PRINCIPLES OF INNOVATION

Vijay Govindarajan, founding director, Centre for Global Leadership, Tuck School of Business, Dartmouth, speaks to Proyashi Barua on the executive challenge of innovation

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There is an emphasis on generating ‘big ideas’ in the corporate and business fraternity world over. “However, the emphasis in terms of turning these ideas into actual breakthrough products, services and process improvements is clearly not adequate,” says Vijay Govindarajan, founding director, Centre for Global Leadership, Tuck School of Business, Dartmouth. This reality of the business world has been extensively and comprehensively examined in the book co-authored by Govindarajan and Chris Trimble, another faculty member at Tuck School of Business, Dartmouth.

According to Govindarajan, the book addresses a preliminary question at the outset — How can we make innovation happen? “This question deserves a lot of reflection as it has been observed that people in general are not clear about the definition of innovation in the first place,” he explains.

“Innovation is confused with creativity and this straitjacketed perception largely explains why many companies stop at the stage of ‘idea’ when it comes to generating breakthrough ideas. They find it difficult to translate these ideas into reality or more simply put, they find it difficult to execute these ideas,” adds Govindarajan.

“However, there is a simple and clear solution to this challenge. The business world needs to understand that innovation is not just creativity. In fact, creativity or creative insights constitute a minuscule percent of the process of innovation. The rest is all about effective implementation. This truth cannot be understood better than in the famous words of Thomas Edison who once said that genius is one percent inspiration and 99% perspiration,” he elaborates. He goes on to state that once this basic fact is understood it becomes imperative for the business fraternity to concentrate their attention and energies in terms of finding commercial values for their creative ideas.

“And there are certain principles that ensure effective commercialisation of creative ideas without disruption of business processes,” reveals Govindarajan. “To begin with, innovation should not be the onus of the core business unit. This is because the core units are responsible for profits and hence do not have the bandwidth and scope to contend with even the slightest aberrations in terms of processes and systems. Instead, there should be a dedicated team in charge of innovations,” he explains.

Coming to the subject of actually executing innovative ideas (after they are devised by the innovation team), Govindarajan says, “There should be transparency and integration as far as the core business team and the innovation team is concerned. Innovative ideas are after all meant to garner additional profits and better efficiency. So the management should be able to facilitate an environment where employees of both the teams feel that they are working towards shared interests. At least, initially tensions are bound to arise but the management has to resolve and manage these tensions. Companies should bring both the teams together by providing incentives for collaboration.”

Talking about how management education can ingrain the real philosophy and principles of innovation, he said, “There is a broad misnomer that innovation cannot be taught. However, management education needs to show how integral innovation is to key business processes like for instance human resources. It needs to teach how to scientifically link incentives and the business scorecard to innovation. In other words, management schools have to play a pivotal role in terms of educating people on the tools and techniques that can create a broad culture of innovation within businesses.”

There is a general concern that in India the culture of executing innovative ideas is fairly abysmal. So how can this be improved? “One clear way is by instituting venture capital cells inside universities (at least the IITs to begin with) that can facilitate easy exchange of ideas between academia, entrepreneurs and industry. This will help in implementing breakthrough ideas in the context of real-world challenges. Needless to say these venture capital cells shall also help the original innovator to access the much needed capital. Moreover, our existing incentive system has to be modified whereby the original innovator can make profits. Further, our copyright and intellectual property rights have to be reviewed in the interests of innovators,” sums up Govindarajan.
A SHARED VISION

MAASTRICHT UNIVERSITY IS CURRENTLY FOCUSSING ON INDIA FOR LONG-TERM STRATEGIC COOPERATION. JO RITZEN, PRESIDENT, MAASTRICHT UNIVERSITY, TALKS TO PROYASHI BARUA

Which are some of the ongoing or proposed initiatives that Maastricht University is undertaking to collaborate with India?

When it comes to India, we want to develop joint research outcomes that translate to mutual benefits for the Indian society and the Maastricht (Dutch/European) society. To realise this objective we are in the process of establishing collaborative frameworks that can facilitate a genuine exchange of ideas and knowledge between the two countries. As part of this mission we get students and researchers from both the countries to study and work together in India and in Maastricht. While there are several partnerships that are in the stages of discussion we have already forged tie-ups with National Institute of Mental Health and Neuro Sciences (NIMHANS), Indian Statistical Institute, Narayana Hrudayalu, St John's Hospital, Aravind Eye Hospital, Manipal University, Acropolis, PES Institute of Technology and National Law University, among others.

Our endeavour is to connect the best in Maastricht University with the best in Indian universities and research institutes. There are several areas that we have identified, which include healthcare, medical technology, nutrition, hospital management, artificial intelligence and international intellectual property laws, among others.

Our research collaborations within the domain of healthcare address areas like translational medicine (especially in life-threatening diseases like heart and diabetes), medical technology (including remote body sensing, image processing and telemedicine) and effective neurodeisease treatment.

We also want to facilitate the development of international business ties between Europe and India. Hence, some of our research collaborations focus on subjects like international trade law and its redistributive effect on richer and poorer countries and the fast-changing landscape of environment regulations and opportunities for emerging economies.

Maastricht University's recent partnerships have been with the National Law School, National Institute of Mental Health and Neuro Science and the Indian Statistical Institute. Could you elaborate on the exact nature of joint research that will be pursued with each of these institutes?

The partnership between Maastricht University and the National Law University envisages to leverage the expertise of both these institutes in terms of building world class expertise in the emerging areas of law. Joint/dual PhDs, student/faculty exchange programmes, international symposiums and moot court competitions are some of the numerous ways in which this objective shall be pursued. The broad aim is to build a strong foundation of international exposure for Indian students and an Indian/emerging economy exposure for the students and faculty members of Maastricht University. There will be three to six months' internships for Indian students associated with these joint programmes to the Maastricht University and vice versa.

