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BUSINESS AND ECONOMY

August - September 2010 | Volume 01 | Issue 3

RURAL UPDATE
UNIQUE LOW-COST FOOT BRIDGES CONNECT RURAL INDIA

INNOVATION CORNER
TECHNOLOGISTS GIVE UP CUSHY JOBS TO BRIGHTEN RURAL HOMES

EMERGING ENTREPRENEUR
THE QUIET CONFIDENCE OF MUMBAI'S DEAF COURIER AGENTS

ADVANT-EDGE INDIA

Spurred by the deepening of its knowledge base, India is rapidly turning into an important global research hub as the world's leading companies set up cutting edge R&D centers here

EDITORIAL

Creating Wealth through Innovation

The world is recognizing India's place in quality research and development

It is said that when economies start doing better, they want to do things better. Enter innovation. It is not the same as invention. Someone has, perhaps, rightly said that invention turns cash into ideas, while innovation turns ideas into cash.

In the words of the father of robotics, Joseph Engelberger, innovation requires three things: felt need, relevant technology and funds.

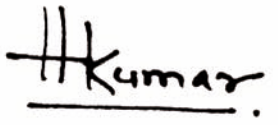
India is placed just right in this regard – the need is felt and policy makers are ensuring that the technology and funds are well within reach. Innovation will often need creativity, but always need persistent hard work. For, creative ideas will need relentless application to bring innovation. Having tasted success, the Indian entrepreneur has begun harnessing the engine of constant innovation for sustained growth. The economic and political atmosphere is conducive to research and development. India has a large talent pool of qualified and experienced scientists and technologists. The world's mighty corporations, that have built their empires on invention and research, have recognised the value of this talent pool. Right from Google to GE to Microsoft to Mercedes Benz, almost all the world's top organisations have set up research and development centres in India.

Famous Austrian economist Joseph Schumpeter had long ago defined innovation as, among other things, the opening of a new market.

It is fitting, therefore, that Prime Minister Manmohan Singh should say: "India is at the cusp of change... We need to find new ways to go forward. New ways to do old things. The age of innovation is upon us."

In such times, creative ideas can emerge from anywhere, innovation can happen anywhere. Whether it is generating cheap, eco-friendly power from rice husk or building economical foot bridges in the villages, innovation is a spirit that is rapidly spreading. When creativity and technology come together to make lives better, innovation assumes the character of a mission.

The march forward will not only be rewarding, but also comforting.



HEMANT KUMAR

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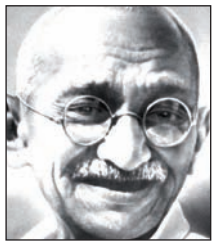
VOICE OF VISIONARY

A nation's culture resides in the hearts and in the soul of its people



National ROUND-UP

PHOTOGRAPH BY SUBHOJIT PAUL

T3, the dawn of a new era in Indian aviation. Sprawling airport has ultra modern facilities and expansive duty free shopping area

ON JULY 14 an Air India flight from New York landed at New Delhi's Indira Gandhi International Airport to water cannon salute and loud cheer – it was the first commercial flight to touch down at the airport's ultra-modern, brand new Terminal 3.

Built in a record time of 37 months, and at a cost of INR9,000 crore (US$2 billion), T3 is the world's sixth-largest terminal. T3 has catapulted New Delhi into the global league of airports. It has the capacity to handle 34 million passengers annually, ahead of London's Heathrow T-5 (25 million) and Singapore's Changi T-3 (22 million). The airport is spread over 5.4 million square feet and is expected to usher in a boom in airport retail with the launch of multiple global brands in its duty-free shopping zones.

The swank steel-and-glass terminal is a nine-level building with 78 passenger boarding bridges and a multi-level car parking. With 168 check-in and 95 immigration counters, and 78 aerobridges, T3 is a giant of an airport.

The world's largest passenger aircraft, the 517-seater Airbus A-380 of the Emirates Airlines, made history when it became the first international airline to dock at Terminal 3, a day after it opened to business.

DATA BRIEFING

US$2 billion: cost of building T3, in record time of 37 months.

Mergers and acquisitions become more regulated. Market regulator raises acquisition threshold to 25 per cent

THE SECURITIES and Exchange Board of India (SEBI), has recommended a broad set of reforms to significantly improve the rules for acquisitions and mergers in India. The recommendations were made by SEBI's committee on takeover regulations, headed by C Achuthan.

The committee has raised the threshold of acquisition from 15 to 25 per cent. What it means is that if a company wishes to acquire another firm, the first offer will be made only if the acquiring company wants to buy at least 25 per cent of the shares, or voting rights. Right now, this threshold is 15 per cent of the shares.

The committee has also changed the way creeping acquisitions will be made – a method of buying incremental shares in a company, annually, to eventually acquire it over a period of time. Such acquisition will now be permitted only to those who already hold more than 25 per cent of the shares of the target company.

These measures are expected to promote greater transparency in the takeover process as well as protect the interests of retail and public shareholders.

THEY SAID IT MANMOHAN SINGH

The whole world is praising India for the success we have achieved in overcoming recession. We have not allowed large scale unemployment to emerge as a problem in the country despite the economic recession

"India is at the cusp of change. The time has come for a qualitative change and a quantitative leap forward. We need to find new ways to go forward; new ways to do old things. The age of innovation is upon us."

—Dr. Manmohan Singh, Prime Minister of India.

STOCK UPDATE

Soon, an exchange for small enterprises. By year end, the Bombay Stock Exchange (BSE) will open a brand new exchange for small and midsized enterprises that have long been the backbone of India's economic growth. BSE has applied to the Securities and Exchange Board of India (SEBI), the capital markets regulator, for the setting up of the exchange.

PHOTO: PHOTOS.COM

New GST – less taxing, more beneficial. Ambitious goods and services tax overhaul to streamline recovery

BY MID next year, an all new goods and services tax (GST) will be in place. It is part of a proposed overhaul that aims to evolve an efficient and harmonised consumption tax system in India. GST is seen as the single most important tax reform initiative since independence, and is expected to provide a significant boost to investment and economic growth. The current tax system is in need of crucial reforms. To be shared between the Centre and the States, GST was part of the proposals in the Union Budget of 2006-07, with the promise of having it in place by April, 2011.

The tax will be an indirect levy on the manufacture, sale and consumption of goods and services. By bringing services and manufacturing together, the world class integrated tax system will help improve collections. The comprehensive GST will put an end to many taxes, such as octroi, central sales tax, state level sales tax, entry tax, stamp duty, telecom licence fees and turnover tax, among others. It will facilitate seamless credit across all states and the entire supply chain, under a common tax base.

The tax will be an indirect levy on the manufacture, sale and consumption of goods and services

GST will have a significant impact on almost all aspects of businesses, including the pricing of products and services, the supply chain, sourcing and distribution decisions, inventory costs and cash flows, accounting, IT systems and transactions management.

To simplify the understanding and application of the goods and services tax, the government proposes a three-rate structure of indirect taxation. GST will tax goods at 20 per cent, services at 16 per cent, and essential items at a concessional 12 per cent.

SOUND BYTES

"The time has come to move from small increments to bold initiatives; to stretch the envelope and set goals which were earlier not seen to be possible"

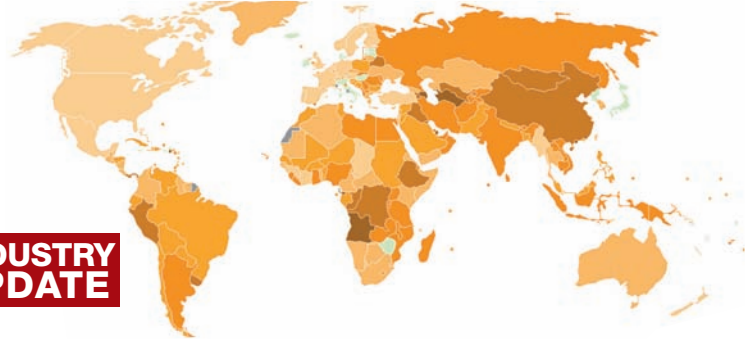
—Ratan Tata, Chairman, Tata Sons

"We invested in uncompromising integrity that helped us take difficult stands in some of the most difficult business situations."

—Azim Premji, Chairman, Wipro Limited

"From being a predominantly Indian company, we will now be present across eighteen countries"

—Sunil Mittal, Chairman & Group CEO, Bharti Enterprises



INDUSTRY UPDATE

Indian auto exports – stepping on it!

Rising demand for Indian cars in Europe is boosting exports that are set to touch US$ 42 billion by 2016

AT A TIME when auto majors worldwide, are smarting under falling sales and revenues, the Indian automobile industry has shown an encouraging growth in exports over the last year. As demand from Europe rises, the government expects vehicle exports to increase by 15 per cent in this fiscal.

"We may see a 10 to 15 per cent increase in auto exports over and above last fiscal's exports," said Joint Secretary in the Department of Heavy Industry, Ambuj Sharma.

According to the Society of Indian Automobile Manufacturers (SIAM), auto exports have shown a healthy growth of nearly 18 per cent over the last year. While a little over 1.5 million units were exported in 2008-09, the number jumped to more than 1.8 million, last year.

Europe is a major market for the Indian auto industry's passenger car export. Passenger car export alone, grew more than 33 per cent in the last fiscal.

The growth was fuelled by a scrappage scheme rolled out by many European nations to boost small car sales. Under the scheme, many governments offered incentives to buy new cars in exchange for old ones. Hyundai Motors India and Maruti Suzuki India made the most of the scrappage incentive programme. Indian car exporters are now exploring new markets like Latin America.

33% GROWTH IN THE NUMBER OF PASSENGER CARS EXPORTED, IN THE LAST FISCAL

Last year, exports showed substantial growth in the two-wheeler category, too - a rise of more than 13 per cent. The surge was led by Bajaj Auto and Hero Honda.

The sector is set to grow exponentially in the next six years. A recent report compiled by international consulting firm Ernst & Young and the Engineering Exports Promotion Council said that India's auto exports will touch US$42 billion, by 2016.

UPDATES

SPACE RESEARCH

INDIGENOUS ROCKET DELIVERS FIVE SATELLITES INTO SPACE

The Indian Space Research Organisation (ISRO) has launched five satellites in one go, using the highly valued Polar Satellite Launch Vehicle (PSLV). On its sixteenth consecutive flight, the indigenously built PSLV shot off the launch pad at the Satish Dhawan Space Centre at Sriharikota in the southern state of Andhra Pradesh, and delivered Cartosat - 2B into a sun-synchronous orbit. The ISRO-built Cartosat carries two high resolution panchromatic cameras for generating accurate three-dimensional maps of the earth.

The rocket carried four other satellites. One of them, called Studsat, was built by 35 students from a group of seven engineering colleges in the states of Karnataka and Andhra Pradesh. Also called a pico satellite, Studsat is a student satellite and the smallest ever launched in India.

The satellite's mission is experimental and the major objective is for the students to have a hands on experience on the design, fabrication and realisation of a space mission at minimum cost.

ISRO's rocket launched into space three other payloads - two nano satellites of the University of Toronto, Canada, and a microsatellite for the Algerian Space Agency.

GOVERNANCE

RIGHT TO FOOD ACT.

Ensuring that families below the poverty line have guaranteed access to food

THE GOVERNMENT is contemplating turning the right to food into law. This follows the successful implementation of the ambitious National Rural Employment Guarantee Act and the hugely popular Right to Information Act. Both serve as icons of more inclusive governance.

The right to food will create a system of administrative and legal recourse, cutting across ministries and departments. It will address issues such as health, nutrition, agriculture and livelihoods.

A right to food campaign has also taken off to hasten this process. It is an informal network of organisations and individuals, which builds on local initiative and voluntary cooperation. On its website, righttofoodindia.org, the group says implementing the right requires not only equitable and sustainable food systems, but also entitlements relating to livelihood security such as the right to work, land reform and social security. The organisers say they will work with government agencies and legislators, to enact laws that will ensure people's right to food.

The campaign has formulated a set of common "essential demands" relating to the forthcoming National Food Security Act. It demands a comprehensive Food Entitlements Act, going well beyond the government's promised 25 kg of priced-controlled wheat or rice to every family below the poverty line.

