Higher Education in India: Twelfth Five Year Plan (2012–2017) and beyond

FICCI Higher Education Summit 2012
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The Eleventh Plan saw nine fold increase in the public spend on higher education which fueled significant inclusive expansion in the public higher education sector. The demand for quality skilled workforce and an environment for impending policy and regulatory change encouraged greater private sector participation. However, there has been no significant improvement in terms of quality of higher education delivery. The issues of skill gaps, skill shortages and unemployable graduates still persist.

The current political ramifications have pushed the reform process in higher education in to the back burner for the time being. Hence, both the government and the industry is now pooling in resources and working towards developing workable implementation strategies that will move the higher education in the right direction to take the Indian economy to a higher trajectory and meet the society’s needs. Rightly so, the Twelfth Plan focus is to strengthen the quality in the existing universities and institutions.

The FICCI Higher Education Committee too has aligned its ongoing activities and the expected deliberations in the Higher Education Summit 2012 in this direction. Focus of discussions will be on developing the strategies required to improve quality across all parameters of higher education delivery to impart appropriate skills, knowledge and value systems to our youth.

The FICCI-E&Y Report supported by Planning Commission is titled “Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond”. It is an attempt to look at the Twelfth Plan recommendations pragmatically from the private sector perspective and suggest strategies for quality improvement in higher education.

We are grateful to Ministry of Human Resource Development, Government of India, Planning Commission and all partners and sponsors for their support in organizing the FICCI Higher Education Summit 2012 titled “Indian Higher Education: Quest for Quality” on November 5 & 6, 2012 in FICCI, New Delhi. We are sure that the deliberations in the conference will help us in coming up with concrete recommendations that will help fast track the implementation of quality practices both in the public and private higher education institutions and universities.

Prof. Rajan Saxena
Co-Chairman,
FICCI Higher Education Committee

Prof. M Anandakrishnan
Chairman,
FICCI Higher Education Committee

Mr. Avinash Vashishtha
Co-Chairman,
FICCI Higher Education Committee
Dear readers,

One comes across these words, ‘In God we trust, all others bring data’ as you enter the Mission Evaluation Room of the NASA Space Center in Houston. Here the top-NASA scientists evaluate tonnes of data and its reliability for future missions. At Yojana Bhawan, the headquarters of India’s Planning Commission every five years huge data is collected from different sources to build the ‘Five Year Plans’ through an elaborate consultative process. The Plans define the country’s development agenda and allocates resources across different sectors of economy and society. Role of reliable data and its appropriate interpretation in the planning exercise is as critical as in the space missions.

However availability of credible data has been serious handicap in planning, particularly in the higher education sector. This time, the Planning Commission has painstakingly compiled somewhat better dataset than ever before on the current realities of Indian higher education, while a more detailed dataset based on All India Survey for Higher Education is awaited. This report that is put together by the Ernst & Young Team, on the occasion of FICCI Higher Education Summit 2012, presents this data along with data from other sources in easy to understand format with graphics and visuals.

A set of data can be interpreted in many different ways and its value lies in enabling people to deeply think about an idea, reason and form opinions. The issues in higher education are complex and thinking and action on them is needed at different levels by a variety of stakeholders. I hope that this report is used as a thinking tool for different stakeholders to build their own agenda for change in higher education.

I congratulate FICCI for organizing the Higher Education Summit that has emerged as a hugely successful and useful forum for dialogue and debate on higher education over the past eight years. The E&Y team has done a splendid job in bringing out a report on higher education every year since 2008, for which they deserve wide appreciation.

I, on behalf of the Planning Commission express deep gratitude to FICCI and the E&Y team to focus this year’s summit and report on the Twelfth Five Year plan that is being finalised now. Successful implementation of any plan requires communication, advocacy and buy-in of the ideas by related people. I hope you the event and report would help us in doing so.

Warm regards,
Pawan Agarwal
Adviser (Higher Education & Culture)
Planning Commission
Government of India
Dear readers,

Over the past few years, India’s higher education sector has witnessed tremendous growth. Today, the country has the largest higher education system in the world in terms of the number institutions. It is the second-largest in terms of enrollment. While India has shown impressive growth in the number of institutes and enrollment in the country, it still faces challenges on several fronts including low and inequitable access to higher education, shortage of faculty, deficient infrastructure as well as low-quality and inadequate research. Today, a key concern for India is the creation of an employable workforce to harness its demographic dividend to the maximum extent. To achieve this, the country needs an education system that can deliver quality in terms of a skilled and industry-ready workforce, without diluting focus on world-class research and innovation.

The Twelfth Five Year Plan (2012–2017) recognizes the challenges facing India’s higher education system and proposes several initiatives to resolve these, e.g., through increased funding for disadvantaged groups, deployment of cutting-edge technologies, faculty development programmes, improved governance structures and provision of incentives for research. The Government intends to achieve enrollment of 35.9 million students in higher education institutions, with a GER of 25.2% through these initiatives by the end of the Plan period. It also intends to significantly improve the quality of the system, while enabling the co-existence of multiple types of institutions including research-centric, teaching and vocation-focused ones. The private sector can be expected to play an instrumental role in achieving these outcomes through the creation of knowledge networks, research and innovation centres, corporate-backed institutions, and providing support for faculty development.

Given the focus on “excellence” in the Twelfth Plan, we have looked at how the quality of higher education can be enhanced by focusing on some key levers such as merit-based student financing, international alignment, enablement of an advanced research environment, high-quality faculty, improved technology, and partnerships with academia, the industry and the Government. In this report, we have showcased several examples to demonstrate how these levers have been innovatively used to boost the quality of teaching and learning, and their outcome, in these institutions. Going forward, one can expect many more Indian institutions to follow suit by pursuing the quality imperative in innovative and diverse ways.

I hope this report provides insights on how to successfully create quality institutions, and thereby accelerate and enhance the development of higher education in India.

Amitabh Jhingan  
Partner  
Education sector leader  
Ernst & Young Pvt Ltd
Executive summary

India has one of the largest higher education systems in the world, with 25.9 million students enrolled in more than 45,000 degree and diploma institutions in the country. It has witnessed particularly high growth in the last decade, with enrollment of students increasing at a CAGR of 10.8% and institutions at a CAGR of 9%.

The private sector has played an instrumental role in this growth, with private institutions now accounting for 64% of the total number of institutions and 59% of enrollment in the country, as compared to 43% and 33% respectively, a decade ago. The Government has also given the required thrust to the sector in its Five Year Plans. During the Eleventh Plan period (2007-2012), India achieved a Gross Enrollment Ratio (GER) of 17.9% up from 12.3% at the beginning of the Plan period. Various legislative actions were also taken during this period, including the introduction of the Higher Education and Research Bill, the Educational Tribunal Bill and the Foreign Educational Institutions Bill, to enhance transparency and quality in the sector.

However, in spite of the significant progress made during the past few years, India’s higher education sector is still plagued with several challenges, e.g., its relatively low GER, inequitable access to higher education by community, gender and geography, and lack of high-quality research and education institutions, resulting in sub-optimal outcomes.

The Twelfth Plan recognizes these challenges and proposes several initiatives around six focus areas to address them.

► **Expansion** - augmenting capacity in existing institutions
► **Equity** - creating targeted schemes for backward and minority communities
► **Excellence** - building excellence through research and innovation, faculty development, and internationalization
► **Governance** - enhancing institutional autonomy and transparency
► **Funding** - increasing public and private funding and linking them to outcomes
► **Implementation and monitoring** - improving co-ordination across ministries and agencies

The Twelfth Plan emphasizes on building “excellence” in India’s higher education system. Several institutions are already pursuing this objective, albeit in a less holistic manner. For example:

► Manipal University is **internationalizing** its education system by providing global exposure to students and faculty through “twinning” programmes, research collaborations, and teaching forums with international institutes.
► The Indian School of Business (ISB) has been able to attract world-class faculty by offering a conducive research environment and attractive remuneration.
► The India-UK Advanced Instability Methods (AIM) Network has successfully created a platform for industrial and institutional partners to jointly conduct applied research for industrial purposes.
► BITS Pilani provides its students work-integrated learning opportunities through collaborations with leading corporate houses through its “Practice School” programme.

Going forward, we expect the quality imperative to be looked at more comprehensively by institutions and in line with their orientation: research-focused, teaching-focused, and vocational-focused. India’s higher education system can be expected to be better aligned to industry and global practices, and be more transparent and inclusive by the end of Twelfth Plan period, provided the Government is able to create an enabling regulatory environment and put in place robust implementation, monitoring and quality assurance mechanisms in the sector.
Higher education in India: on a high growth trajectory
India has one of the largest higher education systems in the world, and has been witnessing healthy growth in its number of institutions and enrollment in the last few decades.

The number of universities has grown more than six times in the last four decades.

India has more than 33,000 colleges with one-third of the colleges having been set up in the last five years.

There were 12,748 diploma-granting institutions in the country as of 2011–12.

Student enrollment in HEIs has grown 12 times in the last four decades.

GER in higher education has reached close to 18% in 2011–12.

India ranks second in the world in terms of enrollment of students in higher education institutions.

Comparison with other countries (2012 data for India; 2009 data for the US and China)

*Using global definition of GER (18-22 age cohorts), India’s GER was 20.2% in 2011-12

There are multiple ways of classifying the higher education system including form of presence, mode of delivery, and field and level of study.

Classification of Indian higher education system

- **Form of presence**
  - University and university-level institutions
  - Colleges
  - Diploma-granting institutions
  - Approximately 64% of these institutes have been set up by the private sector.

- **Level of study**
  - Undergraduate
  - Postgraduate
  - PhD
  - Diploma
  - Undergraduate courses enroll 87% of the total number of enrolled students in degree courses.

- **Mode of delivery**
  - Classroom teaching
  - Distance education
    - Correspondence
    - Online
    - Study centres
  - Around 4.2 million students are enrolled in distance education programmes.

- **Field of study**
  - General courses (such as arts, science and education)
  - Professional courses (such as engineering, management and law)
  - General courses account for the larger share of HEIs and student enrollment.

Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond
A. Form of presence

Private institutions lead in terms of number of institutions and student enrollment.

<table>
<thead>
<tr>
<th>Form of presence (46,430)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University and university-level Institutions</td>
</tr>
<tr>
<td>Central</td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>Private</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Enrollment in 2012 (million)
- Private institutions: 0.5%
- State institutions: 63.9%
- Central institutions: 35.6%
- Total: 18.5 million

- Lower investment required to set up affiliated colleges (given their typical scale) than to establish universities
- Affiliated to a university and therefore governed by its mandate or guiding principles
- Face limited regulatory interface since they deal with a single regulatory body (AICTE)
- AICTE regulates a range of issues relating to setting up of such institutions and their operations, including land, infrastructure, intake, faculty, etc.