In the case of Indian Statistical Institute (ISI) we plan to start with a research project on image processing (to influence lowering of costs related to medical care) and at a later stage build on subjects like bioinformatics and biostatistics, among others. This partnership will utilise ISI's strengths in areas like statistics and image processing on one hand and the University of Maastricht's academic capabilities in terms of life sciences and healthcare on the other hand. The aim is to link technology with healthcare for the ease and benefit of both the healthcare providers and patients. Students enrolled under this scheme can look forward to quality research in many areas of bioinformatics, biostatistics, image processing and translational medicine.

The partnership with National Institute of Mental Health and Neuro-Science (NIMHANS) will primarily facilitate educational cooperation for curriculum development, innovative methodological approaches, student assessment, cultural exchange and joint research programmes.

As per this partnership Maastricht University is installing one of the world's two nine Tesla machines for studying neurodisorders at NIMHANS. This facility and its study results will become available to the students of NIMHANS. Similarly, students from Maastricht University will have access to several select studies that are being pursued at NIMHANS. Moreover, this partnership envisages to give a boost to NIMHANS' recent focus in the area of translational medicine as the Maastricht University has an established forte in this subject.
IITs TO PLAY A BIGGER ROLE

THE PROPOSED AMENDMENT OF THE INSTITUTE OF TECHNOLOGY ACT WILL MAKE IT MANDATORY FOR THE IITs TO COLLABORATE AND SHARE RESOURCES WITH OTHER TECHNICAL INSTITUTES IN THEIR RESPECTIVE ZONES. NEHA BHATIA REPORTS

The Institutes of Technology (Amendments) Bill, 2010, will make it mandatory for all the 15 IITs in the country to provide training, facilitate study visits, share laboratories and resources with other technical institutions in their respective zones.

The council of IITs has already given a go-ahead to the proposed amendment of the Institute of Technology Act and the HRD ministry is all set to amend the Act. Such a step is being taken to ensure that the growing number of technical institutes produce industry-ready students.

According to MK Surappa, director, IIT Ropar, Punjab, the IITs will, through this amendment, take on an advisory role for other institutions. Surappa adds that the new amendment is sure to bring about an improvement in terms of quality. “We will ensure right dispensation of knowledge so as to build a strong base for students at all levels,” he says.

While the IITs are ready to help other institutions that fall within their zones, they want to ensure that their own students do not suffer. SC Saxena, director, IIT Roorkee, shares, “The amendment is still in its nascent stage. Also, we will need to first upgrade our resources and only then figure out how we can adopt other institutions to make the best of the resources that we have. We will surely welcome the amendment, but not at the cost of our students.”

The IITs plan to build a consolidated database and get infrastructural issues in place to ensure smooth dissemination of information. MS Ananth, director, IIT Madras, points out, “We are already helping students of other institutions by sharing our research infrastructure and will be ready to open our doors to more such initiatives in the future.”

Amit Paria, professor, department of electrical engineering, Kharagpur, emphasises, “We have already started some programmes in this regard and plans are ripe to carry the collaboration to a higher level. For instance, if we have a subscription of a research journal which is expensive, then we plan to share it with the other engineering colleges. We already have a web channel – National Programme on Technology Enhanced Learning (NPTEL) – wherein we upload and share lectures and course materials with other IITs and engineering schools. This is a joint programme conducted by the seven IITs.”

THE IITS, THROUGH THE PROPOSED AMENDMENT, WILL TAKE ON AN ADVISORY ROLE, SUCH A STEP WILL ENSURE THAT THE GROWING NUMBER OF TECHNICAL INSTITUTES PRODUCE INDUSTRY-READY STUDENTS.

STUDENT VOICE

THE proposed amendment will surely help undergraduate students because the IIT curriculum is amongst the best in the world. However, apart from frequent interactions between professors of the institutes, student exchange programmes should also be facilitated.

ARAFAT AHMAD,
RV College, Mumbai

AS far as laboratory sharing is concerned, travelling from one college to another between experiments doesn’t seem feasible. Further, it is likely that the IITs will give first preference to their own students when it comes to laboratory work.

RAJNI AGGARWAL,
Roorkee Institute of Technology, Roorkee

APART from sharing resources, administrative processes should also be shared. For instance, while most of the other institutes follow an aggregate percentage system, the IITs follow a GPA system that helps students who want to pursue their studies abroad.

MOHAK BHATIA,
Mahanaj SJ Sajid Institute of Technology, Delhi

(Delhi, Bombay, Guwahati, Madras, Kanpur, Kharagpur and Roorkee) and IISc-Bangalore. Also, we have plans to set up a virtual laboratory which will enable students to access and share resources round the clock.”

Like NPTEL, IIT Delhi has set up the National Resource Centre for Value Education in Engineering (NRCVE). Its objective is to function as a national resource centre for imparting value-based education in engineering institutes.

Can't blame Ice Age for Neanderthals' ugly looks

London: Scientists have dispelled the theory that Neanderthals were ugly because of the cold arctic conditions of the last Ice Age, raising fresh questions about the habitats they lived in and why they died out. A new study has claimed that the characteristic broad foreheads and large noses of Neanderthals didn't give them any special advantage to live in the freezing conditions that had gripped Europe during the last Ice Age.

Scientists say the Neanderthals' broad foreheads and large noses were not an adaptation to the Ice Age, raising questions about where they lived.

For over 150 years, researchers have explained the reason for these facial differences to modern humans as an adaptation which allowed Neanderthals to live in cold arctic conditions of the last Ice Age, and believed they had enlarged sinuses which helped to warm the air as it was inhaled. Now, a team, led by Roehampton University, has used three-dimensional scans and X-ray images of Neanderthal skulls to reveal that their sinuses were no bigger than modern humans — Homo sapiens who evolved in more temperate climates, and so played no role in increasing size of their facial features.