INDIA WATCH

$17.75 billion Indian exports in June 2010

Area	Population	Male	Female	Population Density	Urban Population
3,287,590 sq km	1,173,108,018	611,641,992	561,466,026	359.14	340201325.2

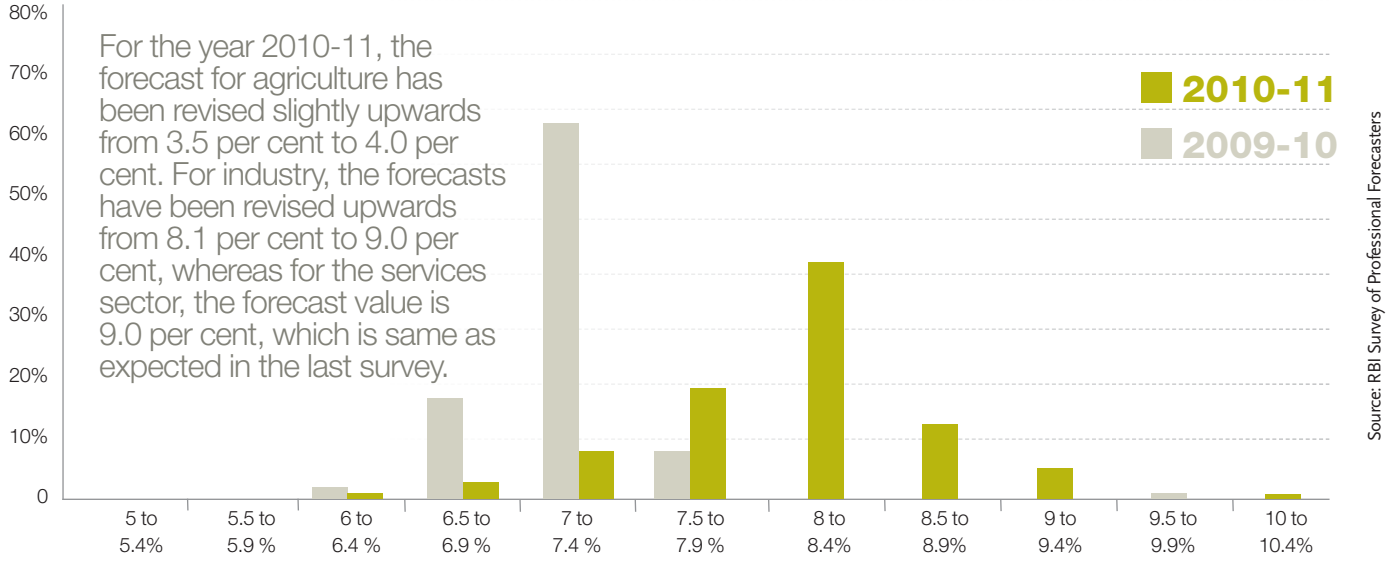
Key performance indicators of the Indian economy, with patterns, trends and forecasts

India's Economic Outlook Projection

Fiscal Year	2007	2008	2009	2010
GDP Growth	9.40%	7.30%	5.40%	8.50%
CPI	6.40%	9.30%	5.50%	14.10%

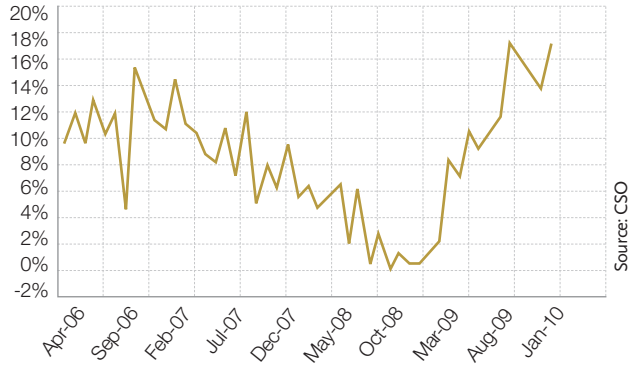
Source: Data taken on 7th May,2010 from RBI website

Mean Probability Pattern of Real GDP Growth Forecasts



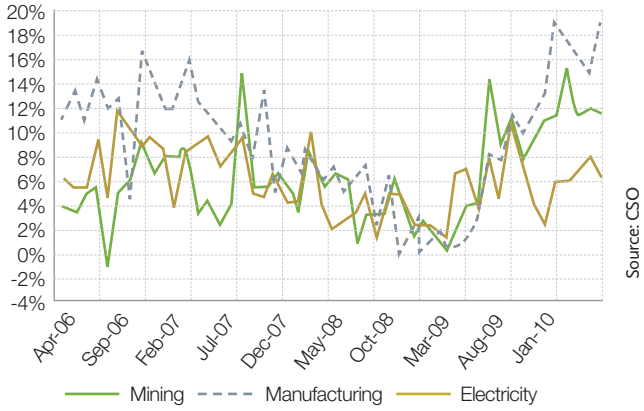
Source: RBI Survey of Professional Forecasters

Chart 1: Year-on-Year Growth IIP



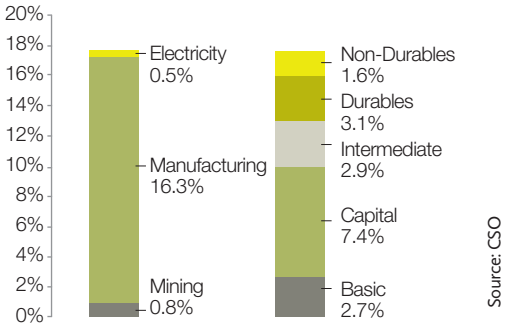
Source: CSO

Chart 2: Year-on-Year Growth in Sectoral Indices



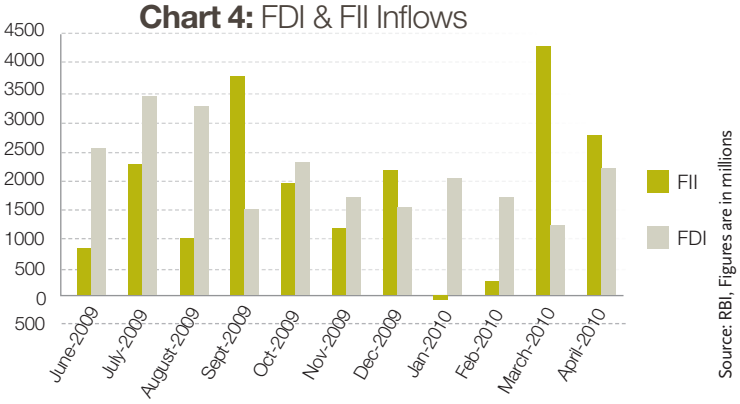
Source: CSO

Chart 3: Contribution to IIP Growth in April 2010



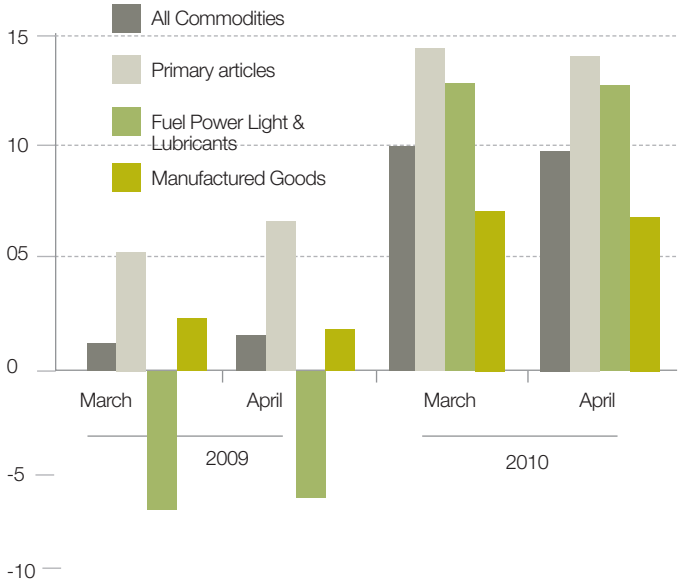
Source: CSO

Chart 4: FDI & FII Inflows



Source: RBI, Figures are in millions

Monthly trends in Wholesale Price Index- monthly average (% change)



Source: RBI

Stock Market

Date	BSE Sensex	% Change	S&P CNX NIFTY	%Change
1.04.10	17,692.62	5.48	5290.5	5.45
3.05.10	17,386.08	-1.73	5222.75	-1.28
1.06.10	16,572.03	-4.68	4970.2	-4.83
1.07.10	17,509.00	5.65	5251.4	5.65

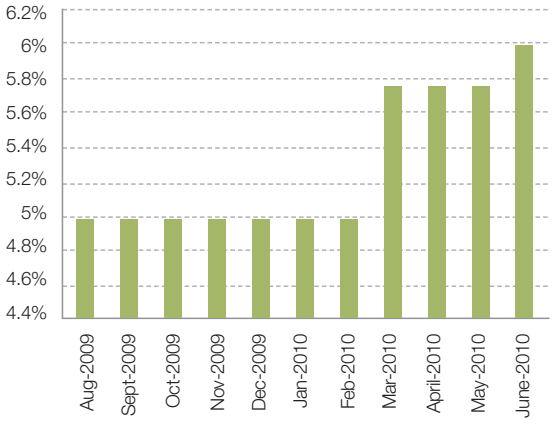
Currency exchange rate

Date	INR/USD	INR/GBP	INR/JPY	INR/EUR
Nov 09	46.74	77.54	52.4	69.64
Jan 10	46.18	74.6	50.55	65.96
Mar 10	45.5	68.53	50.25	61.8
May 10	45.08	68.09	48.23	58.75
July 10	46.57	72.86	53.51	60.95

Source: RBI

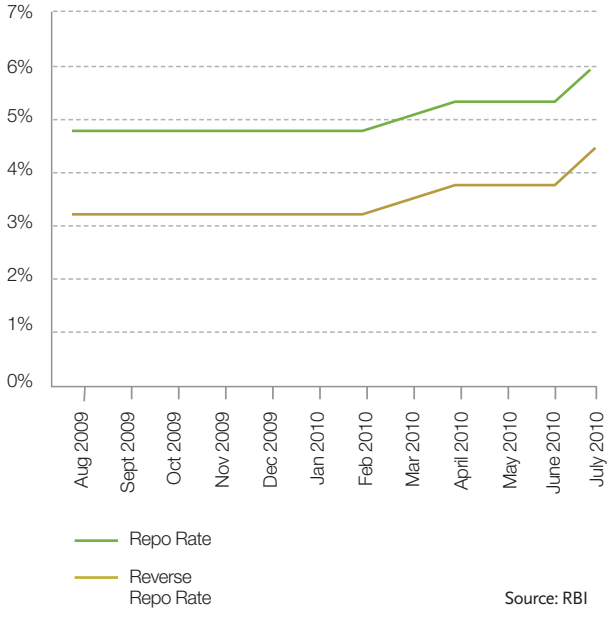
Key Macroeconomic Indicators

Cash Reserve Ratio



Source: RBI

RBI Policy Rates



Source: RBI

COMPANY DASHBOARD

- **TURNOVER (2009-10):** US$481 million
- **PROFIT (2009-10):** US$ 30 million, Up 105 per cent
- **MANUFACTURING UNITS:**

Puducherry (Capacity 650,000 units per year)
Faridabad (1,600,000 units)
Ranjangaon, Pune (800,000 units)

HOME RUNNER

FMCG brand leader, Whirlpool, establishes itself firmly in the buyer's heart with consumer-friendly strategies. BY SHREYASI SINGH

NOT EVERY BRAND can claim to have added a new term to the popular lexicon—but, Whirlpool India can. "As a brand, we care for the care provider. Our advertising changed the way the woman of the house was portrayed," explains Shantanu Das Gupta, Vice President, Corporate Affairs and Strategy for South Asia. "We showed her in the modern context and introduced the term 'homemaker' to the Indian lexicon," he adds.

From the beginning, the company positioned the brand as a "partner" to the homemaker, which led to an iconic tagline—"You and Whirlpool, the world's best homemakers". Keeping the Indian woman at the centre of the brand and celebrating her helped the conglomerate script a success story. Whirlpool entered the country early—in the late 1980s—before India's watershed liberalisation made it a critical ground for global bigwigs. It took modest steps into the market. Instead of coming in with large greenfield manufacturing projects, Whirlpool chose an alliance route to test waters. It tied up with the TVS Group to produce automatic washing machines at a plant in Puducherry. Business was brisk. By 1995, Whirlpool Corporation, based in North America, acquired Kelvinator of India Limited and entered India's refrigerator market. The joint venture with TVS was merged with the new purchase to form Whirlpool of India Limited in 1996.

In the past 15 years, Whirlpool has gained an impressive volume of market share in appliances such as washing machines and refrigerators. It now offers air-conditioners, microwaves, water purifiers and built-in appliances, water softeners, lint removers and panels. Today, it holds a market share of 25 per cent and its products are available across 10,000 retail outlets.

According to Das Gupta, the company has learnt a few key lessons. "First, this is a low-cost economy. You can't ignore the bottom end of the market. The bulk of the volume continues to lie at the bottom. So, price points are important. We take pride in the fact that we know how to make products for the Indian market at attractive price points. Even innovation needs to have cost efficiency. You can't push up prices citing terrific innovation. Cost leadership and value offering is critical," he says.

The company has made investments to secure this foothold. It has the distinction of having ISO certifications for all facilities in India. The refrigerator facility located at Faridabad manufactures a range of "direct cool" refrigerators, with a capacity of 1.6 million units per year. Whirlpool has also set up a state-of-the-art facility for manufacturing double door, no-frost refrigerators at Ranjangaon (Pune), with a capacity of 800,000 units per year. It's considered to be one of the world's most environmentally-sensitive units. The Pune plant was the first big investment (outside North America) for Whirlpool Corporation. Its Puducherry unit continues to make fully-automatic and semi-automatic washers. Its products are exported to over 70 countries, especially to Europe, Australia and South Asian markets. "In 2004, we set up a Global Design Centre in Gurgaon. The award-winning centre focusses on consumer needs and translates preferences into product innovations. It's run by Indians and helps design cutting-edge products for the Asia market. It also works on global solutions," says Das Gupta, proudly.

