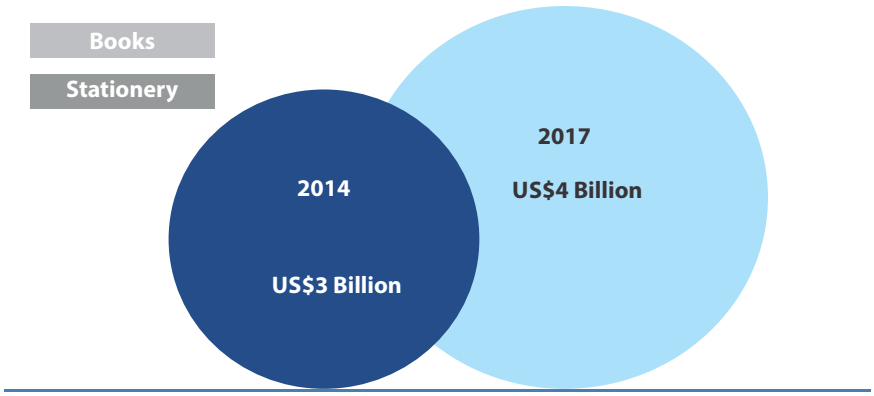


Figure 57: Market Growth for Books and Stationery

Fragmented Market

With different syllabi and instruction languages are being used in different State boards, the books market is fragmented. However, there have been structural changes in the system like unification of state boards, migration of students from government-run schools to private schools, rise of e-learning programs and online availability of books. Such changes may lead to a change in the market dynamics of this subsegment. The stationery market is also fragmented due to the commoditized nature of the products.

Low to Moderate Margin Business

Paper stationary is a low margin business due to the nature of the products and high competition. Few segments of non-paper stationary are niche and have moderate to high margins. The books sub-segment has a healthy EBIT margin (close to 30%). This is mainly due to the content developers and school distribution network.

4.3.1 Trends

Entry of International Players

Large international publication houses like Pearson, McGraw Hill and stationery companies like Mitsubishi Pencils, Societe BIC have entered India due to the attractive market that has a large student base, rising education spend and increasing student enrollments. Due to this, there has been a consolidation in the market (e.g. acquisition of Cello by BIC in 2009, acquisition of Camlin by Kokuyo in 2011).

4.3.2 Market Assessment

The books and stationery market activity is directly proportional to the student enrollment in the region. The top three markets in terms of number of students are Uttar Pradesh, Maharashtra and Bihar. Other large markets are shown in Table 21.

States	Student enrollment in millions
UP + Uttarakhand	52
Bihar + Jharkhand	24.5
Maharashtra	22.1
MP, Chattisgarh	21.1
West Bengal	16.9
Andhra Pradesh	16.3
Rajasthan	15.4
Tamil Nadu	13.6
Punjab, Haryana	11.4
Karnataka	11.2
Gujrat	10.9
Kerala	7
Delhi	3
Others	20.7

Table 21: Market Assessment for Books and Stationery Subsegment

The overall success of a company in the books and stationery subsegment depends on the distribution network. Other success factors include product mix and ability to differentiate in a crowded and competitive market.