The European team claim the findings clearly suggest Neanderthals, which died out around 30,000 years ago after surviving for over 400,000 years, did not evolve to survive in the harsh frozen tundra of Europe, but instead were better suited for living in warmer climates. Team leader Todd Rae said it was more than likely that Neanderthals lived in temperate refuges.
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Faster, larger, quieter: Nasa unveils face of future jets

London: In what may become the face of modern aviation, Nasa has unveiled three concept designs for quiet, energy efficient aircraft which the agency says could be ready for flight as soon as 2025.

Lockheed Martin, Northrop Grumman and Boeing came up with the designs and all the three companies won a contract from the US space agency to research, develop and test their concepts in 2011, the Daily Mail reported.

The designs came about after Nasa revealed it was aiming to develop a line of “super planes” that are faster, larger, quieter – and burn fuel more efficiently and cleanly than their present counterparts.

Criteria set by NASA meant that each design had to fly up to 85 per cent of the speed of sound, cover a range of about 7,000 miles and carry between 50,000 and 100,000 of payload; either cargo or passengers.

Now, each of the three companies will spend the rest of this year exploring, testing and simulating their designs in the hope that Nasa will choose it for development, the British tabloid reported.

A spokesman from the technology and innovation website ‘Fast Company’ was quoted by the Daily Mail as telling the ‘Huffington Post’, “Given how long it usually takes to craft an aircraft from scratch, and bearing in mind how many technical hitches the revolutionary Boeing 787 Dreamliner has suffered, these are the sorts of aircraft that these three firms are probably beginning to design for real right about now.” PTI
With calls routed through PCs, headsets may replace phones

Anee Eisenberg

Headsets are staples for call-center workers, travel agents and many other people who have to talk frequently on the phone. With a headset to listen and speak through, both hands are free to work, and a shoulder needn't stiffen to cradle the phone.

Now, headsets could make many office landline phones unnecessary, as businesses decide to route calls through their office computers. Companies can save money by simply buying employees headsets instead of desktop phones, said Tavis McCourt, a managing director and analyst at Morgan Keegan, who follows the Internet telephony market. Software like Lync from Microsoft makes it possible to use the Internet and your computer to make calls.

The computers common in most offices aren't ideal for conducting a conversation, said Gregory Burns, a telecommunications analyst at Sidoti & Company, an equity research firm in New York. Desktop computers can have built-in microphones and speakers, but the conversations can distract people in nearby cubicles, just like those on speaker phones.

RINGING THE DEATH KNELL? As businesses route calls through their office computers, they can save money by simply buying employees headsets instead of phones.

This has created an opportunity for headset makers, which are now ready to offer sleek models that plug into desktops and laptops for quiet conversations and conference calls. Some of the new headsets switch easily among desk phones, computers and cellphones. "Put on your headset, and it gives you access to whatever device you choose to use," said Bob Hafner, a managing VP at a research firm.
Smoking harms genes in minutes

Just A Few Cigarette Puffs Lead To Formation Of Cancer-Causing ‘Trash DNA’

Washington: Want to have a puff? Think again as cigarette smoke starts damaging one's basic element of life — genes — within 30 minutes of inhaling it, a study has warned. The scientists who studied the way smoking affects humans found one of the carcinogens of tobacco smoke starts causing adverse changes in the genetic structure of the person within 15-30 minutes of taking a puff.

"The results reported here should serve as a stark warning to those who are considering starting to smoke cigarettes," the study notes. The smoke carries a carcinogen which is known as phenanthrene also known as polycyclic aromatic hydrocarbons (PAHs). This forms toxins in the blood - termed as "trash DNA"— after inhaling, which induces adverse genetic structure or mutation, thus exposing the person to the risk of lung cancer.

"It is the first study to investigate human metabolism of a PAH specifically delivered by inhalation in cigarette smoke, without interference by other sources of exposure such as air pollution or the diet," researchers said. Researchers say lung cancer kills an average of 3000 people in the world each day and 80 per cent of this toll is due to cigarette smoking, which also causes at least 18 other types of cancer. PAH is one of the main causes of lung cancer. The study was published in Chemical Research in Toxicology.

![DANGEROUSLY FAST: A carcinogen in cigarette smoke induces genetic mutation in 15-30 minutes and raises lung cancer risk, says a new study](image)

Science and tech to get 50 centres of excellence

Akshaya Mukul | TNN

New Delhi: The government plans to establish 50 centres of excellence in frontier areas of science and technology in the next six years.

"These emerging areas are taught in very few institutions. This is the most comprehensive attempt at creating centres of high learning in science and technology," an official of the human resource ministry said.

These centres will work in biotechnology, bio-informatics, nano-materials and nano-technologies, mechatronics and high performance computing, among others.

An expert committee headed by scientist C N R Rao has shortlisted 35 proposals from 30 institutions and 15 will be added later. They will be located in campuses of existing institutions, both government and private, and will have complete autonomy.

The centres will conduct courses at post-graduate/PhD/post-doctoral levels. They will also run short-term training programmes including summer and winter schools. There will be separate courses to enhance the competence level of teachers and post-graduate students.

*$150cr earmarked for centres of excellence

*Continued from page 1

The panel applied rigorous tools and global parameters to identify research potential and past performance of institutions that submitted proposals. The selected proposals are in two categories—A+ and A—based on technical merit. It graded 15 proposals as A+ and 20 as A.

Institutions were selected on the basis of number of PhDs and post-graduate students in the last five years, number of publications in the last five years and profile of the leader of the group that submitted the proposal.

A provision of Rs 150 crore has been made in the 11th Five-Year Plan, which runs till March 31, 2012. Scientists and teachers will be asked to join these centres on contract basis at higher salaries.