Private institutes (~30,000) account for the majority of HEIs... ...as well as student enrollment

Number of HEIs by ownership (2011-12): 46,430

Enrollment by ownership (2011-2012): 21.8 million

Source: Twelfth Five Year Plan: Chapter on higher education, UGC report 'Higher education in India at a glance' 2012
**B. Field of study**

While general courses account for the bulk of enrollment, professional courses are growing significantly faster.

<table>
<thead>
<tr>
<th>Field of study</th>
<th>General institutions</th>
<th>Professional institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment in 2012 (million)</td>
<td>16.250*</td>
<td>9,701*</td>
</tr>
</tbody>
</table>

Streams offered include:
- Arts
- Science
- Commerce
- Education

Streams offered:
- Engineering
- Medical
- Management
- Law
- Other professional and vocation-based courses such as hotel management, architecture, agriculture, etc.

**General courses account for the largest share of enrollment...**

Enrollment by field of study (2011-12)

- Arts: 2%
- Commerce/Management: 14%
- Education: 6%
- Law: 6%
- Engineering: 25%
- Science: 16%
- Medicine/Nursing and Pharmacy: 1%
- Others: 30%

**...but enrollment in professional courses (such as engineering and medicine) has witnessed a higher growth in the last five years**

Annual growth rate of enrollment (million) 2007-12

- General courses: CAGR 5.6%
- Professional courses: CAGR 7.1%

While professional courses account for a third of enrolment, the fee for such courses is significantly higher than general courses (upwards of 10x), resulting in majority spend towards such courses.

*2009-10 statistics

**Excludes enrollment in ‘other’ courses

Source: Twelfth five year plan: Chapter on higher education, UGC report ‘Higher education in India at a glance’ 2012
C. Mode of delivery

Distance education has emerged as a cost-effective manner of enhancing access to higher education in India.

<table>
<thead>
<tr>
<th>Mode of delivery</th>
<th>Classroom teaching</th>
<th>Distance education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment in 2012 (million)</td>
<td>46,430</td>
<td>197</td>
</tr>
</tbody>
</table>

- Traditional method of delivery offered by mainstream higher education institutions
- There are multiple modes of delivering distance education – correspondence, study centres, and online
- Distance education in India is regulated by the Distance Education Council (DEC), established under the IGNOU Act, 1985

The number of Distance Education Institutes has been growing at a healthy pace in the country. Currently, almost 200 institutes are approved for offering distance learning programmes.

Enrollment in distance education has grown at an annual rate of ~11% in the last three decades.

Other DEIs have witnessed a rapid growth and account for the bulk share of enrollment.

Source: Twelfth five year plan: Chapter on higher education, UGC report 'Higher education in India at a glance' 2012, Distance Education Council website 'Recognition accorded by the distance education council to the universities / institutions for offering programmes through distance mode'
D. Level of study

Degree courses are preferred over diploma courses, with maximum enrollment in undergraduate degree programs.

<table>
<thead>
<tr>
<th>Level of study</th>
<th>Undergraduate degree</th>
<th>Postgraduate degree</th>
<th>PhD degree</th>
<th>Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment in 2012 (million)</td>
<td>16.2</td>
<td>2.2</td>
<td>0.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Total degree institutions</td>
<td>33,682</td>
<td></td>
<td></td>
<td>12,748</td>
</tr>
</tbody>
</table>

Undergraduate degree programmes account for the bulk of enrollment.

Enrollment by type of certification (2011-12):
- Degree: 84.9%
- Diploma: 15.1%

Enrollment by level of study (2011-12):
- UG: 87.4%
- PG: 12.1%
- PhD: 0.5%

Source: Twelfth Five Year Plan: Chapter on higher education, UGC report ‘Higher education in India at a glance’ 2012
The private sector has played a pivotal role in the growth of higher education in India

The share of unaided private institutions in the total number of institutions is now a little less than two-thirds, up from 40% a decade ago

<table>
<thead>
<tr>
<th>Year</th>
<th>Unaided Private</th>
<th>Total Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>42.6%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>61.8%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>63.9%</td>
<td></td>
</tr>
</tbody>
</table>

Unaided private higher education institutions as a percentage of total institutions

*Private institutions as percentage of total

The unaided private sector accounted for around 60% of total enrollment in 2012 — almost double that of the share of total enrollment of 33% in 2001

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment in Private Institutions</th>
<th>Total Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>32.9%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>54.2%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>58.9%</td>
<td></td>
</tr>
</tbody>
</table>

Enrollment in unaided private higher education institutions as a percentage of total enrollment

*Enrollment in private institutions as percentage of total

Between 2007 and 2012, the number of private institutions grew faster than the number of government institutions

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>11,239</td>
<td>16,768</td>
</tr>
<tr>
<td>2012</td>
<td>18,145</td>
<td>29,662</td>
</tr>
</tbody>
</table>

Growth in HEIs

CAGR 8.3%

CAGR 10.3%

Enrollment in private institutions has increased at a CAGR of 11% over the last five years, as compared to 7% in government institutions

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>6.3</td>
<td>8.9</td>
</tr>
<tr>
<td>2012</td>
<td>7.5</td>
<td>12.8</td>
</tr>
</tbody>
</table>

Growth in enrollments in HEIs (million)

CAGR 7.2%

CAGR 11.3%

State private universities have witnessed an annual growth of 33.8% since 1995...

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth in HEIs (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>1</td>
</tr>
<tr>
<td>2001</td>
<td>2</td>
</tr>
<tr>
<td>2004</td>
<td>14</td>
</tr>
<tr>
<td>2007</td>
<td>28</td>
</tr>
<tr>
<td>2010</td>
<td>82</td>
</tr>
<tr>
<td>2012</td>
<td>142</td>
</tr>
</tbody>
</table>

CAGR 33.8%

...partly driven by increased corporate sector participation

► Several private HEIs have been established recently with the support of the corporate sector. These include (illustrative):
  ► Shiv Nadar University (2011)
  ► Azim Premji University (2011)
  ► Jaypee University of Engineering & Technology (2010)
  ► Dr. K.N. Modi University (2010)
  ► O.P. Jindal Global University (2009)

Source: Twelfth five year plan: Chapter on higher education; UGC
The Government has contributed to the development of the sector through its Five Year Plans

<table>
<thead>
<tr>
<th>The Thrust areas of the past Five Year Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality improvement</strong></td>
</tr>
<tr>
<td>► Improvement of standards and regulation of admission</td>
</tr>
<tr>
<td>► Restructuring of courses for practical orientation and greater relevance</td>
</tr>
<tr>
<td>► Restructuring courses offered at first degree level to increase employability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (1981-85)</th>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (1985-90)</th>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (1992-97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>4%</td>
<td>12.0</td>
<td>6.2</td>
<td>10.6</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ninth Five Year Plan (1997-02)</th>
<th>Tenth Five Year Plan (2002-07)</th>
<th>Eleventh Five Year Plan (2007-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adapting to social and economic changes</strong></td>
<td><strong>Improving quality and relevance of higher education</strong></td>
<td><strong>Inclusive growth of higher education</strong></td>
</tr>
<tr>
<td>► Encouraging relevant courses with a professional focus to enable career development</td>
<td>► Strengthening of research institutions as well as open and distance education system</td>
<td>► Expanding HEIs to eliminate regional imbalances</td>
</tr>
<tr>
<td>► Addressing the education needs of under-represented social groups</td>
<td>► Knowledge and use of new information and communication technology</td>
<td>► Making higher education accessible to all socio-economic strata of the society</td>
</tr>
<tr>
<td>► Generating revenue through increased university-industry linkages</td>
<td>► Focus on quality, evaluation and accreditation of higher education</td>
<td>► Improving quality of education by promoting research, quality assurance systems and faculty and infrastructure development</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (1997-02)</th>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (2002-07)</th>
<th>Planned expenditure on higher education (INR billion)</th>
<th>Annual enrollment growth (2007-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.0</td>
<td>5.6%</td>
<td>96.0*</td>
<td>6.6%</td>
<td>849.4*</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

*The Government has planned expenditure of INR 1,107 billion on higher education during the Twelfth Five Year plan, 1.3 times higher than the planned expenditure in Eleventh plan.*

*Includes expenditure on technical and vocational education

Source: Tenth Five Year Plan: Chapter on Higher and Technical Education, Eleventh Five Year Plan: report of working group on higher education.
During the Eleventh Plan, significant progress was made in the areas of expansion, inclusion, quality improvement and increased private participation (1/2)

<table>
<thead>
<tr>
<th>Access</th>
<th>Excellence</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of suitable number of institutions across regions</td>
<td>Provision of suitable infrastructure, trained faculty and effective pedagogy in higher education institutions</td>
<td>Equal opportunity for all sections of society to participate in higher education</td>
</tr>
</tbody>
</table>

**Achievements/Initiatives during the Eleventh Five Year Plan period**

- **Access**
  - **Improvement in GER**
    - During the Eleventh Plan period, India’s GER crossed 15% taking the country’s higher education from an “elite” (GER of less than 15%) to a “mass” (15%-50% GER) system
  - **Increase in number of institutes**
    - The number of HEIs grew by 9.6% per annum from 29,384 to 46,430 during this period
    - Central institutions witnessed a historic growth (with a CAGR of 11.8%), with 51 new institutions being set up during the Plan period
    - During this period, 7 new IIMs, 8 IITs and 10 NITs were established
  - **Increasing private sector participation**
    - The number of private institutions grew at a CAGR of 10% during the Plan period. This growth included the establishment of 98 state private universities, 17 private deemed universities, 7,818 private colleges and 3,581 private diploma institutions.