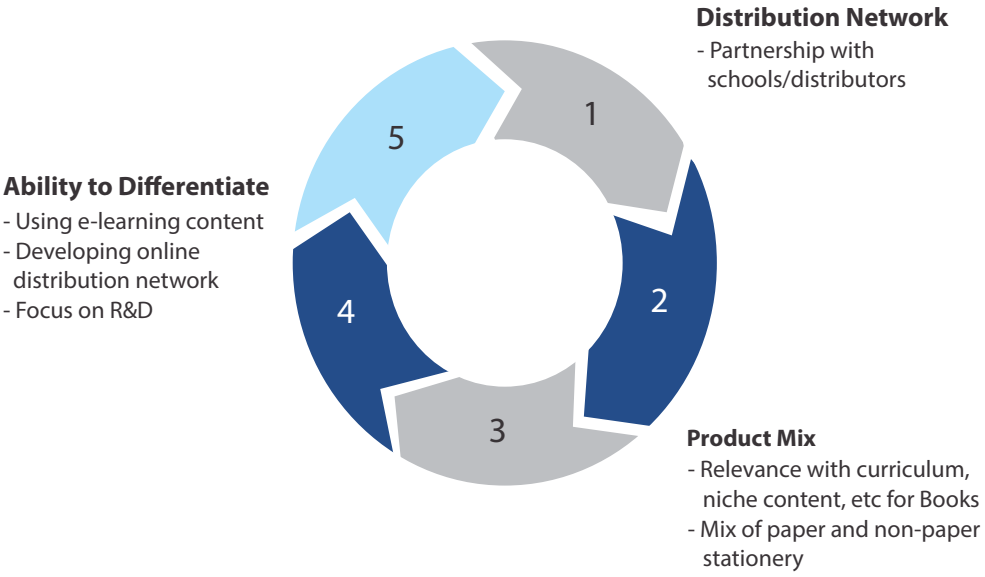


Figure 58: Critical Success Factors for Books and Stationery

5 RoE (Return on Education)

5.1 India as an Investment Destination

The Indian market is attractive for investment by private companies. Good economic prospects make India a privileged destination for investors. High volumes of IPO and M&A offer good possibility of exits. Compared to other BRIC economies, India is the best destination for investments after China.

	China	India	Brazil	Russia
Economic Activity	High	High	High	Medium/ High
Depth of Market	High	High	High	Medium/ High
Taxation	Medium/ High	High	High	Medium/ High
Investor Protection and Corporate Governance	Medium/ Low	Medium/ Low	Low	Low
Human and Social Environment	Poor	Poor	Very Poor	Very Poor
Entrepreneur Culture and Deal Opportunities	Good	Poor	Poor	Good
IPO volume	High	High	High	High
M&A volume	High	High	High	High
VC activity	High	High	Medium/ High	Medium/ High
PE activity	High	High	Medium/ High	Medium/ High
Overall Attractiveness				

Table 22: India as an Investment Destination

Sources: The Global Venture Capital and Private Equity Country Attractiveness Index - 2011 annual; Kaizen Analysis

Between 2002 and 2012, more than 30 foreign players entered the Indian education market. Table 23 illustrates the model of entry used by foreign universities in India – collaboration, academic partnership or as a research partner.

Course - Type	Foreign University	Description of model
Hotel Management - Collaboration	University of Huddersfield – IHM Aurangabad	• Huddersfield curriculum •University degree •Priority at Huddersfield campus
Law - Academic partner	Harvard Law – OP Jindal Global Law school	• Harvard provides guest faculty & research • Joint conferences • Student exchange programs
Management - Collaboration	Schulich School of Business – GMR	• Operations commencing from 2013 • Schulich develops academic infrastructure • International faculty • MBA and executive education
Energy - Collaboration	PDPU – Texas A&M University	• Operations commencing from 2013 • Texas A&M develops academic infrastructure • Joint student research
Engineering - Research Partner	Penn State University – Indian Universities	• Harvard provides guest faculty and research • Joint conferences • Student exchange programs
Management – Independent program	Rutgers University – Mini MBA	• Mini MBA (3 day course) • Tailored to organizational needs
General courses – Collaboration	Lancaster University – GD Goenka Undergraduate program	• Faculty sourced from Lancaster University • Students can study Lancaster courses in India • Two week summer school at Lancaster

Table 23: Foreign Universities in India

Source: Kaizen research, KPMG Edge Report, 2012

5.2 Returns in Private Market

Since 2007, private equity investors have injected a total of US$ 1.1 billion in the Indian education sector. Education sector investments are gaining significance even as the investment environment undergoes cyclical changes. Education as a percentage of total investments has grown from 0.9% in 2007 to 1.7% in 2013. The figure below shows the investment pattern over the last five years.