Other frontier areas identified include engineering/industrial design, chaos, complexity and self-organising systems, professional/business/technical/engineering ethics, consciousness studies, communication, creativity and innovation.
Atomic board nod must for colleges: UGC

Manish Pratim Gohain | TNN

New Delhi: Universities and colleges would now need to seek Atomic Energy Regulatory Board’s (AERB) approval for purchase of radioactive substance, intent of its use, and safety of storage facility.

University Grants Commission (UGC) officials said the commission has issued these guidelines to universities in the wake of the “disposal of Cobalt-60 isotope by Delhi University in a casual manner causing death of one person and illness to many others.”

LESSONS LEARNT

Eight months ago the origin of Cobalt-60 at Mayapuri Scrap market was traced to Delhi University’s chemistry department. The element lay unused for 25 years in the department. In his letter to all the vice-chancellors and to the human resources ministry, UGC secretary N A Kazmi said that compliance with these guidelines is mandatory without exception and UGC is to be intimated of action taken in this regard at the earliest.

As per the guidelines, educational institutions have to obtain a no-objection certificate from the atomic board, which can also monitor the colleges from where they procure the material. They are also directed to maintain proper disposal mechanism for liquid radioactive substance. UGC officials said even the use of X-ray machine will now require AERB approval.

Its eight-point guidelines on procurement and registration include availability of emergency response plans, trained manpower such as Radiological Safety Officer (RSO) and commitment to return spent sources to original supplier.

The guidelines have been divided into administrative mechanism, procurement and usage of radioisotopes, radiation instrument survey/reporting, disposal of radioisotopes and emergency procedures.

The rules state, “In universities and other institutions of higher education and research, the awareness and adherence to regulations seems to be lacking, as has been observed in the recent incident of disposal of Cobalt-60 isotope in a very casual manner causing one death and grave injuries to common people.”

The atomic agency has made it mandatory that all radiation-related activities in laboratories have to be carried out by designated radiation staff under the supervision of an RSO, who can be a faculty with experience in radiation field and get designated as RSO by AERB on the recommendation of the institution.
CAT methodology disclosure unclear

VARUN AGGARWAL

It goes to the credit of Indian Institutes of Management (IIMs) to share information about the scientific process of equating their various test forms.

Test forms (or sets of questions) vary from day to day and candidate to candidate—even on a single day. It is important for the examination body to ensure that either each test form is of the same difficulty level (which is technically impossible) or that the scores of candidates calculated are equated.

IIMs and Educational Testing Services (ETS) in their latest disclosure have described the science of assessment, which is commonly known and used in design of assessments.

Though the information is a step in the right direction, it is of limited value without disclosure of hard metrics such as reliability values and standard error. These figures, in layman terms, describe how accurately and consistently does the test measure the true ability of a candidate.

In the west, it is mandatory for institutions to publish their test construction and scoring methodology and evidence that they are following fair and unbiased testing practices. In case IIMs have used classical testing theory for CAT, they should publish the reliability of the test. Reliability could be measured in terms of cronbach alpha or similar other metrics. The claim on their website says that they have also used item response theory. In that case, among multiple metrics the standard error is one of the key metrics.

For example, GMAT publishes standard error: “The standard error of difference for the total GMAT score is about 41, so chances are about two out of three of that difference between the total GMAT scores received by two test takers is within 41 points above or below the difference between the test takers’ true scores. The standard error of difference for the Verbal score is 3.9, and for the Quantitative score, it is 4.3.” Similarly, GRE reports the reliability coefficient and standard error of its Verbal section at 0.91 and 34 respectively. For quantitative section of GRE it drops to 0.89 and 51 respectively.

If the standard error is too high, then we can say with little confidence that a candidate having a higher test score actually has a higher ability.

Only these statistical measurements can help determine if the test is really working fine or not. It will determine how accurate the test is. For example how different is the capability of a 96 percentile and a 93 percentile can be determined only based on these parameters.

In case standard error is high, then we cannot say with confidence that 96 scoring candidate is better than the 93 scoring candidate. The standard error is very important for institutions that are using CAT to select candidates as it helps them use the score effectively.

The second metric for assessment quality is its validity. That tells whether even the test parameters used are justified for the purpose of admission. Currently, institutions have been far from talking about it. However, in industry these exercises are done by some high-end corporates on a regular basis.

A science is only as good as its implementation. We look forward to the technical results to understand the quality of the implementation.

The author is co-founder, Aspiring Minds Assessment, an assessment technology company.
New logo for IIM-C

The oldest Indian Institute of Management— IIM-Calcutta, has gifted itself a new logo as part of its golden jubilee celebrations.

"The new logo signifies progress, education and inclusive growth. While celebrating IIM-C and all that it stands for, the new logo is symbolic also, of the future path that the institute must chart for itself in its quest toward inclusivity”, said Saugata Ray, dean, academics, IIM-C.

The logo, with a new motto–'gyana sarva hitaya', means 'Knowledge for the welfare of everybody'.

"We wanted the logo to symbolise not just the excellence of the managers we produce but also the excellence of the IIM culture”, Ray explains.