In 2002, the company also established a Global Technology Centre at Pune, with eight engineers. Today, 350 engineers are part of the facility that provides technical services and design support to Whirlpool Corp. It has become a valuable resource centre because it offers the company triple benefits—competency, low-cost engineering and a quick turnaround time.

In an overwhelmingly competitive industry, with little to differentiate products from different stables, Whirlpool believes it has managed to bring in fresh ideas. "Our marketing has always been led by people bred in Fast Moving Consumer Goods (FMCG) brands. Our marketing has been consumer-oriented," he explains. There were phases of cooling-off, especially in the mid-1990s, when Asian brands such as LG and Samsung entered the market. "Those were tough times," he admits. "Allwyn and BPL got wiped out. We survived, despite taking hits. We tightened our belt. Whirlpool is the only Western brand that has continued to flourish in an essentially Asian market."

"OUR MARKETING HAS ALWAYS BEEN LED BY PEOPLE BRED IN FAST MOVING CONSUMER GOODS BRANDS."

— Shantanu Das Gupta,
Vice President, Corporate Affairs and Strategy, Whirlpool India Limited

This confidence is now powering the company's next phase of growth. "We came out of the recession stronger. From 2008 to 2009 and 2009 to 2010, we beat our record. Our shares touched highs," claims Das Gupta. "Now, we are busy and impatiently driving growth. There is a lot more to do, we want to accelerate growth with air-conditioners and microwaves now," he adds.

Currently, Whirlpool India is one of the top 10 revenue generators for Whirlpool Corp. New plans will ensure that it climbs up the balance sheet to become one of the top three contributors to the company, globally, in the next few years. ■

Advant-edge India

The world's leading companies are busy setting up cutting edge R&D centres in India, turning it into an important global research hub. BY SHUBHRA KRISHNA

US$ 8.3 billion - amount earned by India through R&D last year

Of the US$ 1.5 trillion to be spent by the world in R&D in 2020, India's share will jump 40% - to $45 billion

The next time you marvel at the technological complexity and design excellence of a digital x-ray machine or CT scanner, chances are you could be admiring an Indian scientist's work of art. If it's a brand new Siemens machine, it was most likely developed in Chennai or Bengaluru.

You could even be browsing on a laptop whose CPU was designed in India. Then the INR 2000 (US$ 43) Motorola cell phone in your hand could be designed, developed and manufactured in India.

Your next arthritis or hypertension pill could be a start-to-finish Indian discovery and production.

The high-visibility satellite launches will still dazzle the whole world. But they come from government laboratories running on national budgets. The quite whirr of the centrifuges, the gentle pipette taps and the rat-a-tat routine of the pounding computer keyboards in scores of privately owned research laboratories are promising to be no less revolutionary.

Indian researchers are not just working for other people - anymore. Moving beyond data entry, process outsourcing and back office work, more and more Indians are getting into the core areas of design, research and development – of processes, products and systems.

As the global economy slowly emerges from one of the worst downturns of history, Indians have many reasons to celebrate. A series of international reports is placing India in a very advantageous position to harness its vast human resource, unique economic positioning and an economy primed for sustained growth.

Outsourcing is still a very attractive business opportunity and Indians will continue to reap its golden harvest. But research and development is now the new buzzword, as

India and China will be global powers in R&D, with nearly 20% of the world's research investment

EU Study

World's largest firms list India as the 3rd most attractive place for setting up R&D facilities

UN Report

an increasing number of multinational companies open their R&D centres in India – not to adapt existing products for the sprawling domestic market. Most of them are doing serious research and development in products and processes for the global market.

Electronics, engineering and health care giant, Siemens AG, spends nearly US$ 4 billion on research and development (R&D), each year. The company has invested heavily in making India its important R&D hub.

The investment is paying off - Siemens' Indian laboratories have so far developed seven imaging tools used in digital chest X-Ray machines, CT scanners, mammography and virtual colonography to accurately detect breast cancer, colon cancer, lung cancer and clots in the lungs.

At centres in Chennai and Bengaluru, 60 per cent of the company's engineers and scientists are working on four next-generation imaging tools. Using Computer Aided Design (CAD), the researchers innovate and improve upon cutting edge medical diagnostic tools.

The US-based Siemens Medical Solutions had set up a CAD Group in 1995 that employs more than 100 engineers and scientists, working on the firm's IT and diagnostics projects, according to Arun Krishnan, head and co-founder of the CAD Group. With more than 59 inventions and 21 patents to his credit, Krishnan bagged the company's 'Inventor of the year' award, last year.

Leading American business research firm, Battelle of Cleveland, Ohio, has released findings of a study that says India and China are poised for phenomenal R&D growth in the years to come. It compared the prospects of 40 countries that spend on R&D. Having shown steady GDP growth in comparison with the other countries, India and China stand to gain substantially.

According to the study, the world will spend a little over US$ 1.5 trillion on R&D, this year. That will mean a four per cent rise over the last year, according to the 2010 Global R&D Forecast, prepared by Battelle analysts and editors of the R&D Magazine. Founded in 1959, US-based R&D Magazine reports on noteworthy research from laboratories around the world. The magazine also sponsors the coveted R&D 100 Awards to recognise the year's100 most technologically significant new products.

The study says that continued R&D spending from India and China will drive most of this increase. At an estimated 7.5 per cent, this increase will be more than twice as much as 3.2 per cent forecast for the US and way beyond the 0.5 per cent for European Commission countries. Even Japan, the second largest R&D spender in the world, is now trailing the level of spending by China and India.

Still, America will account for nearly one-third of all the world's money spent in R&D, this year – nearly US$ 453 billion. Together with the EC's nearly US$ 270 billion, this is almost half of all the money spent.

The strong and deep science and technology infrastructures of the advanced nations will sustain the research momentum they have generated over the years. However, the intellectual property gains of emerging economies like India will be substantial, too, said the EU report.

According to a recent survey of the Economist Intelligence Unit, the business information arm of The Economist Group, India is fast overtaking the US and China as the most preferred location for the setting up of R&D centres. Among the many reasons, the surveyed multi national corporations (MNCs) listed India's R&D activities and highly skilled labour force as prime reasons why they would direct their investment energies towards India.

Technology Information, Forecasting and Assessment Council (TIFAC) analysts A.K.Bharadwaj and Rammi Kapoor say in a report on foreign investment in India's R&D sector, that MNCs are expanding their research domain through joint ventures, mergers and acquisitions, sub-contracting and collaborative projects and programmes. The government of India set up TIFAC to propel innovation and to project India's technological aspirations into the future. The council works as a knowledge bridge between academics and the industry.

The MNC alliances have resulted in R&D clusters. Many Indian firms have also expanded their R&D activities to other regions. It is also a measure of the extent of the Indian R&D and production system getting linked to its global counterpart, through the R&D activities of MNCs in India.

The flow of foreign R&D is concentrated in software development, auto design, drug design and pharmaceuticals, hardware and product design. Earlier, many of the MNCs had their R&D setup as a support to their production unit. Now, companies are opening independent centres for R&D in high tech areas.

It would seem that India's recent rise as a veritable economic power has compelled international companies to take it seriously as an investment destination for such facilities. But it was between 1996 and 2000 that international companies started establishing or expanding their R&D footprint in India.

Of the 16 countries of origin, companies from the US have the most R&D centres in India, employing the highest number of people. Most of the research and development work is centred around software development, auto design, drug design and pharmaceuticals, and hardware and product design. IT has the lion's share of foreign investments, having swept up more than 70 per cent of all the money inflows. The automotive sector, drugs and pharmaceuticals, biotech, aerospace and others make up the rest.

More than 100 of the Fortune 500 firms have R&D centres in India. They include Delphi, Eli Lilly, GE, HP & DaimlerChrysler.

Motorola's two research and development facilities in India helped produce a 40-dollar cellular phone for emerging markets. In January, Microsoft launched its third international research centre in India. Intel has 800 India-based engineers working on software and hardware designs for its communication and semiconductor product lines. Other U.S. companies are designing everything from auto parts to consumer electronics in India through outsourcing or setting up their own facilities in cities such as Bengaluru, popularly called India's Silicon Valley.

Within the technology sector, semiconductor design or design of chips is an area where multinationals came to India a long time ago, and it remains a growth area for R&D outsourcing. Very Large Scale Integration (VLSI) is at the very heart of semiconductor design. It essentially means fitting more and more transistors on a microchip, a million times smaller than the smallest pinhead. India has 70 to 100 VLSI companies, with more than 5,000 engineers providing semiconductor design services, according to C. P. Ravi Kumar, secretary, VLSI Society of India.

Many big semiconductor companies, including Texas Instruments, National Semiconductors, Intel, Analog Devices, ST Microelectronics, Cadence, Synopsys, and Motorola have established research facilities in India, some of them in the early 1990s.

IT heavyweights Microsoft, Intel, Nokia, Motorola, HP, Oracle, IBM, SAP and Cisco are among the top global companies with R&D centres in India. HP, however, tops the list of R&D spenders in India, followed by IBM and Ingram Micro, the wholesale provider of technology products and supply chain services.

The foreign R&D centres are steadily becoming entrenched into the Indian education-research-industry beltway. The Indian institute of Science, Bengaluru and the prestigious Indian Institutes of Technology are getting intrinsically linked to this mutually profitable and sustainable mechanism.

More than 100 of the Fortune 500 companies have R&D centres in India. The companies include Delphi, Eli Lilly, General Electric, Hewlett Packard and DaimlerChrysler.

The John F Welch Technology Center in Bengaluru is GE's largest R&D centre outside the US, employing more than 1,600 researchers. GE Motors India has developed an almost noiseless motor for the company's most sophisticated washing machines.

The DaimlerChrysler Research Center in Bengaluru is engaged in fundamental and applied research in avionics, simulation and software development.

Patent-rich Du Pont of USA and Reliance India Limited have agreed to set up an R&D centre that will work on products and processes, and might serve to facilitate Du Pont's entry into the Indian market.

Du Pont has also agreed to set up a knowledge centre with the government-owned Centre for Scientific and Industrial Research, CSIR.

Phone monolith Ericsson recently opened its first R&D facility in Chennai to develop value-added applications for the pre-paid and multimedia segments of the mobile telephony business. Ericsson has also outsourced its R&D to the Indian BPO giant WIPRO and will establish a development centre for telecom solutions with another IT powerhouse, Tata Consultancy Services.

Technology leader Hewlett Packard has entered into an agreement with IIT Chennai to set up a new facility for research to help the company's global efforts. HP has also inked a deal with the Indian Institute of Science, Bengaluru, for joint research and for developing new products.

The world's fifth largest company, GE has engaged Satyam Computers Services to set up a new facility where it will research into and develop new products. An R&D frontrunner in India, GE is working on ultra hi-tech nanotechnology and photonics at its Bengaluru centre.

Networking leader CISCO has partnered with WIPRO, Infosys, Satyam, HCL, and Zensar to set up and run an ambitious joint product development centre.

California-based device software optimisation provider Wind River Systems is also said to be mulling setting up an R&D centre in India. A wholly-owned subsidiary of Intel Corporation, the company provides technology to industry leaders like Apple, HP, Boeing, Motorola, NASA and Mitsubishi.

Microsoft employs 1,500 people at its Indian R&D centre. It started off with 20 people about a decade ago. Some of the work for key Microsoft projects, such as its search engine Bing and the Windows

Intel employs 2,500 people at its India R&D centre, Microsoft 1,500 & GE 1,600

Nokia Siemens' India R&D Venture

In 2006, Siemens of Germany and Finnish cellphone manufacturer Nokia Networks formed a joint venture, Nokia Siemens Networks(NSN). In july, this year, the company acquired the wireless network equipment division of Motorola, becoming one of the largest telecommunications hardware, software and services companies in the world with heavy emphasis on innovation and research and development. Nokia has so far spent US$ 40 million on R&D in India.

Early this year, NSN opened a huge R&D centre in Bengaluru. The new facility is in line with Nokia's strategy of coming closer to its customers.

The centre employs 2300 people, which will touch 3000 at full capacity. The new centre is equipped with the latest R&D facilities, telepresence to enable strong interaction with NSN's global development sites, and hosts one of the company's three remote testing laboratories.

7 operating system, was done in India.

Intel spends billions of dollars on R&D, and established a centre in India in 1999 to design everything from hardware to the software that is used to make its semiconductors work with other programmes. Nearly a third of Intel's 2,500 Indian workforce in engaged in R&D.

SAP Labs India, the company's largest R&D center outside Germany, employs 4,200 people. SAP stands for Systems Applications and Products, a crucial business intelligence and data management resource for corporations. The bulk of the work for some of SAP's leading software took place in India.

Bengaluru hosted Google's first R&D centre outside the United States. The Google Map Maker, a global product conceived and developed by the Indian engineering team, allows users to add or edit features, such as roads, businesses, parks, schools, apartment buildings and localities. News Archive Search helps users search archives for events, people or ideas and get a sense of how they have been described over time. The product was developed in India and deployed on a global scale.

Accenture's India R&D lab that opened in November, last year, is working on streamlining strategies to cut costs of systems delivery by half.