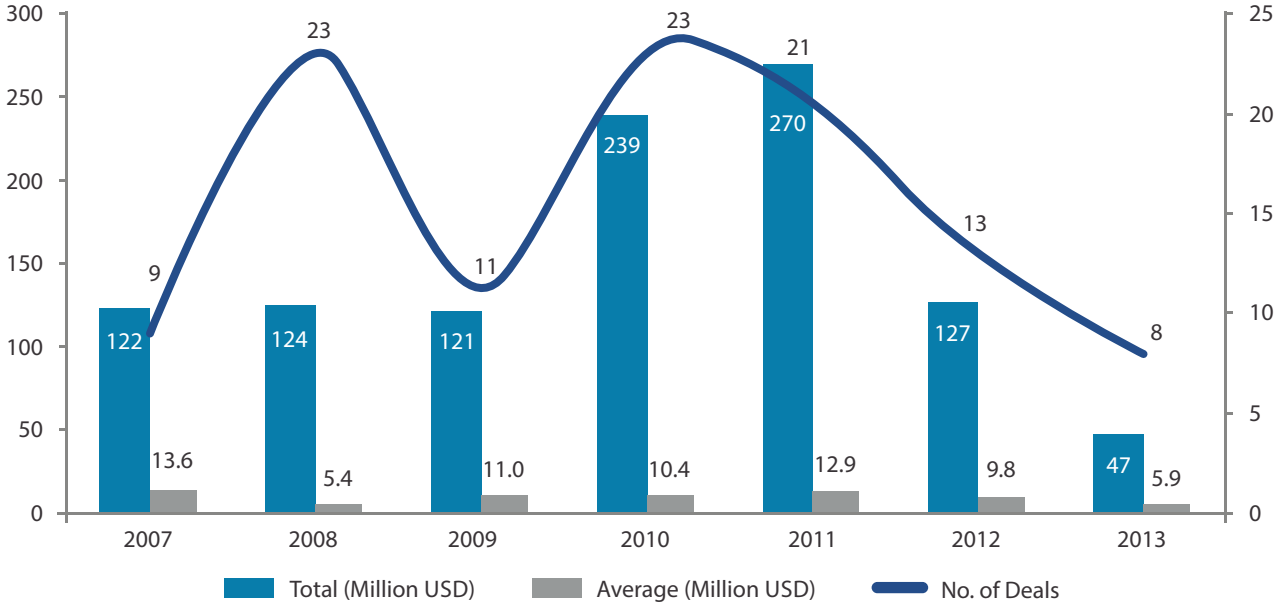


Figure 59: Private Equity Investment in Education (in million US$)

The following figure classifies the investment into three segments: Core, Parallel and Ancillary. 2010 and 2011 have witnessed highest investments in the education sector. The core segment remains the most neglected due to heavy regulation. The parallel segment, with the highest number of annual deals, and the ancillary segment remain the most appealing to investors. Older deals in these segments have experienced successful exits.