- **Equity**
  - **Additional opportunities for minorities / low-income families**
    - The Government increased the intake capacity of central institutions to provide 27% reservation for OBCs without affecting the number of general seats
    - Merit-cum-means scholarships were started in 2008–09 for students who are 80th percentile and above from different school boards and have family incomes of less than INR0.45 million per annum
    - Since 2009–10, the Central government has begun providing full interest subsidy loans during the moratorium period to students whose annual family income is less than INR0.45 million
  - **Support for backward areas**
    - Out of the proposed 374, 45 model colleges were established in low enrollment districts

Source: Twelfth Five Year Plan: Chapter on higher education
During the Eleventh Plan, significant progress was made in the areas of expansion, inclusion, quality improvement and increased private participation (2/2)

Achievements/Initiatives during the Eleventh Five Year Plan period

<table>
<thead>
<tr>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overcoming faculty shortages</strong></td>
</tr>
<tr>
<td>▶ The retirement age of faculty was increased to 65 years with provision for further extension to 70 years in special cases.</td>
</tr>
<tr>
<td>▶ A faculty re-charge scheme (to attract young faculty) and an initiative to enlist professionals from outside academic institutions (as adjunct faculty or scholars-in-residence) were also initiated</td>
</tr>
<tr>
<td>▶ Several fellowship and scholarship schemes for M.Phil and PhD were instituted</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reforms in curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Some states adopted the semester system. E.g. University of Delhi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infrastructure development</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ The National Mission on Education through ICT (NME-ICT) was launched to provide enhanced connectivity, content and access devices to educational institutes. Under this initiative, 392 universities and 18,374 colleges were provided with broadband connectivity. The development of virtual reality labs and initiatives for the creation of e-content were also taken up. In addition, a low-cost computing-cum-access device, Akash, was developed. The programme received an investment of INR14.72 billion</td>
</tr>
<tr>
<td>▶ The first phase of the three-phase “Technical Education Quality Improvement Programme (TEQIP),” initiated in 2002–03 with the support of the World Bank support, ended in 2008–09, with an investment of INR13.78 billion. TEQIP helps to improve the quality of technical education in selected engineering institutions by providing input on modernization of laboratories, libraries, faculty and staff development, research, networking between institutions and service to community. The programme covered 127 engineering institutions during the Plan period.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strengthening research and development activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ In order to promote interdisciplinary teaching and research, 417 departments of universities/colleges were provided financial support (of up to INR6 million per institution)</td>
</tr>
<tr>
<td>▶ The UGC undertook a new initiative during the Plan period to promote Basic Scientific Research (BSR. This included grants to departments and colleges to improve their basic infrastructure, fellowships for doctoral and post-doctoral work, faculty recharge schemes, networking centres and promotion of research at the undergraduate level</td>
</tr>
</tbody>
</table>

In the Eleventh Plan, the planned expenditure on higher education was pegged at INR849.43 billion*, a nine-fold increase over the Tenth Plan outlay of INR96 billion. However, actual expenditure on higher education was 45.6%(INR396.47 billion) of the planned expenditure.

*Includes funds for technical and vocational education

Source: Twelfth Five Year Plan: Chapter on higher education
Several bills were introduced during the Plan period to improve the quality and transparency in higher education.

<table>
<thead>
<tr>
<th>Bill</th>
<th>Description</th>
<th>Key Features</th>
<th>Expected Outcome</th>
</tr>
</thead>
</table>
| Higher Education and Research Bill, 2011 | The Bill aims to consolidate multiple regulations and improve transparency by the creation of a single super regulator, the National Commission for Higher Education and Research, in the place of existing regulators such as the UGC and AICTE. | ► Specifying norms and standards, and requirements for academic quality  
► Authorizing institutions to confer awards  
► Advising Central/state governments  
► Expected outcome:  
► Simplification of regulatory environment and enablement of stability of policy  
► Promotion of autonomy and innovation in higher education |   |
| The National Academic Depository Bill, 2011 | The Bill seeks to establish a national database of academic awards in electronic format through an identified and registered depository. | ► Mandatory for every academic institution to lodge academic awards with the depository  
► Academic institutions, students and employers to have online access to national database  
► Expected outcome:  
► Would ensure confidentiality, authenticity, online verification and easy retrieval of information |   |
| The National Accreditation Regulatory Authority for Higher Educational Institutions Bill, 2010 | The National Accreditation Regulatory Authority for Higher Educational Institutions Bill aims to make accreditation and rating of all higher education institutions mandatory in India. | ► Establishment of National Accreditation Regulatory Authority for accrediting and rating all higher education institutes in the country.  
► Central and state universities, deemed universities, colleges and polytechnics to come under the purview of the Bill.  
► Expected outcome:  
► The Compulsory accreditation would establish uniform standards and norms across institutions and thereby enhance the quality of higher education in the country |   |
| The Educational Tribunal Bill, 2010 | The Educational Tribunal Bill aims to expedite and enable more effective litigation involving students, teachers, employees and the management of institutions. | ► Establishment of education tribunals (ETs) at the national (National Education Tribunal, NET) and state levels (State Education Tribunal, SET)  
► Establishment of ETs with jurisdiction over matters of affiliation with universities, in relation to unfair practices, the service matters of teachers or employees and disputes of institutions with regulators.  
► Expected outcome:  
► Ease for settlement of disputes in a sector that suffers from complex and multiple laws  
► Students’ grievances not specifically covered in the Bill |   |
| Foreign Educational Institutions Bill, 2010 | The Foreign Education Institutions Bill aims to regulate the entry and operation of foreign institutes in India. The Bill is a key legislation to encourage private sector participation in India, given the absence of any regulatory framework for FEIs. | ► Regulation of campuses as well as collaborations of FEIs with Indian institutes  
► Prior track record of 20 years in home country required with a minimum corpus of INR500 million  
► Expected outcome:  
► Mechanism to ensure that only reputed institutes operate in India  
► Significant quality improvement due to increase in competition as well as partnerships and collaborations |   |

Source: PRS Legislative Research website
Challenges continuing to plague the sector
The India’s higher education system faces challenges on three fronts — expansion, equity and excellence

► India’s GER of 16% was much below the world average of 27% as well as that of other emerging countries such as China (26%) and Brazil (36%) in 2010

► Faculty shortage — 40% and 35% shortage of faculty in state and central universities, respectively

► Accredited institutions — 62% of universities and 90% of colleges being average or below average in 2010 on the basis of their NAAC accreditation

► Low citation impact — India’s relative citation impact being half the world average

There is wide disparity in the GER of higher education across states and the GAR* in urban and rural areas, and gender- and community-wise

► Inter-state disparity — 47.9% in Delhi vs 9% in Assam

► Urban-rural divide — 30% in urban areas vs 11.1% in rural areas

► Differences across communities — 14.8% for OBCs, 11.6% for SCs, 7.7% for STs and 9.6% for Muslims

► Gender disparity — 15.2% for females vs 19% for males
Expansion

International comparison of GER highlights the fact that India lags behind its global peers in terms of enrollment.

While enrollment has grown in India’s higher education institutions at an annual rate of 7.4% between 2001-2009, the country’s growth lags behind that of China and Brazil, but is ahead of that of the US and Russia.

India’s GER not only significantly lags behind that of developed countries such as the US, Switzerland, Japan and the UK, but also that of developing countries including China, Brazil, Malaysia and the Philippines.

Source: World Development Indicators, World Bank, UNESCO: Global Education Digest 2011
**Equity**

There is wide disparity in terms of rural-urban, gender and communities.

Access to higher education for all minority social groups is much below the national average.

<table>
<thead>
<tr>
<th>Year</th>
<th>OBC</th>
<th>SC</th>
<th>Muslims</th>
<th>ST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>10.1</td>
<td>7.0</td>
<td>5.1</td>
<td>NA</td>
</tr>
<tr>
<td>2004-2005</td>
<td>12.6</td>
<td>7.8</td>
<td>7.7</td>
<td>7.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>17.2</td>
<td>11.6</td>
<td>9.6</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Gross Attendance Ratio (GAR) for reserved categories and minorities (%)

*statistics for 1999–2000 and 2004–05 is as per student enrollment, 2007–08 is as per student attendance

There is significant gender disparity

In 2007–08, the GAR in urban areas was almost three times that in rural areas

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>National average</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>12.1</td>
<td>10.1</td>
<td>8.0</td>
</tr>
<tr>
<td>2004-05</td>
<td>14.4</td>
<td>12.6</td>
<td>10.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>19.0</td>
<td>15.2</td>
<td>17.2</td>
</tr>
</tbody>
</table>

GAR by gender (%)

*statistics for 1999-2000 and 2004-05 is as per student enrollment, 2007–08 is as per student attendance

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban</th>
<th>National average</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>21.7</td>
<td>10.1</td>
<td>5.6</td>
</tr>
<tr>
<td>2004-05</td>
<td>23.8</td>
<td>12.6</td>
<td>7.5</td>
</tr>
<tr>
<td>2007-08</td>
<td>30.0</td>
<td>17.2</td>
<td>11.1</td>
</tr>
</tbody>
</table>

GAR by rural and urban (%)

*statistics for 1999-2000 and 2004-05 is as per student enrollment, 2007–08 is as per student attendance

Source: Eleventh Five Year Plan: Chapter on Higher and Technical Education, Twelfth Five Year Plan: Chapter on higher education, UGC report: Issues related to expansion, inclusiveness, quality and finance November 2008
Equity
There is also a significant disparity across states

GER by states, 2010

Source: Twelfth Five Year Plan: Chapter on higher education

*Chandigarh
**Puducherry
**Excellence**

Lack of research activity and shortage of high-quality faculty are plaguing the sector

### Faculty

While enrollment in higher education has grown six times in the last 30 years, faculty strength has grown only four times...

![Graph showing student enrolment CAGR 6.3% and Faculty CAGR 4.9%](image)

...resulting in shortage of faculty and high student-teacher ratios

<table>
<thead>
<tr>
<th>Year</th>
<th>India</th>
<th>BRIC average</th>
<th>Developed economies average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-81</td>
<td>26</td>
<td>16</td>
<td>15.3</td>
</tr>
<tr>
<td>2010-11</td>
<td>0.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Global comparison of student-teacher ratio

<table>
<thead>
<tr>
<th>State universities</th>
<th>Central universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>35%</td>
</tr>
</tbody>
</table>

### Research

Academics in China authored five times more research papers than India’s in 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of research papers by country, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4,367</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1,326</td>
</tr>
<tr>
<td>China</td>
<td>903</td>
</tr>
<tr>
<td>Japan</td>
<td>536</td>
</tr>
<tr>
<td>India</td>
<td>187</td>
</tr>
</tbody>
</table>

Number of research papers by country, 2011

The relative impact of citations for India is half of the world average

<table>
<thead>
<tr>
<th>Country</th>
<th>Relative citation impact by country, 2007–11</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>1.25</td>
</tr>
<tr>
<td>United States</td>
<td>1.24</td>
</tr>
<tr>
<td>Japan</td>
<td>0.81</td>
</tr>
<tr>
<td>China</td>
<td>0.61</td>
</tr>
<tr>
<td>India</td>
<td>0.51</td>
</tr>
</tbody>
</table>

World Average: 1.0

Source: Japan Science and Technology Agency website, Twelfth Five Year Plan: Chapter on higher education, FICCI education sector profile 2012
Excellence
This has resulted in sub-par accreditation and rankings

### Accreditation

As of March 2010, NAAC had rated 62% of the universities and 90% of the colleges as average (B) or below average (C) on specified quality parameters.

As of March 2010, only 32.3% (159) of the total number of Indian universities and 13.1% (4,094) of the colleges in the country had been accredited by the National Assessment and Accreditation Council (NAAC).

### World rankings

Only two Indian higher education brands featured in the QS World University Rankings 2011-12 of the top 500 global universities.

Out of the 48 countries studied, India ranks last in the U21 rankings of national higher education systems.

**QS World University Rankings (Top 500), 2011–12**

*Includes 6 IITs and University of Delhi

**U21 Ranking of National Higher Education Systems, 2012**


Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond
Excellence
Employers are finding it difficult to find the right talent

Employability

According to industry reports, only 25% of technical graduates and 10%-15% of other graduates are considered employable by the IT/ITES industries.

According to a survey conducted among 800 MBA students across different cities in India, only 23% were considered employable.