Pharmaceuticals and biotechnology, however, are the most visible of all areas of research and development, whether it is Ranbaxy, Dr Reddy's Labs, Sun Pharma, Biocon or Shanta Biotech.

Reliance Life Sciences now has the recognition of the tough-to-please National Institutes of Health, USA, for stem-cell research.

Japan's US$ 8 billion pharmaceutical giant Eisai, is a research-based company that discovers, develops and markets products throughout the world. Of its 10,00 workers, 1500 are dedicated to research.

A report in the Financial Express recently said Eisai's first-ever drug R&D centre outside of Japan, would be located in India, at an estimated cost of US $ 50 million. The company was currently blueprinting plans for a new venture to recruit 100 people who would develop new therapeutics for the global market. Nearly 20 scientists will work at the centre, which will focus on developing formulations, said the report, quoting Eisai Knowledge Centre president Sanjit Singh Lamba.

"The formulation development R&D wing is expected to go commercial next year," Lamba told the Financial Express.

A recent Ernst and Young study has identified India as an emerging hub for collaborative and outsourced R&D in drug development, biotechnology and chemicals. The report follows a European Commission communication that called for increased cooperation between the European Union and India in various fields, including biotechnology. According to the EC report: "Indian biotechnology has been advancing rapidly in the past few years."

The confidence in India as a trustworthy destination for serious research also comes from how the Indian organisations have evolved. Indian pharmaceutical companies are shifting from business-driven research to research-driven business.

In 2003, Indian pharmaceutical companies submitted a total of 126 Drug Master Files (DMF) in the US, accounting for 20 per cent of all drugs coming into the American market, higher than Spain, Italy, Israel and China. Submitted to the hawk-eyed Food and Drug Administration (FDA), a DMF contains complete information on a drug or pharmaceutical agent – its chemistry, manufacture, stability, purity, impurity profile and packaging.

Discovering, developing and launching a new molecule is so prohibitively expensive that even mighty companies will fight shy of it. Designed by America's Tufts Center for the Study of Drug Development, the existing method estimates the cost at a little over US$ 800 million. But a US business consultancy firm, Bain & Company, says it is more than double that much - US$ 1.7 billion, because the Tufts method does not include the cost of failed prospective drugs and all the serious money that goes into them, according to Ashish Singh, director of Bain's Global Healthcare Practice and co-author of the study.

According to Dr Alka Chaddha of the National University of Singapore's Institute of South Asian Studies, 42 of 52 'blockbuster' drugs will lose their patent protection this year, leaving the field wide open for generic manufacturers to step in. Small wonder, then, that of the top ten blockbuster drugs, eight of them have Indian pharmaceutical companies waiting in the wings to make their generic versions. These drugs range from Pfizer's runaway bestseller, the cholesterol lowering Lipitor, to Abbott's anti-arthritic Humira. Together, the 'top ten' generated nearly US$ 135 billion, last year.

In an article entitled "The Indian opportunity in pharmaceutical R&D and manufacturing", Bain's Ashish Singh said India offers three distinct waves of opportunities in offshoring over the next decade. The first wave focusses on developing drugs "faster and cheaper" and extends from chemistry research to clinical trials to manufacturing. The sources of advantage are twofold: a cheaper skilled talent base--chemists, doctors, nurses, quality control personnel--along with the ability to expedite patient recruitment for trials.

MNCs Leading the R&D pack

- **GENERAL ELECTRIC** largest R&D centre outside the US
- **DAIMLER-CHRYSLER** Fundamental & applied research in avionics
- **HEWLETT PACKARD** R&D agreement with IIT Chennai
- **MICROSOFT** Work on Bing & Win7
- **INTEL** Hi-tech chip design
- **GOOGLE** Map Maker and News Archive Search

Singh said the second wave will include more complex manufacturing to produce injectables; targetted and cutting-edge clinical trials, including adaptive and proof-of-concept trials; and more-sophisticated biology-based research platforms.

The third opportunity wave is expected to occur around 2013-2015, when Indian drug manufacturers are likely to start manufacturing biologics (recombinant proteins) and offer cutting-edge disruptive R&D platforms such as pharmacogenetics and cheminformatics, he added.

The change is visible

India is poised to overtake Europe and the United States to become a world leader in research, according to a European Union (EU) taskforce charged with predicting emerging trends over the next 20 years.

India and China will be global powers in R&D, accounting for around 20 per cent of the world's research investment – more than doubling their current share, according to the EU-funded study 'The World in 2025'. It says Asia will become the main destination for the location of business R&D. It predicts that the 'brain drain' will rebalance itself. Instead of moving to Anglo-Saxon countries, scientific and engineering talent will redistribute itself. This will engender "a more balanced brain circulation of young researchers among regions of the world", according to the study.

The finding that the EU will trail the US in IT and biotechnology, has made the Union's executive pledge to move knowledge creation to centre stage over the next five years, radically streamlining innovation and focussing on nanotechnology, advanced materials, photonics, biotechnology, and micro- and nanoelectronics. Experts agree that the findings of the study could easily form a template for other nations to extrude upon.

According to the US Department of Commerce, international students spend nearly US$ 18 billion in the US, each year. Of that, three billion dollars comes from Indian students alone, considering tuition and living expenses. More than half-a-million Chinese students and 300,000 Indian students will study abroad in 2025, according to the EU study.

"It isn't the money, however - it is the skimming away of the creamy layer of talent at any given time," says Vikram Jindal, a software engineer-turned entrepreneur who is linking India through an e-learning network. "Talent, however, is a planet-wide resource. It has the freedom to float wherever the tilt occurs. Since movement happens across a gradient, the affluent economies of the West have attracted talent flow over many decades in the past. Slowly, but positively, the tilt is beginning to re-balance itself in favour of the emerging economies of Asia. I'm not saying it will all be fine in a jiffy. All I'm saying is that more and more expatriate Indian men and women are seeking opportunities in India, once again. That, to me, is sign of the tilt settling down, favourably," adds a confident Vikram.

A classic example of this thinking comes from Microsoft. Daniel T. Ling, vice president of research at Microsoft, told the IIT alumni conference in Washington D.C. many years ago, that one of Microsoft's major goals in setting up a research laboratory in Bengaluru was to access India's talent pool through collaborative projects with institutions such as IIT." There's a drop in students in computer science in the U.S., so a worldwide pool (of researchers) is very important to us."

> "...more and more expatriate Indian men and women are seeking opportunities in India, once again. That, to me, is sign of the tilt settling down, favourably."
>
> —Vikram Jindal, Software Engineer

Surging ahead

A new report by the U.S. Council on Competitiveness says that India will soon wrest the first position from China in a list of 26 developed and emerging economies in Global Manufacturing Competitiveness.

India is currently number two on the list. But according to the report, it will take the top spot through its R&D and technology integration abilities. Consulting firm Deloitte compiled the report jointly with the U.S Council on Competitiveness.

Manufacturing executives increasingly view India as a place where they can design, develop and manufacture innovative products for sale in local as well as in global markets. "These factors explain, in part, India's rise from a low-cost back office location to a country that is well-positioned to be an active participant in the entire value chain, as well as it now being viewed by many executives as an integral part of their global manufacturing enterprise and location strategy," said the report.

Korea, U.S., Brazil, Japan, Mexico, Germany, Singapore and Poland are the other economies that square up the top ten countries in the index, that is based on responses of senior management executives from companies across the globe and captures the drivers to manufacturing competitiveness.

A recently released UN report says the world's largest transnational corporations list India as the third most attractive destination for setting up R&D centres.

Compiled by the highly reliable United Nations Conference on Trade and Development, the report named China and the US at the first two positions, respectively. It said a large pool of scientists and engineers, coupled with the presence of world-class research institutes such as the IITs, is pulling corporate giants like Microsoft, Motorola, GE and Pfizer to set up R&D centres in India.

An Economist Intelligence Unit Global Survey defines an R&D hotspot as: a place where companies can tap into existing networks of scientific and technical expertise; which has good links to academic research facilities; and provides an environment where innovation is supported and is easy to commercialise.

India has many of these qualities.

"Getting research done from India would offer 30 to 50 per cent cost savings," says Dr Swati Piramal, director of Nicholas Piramal, a leading pharmaceutical company.

"India is richly endowed with research depth," says KV Subramaniam, senior executive vice president of Reliance Life Sciences. "There are also many Indian scientists working abroad, willing to come to India to lead research teams."

There is tremendous opportunity for biotech companies. Syngene, a Biocon subsidiary, carries out drug discovery contract research for key customers like Novartis, with a special focus on oncology and cardiovascular disease.

Avesthagen, a startup headed by Viloo Morawala Patel, is an RPO - a research process outsourcing company. It works exhaustively on the agro and medical research of plants.

Another Biocon subsidiary, Clingene, carries out clinical research. Some of its work includes the effectiveness of a new drug, patient recruitment, preparing clinical databases and conducting clinical trials.

Reliance Life Sciences does contract clinical research and chemistry and biology research.

India is also making strides in improving the quality of its higher education. The country houses three out of the top five Asian schools for science and technology, according to a ranking conducted by Asiaweek.

At IIT Bombay, nearly 70 members of the faculty are working on research projects with foreign organizations and universities, covering nanotechnology, computer science, molecular biology, structural engineering and product design.

A Wharton online article quoted Ramesh Emani, president of Wipro Technologies' Product Engineering Services business unit in Bengaluru, as saying that international companies outsource R&D to India for three main reasons: to speed up the pace of production; to reduce costs, and; because there is competent and skilled talent available. IT skills and the ability to communicate effectively in English are no less important, said Emani. He also said that the major difference between research and development done in India and China is that most of the dvelopment work in China is meant for the local market. The work done in India, however, is largely for the global market.

Hamburg University of Technology's Institute of Technology and Innovation Management researcher Rajnish Tiwari had noted two years ago, that India has emerged as a preferred destination for outsourced R&D in Europe. He quoted from a 2007 study conducted by the European Union that said India had bagged most such offshored EU projects, ahead of China and far ahead of the US.

International management consultants, Zinnov, recently released findings of a study that said research and development centres of multinational companies serve as beacons by the sea for the Indian industry. They are a positive influence on the local industry ecosystem, said the study, entitled 'Impact of MNC R&D centres in India'.

It also said such centres foster innovation, academic partnerships, and entrepreneurial zeal while reversing brain drain.

The Future

A NASSCOM study says an increasing number of the heavyweight multinational corporations now perceive India as a strategic partner in innovation, rather than simply a source for sustaining existing products. The National Association of Software and Services Companies (NASSCOM) is the premier trade body and the chamber of commerce of the IT-BPO industries in India.

The study also says that global demand in computing systems, medical devices, energy, and infrastructure is fuelling the engineering R&D market, and India leads the band of nations where the bulk of the work will be done, as multinational corporations invest in innovation-driven growth.

Corporations spent more than a trillion dollars on engineering R&D last year. The study says that US$ 8.3 billion of that amount was earned in India, showing nearly a 40 per cent jump over the previous three years. By 2020, R&D spending will touch nearly US$ 1.5 trillion, and India's share will increase more than five-fold, to US$ 45 billion.

The study also prioritised eleven key verticals in the global engineering R&D market. Traditional high spenders automotive, consumer electronics, and telecom research are still clear leaders, while computing systems, medical devices, energy and infrastructure feature as emerging sectors.

Management consulting firm Booz & Company conducted the study with NASSCOM. It gauged the perceptions of MNCs on engineering R&D services sourcing and growth trends in the Indian service provider landscape, among other things.

A large pool of scientists and engineers coupled with world-class research institutes like the IITs is pulling corporate giants to set up R&D centres in India: UN report.

> Whether Mercedes-Benz, GE, IBM, Google, Cisco, HP or SAP, there isn't a mighty global brand that can ignore India's emergence as a solid research and development hub.
>
> — **Ajay Gupta,** IIM alumnus and management consultant

Brain drain is a real issue, not just an intellectual hypothesis. It is not just about educated, talented, bright and inspired young men and women leaving their own country and settling down to work elsewhere. It is also about whole ideas, aspirations and plans moving, en-masse, away from the Indian shores. The EU study is the silver lining on a cloud that has hovered more or less unchanged for decades over the talent landscape of emerging economies. The numbers are speaking. Eight years in a row, India has beaten China to the top spot in sending students to the United States. But last year, the number of Indian students in US universities crossed the 100,000 mark – for the first time ever, according to the Open Doors report. Published jointly by the Institute of International Education and the US government, the report says the jump was a little more than nine per cent over the previous year. Founded in 1919, the US-based Institute of International Education is a non-profit organisation, collaborating with governments, foundations and sponsors, to conduct policy research and provide resources on international exchange opportunities.

But some experts argue that the centres of higher learning in the US could also be seen as a global knowledge resource, attracting the best of the best from each nation. And then, when they have completed their studies, many could return to their countries of origin, taking back all the learning and applying it to everyone's benefit. "As a matter of fact, a lot if Indian students have returned to successful careers or enterprise," says IIM alumnus, Ajay Gupta, a senior consultant at AT Kearney, Mumbai.