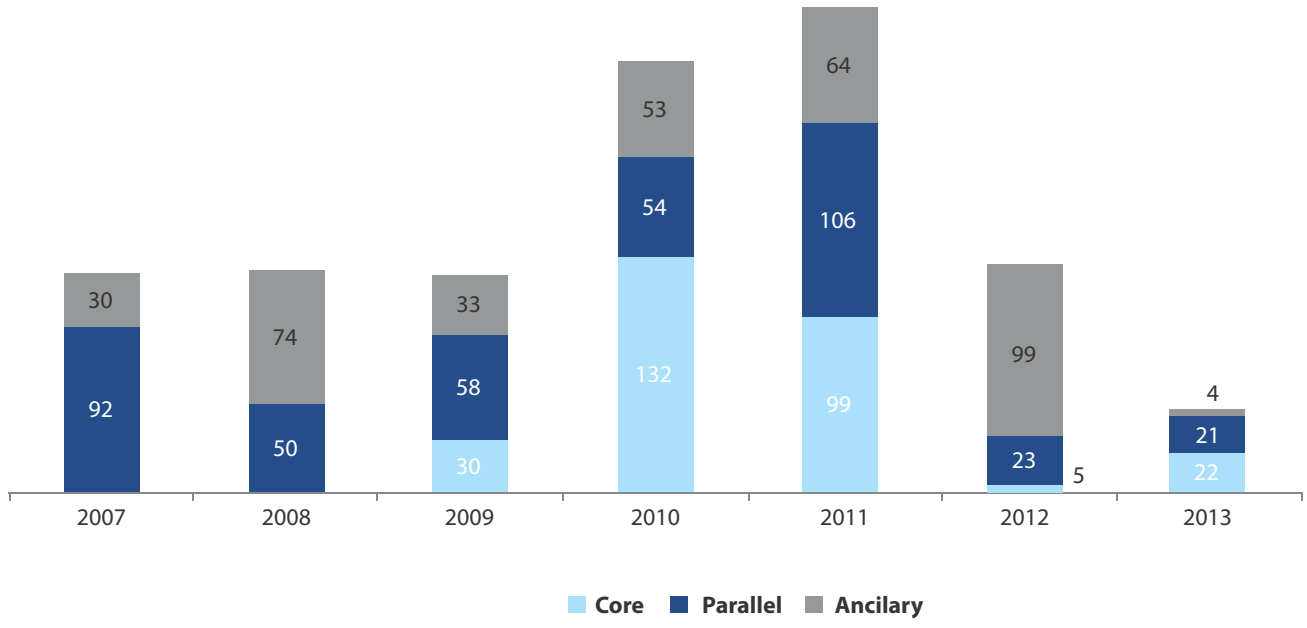


Figure 60: Private Equity Investment Across the Education Subsegments (in million US$)

With 14 exits since 2007, private equity investments in the education sector have returned a healthy 21.5% IRR. Moreover, education has outperformed other counter-cyclical assets, such as gold (14.12% IRR). Most of these exits were secondary and strategic sales.

Company	Segment	Sub-Segment	Investor	Amount Invested (US$ MM)	Year Invested	Realised ExitAmt (US$ MM)	Year Exited	Return Multiple	Exit Type
Educomp	Ancillary	ICT	Gaja Capital	1	2004	6.67	2007	6.67	IPO
NIIT	Parallel	Vocacational	Intel Capital	10	2005	48.00	2007	4.80	Secondary Scale
Merit Trac	Ancillary	Skill Assessment	HSBC Private Equity	3.75	2005	7.40	2007	1.97	Strategic Scale
ExcelSoft	Parallel	e-Learning	UTI Ventures	0.6	2001	31.00	2008	50	Secondary Scale
LearningMate	Ancillary	Content	Carlyle	1	2000	4.50	2009	4.50	Secondary Scale
ILSF Education Training & services	Ancillary	ICT	Orix Corporation HDFC Bank Ltd. & Sera Fund	ND	ND	30.00	2010	ND	Secondary Scale
IIJT	Parallel	Vocacational	Tiger Capital	ND	2008	ND	2010	ND	Strategic Scale
NIIT	Parallel	Vocacational	Elephant Capital	3	2008	4.16	2010	1.39	Secondary Scale
TutorVista	Parallel	Tutoring	Sequoia, Light Speed Venture	16.75	2006, 2008, 2009	103.00	2011	6.14	Strategic Scale
MT Educare	Parallel	Tutoring	Helix Investments	8	2007	17.60	2011	2.20	IPO
Veta	Parallel	Vocacational	Saif Partners	10.09	2007	3.96*	2011	0.39	Strategic Scale
Your Kids R Our Kids	Parallel	Preschool	IVP	1	2010	1.00	2012	1.00	Secondary Scale
Manipal University Learning	Core	HE	Capital International, IDFC, Azim Premji & Catamaran	150	2006,2010	270.00	2013	1.80	Buy Back
Everonn	Ancillary	ICT	New Vernon & others	10.83	2008		2010, 2011, 2012		Market Scale

Table 24: Key Exits in the Indian Education Sector

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