"It’s a worrying sign that even though the 3rd largest number of graduates in the world every year is produced in India, only 15 percent of our boys and girls passing out of college have the skills required to become employable! This brings in concerns that students are getting degrees, but not getting employable hands-on skills."

- Pratibha Patil, President of India

"The faculty at colleges has limited quality industry experience. The best practice may be to get significant bits of training, at least 25% to be delivered by actual industry experts."

- Kishore B, Lead Researcher, Tata Institute of Social Sciences (TISS)

Employability percentage across different fields in IT - a case in point

- More than 62% of the candidates require training to be eligible for any job in the IT/ITES sectors.
- Employability in regard to IT product companies is the lowest, since there is no formal training imparted by organizations to fresh technical graduates.
- IT services companies impart three to six months of in-house training to technical graduates at a cost of at least INR 0.2 million per employee.
Twelfth Five Year Plan: strategic framework and key initiatives to address these challenges
To address the challenges in the higher education sector, several government initiatives have been proposed in the Twelfth Five Year Plan.

**Guiding principles**

- Emphasis on quality
- Diversification of education opportunities
- Institutional autonomy

**Strategic framework**

**Excellence**
- Use of Information and Communication Technology (ICT)
- Institutional differentiation by creation of multi-disciplinary research universities, teaching institutions, vocational education institutes, etc.

**Expansion**
- Scaling up of capacity in existing institutes rather than adding new institutes

**Equity**
- Revamping and integration of schemes targeted at underserved areas, and vulnerable and deprived communities

**Governance**
- Enhancement of institutional autonomy and transparency
- Co-ordination of regulatory reforms

**Financing**
- Increased public and private funding
- Linking of funding with outcomes

**Implementation and monitoring**
- Enhanced co-ordination across ministries and agencies
- Greater flexibility provided for implementing agencies

**Enablers**

- Shift from input-centric to learner-centric
- Promotion of innovation and research by creating synergy between teaching and research
- Development of faculty
- Movement toward internalization
- Creation of alliances and networks between academic and research institutions and industry

Source: Twelfth Five Year Plan: Chapter on higher education
1. Excellence
Key initiatives (1/3)

Infrastructure and technology

- Establish meta university framework to promote inter-institutional collaboration and designing of innovative interdisciplinary programs. This framework would encourage the use of Massively Open Online Courses (MOOCs) and access to content, teaching and research support for all the members of a network.

  - The components of this mission in the Twelfth Plan include:
    - Digital Infrastructure initiatives: Upgrading broadband connectivity of universities and colleges to 10GBPS and 1 GBPS, respectively; building computer labs with increased availability of laptops, low-cost access devices for faculty and students and smart classrooms (classrooms with video-conferencing facility linking meta-universities and affiliating universities)
    - Content initiatives: Development of virtual labs, establishing a single national-level consortium for propriety content and creating open-access content repositories including interoperable institutional repositories for user content and networks; implementing single portal for all content and DTH channel initiatives.
    - Governance initiatives: Rollout of institutional ERP to computerize the examination wings of all universities, robust online linkage between all affiliating universities and their affiliated colleges, creation of online data collection, and automation of libraries and grants management.
    - Training and capacity-building initiatives: Training of faculty in creation of instructional design content, implementation of capacity-building measures to adopt technology-mediated pedagogy in classrooms.

- Phase-3 of TEQIP is to be launched to introduce diversity in curricula and scale sector-wide programs. This phase will focus on the development of an “eco-system” by supporting State Technological Universities, strengthening AICTE and scaling up sector-wide programs.

Faculty

- The Government aims to double faculty at HEIs by the end of the Twelfth Plan period from 0.8 million at present to 1.6 million at the end of the Plan.
- The Government also wants to tap the pool of retired experts, who can function as adjunct faculty and also enroll for doctoral degrees.
- A “National Mission on Teachers and Teaching” would be launched in the Twelfth Plan to pool all the existing and new initiatives on faculty development under one umbrella.
- The Government would also launch a program to fund doctoral students and enable them to study at international institutions.
- The institutional weaknesses of Academic Staff Colleges (ASCs) are slated to be eliminated through qualitative change in the content and methodology of development of faculty.
- More faculty development programs along with improvements in hiring practices and working conditions, are expected to lead to the enhanced performance of casual and part-time academic employees.
- In order to provide global exposure to Indian faculty, the Government plans to launch the International Faculty development Programme, under which:
  - Indian faculty will be sent to the best universities in the world for 3 to 6 months` internship.
  - Around 40–50 annual workshops are expected to be conducted by leading international teachers and researchers for selected Indian post-doctoral students and faculty.
- The Government seeks to establish 50 Teaching and Learning Centres (TLCs) to promote research activity and training of faculty in the country.

The Twelfth Plan emphasizes on leveraging technology for inter-institutional collaboration, innovation and faculty development to address challenges relating to infrastructure and faculty in India’s higher education system.

Source: Twelfth Five Year Plan: Chapter on higher education.
1. Excellence
Key initiatives (2/3)

Infrastructure and technology

Shifting from annual to semester examination system
- All Indian universities would be encouraged to shift from the current annual examination system to semesters with choice-based credit system (CBCS), comprehensive and continuous evaluation and regular revision of curricula to ensure updated and relevant curricula

Promoting holistic undergraduate programmes
- Four-year undergraduate courses (in place of three-year courses) will be promoted, to provide holistic education and opportunities for intellectual exploration, and will include hands-on research, experiential learning, as well as ethical and leadership education, community service, creative thinking, education on acquiring

Creating active learning environment
- The Government plans to create professional networks of institutions and individuals, similar to the ‘Network of Social Work Education’ and the mathematics initiative of the University of Delhi.
- Subject-specific curricula and packaged, re-usable digitized content would be made available to students to create a knowledge repository

Accreditation

Revamping the accreditation system
- Setting up of a National Accreditation Regulatory Authority for Higher Educational Institutions is under consideration to strengthen India’s accreditation system
- The capacities of existing agencies (e.g., NAAC and NBA) would also be enhanced
- Indian institutions would be encouraged to obtain accreditation from international accrediting bodies to create competitive pressure on Indian accrediting bodies
- Multiple accreditation bodies would be set up to handle the large volume of applications for accreditation

Internationalization

Internationalization of higher education
- India would adopt a clearly articulated strategy for internationalization of higher education, which will include faculty and students exchange programs, institutional collaboration for teaching and research, induction of diverse teaching learning models and enhanced use of technology
- A globally compatible academic credit system and internationally recognized curricula and processes would be put in place
- The India International Education Centre, a professional national agency, would be created to support selected institutions to help them establish dedicated internationalization units

A dynamic and international approach will be adopted by redesigning curricula, focusing on technical knowledge, initiating employability programmes, and aligning Indian education with international standards

Source: Twelfth Five Year Plan: Chapter on higher education
1. Excellence
Key initiatives (3/3)

<table>
<thead>
<tr>
<th>Research and innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>► The Government plans to invest up to 2% of the country’s GDP in research activity during the Twelfth Plan (from 1% at present). The increased investment would be used to develop institutions and create centres of excellence in research and research training.</td>
</tr>
<tr>
<td>► Research universities that are able to participate in research and teaching in multiple disciplines will be promoted. A legislative framework for setting up “Universities for Research and Innovation” is being considered. The Government intends to have 20 such universities, which are either created or converted, by the end of the Twelfth Plan.</td>
</tr>
<tr>
<td>► The creation of 20 Centres of Excellence (CoEs) as a long-term investment in selected areas of national importance is expected to attract and retain research talent. In addition, 50 centres of training and research will be established in frontier areas of science and technology, social sciences and humanities.</td>
</tr>
<tr>
<td>► The National Initiative for Excellence in Basic Sciences would be strengthened during the Twelfth Plan.</td>
</tr>
<tr>
<td>► The ‘National Initiative for Excellence in Social Sciences and Humanities’ would be launched to encourage humanities as a choice for students and improve quality and research in this discipline.</td>
</tr>
<tr>
<td>► An “Empowered Committee to Promote Basic Science” would be set up to revamp existing institutional funding, launch new scholarship schemes, up-scale doctoral and post-doctoral fellowships and create new Inter University Centres.</td>
</tr>
<tr>
<td>► A National Initiative for Innovation and Entrepreneurship will enable an environment that fosters value creation and technology transfer, develops industry-academia partnerships, creates national research parks and develops a culture for protection and management of IPRs in HEIs.</td>
</tr>
<tr>
<td>► All related activities under the Ministry, UGC and AICTE would be pooled under the Ministry of Science and Technology.</td>
</tr>
<tr>
<td>► A National Initiative for Design and Innovation would be launched under which 20 new Design Innovation Centres (DICs), an Open Design school (ODS) and a National Design Innovation Network (NDIN) would be set up.</td>
</tr>
<tr>
<td>► The Government would launch various initiatives to promote collaborative research.</td>
</tr>
<tr>
<td>► Several new research-based Inter University Centres (IUCs) — of inter-disciplinary and strategic importance — would be established in the different areas of basic and applied research.</td>
</tr>
<tr>
<td>► Ten Inter-Institutional Centres (IICs) would be established as partnership between multiple research-oriented institutions or program-specific partnerships between funding agencies and research institutions.</td>
</tr>
<tr>
<td>► Excellence Clusters and Networks would be established by creating linkages between national laboratories or national research centres and universities supported through research funds. Location-based alliances would be created to build city-wide knowledge networks and interactions enhanced through structured, interactive and collaborative frameworks.</td>
</tr>
<tr>
<td>► The Council for Industry and Higher Education Collaboration (CIHEC), a not-for-profit, independent nodal agency would be established to facilitate industry-institute collaboration.</td>
</tr>
<tr>
<td>► A special effort would be made to strengthen international research linkages and leverage the 22 million Indian Diaspora as a powerful asset for research innovation and entrepreneurship.</td>
</tr>
</tbody>
</table>

Promotion and enhancement of research and innovation is a key focus area of the Twelfth Plan, to align research with the national development agenda and better serve the needs of industry and society.

Source: Twelfth Five Year Plan: Chapter on higher education
Given the Government’s focus on “Excellence” in the Twelfth Five Year Plan, we have looked at some key levers for enhancing the quality of India’s higher education institutions.

- Merit-based student financing
- Improved technology for education delivery
- High quality faculty
- Internationalization of education
- Enabling research environment
- Employability

This section showcases Indian and international institutes that have initiated innovations around some key levers to create a high-quality impact.
A. Merit-based student financing
Massachusetts Institute of Technology (MIT)

Overview

► MIT has been ranked number one on QS World University Rankings 2012
► There are 4,232 undergraduate students studying at the institute
► Estimated fees for undergraduate courses for 2012—13 amounted to US$57,010 per annum
► The average annual salary for undergraduates was approx US$65,000 in 2010

Highlights

► Through its need-based education financial aid services, the institute ensures that no deserving student is denied admission due to lack of funds
► For the academic year 2011—12:
  ► Around 74% of undergraduates were either awarded a merit-based or need-based scholarship.
  ► Around 61% of undergraduates received a need-based MIT scholarship
  ► Around 41% of undergraduates had student loan debt (average debt —US$20,800) at graduation

Overview of financial aid programme

Sources of student financing

Scholarships/grants

► MIT scholarships form the largest source of undergraduate financial aid.
► The institute awards need-based MIT scholarships from endowed funds, gifts from MIT alumni and friends and general institute funds.
► MIT also administers three Federal Grants. In addition, Students can apply for State grants and private scholarships.