The logo is the first to ensconce colour. There is, also in the logo, a contrast of the black juxtapositioned on the orange, which Ray explains is symbolic of the stimulation of prestige for the institute. Stakeholders including students and teachers were asked to design entries. These would include the themes defining the logo as well. Top five entries were selected and voted upon until the final design was agreed to by all. Final touches to the logo were given by the National Institute of Design. - SWATI GARG

IIM-K harvests rain water

Indian Institute of Management-Kozhikode (IIM-K) has launched rain water harvesting (RWH) on campus. This helps the campus meet its daily water need of 2 lakh litres. "The absence of a sustainable source of water supply, sufficient to meet the requirements of the Institute, led us to adopt the eco-friendly rainwater harvesting initiative as the most viable solution”, says IIM-K director Debashish Chatterjee. The process of sustenance at IIM-K has materialized over seven years, and even then there is scope for growth. The institute is in the process of acquiring an additional 15 acres for sustaining campus expansion and water needs. - SWATI GARG
Dismal state of Indian science

ASHOAK UPADHYAY

I n his keynote address to the 20th Science Congress in Chennai early this month, Dr. Mammon Singh exhorted his audience to "think big, think out of the box and think ahead of the times". Once again, the Prime Minister showed his adeptness at handy clichés he has used several times late last year to mediate in an increasingly messy political environment, at times righteous ("we will punish the guilty"), at other times resenting ("Crisis will fall by December") and at the Science Congress, inspiring. But in many things that Dr Singh has been saying of late, there is a strange quality to the words, not so much anti-intellectualism as unoriginality, Sophisticated in their effect, and like the confetti in durability. All do they is leave a sense of relief at having a Prime Minister who means well.

CHANGED CONTEXT

The idea that scientists should think out of the box and with the future in mind needs a context to acquire meaning. When Pandit Jawaharlal Nehru asked Mr. Homi J. Bhabha to plan for India's nuclear energy and Mr. P.C. Mahalanobis, a framework for India's economy soon after Independence, he did not have to remind them to think out of the box. He simply gave them the context and more important, the wherewithal to think "ahead of the times".

The context in which Indian science can flourish is missing and the audience listening to the Prime Minister's lofty incantations on "scientific thinking" would have left the gathering in a confused stupor because they were being asked to practice a credo alien to the environment they grew up in (as scientists) and now work within.

What is that environment? In 2006, a working group of the Planning Commission wrote what has long been known: Indian scientists are treated no better than government employees "in service and salary matters". There is no premium on meritocratic work: the "present system," it moaned, "tends to put everybody - the outstanding and the mediocre - in the same pay bracket".

DECLINE OF SCIENTIFIC TEMPER

Ironical as it may sound, Pandit Jawaharlal Nehru may have contributed to the decline of science and pure mathematics in post-Independence India, through his concern to build India's technical capabilities and reduce its dependence on Western technology. To this end, in the 10 years to 1964, the five IITs were established; that decade established a template for Indian science increasingly identified by India's new post-Independence generation with engineering and technological skills. Pure science and mathematicians, once popular departments in universities, were confined to the ivory towers of specialist centres such as Bangalore's Indian Institute of Science and Maa's Tata Institute of Fundamental Research.

The five IITs became the torchbearers of a narrow skill expansion with an increasing emphasis on the production of engineering and from the late eighties, computer specialists. The universities, such as Allahabad, Calcutta, Benares and Madras that had once been the centres of research in humanities and especially the pure sciences and mathematicians declined; they acquired a new identity as degree shops with the premium on the acquisition of a degree rather than the inculcation of knowledge-as-inquiry. State and regional policies mixed with growing aspirations for higher education produced an assembly-line product, more often than not unemployable, as best "techno-clerks".

DECAY OF UNIVERSITIES

The separation of scientific research from the classrooms and laboratories of the university to specialist institutions was a slow but inexorable process. It created its own paradigm that has sunk deep into the policymakers' mind-set as a model for higher education.

The answer to the cry for more science is the creation of new specialized centres; in 2006, three new Indian Institutes of Science Education and Research were proposed in cities that had a rich tradition of scientific learning and institutions to match. New Delhi's consent (and funds) for many central universities and more IITs is often prompted by regional aspirations for such centres of excellence. The university system has slipped in the public imagination as nothing more than a doorway to a job.

In effect, what the last seven decades have produced is a class-structure of intellectual capital with the university producing the 'proletariat' and the specialist centres, the 'capitalist'. In India, public policy since Independence has created the structural basis for the 'class' division by letting the university become what it is. The inequality is not just evident in the outcome of knowledge production; it is in the knowledge environment itself.

THANKLESS DISCIPLINES

On wondering what the Planning Commission's Working Group cited above found a distinct reluctance among students and parents for science since it was too demanding, did not carry job prospects and if found, they were "not monetarily rewarding". The idea that pure science and mathematics are 'thankless' disciplines in India's contribution to the decline 'sciences', a category under which only economics seemed to fall. And dismal they remain till as long as there is no impact for return, until a French eighteenth century ambition, that created the likes of Meghnad Saha, S. Ramanujan and M.G. Ramanade. At the 2005 Science Congress, Dr. Mammon Singh expressed his concern that "the best minds are not turning to science and those who do, do not remain in science". Both as India's top policymaker and economist, he should not wonder why.

Financial Express ND 17-Jan-11 p-1

AICTE mulls single entrance test for all management studies

- Current entrance exams like Common Admission Test & Management Aptitude Test, conducted by state govt.s, will be done away with

Rethika Sureja

New Delhi, Jan 16: Come 2012 and students aspiring for admissions in management institutes approved by the All India Council on Technical Education (AICTE) will have to plan for a single exam. The council is planning to bring in a uniform admission test for all national and state level management institutions. The idea behind the move is to streamline the process and standardize the management entrance exams. At present, there are 3,500 AICTE-approved management institutions that enroll about 6 lakh students. Every year, around 30 lakh students appear for these entrance exams.

"Currently, these institutes conduct CAT and MAT exams conducted by state governments but now we are looking at a single test so that students don't have to take many exams. Moreover, this will be an enabling mechanism for students to get into AICTE-approved colleges," said Dr. Sureja.

Financial Express ND 17-Jan-11 p-1
Idiot box? HRD ministry eyes 24x7 education channel

Anubhuti Vishnoi

New Delhi, Jan 16: After a Lok Sabha discussion and plans for a Rajya Sabha one, the next government-run television channel may be a 24x7 dedicated school education channel to be called "Gyan Darshan". With the HRD ministry giving its in-principle approval, the National Council for Education Research & Training (NCERT) has been appointed as the nodal agency for the proposed channel.