Adds Ajay: "I did not study in the US, but I know of quite a few people who have either come back to work at leading positions in India, or are really keen to return. Some are still studying and others are working, but the willingness to return to your roots remains. That's the seed of an idea that could touch off a more equitable and profitable global redistribution of talent, where the whole planet is integrated as one mammoth library of human learning, and need drives the movement of talent – from anywhere to anywhere. That need could be a nation's push for technological excellence, or a whole region's demand for researchers, developers, engineers, technologists and entrepreneurs. So, if, say, south Asia needs 50,000 researchers at one point of time, talent would move in that direction, irrespective of who is from which country and where he or she studied – much like a school of fish swimming freely in the ocean, thriving, spawning, evolving."

The EU-funded study 'The World in 2025' also spoke of three major concerns for the R&D sector in India - the historic rise in salaries that will lower the cost arbitrage, productivity differentials that will push up the overheads, and a largely inexperienced talent pool that is bound to slow down the rate of process or technology development.

The study said the nascent Indian R&D sector is at a disadvantage against the established plug-and-play centres of Japan, South Korea, Taiwan and Israel, where MNCs can quickly enter and extract value.

Rising salary bills, high attrition and astronomical rentals are slowly driving the existing R&D centres to expand laterally into the smaller cities, taking their non-core functions to the low-cost, peripheral centres. Small wonder, then, that almost 43 such secondary locations are emerging as IT hubs in India, easing the pressure on the bigger cities, adds the report.

Pune, in the western Indian state of Maharashtra, is fast catching up with Bengaluru as an innovation capital.

Apart from the foreign direct investment they invite or the large number of people they employ, such centres are also said to slow down, and even reverse, the chronic brain drain of young, educated, inspired and energetic workers.

According to Zinnov's CEO, Pari Natarajan, companies are constantly on the lookout for new and emerging markets. India and China are perfectly placed in that regard. The search for newer technologies "will fundamentally push all R&D centers to deliver higher value & higher productivity at lower costs," he said.

"Whether Mercedes-Benz, GE, IBM, Google, Cisco, HP or SAP, there isn't a mighty global brand that can ignore India's emergence as a solid R&D hub. An entire generation of the nation's designers, engineers, scientists, technologists and facilitators has matured into an experienced workforce of substance and value. More students are leaving our professional institutions every year, to enrich this global reservoir of minds that will power our push into a new century of success and growth," adds IIM alumnus and management consultant, Ajay Gupta.

One couldn't agree more. ■

SILENT MESSENGERS OF CHANGE

Social entrepreneur and inspired leader, Dhruv Lakra turns his workers' hidden disabilities into distinct opportunities.

BY HARSH KUMAR

Dhruv Lakra is a man of solid conviction. The clarity in his heart is writ across his handsome young face. He denies having done anything extraordinary. But it isn't everyday that you notice character of his kind.

Two years ago, when he was setting up his business in Mumbai's cut-throat market of courier companies, he would naturally have gone for employees with no known disability – hidden or apparent. Instead, he chose to employ only the deaf, whether in the office, or on the field.

He told India Now in an interview: "For my company, Mirakle Couriers, employing the deaf did not mean starting with a compromise. Our business model is based on creating a service-driven profitable enterprise... We marry professional excellence with social cause."

His company's website www.miraklecouriers.com proclaims that Mirakle Couriers is "not a charity but a social business, where the social element is embedded in the commercial operations. Our corporate clients have shown their trust in our

PHOTOGRAPHS BY JITEN GANDHI

business and our cause by availing our services." Dhruv's boys have to have delivered on their promise, otherwise his client list would not have included blue chip companies like Mahindra & Mahindra, The Aditya Birla Group, Victory Art Foundation, JSW Group, Indian Hotels Company, Godrej & Boyce and Essel Propack.

From the very beginning, Dhruv has been training for leadership and social entrepreneurship. He holds a post graduate diploma in Social Enterprise Management and an MBA from the renowned Said Business School's Skoll Centre for Social Entrepreneurship, at Oxford University, in England. He was Said's Skoll Scholar for 2007-08. The highly coveted Skoll scholarship is a closely contested award in a gruelling management programme that "seeks to develop the next generation of business leaders and entrepreneurs," according to the school's website www.sbs.ox.ac.uk. The Scholarship helps students pursue entrepreneurial solutions to urgent social and environmental challenges through funding and exclusive opportunities to meet with world-renowned entrepreneurs, thought-leaders and investors.

From Skoll, Dhruv, 30, moved into another high value international scholarship programme of leadership. Last year, he won the distinguished Echoing Green Fellowship. Since 1987, Echoing Green has provided seed funding and support to nearly 500 entrepreneurs, with bold, high-impact ideas and solutions for social change in order to launch groundbreaking organizations around the world.

In a recent interview to blogger Kavita Krishnamurty on www.blog.ennovent.com, Dhruv said the idea for Mirakle Couriers came to him one day while travelling on a

Mumbai bus. "One day in a bus, a deaf boy sat next to me. I was amazed at how well he communicated- by writing on a pad. This got me thinking about how the deaf are perfectly normal except for the one disability. I did some research and realized that our country has the highest number of deaf adults in the world," he said. Based in Germany, Ennovent is a for-profit enterprise that promotes social entrepreneurs.

In sharp contrast to the noisy outdoors, it is usually very quiet inside Mirakle's office in south Mumbai's busy business district of Churchgate. It has to be - using only sign language, workers plan the pickup and delivery process for any packet. At a predetermined time, mostly evenings, the field agents visit the client's pick up address. After scrutinising and counting the packets, the field agent sends a text message to Mirakle's branch supervisor. Once the packets reach Mirakle's office, they are processed and prepared for delivery the next day. Shipments are sorted by our deaf back office staff and data is updated onto the tracking system. A day after making the delivery, a field agent delivers the Proof of Delivery or Air Way Bill to the client's office.

Dhruv's boys and their commitment have caught the imagination of many and now, Mirakle has an enviable client base. Happy stories abound. Dhruv Lakra goes to bed each night a happy man, his heart filled with the joy that comes from having done something truly meaningful. Mirakle's field agents wear bright, fluorescent orange uniforms. Safety orange is a colour used to set things apart from their surroundings. It is also the colour of caution, internationally. At sea or in snowbound country, sailors, hikers and mountaineers, wear bright orange vests so that if they are lost, search and rescue teams can easily identify them from the surroundings. It's more for the safety of the deaf worker, than anything else. Since he cannot hear, he misses approaching people and vehicles hidden from view, making him vulnerable. But his bright orange uniform sets him apart from the rest.

"In the courier business, it does not matter whether you can speak or not. What matters is whether you are there or not, on time, day after day," explains Vinay Bajaj, owner of an IATA-approved freight forwarding company, with extensive experience in the courier business. "After the first few times, even those with the ability of speech, do not talk much. They arrive, the packets are ready, the paperwork is prepared and the pickup is done. Simple enough. Of course, it's a challenge being deaf, but if you turn up on time, every single time, you have won your clients' hearts. Therefore, the business model has to be built on ruthless punctuality, impeccable service and a bit of concern," adds Bajaj. Dhruv agrees: "We are a business enterprise with a social cause. Making our business financially viable is critical to our success and for the future of our employees. Being in a service-based industry, service excellence is the key for our growth and sustainability."

Adds Dhruv: "Training and grooming are very important for our staff. That's where they strike a difference." Using sign language, specially experienced teachers take the workers through the training routine of communicating with those who belong the world of speech.

"Well dressed, well behaved, professional and punctual workers will always score. Everyone wants to associate with such people and it does not matter whether they can speak or not. How often have you scoffed at brusque and tardy workers without any disability? Often, I would say. Neatness – whether of appearance, approach or application – will always meet with respect and appreciation. It costs nothing to be well dressed (not the same as dressed in expensive designer wear), groomed well, hygienic, smelling good (not the same, again, as reeking of branded perfume), polite and professional," says Ruchira Mittal, an employability trainer and consultant in New Delhi.

Using only sign language, workers plan the pickup and delivery process for any packet.

"And a smile will work beyond anything else. Even if you can't speak, you can make a difference through a cheerful and positive countenance," adds Ruchira.

A small poster at Dhruv's office quietly advises everyone to smile a lot, as it costs nothing.

Dhruv says: "As the deaf are unable to drive, Mirakle's delivery staff moves across the city on Mumbai's highly efficient bus and local train services. In person, everyone communicates using the sign language. At a distance, text or SMS is the standard mode of communication."

Explaining the rationale behind his company's name, Dhruv says it is an effort to spread awareness about deafness and the importance of sign language. "The i in Mirakle is shown in the sign language. The dot on the i implies reaching higher goals in life, and the k is for Karmic connection. Our tagline 'Delivering Possibilities' stands for the capabilities of our deaf employees; it makes people aware that it is possible to mainstream deaf adults".

India has one of the highest deaf populations in the world. Stigma precludes job opportunities for this isolated population. Outdated vocations such as candle making have shunned this community. Dhruv says he wants to empower the deaf and make them more visible in the society. He says he believes through proper training and grooming the deaf can realise their potential. Schools for the deaf were handy in recruiting workers for early placements, but soon, word got around in the deaf community, and Dhruv began to see a surge in job applicants. Women take up the back office work while field work is left to the men.

Last year, Dhruv was awarded the Helen Keller Awards for promoting equal opportunities and providing gainful employment for persons with disabilities. Sponsored by the National Centre for Promotion of Employment for Disabled People and the Shell group of companies, the annual award honours achievers for their leadership roles in empowering the disabled.

However, Mirakle isn't the only company in India to have employed people with hearing disabilities. Costa Coffee, IBM and the Shahnaz Husain Group are some of the prominent organisations that have taken the lead. Costa Coffee's deaf workers man the counters and serve customers at posh markets in New Delhi's prominent residential localities. Devyani International Ltd is Costa Coffee's India master franchisee for the successful chain of upmarket coffee shops. In an interview with an online magazine, Virag Joshi, President & CEO of Devyani, said: "It is a social cause and I get both personal satisfaction as well as a means to explore the opportunities of helping people out... Their training includes learning coffee-making and communication skills, and meeting customer expectations. They all know how to lip-read and have proven to be very efficient and dependable." Like Mirakle's Dhruv, Joshi himself knows the sign language. In 2008, IBM India won the government of India's National Award for Empowerment of Persons with Disabilities. In the beauty business, Shahnaz Husain is an established brand. Shamute, the company's academy for the deaf, trains people with such disabilities to not only work at spas and beauty clinics, but also set up their own businesses. The company's own chain, Shahnaz Herbal clinics, also employs trained deaf workers.

Mirakle isn't the only company in India to have employed deaf workers. Costa Coffee, IBM and the Shahnaz Husain Group are some of the prominent organisations that have taken the lead.

In an interview to the Echoing Green website, www.echoinggreen.org, Dhruv Lakra summed up his life's mission by saying that he believes a successful social entrepreneur needs to be humble and an excellent listener. He is proud of his workforce. How does it matter that they cannot hear or speak – their entire body communicates. For, sign language is an animated combination of hand motion, facial expressions and body language to fluidly express thoughts. Their complex spatial grammar is markedly different from the grammar of spoken languages. Like accomplished dancers, they charge the space around them with a thought matrix that can be both touched and felt. They may not speak. They communicate.

Dhruv wrapped up his interview with a quote from poet-prophet-laureate Rabindranath Tagore: "I slept and dreamt that life was joy. I awoke and saw that life was service. I acted, and behold, service was joy."

Silences everyone. ■

SIGN LANGUAGE FACTS

Just as there are many spoken languages, there are also many sign languages, the world over. In 1951, a pidgin, or mixed language, developed, using easy signs from the sign languages of many different countries. Called Gestuno in the 1970s, International Sign is now the globally standardised sign language of the deaf.

Sign languages are as rich and complex as any oral language, despite the common misconception that they are not "real languages". Sign languages are not mime or visual renditions of oral languages. They have complex grammars of their own, and can express anything, from the simple and concrete to the lofty and abstract. The elements of a sign are handshape, (palm) orientation, location, movement, and facial expression. Sign languages are visual, taking in a whole scene at once. Yet, sign languages are not often written. The Association of Sign Language Interpreters (ASLI), was formed in 2007 to represent the interpreters for the deaf in India, empowering them to live fuller, better lives.

SECTORAL UPDATE

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HEALTH SECTOR

Vital Signs

A growing economy, rising incomes and expanding markets spell cheer.

BY CHARU BAHRI

The state of India's health services sector was less-than-healthy a decade ago—before the story of economic growth began to unfold in our country. Since then, the private sector has moved in with substantial investments. "Our economy has been placed among the fastest-growing ones in the world. But it still has some way to go, as far as public health care services are concerned, especially if we consider our bed-to-population ratio," says Vishal Bali, CEO, Fortis Hospitals. So far, the private sector has taken the lead in expanding hospital infrastructure and reducing the demand-supply gap across the country. As the government spends more on expanding and strengthening the health services infrastructure in the country, better hospitals and medical services will become available nationwide. Bali says he foresees that the country will take some time before the availability of such services reaches a satisfactory level.