Loans

► Students at MIT can apply for various subsidized and unsubsidized federal loan schemes at interest rates ranging between 5% to 6.8%.
► Students and parents can also consider private education loans which are usually less affordable than federal loans.

Financing options for parents

► MIT provides flexibility to parents by offering a monthly installment payment option if they cannot pay the full amount at the beginning of each semester.
► Parents can also apply for a non-need based federal loan to finance education at the institute at an interest rate of 7.9% p.a.

Key insights

Availability of multiple payment installment plans and financing options for students
Assured quality outcomes (such as placements) to ensure repayment capacity
Sources of scholarships through alumni contributions and endowments

Source: MIT Student Financial Services website
B. Internationalization of education
Manipal University

Overview

► Established in 1953, Manipal University was the first private institution to secure Deemed University status.
► It offers 338 undergraduate, post-graduate and doctoral courses in 15 streams
► Student strength of more than 26,000 (excluding those enrolled in distance education programme) across three universities and nine campuses

Highlights

► The university has a presence in more than 20 countries through its off-shore campuses, distance education programmes and international collaborations.

Internationalization

Various forms of internationalization

Foreign offshore campuses

► Off-shore campuses in:
  ► Dubai
  ► Nepal
  ► Antigua
  ► Malaysia (J V)

Twinning programmes

► The International Centre for Applied Sciences offers a twinning programme in engineering, with 26 partner universities in the US, the UK, Australia, Canada, and France
► Study Abroad Programme with the Alliance for Global Education, USA, for courses in Public Health and Development, and Indian Studies
► Kasturba Medical College International Centre’s pre-medical education programme with American University of Antigua College of Medicine

Research collaborations

► The Manipal Life Science Centre has linkages with international institutes such as the Wistar Institute in Philadelphia, in the US, and the University of Queensland in Australia for research projects

Foreign offshore campuses

► Manipal University and the University of Nottingham in the UK have launched their UK-India Teaching Partnership Development Forum in June 2012 to explore opportunities for the development of teaching partnerships in the two countries.

Key insights

-opportunities provided to students to study at international institutes and benefit from their experiences
-Students or faculty gaining valuable experience through exposure to research activities in different countries
-Understanding of new developments in the education sector through international networks and forums

Source: Manipal University website
B. Internationalization of education
Amrita University

Overview

► Established in 2003, Amrita University is NAAC ‘A’ accredited
► It offers more than 150 undergraduate, postgraduate and doctoral programmes in disciplines including engineering, business, medicine, dentistry, pharmacy, nursing, journalism and biotechnology.
► Student strength of more than 16,000.
► Faculty strength of 2,000, with more than 300 faculty members with Ph.D and Doctor of Medicine (DM) qualifications.

Highlights

► In November 2011, Amrita University had tie-ups with more than 50 universities and institutions in the US and Europe.
► It has sent more than 100 faculty members and students to various European universities under the Erasmus Mundus External Cooperation Window (EMECW), the European Commission’s academic co-operation programme in the field of higher education.

Internationalization

Various forms of internationalization

Faculty, student and research scholar exchange programmes

► A part of the MoU known as the Indo-US Inter University Collaborative Initiative in Higher Education and Research, signed between India and US in 2005, which includes exclusive tie-ups with 20 US universities for faculty and student exchange, etc.
► Various faculty, student and research scholar exchange programmes under EMECW of the European Commission

Dual degrees

► Offers a dual degree management programme for engineers and executives in the IT / ITeS sector with the State University of New York at Buffalo (SUNY), USA. Of the two years, students spend up to four weeks at the SUNY campus

Research collaborations

► Part of a team of 15 European organizations that work on a research project called WINSOC, to develop wireless sensor networks to monitor the environment
► Joined the Indo-German project on research on cyber security with the Technical Universities of Munich and Berlin
► Part of the Indo-Italian joint research project on robotics for 2012–2014

Key insights

Faculty, students and research scholars part of exchange programmes between different international institutes for global exposure in multiple areas
Opportunity to engage with government and business in different countries through international programmes
Students/Faculty gaining through exposure to research activities in different countries

Source: MIT Student Financial Services website
C. Enabling research environment
Indian School of Business (ISB)

Overview
► Established in 2001, ISB is a not-for-profit, independent management institution
► It is ranked among the top 20 global business schools in the 2012 Annual MBA Rankings of the Financial Times in London.
► It offers postgraduate, fellowship, post-doctoral and executive education programmes in management.
► ISB’s flagship programme, PGPM, had 770 students in 2012.

Highlights
► ISB leads in terms of the author count of Indian faculty in the Financial Times’ list of top 40 management journals for the period 1990–2009.
  ► ISB: 11
  ► IIM Calcutta: 10
  ► IIM Bangalore: 9
  ► IIT-Delhi: 5
  ► XLRI: 4
► It has achieved this in a relatively short period of time

Research environment at ISB

Research enablers

- Less teaching load on faculty
  ► At ISB, the teaching load per faculty is 120 hours per annum which is as per the global average
  ► The faculty members only teach one course which brings down the preparation time

- Corporate endowments
  ► ISB has received endowments from the Bharti Group, the Max Group, the Hero Group, and the Punj Lloyd Group to set up four specialist centres of excellence at its Mohali campus

- Linkages with global B-schools
  ► The ISB Behavioral Laboratory (ISB-BL) is a collaborative venture between ISB and the Wharton School of Business to conduct behavioral research on business topics.
  ► ISB has set up a Centre for Case Development in collaboration with the Richard Ivey School of Business.

- Research infrastructure
  ► It has nine Centres of Excellence on two campuses.
  ► These centres have been established with the support of its industry partners.
  ► They serve as a platform for knowledge exchange between academia, industry and the Government.

Key insights

- Incentives and ample time for faculty to conduct research
- Use of corporate endowments for research activities such as infrastructure development
- Exposure to global standards of research by collaboration with international B-schools
- Forums for interaction with industry and the Government to undertake joint research

Source: ISB website, IIT-Delhi website
C. Enabling research environment

India-UK Advanced Instability Methods (AIM) Network

Overview
- Set up in January 2009, AIM is an India-UK network of academics and industrial researchers
- Its objective is to transfer recent theoretical advances in fluid mechanics from applied mathematics to industrial problems
- The network aims to expand its operations to a broader industrial community as its range of research applicability becomes clearer

Highlights
Research outcomes (29 Jan 2009–30 Sep 2011)
- Around 300 researchers have attended its conferences and seminars.
- The AIM Network website, which comprises written tutorial documents, introductory videos, etc., has become a virtual resource for researchers outside the network.
- The software tools created by AIM have been implemented in gas turbine engines, human cardiovascular systems, bag-less vacuum cleaners as well as in Formula 1 car designs.

AIM programme details

Network partners and funding

Network partners

Institutional Partners
- UK
  - University of Cambridge
  - Indian Institute of Technology, Madras
  - Indian Institute of Technology, Bombay
  - Indian Institute of Science, Bangalore
  - Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
- India

Industrial Partners
- UK
  - BP Chemicals
  - Global Inkjet Systems
  - Hamworthy Engineering Limited
  - Rolls-Royce plc

Funding
- Part of a team of 15 European organizations that work on a research project called WINSOC, to develop wireless sensor networks to monitor the environment
- Joined the Indo-German project on research on cyber security with the Technical Universities of Munich and Berlin
- Part of the Indo-Italian joint research project on robotics for 2012–2014

Key insights
- Practical application of research through the involvement of industrial partners
- Relative ease of access to funds enable focus on research
- Creation of a knowledge repository for future reference and to facilitate innovation

Source: Advanced Instability Methods (AIM) Network website, Engineering and Physical Sciences Research Council website, ‘India, University of Cambridge tie up for research venture at Bangalore,’ The Economic Times
D. High quality faculty
Indian School of Business (ISB)

Overview

► Established in 2001, ISB is a not-for-profit, independent management institution
► It is ranked among the top 20 global business schools in the 2012 Annual MBA Rankings of the Financial Times in London.
► It offers postgraduate, fellowship, post-doctoral and executive education programmes in management.
► ISB’s flagship programme, PGPM, had 770 students in 2012.

Highlights

► Out of ISB’s 150+ faculty, 100 are visiting faculty from reputed international institutions, while the others reside on campus.
► All faculty members have doctoral degrees and actively participate in research.

ISB attracts world-class faculty

Enablers of faculty acquisition and retention

Conducive research environment

► Annual teaching hours per faculty at ISB are 120 as compared to 200 at IIM Ahmedabad. This leaves its faculty members with more time to dedicate to research.

Attractive remuneration

► ISB pays its faculty members four to five times more than other leading Indian B-schools, and around 60% of the average salaries offered by US B-schools.

Linkages with global B-schools

► Visiting faculty from the leading global B-schools — Wharton, Kellogg, London Business School, Cornell, Chicago, Duke, UCLA, etc.
► Joint faculty exchange programmes with MIT Sloan
► Participation of faculty members of the Kellogg School of Management and the Wharton School in designing curricula, research conferences as well as in recruitment of faculty

Faculty recruitment programmes

► Runs a programme, the Professor of Management Practice, under which it invites eminent industry leaders and professionals to join its faculty

Key insights

Attractive remuneration to attract highly qualified and experienced faculty
Conducive environment and ample time to participate in research an added attraction for faculty
Forums for interaction with world-renowned faculty for an understanding of best practices

Source: Indian School of Business (ISB) website, ‘B-schools faculty salaries also take a hit,’ Business Standard, ‘IIM-A needs to step out into the real world,’ Forbes India September 2012

Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond
E. Technology for education delivery
Tablets in B-schools

### Overview
- The top business schools in the world—including New York University’s Stern School of Business, IMD, Wharton and IESE—are adopting tablets in the classroom to enhance the learning experience.
- The largest case publishers, including the Harvard Business School and the University of Western Ontario’s Ivey School of Business, are converting their cases into tablet-enhanced formats.

### Highlights
- Harvard Business School has begun the process of converting 3,500 of its files to tablet-enhanced formats. It expects to finish conversion of its library of 17,000 titles to a tablet format by 2013.
- The Ivey School of Business has made more than 500 of its cases available via Apple’s iBookstore.

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### Use of tablets in B-schools

#### Benefits of using tablets in the classroom

**Convenience**
- Tablets are especially convenient for working professionals who have enrolled in part-time or executive MBA programmes as they can "toggle" between multiple screens.
- Tablets enable highlighting of material and notes being made on them.