At present, educational programmes created by the Indira Gandhi National Open University (IGNOU) for Doordarshan are already being run under the heading of "Gyan Darshan". The information & broadcasting ministry will soon be approached to make available this dedicated channel on the Direct To Home (DTH) networks.

While the focus will be school education, open, and adult education segments may also be a part of the programme content. The channel is expected to be highly instrumental in the process of teacher training, which has acquired greater urgency with the Right to Ed extraction Act coming into effect last year. The norms outlined by RTE will require massive recruitment of teachers at school level and regular training for them.

Currently, the NCERT has plans to train 50,000 teachers in integrating Information and Communication Technology (ICT) in the school education and learning process. The 24x7 channel could provide considerable help in achieving this mammoth task.

The proposal for the school education channel was first placed before Union HRD Minister Kapil Sibal on August 2, 2009. It is also on the agenda of the State Education Ministers' meeting scheduled for January 17, to invite collaboration on the project.

Besides the NCERT, the Central Institute of Educational Technology (CIET) and the National Institute of Open Schooling (NIOS) are also working on developing content for the channel.

It has been decided that while the NCERT will be the nodal agency, NIOS will be the collaborating agency. The Electronic Media Production Centre at IGNOU will be responsible for uplinking programmes received from CIET, NCERT and through its Earth station.

Many other agencies like the Film Division, Doordarshan, Vigyan Prasar, SIFTS (State Institutes of Educational Technology), Adult Literacy Department and State SSA departments will also be invited to collaborate in content development.

The CIET and NIOS have proposed an estimated expenditure of Rs 6.3 crore and non-recurring expenditure of about Rs 86 lakh for making the channel operational.

REMOTE SCHOOLING

- The National Council for Education Research & Training has been appointed as the nodal agency for the proposed channel.
- The HRD ministry has given the channel, to be called "Gyan Darshan", in-principle approval.
- The UIDAI ministry will soon be approached to make available this dedicated channel on the Direct To Home networks.
- The proposal for the school education channel was first placed before Union HRD Minister Kapil Sibal on August 2, 2009.

INTerview: BN JAIN

We aim to match Ivy League standards by 2020

"At BITS, when we teach entrepreneurship in students, the focus is not on the usual creation of a entity for employment generation," says Professor BN Jain, the vice-chancellor of BITS Pilani, while talking about entrepeneurship and social development. "We should focus on one of the most pressing issues in the country, BITS's new effort to raise its standards to match an Ivy League institution by 2020."

"Well, may be not if you plan and implement seriously. In any case at BITS, I don't think it's a sell out the institute," says Francesco Zighi, a professor at BITS.

What are these strategies (Mission 2012 and Vision 2020) to raise the institute's excellence to the next level and what is the meaning of next level in the global standards or the standards of the IIITs?

BITS has been recognized as the number one private technical university in the country in the changing world scenario, NITs not being in the next 10 years, and we plan to get into the top 50 in Asia in the next 10 years, and we plan to get into the top 100 in the world by 2020. But here I must add that we don't intend to use hierarchy as the benchmark, but global standards as the benchmarks.

You were doing well anyway so how did these plans come about then?

Well, just to a point into the past, when the BITS's new chancellor, Kastur Mangalam, took over the mantle from his guru, Birla, the most popular presses of BITS in 2008, the end of his own vision, the need was to fit it to BITS global, and through an intense collaborative process, involving faculty, students, and staff from all four campuses, a shape was given to a set of clearly articulated goals around six key domains: faculty development, curriculum development and pedagogy, research, infrastructure and facilities, governance and administration, and quality of life.

This later became BITS's strategic plan and Mission 2012. BITS 2020 was born.

But, as is with every plan, implementation was the key. So a formal structure was created to implement the goals.

This formal structure included the steering team; a project office to track and review the project; and six task forces, each with faculty from each of the four campuses, were formed.

Is it actually being implemented?

Implementation is well under way with some path breaking wins. Just a few of the more high-impact initiatives under implementation are a comprehensive faculty development programme that is benchmarked against some of the best universities in the world; over 1000 programmes offered by BITS at all its campuses have been benchmarked, each with three of the best global institutions; the programme modularization of the Pilot campus is under review; and a master plan for 2010 was begun.

The chancellor and vice-chancellor took the role of project sponsors; the campus directors, deputy directors and the advisor to the chancellor constituted the steering team.

And what is your investment into this initiative?

As we recently announced in the BITS Global Meet at Gurgaon, we will invest Rs 2000 crore primarily for four initiatives, namely 1) chairing professorships, 2) undergraduate scholarships, 3) towards improvement of "life on campus" for students, including sports facilities, and 4) a gesture building at Pilani to house research labs and centres for excellence.

How is BITS emphasizing on the need for research, entrepreneurship and social development?

Our faculty is engaged in path driven research, which is funded in large parts by government agencies whose mandate is to fund research. Our PhD programmes are significantly supported by these research centres that we have established. As for entrepreneurship is concerned, we take steps to sensitise the graduate classes that entrepreneurship is an option that they should consider at the time when they look for placement. Also, we have a centre whose focus is entrepreneur-ship development and they also support the launch of, what you might call, start-ups, but by way of funds or way of knowledge and expertise required to start a company. And they also want to work with young entrepreneurs to find some financial resources from outside BITS. The fact that Pilani is located in a rural area offers a challenge of a different kind. Because creating start-ups in Pilani or in small towns is one thing, and creating start-ups that provide for some kind of financial employment for people in these rural areas is another. There is a PhD that operates out of the town of Pilani and it has some 50-odd people. But then you say that PhDs are done a donut, but then how many PhDs operate out a rural area such as Pilani. So the focus is not so much on wealth creation but more on employment generation. And this is just an example of people in rural areas involved with such start-ups.