"Developers must include health amenities in their plans."
Vishal Bali,
CEO, Fortis Hospitals

Private initiatives

In recent years, the private sector has invested heavily in the health sector. But, the investments have so far been concentrated in the major cities. According to Sweta Mangal, CEO, Dial 1298 For Ambulance,

PHOTO: PHOTOS.COM

"Recent investments in metro hospitals have created an oversupply of beds—but only in the cities. In contrast, in rural areas the need for more beds remains."

"India is witnessing a hospital boom, not a health care boom," says Dr Ashok Seth, chairman and chief cardiologist, New Delhi's Fortis Escorts Heart Institute and Research Centre. "The growing middle-class that supports our economy is yet to benefit from the expansion as far as bed strength is concerned," he adds.

To put things in perspective, Bali elucidates the key reasons for the high cost of private health care. "The cost of creating a strong health care infrastructure in India is escalating on account of rising real estate and material costs." There is not sufficient space for health amenities in most cities, he adds.

But he is optimistic and says he hopes that the situation will change as new townships are planned and developed. "Developers must include health amenities and infrastructure as integral components of their plans. Ideally, they should partner with a reputed health care provider right at the planning stage," he suggests.

PPP push for new plans

It is not possible for the government to provide health care and services to everyone in the cities. Dr Seth says it is time that the government reconciles to the reality. "The government can only do so much; it should concentrate on other benefits (on sanitation and food subsidies) if space is a constraint; and bring in the private sector to assist with the services. Close partnerships with the private sector would go a long way towards helping the lower-middle-class access quality health care," he adds.

> "The hospital boom has taken Tier-1 and Tier-2 cities in its fold. The next wave (of investments) will be in the Tier-3 towns. That is where growth opportunities lie—as can be seen in the expansion route followed by telecom firms and MNCs"

Mangal launched 1298 as a private service in Mumbai in 2004 and has recently entered into partnerships with the governments of Kerala and Rajasthan where 1298 runs 25 and 164 ambulances, respectively. Now, she is gearing up to launch ambulance services in Punjab and Bihar. Mangal says more public-private partnerships (PPPs) in the health sector can help balance the disparity in the supply and demand for health services in rural areas.

"PPPs allow the government to tap into the efficiencies of the private sector. As a result, people benefit from a higher standard of care than what is offered in primary health centres. Mobile clinics launched as PPPs in Bihar are showing good results. The model should be replicated across the country," she says.

Community-rated insurance

Government and private sector collaborations will also help extend health insurance benefits—providing greater access to health services. Dr K. Hari Prasad, CEO (central region), Apollo Hospitals, points out that social insurance schemes have created a window of opportunity for the financially weaker sections of the society.

"Schemes such as Arogyashree have enabled health care institutions such as Apollo to serve the masses better, since the financial burden is shared by the state and insurance companies. We have treated over 6,000 patients for cardiac problems and performed over 200 cochlear (ear) implantations through the scheme. These life-saving and life-changing procedures get families back on their feet quickly, resulting in positive productivity for the economy, too."

Effective PPPs in the health care sector could potentially benefit all sections of the society. Novel schemes by the Centre and the various state governments to insure Below Poverty Line (BPL) card-holders, where the beneficiaries make a small co-payment, also go a long way in helping underprivileged families access health services. Given the success of these schemes, Dr H.K.V. Narayan, Medical Superintendent, Tata Memorial Centre, Mumbai, says that it would be "prudent to introduce policy initiatives to extend health insurance to economically advantaged sections of the society". "This would make health insurance community-rated rather than risk-rated. It would help distribute risks over a wider population, and ensure the viability of insurance schemes. Initiatives should include financial incentives and disincentives to encourage the youth to take health

HEALTH INDUSTRY FACT FILE

Growth estimates

The health care industry is projected to grow at 23 per cent annually, to touch US$ 77 billion by 2012, from the current estimated size of US$ 35 billion.

Sectoral growth will be driven by health care facilities in private and public sectors, medical diagnostic and pathology laboratories, and the medical insurance sector

Diagnostics will contribute US$ 2.5 billion to the health care industry by 2012

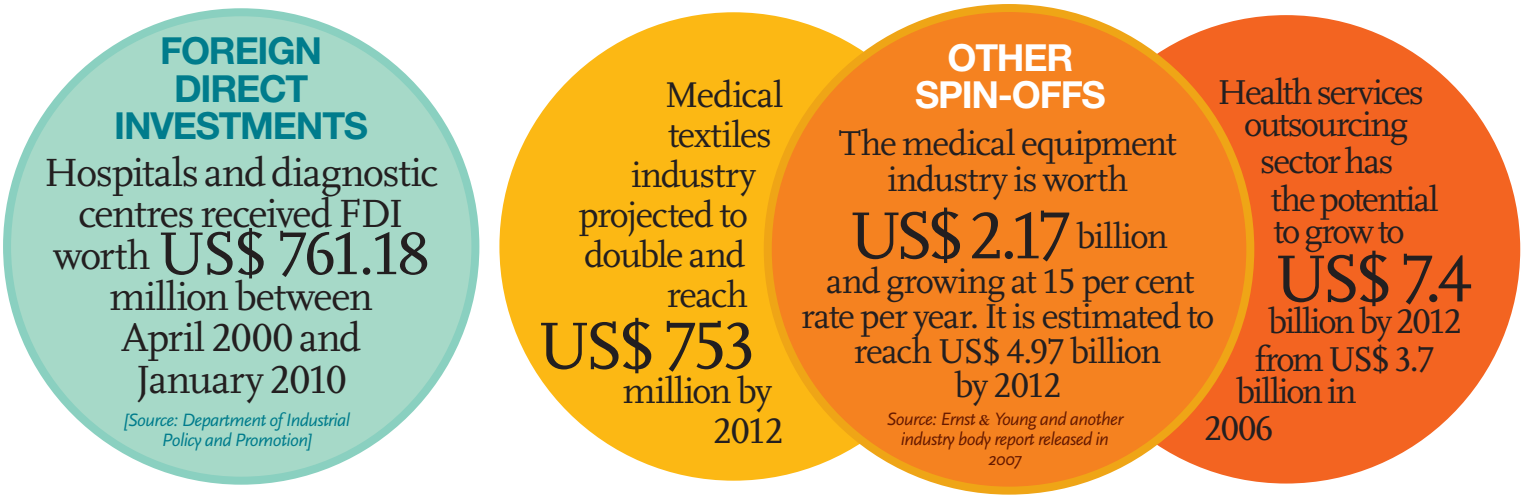
Health Insurance

Medical insurance to account for US$ 3 billion in the next three years, a rise from the estimated current size of over US$ 1 billion

[Sources: Yes Bank and an industry body report published in November 2009]

Government Initiatives

Allocation for National Rural Health Mission hiked by US$ 423.7 million over and above the US$ 2.5 billion allocated in the 2009 Interim budget. Plan allocation for Ministry of Health and Family Welfare increased from the US$ 4.2 billion in 2009-2010, to US$ 4.8 billion in 2010-2011 (Union Budget 2010-11)



insurance cover, helping them pay for the care of the elderly and disadvantaged.

Wave-II; private sector investments

Since there are already a substantially large number of hospitals in the big cities - the primary beneficiaries of the injection of megabucks into health services - the private sector is bound to turn its attention to the smaller cities and even villages.

"The hospital boom has taken Tier-1 and Tier-2 cities into its fold. The next wave (of investments) will be in the Tier-3 towns. That is where growth opportunities lie—as can be seen in the expansion route followed by domestic firms and multi national corporations offering products and services as diverse as mobile telephony or consumer goods, to name two," says Dr Seth. As the economy develops, and the benefits of reform and opportunity percolate to the smaller towns, the demand for better medical services will spur the outward expansion of hospitals and medical centres.

Providers will increasingly factor the opportunity costs of moving into Tier-1 and 2, or Tier-3 towns, for their expansions. Tier-3 towns are likely to come across as more attractive investment options, both because of lower investment cost as well as for the greater numbers of patients that are likely to seek these services. "Establishing hospitals in smaller towns would bring down the cost of treatment for patients, who as it is, bear additional costs like travel and boarding-lodging for relatives when they travel to cities for treatment. Patients will prefer seeking standardised services closer home, if not at their doorstep," adds Dr Seth.

There is a rider, however. Bali cites the lack of trained manpower in health care across the board—encompassing doctors, nurses, paramedics and management staff—as a challenge for health services providers. "For too long, we have not expanded our talent pool of trained health care professionals to meet the growing demands of the sector. As a result, health care providers will need to launch their own academic centres, or enter into partnerships with other training institutes," he says.

Dr Narayan welcomes the establishment of corporate hospitals that offer secondary and tertiary medical care in Tier-2 cities and villages. "This will improve access to quality health care. A good referral system and effective use of technology, including telemedicine, will help treat patients closer to residences, and pass on associated social and financial benefits," he says.

Patient-centric health care

The establishment of hospitals in cities and towns has boded well. With this, health care has extended its reach to all sections of the society, and not merely to the upper-middle and higher classes. The quality of health care has significantly improved. In Dr Seth's perspective, "We have moved from a scenario where the patient had no choice but to approach a few private hospitals, to a situation where the emphasis is on patient care and satisfaction. Skills, expertise and ethics form the basis of this focus—in turn, it is helping patients get more value from their health expenditure."

Intense competition between leading private sector players is also raising the bar. At the end of the day, patients benefit from a wider choice.

Simultaneously, rapid technological advancements are giving medical equipment companies reasons to cheer. Hospitals are increasingly relying on technology procurements to outdo each other giving rise to what Dr Seth calls "temples of technology".

Dr Seth elaborates. "It is great to be a part of technological advancements, especially since technology makes it safer and easier to diagnose and treat patients. Ultimately, however, the availability of expensive high-end technology is not the crux of health care. Certainly, it raises the bar to some extent, and hospitals bent on one-upmanship also publicise these acquisitions to attract patients—driving away patients who may be seeking personalised care and not cutting-edge technology. Health providers must realise that patients seek standards of care that may be provided even if the hospital is not equipped with futuristic technology. As the hospital boom spreads to Tier-3 towns, this factor will come into play as hospitals weigh the cost of establishing health infrastructure against projected revenues. At the end of the day, health care must deliver its own revenues."

Medical tourism

Health care providers are increasingly see-

MEDICAL TOURISM

India's share in the global medical tourism industry will climb to around 2.4 per cent by the end of 2012.

Medical tourism is expected to generate revenue of US$ 2.4 billion by 2012, growing at a CAGR of over 27 per cent during 2009–2012

The number of medical tourists is anticipated to grow at a CAGR of over 19 per cent in the forecast period to reach 1.1 million by 2012.

[Booming Medical Tourism in India report published by RNCOS released in September 2009]

ing medical tourism as a means to generate higher revenues. Apollo Hospitals, arguably India's first reputed private chain of hospitals, has made a name for itself as a destination of choice for patients flying in from across the world.

Initially, patients were attracted to lower cost of services offered by Indian hospitals, but Dr Prasad is pleased to observe that patients are now approaching Apollo for its clinical excellence and for the care and social support it offers to its patients who come from different cultures.

No fewer than 5,000 patients were treated by Apollo Health City, Hyderabad, in 2009 for serious health problems such as cardiac, or orthopaedic diseases. Dr Prasad sees budget hotels, local tourism, foreign exchange earnings, and novel training opportunities for doctors and clinical staff, as the major spin-offs from the growing trend of medical tourism.

Newer hospital brands are also looking to tap into the growing opportunities presented by medical tourism, if nothing else, to build on their brand and break even faster.

Shalby Hospitals is a case in point. Three years ago, it opened its flagship 200-bed multi-speciality hospital in Ahmedabad in 2007. Now, the hospital is so packed with patients that it is facing an acute bed crunch, engendering an ambitious expansion programme. According to Raj Ahuja, Chief Operating Officer, Shalby Hospitals, "Work is in progress at an upcoming health city in Ahmedabad at a feverish pace. The health city will offer 300 super-speciality beds in its first phase, expanding to 800 in the second phase. A 200-bed hospital in Surat and three 100-bed hospitals in Jodhpur, Jaipur and Indore, respectively, are also in the pipeline." The hospital attracts a large number of patients from Africa, Europe and USA, helped by, as well as contributing to, the growing trend of medical tourism.

"We registered over 90 per cent growth in international patients over the last three years and are confident of maintaining this pattern of growth in the next seven years. That is why we have opened a clinic with telemedicine facility in Nairobi, Kenya, and are planning to commission similar overseas clinics in Tanzania, Nigeria and Dubai in the next six months," adds Ahuja.

Perhaps partnerships with overseas health providers will emerge as the next big thing for hospitals engaged in medical tourism? While health care providers are dreaming of brand India to be seen as a global healer, the Indian masses would hope that they simultaneously focus on healing the nation. ■

GAS SECTOR

Glowing and Growing

India may experience the impact of natural gas production from its domestic fields.

BY CHARU BAHRI

India's gas sector has a promising future. The country is the fifth-largest energy consumer on the planet, and is number two among the world's fastest growing energy markets. In the years to come, natural gas will to dominate energy supplies, fuelling further growth.

Offering greater efficiency and cost effectiveness, the "fuel for the 21st century" has spurred a sharp rise in global demand in the past two decades. The environment-friendly natural gas has inspired India into exploiting its potential. Translating this vision into a reality will call for significant efforts, already underway.