**Cost**
- Digital versions of course material are around 15% less expensive than hard copies.
- These are paper-less and therefore more environment-friendly, and reduce the impact on the environment.

**Experience**
- Tablets are effective in teaching simulation cases, where multiple variables can be altered simultaneously and their impact and students’ responses can be easily gauged.
- Students can interact with one another through social learning networks on tablets.

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### Key insights

- User benefits of technology in classrooms such as flexibility, reduced costs and user-friendliness
- An enabling ecosystem through digitization of content, training of faculty in the use of technology, etc.
- Superior learning experience through simulations, real-time assessment, peer-to-peer network, etc.

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Source: ‘The B-school case study gets a digital makeover,’ BusinessWeek, ‘MBA students start taking the tablets,’ Financial Times

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Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond
F. Employability
School of Inspired Leadership (SOIL)

Overview
► The School of Inspired Leadership (SOIL), founded in 2009, offers postgraduate management courses and executive education programmes.
► It has been co-created by a group of leading companies from across industry verticals and include Nokia, Maruti, Dabur, Infosys, Asian Paints and L&T.
► Leaders from the consortium companies are appointed to the Board of SOIL, which has 32 industry practitioners on it.

Highlights
► 114 students participated in its placement process in 2012.
► Around 160 companies visited its campus.
► It has a placement percentage of 96% with an average salary of INR0.65 million–0.85 million.

Corporate sector participation

Student sourcing
► SOIL uses standards of selection followed by the industry consortium.
► The members of the industry consortium are actively involved in selection of students to the institute.

Education delivery / Research
► Curricula are designed through workshops held with leaders from the industry consortium.
► Every student is assigned a corporate leader as a mentor.
► Senior leadership from industry consortium discusses live case studies in the classrooms.
► Consortium members encourage SOIL to study its operations and develop case studies that are relevant to its curriculum.

Employment
► Seven-week internship with industry
► Consulting and research projects
► Year-long project in the not-for-profit sector
► Input on designing placement process
► Strong practical exposure

Impact
► Selection of students with potential for corporate employability

Key insights
Involvement of industry across the value chain, and not limited to the placement process to ensure employability
Curriculum balance in business knowledge and skills, with leadership and soft skill development
Industry exposure through live projects, internships, and case studies on real business issues

Source: School of Inspired Leadership (SOIL) website
F. Employability
ICICI-Manipal Academy

Overview
► Established in 2007, the ICICI Manipal Academy (IMA) is a joint venture between ICICI Bank and the Manipal Group.
► The institute aims to impart functional and specialized knowledge pertaining to banking-related subjects.
► Its MBA (Banking & Finance) programme has been specifically designed to train students as probationary officers, who can competently fulfill the requirements of ICICI Bank.
► It is an inclusive sourcing platform that is focused on tier 3 and 4 cities across India.

Programme structure
► The programme is divided into two phases:
  ► Phase 1 (12 months): Nine months of classroom training and three months of internship with ICICI Bank; Postgraduate Diploma in Banking (PGDB) awarded on completion of this phase
  ► Phase 2 (18-30 months — optional): Students complete online training while they work at the bank, leading to an MBA degree from Manipal
► Around 2,500 students graduating every year

Corporate sector participation

Student sourcing
► An applicant should be a graduate from any discipline and appear for an entrance test followed by an interview
► ICICI takes charge of admissions

Education delivery / Research
► Manipal invests in an exclusive campus, faculty and facilities and charges mutually agreed on fees per-student to ICICI (for Phase 1 of the programme).
► The curriculum is designed by Manipal and ICICI together and the course is delivered by IMA.
► Various classroom lectures are delivered by experts from ICICI Bank and the banking industry.

Employment
► Monthly stipend from ICICI during classroom training and internship
► Assured employment with ICICI after completion of course, after which students join as Assistant Managers (Band 1)

Key insights
Strong commitment from industry partner in terms of resources, time, etc.
Industry practitioners/experts appointed as faculty
Student motivation to meaningfully utilize internship period — internship conducted in the same organization as the final placement

Source: ICICI Manipal Academy website, ICICI Bank website
G. Collaboration
Intel Higher Education Programme

Overview
► Through its Intel Higher Education Programme, Intel promotes innovation in technology in collaboration with government, academia and education apex bodies
► The programme’s objective is to improve the quality of technical education imparted in the country through industry-academia linkages

Highlights
► The programme covers more than 150 universities in 34 countries
► In India, it has reached out to more than 20,000 students and 1,500 faculty members till date

Programme details - India

Network partners and funding

Network partners

Government and other apex bodies
► Department of Science & Technology
► Ministry of Communication & IT
► Department of Technical Education
► NASSCOM

Industrial Partners
The programme has involved around 300 engineering institutes in India including:
► IIT Kanpur
► IIT Mumbai
► IIT Kharagpur
► PEC University of Technology
► UP Technical University

Initiatives
► Provides research grants to institutions for research and practical application of technology
► Conducts technology entrepreneurship forums to promote local innovation
► Conducts student programmes in the form of contests, lectures by Intel technologists and student internships
► Is involved in curriculum development programmes of institutions to adopt best practices and emerging technologies in curriculum design and teaching methods

Key insights

Participation across the value chain of education—curriculum, faculty development, research etc., enhancing quality
Inclusion of industry-oriented and job-relevant practices in different aspects of education to enhance employability of students
Involvement of government and national apex bodies to provide a perspective for economic development

Source: Intel Corporation website
G. Collaboration
BITS Pilani

Overview
► Founded in 1929 and recognized as a Deemed private university in 1964, Birla Institute of Technology and Science, Pilani (BITS Pilani) offers UG, PG and doctoral programmes in disciplines including engineering, science, humanities and management.
► It has around 10,500 students in on-campus and 19,000 students in its off-campus programmes.
► The institute adopted the concept of “Practice School” (PS) in 1973 to offer students the opportunity to intern with leading corporate organizations while studying.

Highlights
► Its PS programme has two components:
► PS-I: eight-week internship during the second year
► PS-II (optional): five-and-a-half month internship programme during final year of study
► During May-July 2011, PS-I was conducted in 203 organizations for more than 2,000 students, under the guidance of 110 faculty members.
► During July-December 2011, PS-II was conducted in 260 domestic/international organizations for 1,087 students under 70+ faculty members.

Programme details
Key features of the programme

Industry exposure
► BITS Pilani has tie-ups with a large number of companies
► PS-I provides students their first exposure to the professional environment
► In PS-II, students contribute to the live project working under the guidance of professionals

Integral part of curriculum
► A resident faculty member is stationed at the industry site to evaluate the work of students
► At the end of each PS course students are awarded grades and these are incorporated in their degree transcripts.

“Earn while you learn”
► During the internship, students receive a stipend along with housing and other facilities

Key insights
Partnerships with a large number of corporate organizations provide a wide choice and broad experience to students.
The industry provides real-life projects and the institute the pool of students.
Internships are a part of the course curriculum to provide financial support to students.

Source: Birla Institute of Technology and Science website
### 2. Expansion

**Key initiatives (1/2)**

#### Central institutes to become the epitome of quality

- **Focus on research**
  - The Central Government proposes to only establish and support research and innovation based institutes

- **Redevelopment of existing institutes**
  - Some Central institutions would be upgraded during the Twelfth plan. These include:
    - ISM Dhanbad that is to be upgraded to the level of an IIT
    - BESU Shibpur that is to be upgraded to an Indian Institute of Engineering, Science and Technology
    - NIFFT Ranchi that will be a premier institution for forging and foundry technology

- **Emergence of innovation clusters**
  - Co-location of state and private institutions with central institutes could help in the development of innovation clusters.

- **Central institutes to lead by example**
  - Central institutions should become role-models for other institutions in all aspects including governance, faculty, curricula and infrastructure.

#### State higher education systems to be strengthened

- **Increase in Central funding and strategic shift in support to states**
  - State higher education systems would be provided more Central funding as compared to previous plans.
  - There will be a strategic shift in the manner in which higher education in the States is supported by the Central Government.
    - Central funding will be linked to the academic, administrative and financial reforms of a state’s higher education system. This is essential for modification of Central support and intervention based on the needs of each state.
    - Central funding will be allocated for a state’s education system as a whole, flowing through individual institutes via the UGC.
  - The UGC will play a more strategic role in disbursal of Central funds, particularly in funding strategic investment plans proposed by institutions.
  - State system-wide planning is needed for higher education in the country to benefit from synergies between state and Central funding.

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*Government’s initiatives will focus on strengthening the infrastructure of Central and state institutions and on establishing research-based institutions*
2. Expansion
Key initiatives (2/2)

Private sector investments to be encouraged

- ‘Not-for-profit’ status in higher education should be re-examined to allow for-profit entities (which are currently not permitted in higher education) in selected areas where there are acute shortages, subject to requisite oversight and accreditation.

- Innovative ways have to be found to encourage infusion of capital in not-for-profit higher education. Some proposals in this direction include:
  - Permission for private institutions to raise funds through public offerings of bonds or shares.
  - Allowing all types of institutions to be established as Section 25 companies and permission given to convert existing trusts and societies to Section 25 companies.
  - Designating higher education as “infrastructure” to allow similar legal and tax treatment as other infrastructure projects.

- Government could support non-profit private institutions by:
  - Extending student financial aid to accredited private institutions.
  - Providing access to research funding on equal footing with public institutions.

- New models of PPP will be encouraged especially for the establishment of research and innovation institutes. Innovative PPP models could be used to transform public institutions that are failing to meet set standards.

Infusion of capital

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Development of knowledge clusters/hubs

- Development of “national knowledge clusters” in identified cities and “educational hubs” through flexible PPP models by bringing together HEIs, research organizations and corporate organizations, and promoting regional/urban inter-institution clusters and alliances.

- Funding of these clusters coming from governments and corporate organizations.

Skill-based and distance learning

Expansion of skill-based courses

- Added emphasis will be laid on increasing skill-based programmes:
  - The framework of community colleges (based on the model established in North America) is being developed. These colleges will provide flexibility of entry and exit to students, linkages with higher education and curricula based on national occupation standards.
  - Technical support would be given by philanthropic foundations and the Indian Centre for Research and Development of Community Education (with 230 community colleges under it) to create a framework for skill-based education.

Expansion of distance learning

- Enhanced provision of open and distance learning will be made to widen access in a flexible and cost-effective way:
  - Government support to IGNOU, state open universities, and other institutions of distance education will be increased to expand their access.
  - Traditional institutions will be encouraged to promote blended learning by offering part of their curriculum online.

Private sector participation in the higher education system will be encouraged to provide greater financial flexibility through the relaxation/introduction of laws and regulations. Furthermore, there would be a focus on expanding the realm of higher education through ODL and skill-based programmes.