Vice-Chancellor, Birla Institute of Technology and Science, Pilani
HEALTHCARE providers face numerous challenges in the delivery of medical services in India, particularly in rural areas. Teleradiology—the transmission and interpretation of digital images between a patient and a radiologist through the Internet—can help improve patient care by allowing radiologists to review diagnostic reports for over three million patients, using teleradiology.

Teleradiology offers patient care by allowing radiologists to review diagnostic reports for over three million patients, using teleradiology.

In Indian Express ND 17-Jan-11

A beam of light

The induction of Tejas is a grand strategic step forward, but there are enough lessons to be learnt from its long journey.

Indian Express ND 17/01/2011

p-11

p-12

Doctor – anytime, anywhere

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A beam of light

The induction of Tejas is a grand strategic step forward, but there are enough lessons to be learnt from its long journey.

The narratives of the authors are significant as they provide an insight into the strategies and experiences of different researchers. However, the focus should be on the technical and operational aspects of teleradiology, as it is an emerging field and requires continuous research and development. Through the lens of these narratives, we can understand the challenges faced by healthcare providers and how they are adapting to the changing landscape of medical services.

The narratives of the authors are significant as they provide an insight into the strategies and experiences of different researchers. However, the focus should be on the technical and operational aspects of teleradiology, as it is an emerging field and requires continuous research and development. Through the lens of these narratives, we can understand the challenges faced by healthcare providers and how they are adapting to the changing landscape of medical services.
A New Year that ignited memories

For the IIM-A batch of 1995, a 15th year reunion was full of surprises, quizzes, Bollywood numbers, and something familiar—CEOs responding to dorm names

BY Vandana Vasudevan

The first surprise was the knowledge that there were two campuses. The cab dropped us at the new campus which had come up in 2003, eight years after our convocation. The concrete here was a bit disorienting, because campus for us could only have meant the old one, housing the signature architecture of IIM Ahmedabad—ramparts of bare bricks, arched and circular through which shafts of light catch you as your turn as you walk past the dorms. The second surprise was how naturally batchmates who hadn’t exchanged a word with each other in more than a decade, and those who had barely spoken even on campus, fell into the sort of raucous banter and teasing that can only come with those who shared a slice of your youth.

Fifty-five alumni turned up from all corners of the world for the 15th year reunion of the IIM-A batch of 1995—some came with spouses and kids, taking the number to 105—to spend the New Year weekend in the place that had given them a vital part of their identity. Rahul Phadke, who heads MSG Global Solutions (Asia) in Singapore and conceived this plan, says he persisted despite a frustrating lack of response initially because of pride and a passion to keep the batch connected. "Doing this was a labour of love for me," he says. A core group of organisations had set up the event management company to gently direct us to some sort of structure over the two days. Photos of our time at the Institute were plastered on a "Memory Lane" wall and provided for hilarious "then" and "now" comparisons. A bunch of us went on a campus tour, stopping at all the key landmarks. Past the Harvard steps and up the Stanford ramp to the landing which was a favourite party venue. Someone recalled losing there in Bacchanalian stupor on one occasion. Another pointed to where the ICU—Ice Cream Parlor—used to be. A "campus couple" showed their kids their erstwhile rooms. A lot had changed.

Dorm 11 was now a boys dorm. Brick walls in the rooms had been plastered white. There were intercoms and air conditioners in every dorm and easy access to the Internet—all improvements since our days, due to wishes to cater to 21st century students. We ambled along at the leafy path past Dorms 6, 8, and 9 to the porch outside Dorm 3, recalling "drinking" incidents and Wed DJ nights. It was a walk thick with memories, some grainy and others too layered to unravel.

In the introduction session post lunch, each of us thought had about the single most interesting thing we had done in the intervening years. Someone had developed a six-pack, a few had run marathons, many had opened and shut companies. The phrase "got bored and quit" emerged with amazing frequency. The odd questions for the meaning of life were the only stray evidence of our impending middle age.

As informal interaction with some faculty members of our times followed. The last day of the year was also the last working day for professor Abhinandan Jain, the legendary marketing stalwart, and professor S. Maniakty, of strategy formulation and implementation.

Their address to us displayed their characteristic wry humour and humility. Prof. Madhavan was there too, his frail figure and wide smile belying the terror that his Quant 3 course causes among students.

All academic pretensions were, however, rapidly abandoned as the evening’s New Year party drew near and none of the corporate luminaries had anything on their minds other than a certain sheesha and Mumba. The presence of several mood-altering substances, such as jalebis, unbacked aspects of our personalities that had perhaps become dormant. Limbs loosened and hips swayed on the dance floor, stirring up even the most reticent among us. Tongues loosened too and the inarticulate among us tossed and gorged about old flames and whether any were still flickering.

In an unabashedly sentimental reliving of the past, we welcomed the morning of 1 January by breaking into the students mess. At noon, there was an inter-dorm quiz set by our batchmate and veteran quizmaster, Rajiv Bhut, whose day job is with Deutsche Bank, Mumbai. The excesses of the previous night had not exactly left us in a quizzing state of mind, but Rajiv’s shrewd questions brought on some wakefulness. We marvelled at the fact that a matinee idol shares his name with the son of Tomar the Lame, who was so kind of chess that he chose the name Shah Rukh, the Persian term for "casting" in chess. Sore, with characteristic competitiveness, people were thumping their tables for knowing that Side-winder is both a rattlesnake and a missile and nearly choking a teammate for passing an easy question.