Anoop Kumar Sharma, CTO, KazStroy Engineering India, KazStroy Services, observes that natural gas has already become the preferred fuel among core industries involved in power generation, and fertiliser and petrochemical production. Recently, the automotive sector, too, turned to compressed natural gas (CNG) to reduce chronic vehicular pollution in the cities. The demand is rising, and so is its supply. But, for natural gas to capture a larger share of the energy market, a combination of measures need to be taken. including greater production, enhanced supply and strengthening of the supply chain. This provides significant business opportunities across the value chain.

Gas exploration, production

Pioneers of deepwater exploration in this country, Cairn India, have made three (out of the seven) landmark discoveries between 2000 and 2005. The private sector firm was the first to drill and discover hydrocarbons in the now prolific deepwater KG basin. According to a Cairn India spokesperson, "India provides great opportunities to explore and discover hydrocarbons. Since 1998, Cairn has pumped more than US$3 billion into hydrocarbon exploration throughout India. We believe that the country has significant under-explored potential, with 26 basins covering a sedimentary area of 3.14 million kilometres."

Considering the fact that only half of India's sedimentary area has been well explored, Sanket Singh, Senior Research Analyst-South Asia and the Middle East, Energy and Power Systems, Frost & Sullivan, sees significant opportunities for foreign firms that wish to engage in oil and gas exploration and production (E&P) in India under the "New Exploration and Licensing Policy (NELP)".

The government launched NELP in 1999. Since then, it has awarded 239 exploration blocks. Sixty-eight discoveries of oil and gas in 19 blocks, have established reserves worth 500 million tonnes (of oil and oil-equivalent gas). Firms are also encouraged by the seven-year tax holiday, announced by the government, on the commercial production of gas for contracts signed under NELP-VIII and Coal Bed Methane (CBM)-IV. The government is expected to launch the latest round of NELP (NELP-IX) later this year,, covering approximately 45 blocks. It has also mooted the idea of phasing out the NELP policy after this round, and replacing it with the Open Acreage Licencing Policy (OALP), which will enable explorers to bid for blocks on offer at any time of the year—unlike NELP, which is an annual event.

Exploration challenges

Exploration blocks allocated through NELP are only intended for conventional oil and gas deposits, Singh points out. This means that operators cannot develop shale gas or CBM deposit finds. The government owns all the natural gas produced in the country, and has sovereign rights over its price and utilisation. The price of the gas produced by NELP operators is governed by the production sharing contracts (PSC) between the government and the producer. "Doing away with these restrictions in NELP gas discoveries, and making gas prices fully market-determined, could help attract more international E&P companies. It may be time to re-think this policy," suggests Singh.

"During our long engagement with India, we've identified a key challenge—the lack of a good seismic data repository on the sedimentary basins. It is faced by companies exploring hydrocarbons in India's basins," says the spokesperson of Cairn India.

However, Cairn India's sound understanding of the terrain, and cutting-edge technology, have helped it overcome this hurdle. The Directorate General of Hydrocarbons has taken steps to improve the quality of seismic data and store them in a centralised database. Still, more needs to be done to streamline the regulatory approval process, to ensure the fast-track development of hydrocarbon finds.

India's KGD6 gas field in the Krishna-Godavari basin is a prime example of its capacity to fast-track the development of a gas find. The world's biggest gas discovery in 2002, the field is also the world's largest and most complex deepwater gas production facility, with the longest tie backs of 60km. KGD6 also marks the world's fastest deepwater field development.

50%
OF INDIA'S SEDIMENTARY AREA IS YET TO BE WELL EXPLORED

Reliance Industries Limited (RIL) commissioned the gas facility in a record six-and-a-half years from the date of discovery—as against an average development period of eight to 10 years. This was achieved by bringing onboard 200 contractors, consultants and suppliers in over 12 countries. Such global-scale projects create great opportunities for specialists from across the world. A peak workforce of nearly 20,000 people came together to shape the largest on-shore gas handling plant (with a capacity of 80 million cubic metres per day). It was also the world's largest marine construction spread—89 vessels operating over an area of 400 square kilometres. The project brought state-of-the-art deepwater technology for well construction and subsea technology to India.

"We are among the best among comparable fields, in terms of both cost and time," says P.M.S. Prasad, Executive Director, Head, of oil and gas business, RIL. Beyond doubt, India is on the road to fast-tracking the development of its gas finds.

Business opportunities

Recent domestic discoveries notwithstanding, demand for natural gas in India will be far in excess of the supply. By 2013, it is expected to touch 100 million cubic metres per day. This leaves India dependent on natural gas imports for some years to come. Recognising this, the Centre is developing Liquefied Natural Gas (LNG) terminals—both on the western and eastern coasts—to cater to more imports. Singh sees investments in LNG terminals as another lucrative opportunity for gas contractors and operators, especially since the government allows 100 per cent foreign direct investment in this sector.

The domestic use of CNG is poised for strong growth and Singh says that the establishment of gas retail outlets is another attractive investment avenue for expe-

New Exploration and Licensing Policy (NELP) was launched in 1999. Since then, the Centre has awarded 239 blocks.

rienced companies. "The number of cities covered by city gas distribution is expected to increase from the current level of 10 to 40, in the next five to seven years. Also, the demand for natural gas is expected to increase to 15 to 16 million cubic metres per day during this period. These opportunities are yet to be fully tapped," he adds.

Gas transmission

An extensive pipeline network to strengthen the gas transmission capacity in India is the need of the hour. Gas Authority of India Limited (GAIL), India's largest gas transmission and marketing company, plans to invest between US$ 660.7 million and US$ 770.8 million in the next three years to double its transmission capacity to 300 million cubic metres per day. Some of GAIL's big ticket projects slated for completion by 2013 include the nearly 1,400 km Dabhol-Bengaluru pipeline at an estimated cost of INR 45.5 million (US$ 9.8 million) and the 1,100 km Kochi-Kootanad-Bengaluru-Mangalore pipeline (estimated to cost INR 30.3 crore or US$ 6.5 million). This is aimed at connecting the southern states of Karnataka, Kerala and Tamil Nadu with the gas pipeline network and also to facilitate the offloading of LNG at Kochi and Dabhol.

The National Gas Grid also envisages laying cross-country pipeline limbs to connect LNG terminals at ports and indigenous gasfields on the eastern coast, to consumption centres in the western region. These developments are being regulated by the Petroleum & Natural Gas Regulatory Board. So far, GAIL, Reliance and the Gujarat State Petroleum Corporation (GSPC) are developing ambitious projects such as GAILs' Green Quadrilateral and limbs of the National Gas Grid and other networks. However, there lies a good scope for more players with expertise in gas pipelines to enter the fray.

International contractors engaging in Indian gas sector projects may face challenges. Sharma acknowledges the portfolio of oil and gas opportunities on offer in the region. Simultaneously, he cites meeting unrealistic cost expectations of oil and gas clients as one of the biggest challenges EPC contractors face. "Clients believe that the financial crisis should have precipitated a price meltdown, but that did not happen. Matching client expectations is tough."

International contractors attempting to break into the gas sector also have to contend with clients looking for contractors having a proven track record. In time, however, international contractors implementing projects in the gas sector will establish their worth and enjoy their share of the pie. The market is still developing, expanding and maturing. There are opportunities in almost every department of this sector - whether in exploration, infrastructure, support, networking, supply or services. Incomes are rising and the market is set to boom in the foreseeable future.

Price reforms

Gas pricing is a contentious issue but it needs to be reformed to observe growth in the Indian gas sector to match demands. The natural gas sector has been moving towards de-regulation. Instead of introducing free market forces into the state-managed sector, India has developed a separate, almost entirely de-controlled gas market alongside the existing sector, notes Sharma. As a result, the hitherto protected gas users under the state-managed sector will now have to transition to a free market system. Free markets will still need monitoring and control, through an appropriate and transparent regulatory framework of well-defined rules. The regulations will cover private sector investments and pricing and ensure transparency and government supervision to assure national interests. Such a system will help attract the foreign direct investment that the sector definitely needs.

"The private sector will then show more interest in making long-term investments," says Sharma. This will also help usher in modern technologies, bring prices closer to global levels, and put the energy industry, and especially the State Electricity Boards, on a sound fiscal foundation.

It will eliminate government subsidies that maintain low prices and provide for efficient gas allocation and consumption.

Price reforms, however, might create an additional challenge for the consumers of gas—that of finding new supply sources. Once free market forces take hold, consumers might be expected to cough up a premium to make up for the subsidies. This would give way to price wars among competing suppliers, a situation in which Sharma foresees private contractors prevailing in the long run.

Bright future

"Price reforms are dependent on more supplies," says a well-placed source in GAIL. Gas prices are high today because it is a seller's market. The hope is that newer supplies coming online from domestic fields, international pipelines and LNG terminals will shift the balance of supply and demand. However, prices are unlikely to reduce until domestic supply of natural gas increases.

GAS WHERE DOES INDIA STAND?

- India has a total reserve of 1,074 billion cubic metres tonnes (BCM) of natural gas as of April 1, 2009. (Ministry of Petroleum)
- The production of natural gas went up to 47.57 BCM in 2009 to 2010 from an average of 32.84 BCM in 2008 to 2009.
- The current demand of 166 million standard cubic metres per day (MSCMPD)—made up of 132 MSCMPD supplied from domestic fields, and the rest from imported LNG—is likely to rise to a minimum of 230 MSCMPD and a maximum of 320 MSCMPD by 2015.

(Report released by global consultancy firm McKinsey at the VI Asia Gas Partnership Summit)

Competition from other cheaper sources of fuel such as coal and naphtha would also help reduce prices. "The arrival of multiple types of gas, as well as supply diversification, presents a clear case for developing gas trading hubs in India," adds a source. Freely determined gas prices, on a spot or future basis, could be used as daily or medium-term market value of gas.

The vision may seem far away, but India is poised to witness transformation of its energy landscape. With KGD6 gas production coming on stream, the burgeoning Indian economy is set to gain manifold. A Goldman Sachs report estimates that gas from KGD6 would substitute about 7 per cent of the country's oil consumption this year and about 11 per cent by 2014. Consequently, the report states that the gas could help the total import bill fall by one per cent in this year and an average of 3 per cent by 2014. Citibank has estimated India's import bill at US$335 billion for this year, which implies a saving of US$9 billion.

The direct impact on the energy bill is just the start. The indirect impact of KGD6 is also expected to be significant—the production of gas will lead to royalties, the Centre will have a share in the profits and state value added tax collections will increase over time.

In addition, the lowering of the input costs will boost corporate profits and improve tax collections.

Energy bills are not falling, nor is the pollution that comes from buring fossil fuels. But, if environment-friendly alternatives become affordable and more readily available, consumers will gladly switch.

The KGD6 Gas will have an indirect impact on core sectors such as fertilisers and power. These will, in turn, have a multiplier impact on the economy. Not for nothing is natural gas being hailed as the fuel for the 21st century. ■

FINANCIAL SERVICES

Financial Serices - a Growing Opportunity

Economic growth raises demand for financial services, attracting interest from global groups. BY ASHITA SHANKAR

The Indian financial services sector is on an impressive growth path. Three reasons explain this strong economic surge: relaxed regulations, introduction of new products and services, and exposure to international markets. This optimism is reflected in international institutional thinking. In a recent interview, IMF Director of Research, Olivier Blanchard, said the Indian economy will grow at 9.4 per cent in this year's second half. Quoting an IMF projection, he said that sharp fiscal consolidation will temporarily slowdown the growth of financial services, globally. However, economic decoupling will help India maintain its fiscal balance. India will have to work hard at stabilising prices and controlling inflation, in the short run, he added.

PHOTO: PHOTOS.COM

Post-recession revival

India wasn't untouched by last year's financial downturn that squeezed the global credit market, rapidly limiting the availability of liquidity. However, India's financial system withstood the stresses of the meltdown far better than those of the advanced economies like the US and UK. The reason was conservative Reserve Bank policies which helped India sail through the tough times. Worldwide, banks suffered huge losses on account of the US sub-prime bust, but banks in India were not that exposed to the danger.

The shift in the market conditions, caused by the burgeoning credit crisis hurt heavyweight banks not in the US alone, but the world over. That shift bore down heavily on financial services as they grappled with earnings pressures and ways to improve their risk management frameworks.

The domino-effect of the frozen international credit market caused a severe domestic liquidity crisis, which in turn made foreign institutions close-fisted about investing in India. However, as the global downturn and declining commodity prices started pushing the inflation down, the Reserve Bank reduced its key rates to boost liquidity and economic growth. Since late 2008, the bank has injected over INR 4 trillion (US $ 86.9 billion) into the financial system through various monetary actions. Some of these actions include-

- Opening refinance facility windows for banks and financial institutions
- Liberalising the norms for external commercial borrowings (ECB) to let Indian companies access more funds internationally, following the liquidity crunch, and
- Unwinding market stabilisation schemes

The success of these measures will depend on the availability of funds, internationally, as well as on the interest of foreign investors in the Indian financial market.