Source: Twelfth Five Year Plan: Chapter on higher education.
3. Equity

Key initiatives

**Increased funding support**

- **Additional funding for disadvantaged student group**
  - The Government would increase public spending on students’ financial aid funding to increase scholarship amounts.
  - All students’ financial aid schemes under the MHRD would be consolidated under Student Financial Aid Programme (SFAP).
  - Scholarships and student loans with government guarantees would be universalized.

- **Setting up of a guarantee corpus and Credit Guarantee Trust**
  - A student loan guarantee corpus under the Credit Guarantee Trust would be created by the Government to meet the increased demand for student loans.
  - This should reduce defaults for lending institutions and decrease the rate of interest for students.

**Differential response to address dimensions of inequalities**

- **More colleges in minority concentrated areas**
  - Schemes for establishing model colleges, community colleges and polytechnics in low GER districts may be modified to include minority-concentrated districts and Fifth Scheduled Districts.

- **Targeted schemes for different communities/groups**
  - Special schemes will be devised to draw students from the Muslim community. These schemes will have to provide special incentives to potential students from these communities and pro-actively identify the potential beneficiaries with the help of non-governmental organizations.
  - Setting-up of additional women’s colleges in small towns as well as giving high priority to women hostels.

**Consolidation of several schemes and initiatives**

- **Clubbing schemes under one umbrella**
  - All equity-related schemes in higher education across the different ministries under the Central Government would be brought under one umbrella, Equal Opportunity for Higher Education Initiatives.
  - All existing and several new initiatives for inclusion of persons with disabilities will be brought under an umbrella, National Initiative on Inclusion of Persons with Disabilities.

**Other initiatives**

- **‘Index of disadvantage’ for new scholarship schemes**
  - Individual-oriented schemes will be linked to a multi-dimensional “Index of Disadvantage,” which gives due weight to caste, community, gender, poverty and rural background, to address the intersectional dimensions of inequality.

- **Monitoring performance through “Diversity index”**
  - A mechanism, called the “Diversity Index” could be used to measure the performance of institutions in increasing the participation of disadvantaged groups and link this to budgetary incentives.

- **Promoting Indian languages**
  - A national initiative called “Bhasha initiative” has been proposed to enhance the quality of teaching-learning through Indian languages and reduce inequalities among students. This initiative would entail setting up of new centers within universities; create teaching-learning resources, e-books and other learning media in Indian languages and support high-quality publications in Indian languages.
  - Particular emphasis would be laid on preservation and promotion of endangered languages (with less than 10,000 speakers).
  - The national translation mission will also be strengthened.

**The Twelfth Plan proposes schemes and initiatives targeted at disadvantaged groups to address equality-related issues. The Plan has a flexible approach to embrace diversity and learning in Indian languages.**

Source: Twelfth Five Year Plan: Chapter on higher education
4. Governance

Key initiatives

<table>
<thead>
<tr>
<th>Governance</th>
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<tbody>
<tr>
<td><strong>Reforming affiliating college system</strong></td>
<td>The Government will adopt a five-pronged strategy to reform the affiliating college system, under which:</td>
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<tr>
<td></td>
<td>► Large and reputed colleges will be converted into full-fledged universities</td>
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<td></td>
<td>► College-cluster universities will be created, with each college functioning as a university campus</td>
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<tr>
<td></td>
<td>► Some large affiliating universities will be bifurcated into manageable units</td>
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<td></td>
<td>► Colleges will be allowed to merge in order to offer multidisciplinary education</td>
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<td></td>
<td>► Affiliating universities will revamp their college development councils for effective governance and will give more autonomy to colleges</td>
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<tr>
<td><strong>State-level governance</strong></td>
<td>It would be desirable for states to set up a State Council for Higher Education for planned and coordinated development of higher education in them. Their role would include fostering sharing of resources between universities, lead academic and governance reforms at the institution level, maintaining databanks on higher education and conducting research and evaluation studies</td>
<td></td>
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<tr>
<td><strong>Institutional-level differentiation and autonomy</strong></td>
<td>There is a need to move away from enforced standardisation of institutions to categorization of institutions (such as research-focused, teaching-focused and skill-based Institutions) with each category being treated differently in terms of regulations, governance and funding given their distinct characteristics</td>
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<tr>
<td></td>
<td>► There is a need for a shift towards smaller and more effective governing bodies that have representation from external experts, faculty, and alumni</td>
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<td></td>
<td>► The Government would continue the process of freeing public institutions from strict government controls and provide greater autonomy, as is the case with the IIMs</td>
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<tr>
<td><strong>Promoting academic leadership development</strong></td>
<td>An Institute for Academic Leadership in Higher Education would be set up to develop academic leadership in higher education,. This institute would function as a hub, with a university-based Academy for Leadership Development as a node. At least five such academies will be set up in the Plan period</td>
<td></td>
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<tr>
<td><strong>Student services and admissions</strong></td>
<td>Until such time that the Unfair Practices Bill is passed, a centralized portal may be created to provide accurate and updated information about institutions and courses to help parents and students in the decision-making process for admissions to higher education institutions.</td>
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<td></td>
<td>► Given the plethora of admission tests in the country, there is need to move towards fewer tests, which are conducted transparently and objectively. Moreover, it is recommended that universities are provided greater autonomy to align their admission processes to their institutional philosophies.</td>
<td></td>
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</table>

Institutional differentiation, greater autonomy to institutions, decentralization of responsibility, and enhanced transparency in higher education are the key tenets of governance in the Twelfth Five Year Plan.

Source: Twelfth Five Year Plan: Chapter on higher education
5. and 6. Financing, Implementation and Monitoring

Key initiatives

### Financing

<table>
<thead>
<tr>
<th>Public spending to increase</th>
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<tbody>
<tr>
<td>▶ The target public spending on higher education during the Twelfth Plan should be 1.50% of India’s GDP, up from the current 1.22%</td>
</tr>
<tr>
<td>▶ States would be encouraged to draw up comprehensive strategic plans keeping in view increasing demand and resource requirements.</td>
</tr>
<tr>
<td>▶ A joint funding mechanism of state plans would be evolved by the central and the state governments, complemented with a joint review mechanism to ensure proper utilization of funds</td>
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<tr>
<td>▶ Central funding would be linked to governance and academic reforms in the state systems</td>
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<tr>
<th>Sustainable fee structures</th>
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<tr>
<td>▶ The process of increasing fee to reasonable and more sustainable levels by Central and state institutes should continue, as has been started with the IIMs and IITs</td>
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<table>
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<tr>
<th>Tapping alternative sources of revenue</th>
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<tr>
<td>▶ Institutions would be encouraged to tap alternative sources of funding including sponsored research, training, and consulting. This would reduce the fee burden on students.</td>
</tr>
<tr>
<td>▶ A conducive environment needs to be created to promote endowments and philanthropy in the higher education sector. An empowered committee may be set up to obtain funds from individuals and corporates</td>
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</table>

### Implementation and monitoring

<table>
<thead>
<tr>
<th>Streamlining implementation</th>
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<tbody>
<tr>
<td>▶ A system of empowered committees would be deployed wherever required to reduce procedural bottlenecks</td>
</tr>
<tr>
<td>▶ New institutional mechanisms would be created to enhance co-ordination across ministries and agencies</td>
</tr>
<tr>
<td>▶ Greater flexibility would be provided to implementation agencies through grouping schemes under umbrella national initiatives</td>
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<tr>
<th>Effective monitoring</th>
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<tr>
<td>▶ There is need to develop strategic indicators / metrics against the various goals of the Twelfth Plan</td>
</tr>
<tr>
<td>▶ Monitoring would include measurement of not only the flow and utilization of funds, but also the outcomes or impact of various programs and initiatives</td>
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<tr>
<th>Creation of national database</th>
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<tr>
<td>▶ There is need to create a comprehensive database on higher education which includes data across time and geography. As a first step, the Central Government is conducting an “All India Survey on Higher Education”.</td>
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</table>

<table>
<thead>
<tr>
<th>Research on higher education in India</th>
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<tr>
<td>▶ The Government will create a network of centers for research on higher education which will be located at institutions that have the requisite expertise for such research activity. This will facilitate the creation of an ecosystem for high quality policy research on higher education</td>
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<tbody>
<tr>
<td>▶ The Plan provides for more public funding, sustainable levels of tuition fees and a more conducive environment for institutes to tap alternative sources of revenue and endowments.</td>
</tr>
<tr>
<td>▶ Evaluation and monitoring systems will be strengthened by the creation of new institutional mechanisms and national databases.</td>
</tr>
</tbody>
</table>
The Government has set a target of enrollment of 35.9 million students by the end of the Plan period.

Higher education to move from a ‘mass’ (GER 15%-50%) to a “universal“ system (50%+ GER).

Enrollment and GER are expected to register an annual growth rate of ~7% during the Plan period.

As per the target of the Twelfth Five Year Plan, Central HEIs are expected to show the highest annual growth of 14.9% in student enrollment as compared to private institutions (7.6%), state institutions (5.6%), and open and distance learning (4.4%).

While Central institutes are expected to grow faster than private ones during the Plan period, the latter will continue to account for the lion’s share of enrolment in 2016–17 (estimated at 52%).

Source: Twelfth Five Year Plan: Chapter on higher education
By 2017, India’s higher education system can be expected to be better aligned to industry and global practices, to be more inclusive and transparent, and supported by enabling regulations.

### Students
- Access to accurate and updated information on HEIs and courses on a centralized portal for parents and prospective students
- Fewer admission tests
- Increased student financial aid support from the Government
- More international students

### Academia / Research
- **Tiered industry structure**
  - India’s higher education sector will be relatively more consolidated with larger institutions, with new institutions coming up only for specific purposes
  - Multiple types of institutes, with distinct objectives and models, will co-exist in the system:
    - Research-focused institutions such as innovation universities, excellence clusters and research networks
    - Teaching institutions offering a wide range of programmes, including innovative inter-disciplinary ones
    - Vocational / Employment-focused institutions such as community colleges and polytechnics, with entry and exit options from mainstream higher education for students
  - For-profit institutions in select areas that are higher education-deprived
  - Open and distance learning will remain the most cost-effective way of reaching under-penetrated geographies and customer segments
  - National knowledge clusters will be built on a collaborative model between academia, industry and research institutions

### Industry
- Greater corporate participation in the sector through initiatives such as setting up of the Council for Industry and Higher Education Collaboration (CIHEC)

### Increased international alignment
- Increased alignment with international education systems such as adoption of the credit / semester system and four-year courses at the undergraduate level
- Increased international linkages for research, faculty development, joint and dual degrees, etc.
- International accreditations will become more popular (such as AACSB’s accreditation of ISB)

### Enhanced autonomy
- Institutions will enjoy greater academic and operational autonomy

### Government and regulators
- Greater coordination between ministries and agencies and fewer regulatory and procedural bottlenecks
- State Council for Higher Education to coordinate and plan development of state HE systems
- Outcome-linked government funding
- Differential treatment of various categories of institutions (research, teaching, etc.)
Way forward:

an enabling environment is critical for equitable and quality growth
India’s higher education system still faces significant regulatory roadblocks (1/2)

1. **Limited modes of entry**
   - **Legislative challenges**: The only university entry route currently available to private players is as a State Private University, which too is restricted to a few states. Moreover, these universities are regional in nature, unlike Deemed Universities that are national-level institutions.
   - **Impact**: Skewed growth of private universities: the top five states—Rajasthan, Uttar Pradesh, Himachal Pradesh, Gujarat and Haryana—accounting for around 60% of the SPUs. Current private university regulations creating barriers to higher private participation.
   - **Potential solutions**: According of “infrastructure” status to attract investment in higher education to regions / states that have low access to HEIs. Allowing all types of institutions (not only technical ones) to be established as Section 25 companies and permit conversion of existing trusts and societies to Section 25 companies.