The bonestfire at the Louis Kahn Plaza on the night of 1 January was an evening that will turn into a memory and nestle itself into a warm corner of our hearts for the rest of our lives. Whistl Kishore Kumar songs wallet across the nippy night as we sat together on the lawns, surrounded by places where we had learnt, loved, laughed and lived so many years ago.

And then it ended on Sunday. Like a beautiful morning dream that is truly broken. Where else but in an alternate reality would vice-presidents and CXOs respond to dorm names such as Tamas, Kaddu, Keela and even Chaddhu exist naturally, as though that’s what they’ve been called all these years in meetings and conferences. Someone suggested a 25th year reunion and was quickly shut down. That was too far. We can just about wait for five more years.

Vandana Vasudevan writes the fortnightly column, Tough Customer, in Mint. She is a graduate from the Indian Institute of Management, Ahmedabad, and currently works with HT Media Ltd.

Write to us at business@livemint.com
Coming soon: Gyan Darshan, a 24X7 school education channel

NCERT to be nodal agency; CIET, NIOS to collaborate on content

ANUBHUTI VISHNOI
NEW DELHI, JANUARY 16

After a Lok Sabha channel and plans for a Rajya Sabha one, the next government-run television channel may be a 24X7 dedicated school education channel to be called “Gyan Darshan”. With the HRD Ministry giving its in-principle approval, the National Council for Education Research & Training (NCERT) has been appointed as the nodal agency for the proposed channel.

At present, educational programmes created by the Indira Gandhi National Open University (IGNOU) for Doordarshan are already being run under the head of “Gyan Darshan”. The Information & Broadcasting Ministry will soon be approached to make available this dedicated channel on the Direct to Home (DTH) networks.

While the focus will be school education, open learning and adult education segments may also be a part of the programme content. The channel is expected to be highly instrumental in the process of teacher training, which has acquired greater urgency with the Right to Education Act coming into effect last year. The norms outlined by RTE will require massive recruitment of teachers at school level and regular training for them.

Currently, the NCERT has plans to train 50,000 teachers in integrating Information and Communication Technology (ICT) in the teaching-learning process. The 24X7 channel could provide considerable help in achieving this mammoth task.

The proposal for the school education channel was first placed before Union HRD Minister Kapil Sibal on August 16 last year. It is also on the agenda of the State Education Ministers’ meeting scheduled for January 17, to invite collaboration on the project.

CONTINUED ON PAGE 2

Soon a 24X7 education channel

Besides the NCERT, the Central Institute of Educational Technology (CIET) and the National Institute of Open Schooling (NIOS) are also working on developing content for the channel.

It has been decided that while the NCERT will be the nodal agency, NIOS will be the collaborating agency. The Electronic Media Production Centre at IGNOU will be responsible for up-linking programmes received from CIET; NCERT and through its Earth station.

Many other agencies like the Films Division, Doordarshan, Vigyan Prasar, SIETs (State Institutes of Educational Technology), Adult Literacy Department and State SSA departments will also be invited to collaborate in content development.

The CIET and NIOS have proposed an estimated expenditure of Rs 6.3 crore and non-recurring expenditure of about Rs 86 lakh for making the channel operational.
आईआईटी हो सकती है महंगी

कवायद

- आईआईटी काउंसिल में 21 जनवरी को होगी फीस बढ़ी पत्रवार
- प्रेस परीक्षा में बदलवाल को लेकर भी हो सकता है अहम पृष्ठ

परमानु ऋषि आयोग के पूर्व अध्यक्ष डॉ. अनिल कांडकर की अध्यक्षता वाली विशेषता समिति ने इन संस्थाओं को आर्थिक रूप से उन्महत्त्र बनाने के साथ-साथ फीस बढ़ाने का किया है।

समिति द्वारा संस्थाओं के लिए तैयार किए गए विज्ञापन पर सामान्य संसाधन विकास मंत्रालय के 21 जनवरी को आईआईटी काउंसिल की सौंदर्य बुलाई है। मंत्रालय के सूचना के अनुसार इस बैठक का मुख्य एजेंटा है कि कैसे आईआईटी अपने लिए आर्थिक संसाधन
आईआईटी से भी महंगा नर्सरी दाखिला

संबाददाता

नई दिल्ली। दिल्ली-एनसीआर में स्कूलों में नर्सरी की फीस वर्तमान में आईआईटी से भी अधिक है। दाखिले में एक बड़ी राशि के तरीके के लिए भी अभिभावकों को तैयार रहना है। नर्सरी में दाखिले के लिए अभिभावक एक चोटी का जो लगा रहे हैं। वहीं तामाम औपचारिकों को पूरा करने के बाद भी दाखिले की गारंटी नहीं है। निर्देशालय ने चुप्पी साध रखी है।

राजधानी में चल रहे नर्सरी स्कूल दाखिलों की कुछ चीज़ों के लिए हजारों अभिभावकों से हुई है। बच्चों के दाखिले के लिए अभिभावकों को आईआईटी की वार्षिक पैसे से भी अधिक पैसे भरने पड़े। आपको आईआईटी की फीस राशि को देखा जाए तो वह 75 हजार स्न्याप प्रति वर्ष आपूर्जी।

इसके साथ ही छात्रों को अन्य-अन्य खर्चों के लिए सालाना 20000 स्न्याप देने पड़ते हैं।

वहीं जब दिल्ली-एनसीआर में नर्सरी स्कूल दाखिलों की बात होती है तो अभिभावकों को कम से कम 75 हजार स्न्याप से अधिक जेब दीती नहीं पड़ती है। प्रिसिलिया स्कूल का एडमिशन पैसे एक साल स्न्याप है, जीटी मोर्चा स्कूल की कुल पैसे 80 हजार स्न्याप है, अभिभावकों को गारंटी पैसे 11 हजार स्न्याप भरना पड़ता है। नैशियनल लाइंसर पारीक्षणिक स्कूल का एडमिशन पैसे