2. **Restriction on foreign players**
   - **Legislative challenges**: According to the latest UGC guidelines, only Indian HEIs that have been graded ‘A’ by the NAAC or the NBA are allowed to collaborate with foreign institutes, that too only with those that feature among the top 500 global educational institutions, ranked by Times Higher Education or the Shanghai Jiao Tong University.
   - **Impact**: Lack of opportunity for Indian HEIs to enhance quality of teaching, research, etc., through collaborations with quality global institutions. Increased outward mobility of Indian students seeking high-quality education.
   - **Potential solutions**: Allow Indian institutes freedom in selection of international partners based on objectives. The passage of the Foreign Educational Institutions Bill can enable a comprehensive policy framework for foreign players to operate in India.

3. **Restricted access to central funding and other development initiatives**
   - **Legislative challenges**: Some of the Government’s faculty development initiatives and research/student funding programmes are only applicable for public institutions.
   - **Impact**: While the private sector accounts for almost 60% of enrollment, the focus on development and quality improvement is only in public institutions.
   - **Potential solutions**: Provide equal opportunity to the private sector in all government programmes on a competitive basis.
The Indian higher education system still faces significant regulatory roadblocks (2/2)

4 Limited operational and financial autonomy in several States

Legislative challenges

► The autonomy of private universities is severely restricted, especially in some states
► SPUs are not allowed to hire foreign faculty in permanent positions, state level committees regulate the course fees of SPUs, and some states have restrictive reservation policies. For example, the Haryana Government mandates reservations for SC/ST/OBCs, while the Gujarat Government requires that 75% seats are reserved for students from Gujarat

Impact

► The limited operational and academic autonomy of SPUs in some states impacts the quality of such institutions

Potential solutions

► Provision of an enabling regulatory environment in states for private players, with limited or no restrictions on student intake, fees, faculty sourcing, etc.
► The Central Government should work with other states to create a conducive environment for private players

5 Conflicting regulations for distance education

Legislative challenges

► Contradictory guidelines of DEC and UGC guidelines related to the nature of educational programmes that can be operated under distance education mode. E.g. DEC permits operation of M.Phil. / Ph.D. programmes under distance mode, whereas UGC does not
► Unclear definition of the meanings of “own” and “franchise” by DEC in the context of establishment of study centres
► Establishment of study centres by SPUs is permitted only after five years of existence compared to three years for off-campus centres of Deemed universities
► Lack of clarity on the territorial jurisdiction of State Universities in the context of distance education
► Non acceptance of distance degrees awarded by some states by other states for employment

Impact

► Conflicting regulations create ambiguity for private players.
► Restriction of jurisdiction for distance education within a state defeats the fundamental premise of distance education.
► Non-acceptance of distance degrees by other states creates inter-state disparities.
► There is an arbitrage between SPUs and Deemed Universities given the mismatch in the period of existence required for operating distance programmes / off-campus centres.

Potential solutions

► Regulators harmonizing their views on the nature of programmes allowed under distance education
► Removal of territorial jurisdiction for distance education
► Allowing SPUs to operate study centres after three years of their operations to reduce the arbitrage between SPUs and Deemed Universities
► Allowing Deemed Universities to offer distance education, since they are already allowed to operate off-campus centres
## Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AICTE</td>
<td>All India Council for Technical Education</td>
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<td>AIM</td>
<td>India-UK Advanced Instability Methods Network</td>
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<td>BBA</td>
<td>Bachelor of Business Administration</td>
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<td>BCA</td>
<td>Bachelor of Computer Application</td>
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<td>BFSI</td>
<td>Banking and financial services</td>
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<tr>
<td>BITS</td>
<td>Birla Institute of Technology and Sciences</td>
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<td>BSR</td>
<td>Basic Scientific Research</td>
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<td>CAGR</td>
<td>Compounded Annual Growth Rate</td>
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<tr>
<td>DEI</td>
<td>Distance Education Institute</td>
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<td>DEC</td>
<td>Distance Education Council</td>
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<td>FDI</td>
<td>Foreign Direct Investment</td>
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<td>FEI</td>
<td>Foreign Education Institutes</td>
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<td>FICCI</td>
<td>Federation of Indian Chamber of Commerce and industry</td>
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<tr>
<td>FY</td>
<td>Financial Year</td>
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<td>GAR</td>
<td>Gross Attendance Ratio</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GER</td>
<td>Gross Enrollment Ratio</td>
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<td>HEI</td>
<td>Higher Education Institute</td>
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<td>HMCT</td>
<td>Hotel Management and Catering Technology</td>
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<td>ICFAI</td>
<td>The Institute of Chartered Financial Analysts of India</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IFRS</td>
<td>International Financial Reporting Standards</td>
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<td>IGNOU</td>
<td>Indira Gandhi National Open University</td>
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<td>IIM</td>
<td>Indian Institute of Management</td>
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<td>IIS</td>
<td>Indian Institute of Science</td>
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<td>IISER</td>
<td>Indian Institute of Science Education and Research</td>
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<td>IIT</td>
<td>Indian Institute of Technology</td>
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<td>ISB</td>
<td>Indian School of Business</td>
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<td>INR</td>
<td>Indian National Rupee</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITI</td>
<td>Industrial training Institute</td>
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<td>ISM</td>
<td>Indian School of Mines</td>
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<td>JGU</td>
<td>O.P. Jindal Global University</td>
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<td>LC</td>
<td>Learning Centres</td>
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<td>MBA</td>
<td>Masters of Business Administration</td>
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<td>MDI</td>
<td>Management Development Institute</td>
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<td>MHRD</td>
<td>Ministry of Human Resource and Development</td>
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<td>MIT</td>
<td>Massachusetts Institute of Technology</td>
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<td>NAAC</td>
<td>National Assessment and Accreditation Council</td>
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<td>NBA</td>
<td>National Board of Accreditation</td>
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<td>NCHER</td>
<td>National Council for Higher Education and Research</td>
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<td>NET</td>
<td>National Education Tribunal</td>
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<td>NIIT</td>
<td>National Institute for information Technology</td>
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<td>NIT</td>
<td>National Institute of Technology</td>
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<td>NME-ICT</td>
<td>National Mission on Education through ICT</td>
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<td>NMIMS</td>
<td>Narsee Monjee Institute of Management Studies</td>
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<tr>
<td>NRI</td>
<td>Non Resident Indian</td>
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<tr>
<td>OBC</td>
<td>Other Backward Classes</td>
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<td>PG</td>
<td>Postgraduate</td>
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<td>PS</td>
<td>Practice School</td>
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<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
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<td>SET</td>
<td>State National Education Tribunal</td>
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<tr>
<td>SIU</td>
<td>Symbiosis International University</td>
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<td>SNU</td>
<td>Shiv Nadar University</td>
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<tr>
<td>SOIL</td>
<td>School of Inspired Leadership</td>
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<tr>
<td>TEQIP</td>
<td>Technical Education Quality Improvement Programme</td>
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<td>UGC</td>
<td>University Grants Commission</td>
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<td>UP</td>
<td>Uttar Pradesh</td>
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<tr>
<td>VIT</td>
<td>Vellore Institute of Technology</td>
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<tr>
<td>YOY</td>
<td>Year-on-year</td>
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## Acknowledgements

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Role</th>
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<tbody>
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<td>Prof Rajan Saxena</td>
<td>Vice Chancellor &amp; Distinguished Professor, NMIMS University and Co-Chair - FICCI HE Committee</td>
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<td>Mr Nikhil Sinha</td>
<td>Founding Vice Chancellor, Shiv Nadar University</td>
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# Team

<table>
<thead>
<tr>
<th>Ernst &amp; Young team</th>
<th>FICCI team</th>
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<tr>
<td>Simi Goyal</td>
<td>Shobha Mishra Ghosh</td>
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<tr>
<td>Keshav Kanoria</td>
<td>Rajesh Pankaj</td>
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<td>Riddhi Katira</td>
<td>Sunita Mohan</td>
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<td>Shashank Vira</td>
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About FICCI

Established in 1927, FICCI is the largest and oldest apex business organization in India. Its history is closely interwoven with India's struggle for independence, its industrialization, and its emergence as one of the most rapidly growing global economies. FICCI has contributed to this historical process by encouraging debate, articulating the private sector's views and influencing policy.

A non-government, not-for-profit organization, FICCI is the voice of India's business and industry.

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To be the thought leader for industry, its voice for policy change and its guardian for effective implementation.

Our Mission
To carry forward our initiatives in support of rapid, inclusive and sustainable growth that encompass health, education, livelihood, governance and skill development.

To enhance efficiency and global competitiveness of Indian industry and to expand business opportunities both in domestic and foreign markets through a range of specialized services and global linkages.

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The Ernst & Young Strategic Consulting Group in Education has successfully completed numerous assignments over the last few years, covering all aspects of the Indian education sector. The firm’s clients include government bodies, reputed Indian and international educational institutes, industry bodies, private equity funds as well as corporate houses interested in entering the education space.

Ernst & Young’s education-centric research and analysis is encapsulated in a range of education thought leadership reports that are widely quoted by sector professionals.

Our services
We provide end-to-end solutions to suit the requirements of clients from all segments of the industry. The following is a snapshot of our services:

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<tr>
<th>Pre-entry</th>
<th>Establishment</th>
<th>Growth</th>
<th>Stability</th>
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<tbody>
<tr>
<td>► Market landscaping</td>
<td>► Business planning</td>
<td>► Growth strategy</td>
<td>► Business process improvement</td>
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<td>► Entry strategy formulation</td>
<td>► Marketing strategy</td>
<td>► International expansion strategy</td>
<td>► Strategic cost management</td>
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<td>► Regulatory insight</td>
<td>► Project management</td>
<td>► Standard operating procedures</td>
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<td>► J V/strategic partner search</td>
<td>► Inbound investment structuring</td>
<td>► Expatriate taxation</td>
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<td>► Valuation and business modeling</td>
<td>► Representation before Indian statutory and fiscal authorities</td>
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<td>► Fund raising and M&amp;A advisory</td>
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