Growing demand

The demand for banking services in India is growing rapidly on account of its sizable population, surging economy and ample opportunity. Although India's banking industry is in good health, it has, so far, never had to confront a banking crisis. Some experts believe that this is both a blessing and a problem. Crises serve as necessary innoculation, for conditioning and sensitising the economy against future shock. Three solid reasons could be cited for the industry's robust health. First, there are firm prudential policies in place to check institutions from extreme risk-taking, and financial markets from becoming exceedingly volatile and unstable. Second, regulatory guidelines on securitisation do not permit immediate profit recognition. Third, bank supervision and policy regulation are closely co-ordinated.

As an indicator of the soundness of the Indian banking industry, the important capital to risk-weighted assets ratio (CRAR), also called the Capital Adequacy Ratio, of scheduled commercial banks has only been improving. According to RBI, the ratio went up from 13 per cent in 2008 to 13.2 per cent, last year. Two percentage points of a change, some would argue, but significant enough, considering how the banking industry, worldwide, has been reeling under crisis. Tracking a bank's CRAR helps ensure that it can absorb a reasonable amount of loss and is complying with its statutory capital requirements.

Another powerful indicator of the industry's solidity is the commercial banks' steady non-performing assets (NPA) to advances ratio. It has stayed unwavering at 2.3 per cent between 2008 and last year. Significantly, the return on equity (ROE) shot up from 12.5 per cent in 2008 to 13.3 per cent, last year, indicating that the banks have become more efficient at using capital.

Bank balance sheets have expanded moderately, but they have maintained asset quality. One of the challenges, however, will be supporting credit growth. As the economy moves higher along the growth trajectory, credit will have to grow ensuring the efficiency and soundness of the sector.

Although India's banking industry displays good health, it has, so far, never had to confront a banking crisis. Some experts believe that this is both a blessing and a problem.

Role of corporate financing

Investment directly affects economic growth. Corporate investment in India has been a significant source of economic growth over the last several years. A Deutsche Bank report says there has been a remarkable growth in overall investment levels in India. From less than 25% of GDP, in 2000, it jumped to more than 35% by 2006, says the report 'Trends in India's Corporate Financing, 2009'. A significant part of this investment drive came from the corporate sector. Corporate investment's share of India's GDP has grown by 9 per cent over the last five years.

During the global financial crisis, many of these financing sources dried up, slowing down corporate investment and growth. Liquidity conditions and the stock market have improved since the lows in the second half of 2008 and the early part of last year, but obtaining funds still remains challenging for many corporations in India. The whole world is still recovering from the impact of the economic meltdown. But industry reports are confident about India.

FINANCIAL SERVICES INDUSTRY

Growth estimates

- Total banking assets expected to grow to US$1 trillion by 2010 – a CAGR of 11 percent
- Over US$70 billion additional equity needed for growth plus Basel II compliance
- Consolidation in the banking space likely to be driven by private players
- Mutual funds: Assets under Management (AUM) are expected to grow by 15 per cent till 2010
- Retail finance is expected to grow at an annual rate of 18 per cent, from US$27.6 billion in 2003-04 to over US$75 billion by 2010
- Demand for credit likely to grow at 25 per cent p.a. with rapid GDP growth

Potential

Several factors favour high growth for Indian Financial Services and Banking Industry:

- Demographic profile favours higher retail off take - 54 per cent of the population is in the 15-35 years age group
- Capital expenditure by the government and private industry expected to grow at a high rate. Economic growth of about 14% p.a. in nominal terms
- Investment opportunity across all segments in the banking and financial services sector
- Low penetration in the pension market makes it a lucrative business segment

Source: Investment Commission of India, website http://www.investmentcommission.in/banking_&_financial_services.htm

PE Firms Step up play

Private equity (PE) investments in India have grown steadily since 2006. The investments are rising sharply as the demand for growth capital from companies has surged.

In a report, international consulting firm KPMG highlights the significance of venture capital (VC) and PE investments in the Indian economy. Over the last three years, these two important components have been responsible for 33 to 72 per cent of all the equity raised from the primary markets. The KPMG report was entitled 'Enabling Growth in Promising Indian Companies - The Positive Power of Private Equity', 2010.

Economists estimate that India needs close to US$1.3 trillion in investments over the next three years to sustain a GDP growth of 7 to 9 per cent. Trends indicate that nearly US$100 billion of this amount should come from VC and PE sources. Industry experts estimate that PE investments will bring in nearly US$10 billion, by the end of this year.

Investment analysis firm, Venture Intelligence, conducted an eight-year comparative study of the performance of PE-funded companies in India against companies that were not funded by PE. It measured such companies within the same kind of industry, to make meaningful comparisons. The period was 2000 to 2008. The study found that PE had boosted the economy by creating value for corporate India. PE-funded companies showed higher growth in sales and profitability; higher R&D spends, and paid higher wages.

Delhi-based research firm Four-S Services reports that in the first half of this year, 155 deals brought in nearly US$4.03 billion in PE investments for Indian companies. This is more than double the US$1.95 billion that came in last year, through 109 deals. Even more significantly, this year's average deal size is far bigger than last year's, showing greater investor confidence in the Indian financial market.

The infrastructure sector has brought in the bulk of such investments with a total deal value of a little over US$500 million – that's almost 28% of the total investments. The manufacturing sector was a close second at nearly US$366 million, followed by the IT/ITES sector.

FUTURE DEVELOPMENTS

Realising the market potential of Indian financial services is likely to require an investment in time as well as capital. Demand for financial services in India is taking off. International financial institutions are playing an increasing role in the expansion of India's large corporations.

A vast SME market remains largely untapped. On the retail side, India already has more middle-class people on a purchasing power parity basis than the entire population of the US and a consumer credit market that is growing by more than 40% per annum. By the end of 2010, another 100 million people will have joined this increasingly credit-hungry consumer class.

PHOTO: PHOTOS.COM

(Entering the Indian financial services market report published by PricewaterhouseCoopers released in 2009)

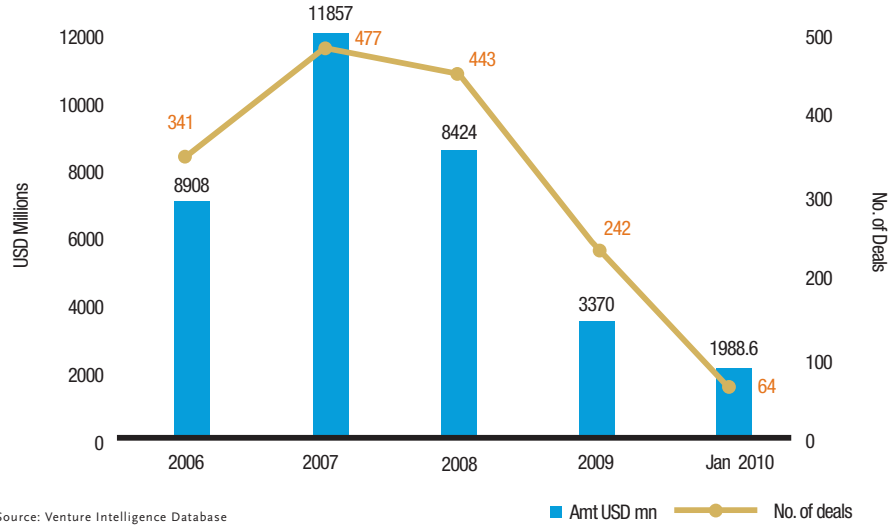
Plastic, the wild card

Credit cards entered the Indian market in 1981, and have grown steadily, year after year, maturing and consolidating. Now, there are fewer, but much bigger, processors, issuers and merchant acquirers. The major players are Visa, MasterCard, Citibank and American Express.

The credit and debit card market owes its expansion to the rise of the Indian middle class and the changing spending pattern of the consumer. Delhi-based market research and information analysis firm, RNCOS, says in a report that the number of debit cards issued by banks between 2006 and last year, grew at 40 per cent, annually. The report also says the numbers will only grow, as more and more account holders receive the cards and start using them. Enhanced safety of transactions, better understanding of the card-using method and easier access to card payment facilities will boost the numbers in the years to come, adds the report.

Benefits and spin-offs of card usage, like reward points and discounts, from merchants and banks, will increase card transactions. The growing trend of online shopping is another factor pushing up card usage. The government has also been supporting card usage to cut the operating cost and to avoid

PE Investment in India



Source: Venture Intelligence Database

tax delinquencies. In fact, RBI proposes to launch India Card, a domestic payment card, and also set up an indigenous point-of-sale switch network that electronically validates and authorises card payments. The use of credit and debit cards is nowhere near as widespread as it is in the developed world, but it has the potential to grow.

Financial Inclusion

On the issue of financial inclusion, RBI has taken several measures. It has advised banks to open 'no frill' accounts and introduced the scheme of business correspondents and business facilitators to fill the gaps in branch banking. It has also aggressively adopted software and mobile banking solutions to expand the reach of the banking sector. ■

ENTERTAINMENT

Live Performance!

Media and entertainment surging ahead on the growth path.

BY HEMANT KUMAR

PHOTO: PHOTOS.COM

Entertainment in India is big business. No wonder, then, that the Indian media and entertainment industry is among the economy's top performers. The film industry, Bollywood alone releases more than a whopping one thousand movies each year. There are nearly four hundred television channels in the country, and counting. The spread of television and FM radio stations has taken entertainment and information to every nook and corner of India. The government's liberal economic policy has helped dynamic local entrepreneurs seize the opportunity. There are more than one billion consumers of the words, pictures and sounds of the booming entertainment industry, and they are keeping the cash registers ringing.

It is understood that in a recession, adspend is the first to take a hit, and last year was no exception. Still, the industry has done well, and is expected to do better in the near future. A recent industry report says that the Indian entertainment sector will grow at 13 per cent over the next four years, crosssing US$22 billion by 2014 – almost doubling what it earned last year. The report was compiled jointly by the Federation of Indian Chambers of Commerce and Industry (FICCI), and international consulting firm KPMG.

The global economic downturn took a heavy toll of the industry, allowing a substantially lower revenue of a little under US$ 13 billion, last year. That, the report says, is a marginal 1.4 per cent growth over 2008. But this is a good year and the industry promises to spring back fully from the impact of reduced adspend and growth cap.

Creativity, not just of content and its presentation, but also in manoeuvring business through tough times, kept the industry afloat during one of the worst recessions of history. Dependent on advertising for more than a third of its revenues, the industry felt the shock waves of the shrinking ad budgets of the corporate world, far ahead of the other sectors of the economy. However, the pressure on margins and curtailed media spend brought a renewed focus on managing costs, innovation and creativity, as a result of the industry's prime earner, advertising, taking a direct hit in the downturn.

The hugely successful Indian movie "3 Idiots" and Hollywood blockbuster "Avtaar" carried a lot on their shoulders. In spite of the last minute shift of the IPL cricket matches from India to South Africa, the championship raked in sizeable revenue for broadcasters.

Adspend has grown at 10 per cent over the last three years, but it almost flattenned out last year. Over the next five years, however, it is expected to grow at 14 per cent.

Television, the great entertainer

Television has assumed the role of the lead informer and entertainer in India. Together with print, it is the largest component of the industry, accounting for more than 70 per-cent of the revenue. The television industry grew well and the Internet, gaming and animation registered double-digit growth.

Pegged at US$ 5.6 billion, the television industry has been growing at nearly seven per cent since 2008. It will grow at 15 per cent over the next four years, crossing US$ 11 billion in 2014. The market is good, undoubtedly, as the number of privately owned satelliteTV channels will indicate – nearly 400. There are channels serving almost every segment of the market, whether genre, language or region. From the early days of a single television channel for the entire nation, there is now a channel for every taste, time of day and demographic group. Industry watchers and media pundits have been proved wrong time and time again about the capacity of the Indian market to accommodate newer television channels.

Fearing fragmentation of the adspend pie, experts have been cautioning entrepreneurs to be guarded about returns on their investment. But the market seems to have a ready appetite for new channels, territories, genres and ideas. There seems to be a niche market in every sub-category. And, no matter how finely it is sliced and milked for business, each niche itself seems to be dividing further. So, what was a division of the national market into various language and regional markets, is now itself undergoing a sub-division into local and genre markets. Of course, mergers, tie ups and acquisitions are eventually going to consolidate the market into more manageable numbers, but for now, television channels

Digitalisation will play a big role in enhancing the reach and impact of this industry. Newer distribution platforms like digital cable, DTH and IPTV, digital newspapers, magazines, films and sale of online and mobile music are some of the ways in which the industry has benefited from digital content.

are burgeoning. Indeed, the market is good, not just for the Indian entrepreneurs, but also for the nearly 70 foreign broadcasters, who have the permission to downlink their signals to Indian viewers.

According to the KPMG report, the factors that drive growth in this industry are: economic growth in general and rising disposable income levels in particular; the gradually liberalising attitude of the government; better interface with international companies and access to foreign markets; privatisation and growth of the radio industry; advancement in technology; favourable regulatory initiatives.

Experts agree that the industry still has a lot of untapped growth potential. Through better media reach, the impact of convergence and digitalisation, constant innovation, improved customer understanding and deeper penetration of regional markets, it can expand its revenue base substantially. Mobile phones are evolving from instruments of simple voice and text services into complex information, entertainment, networking and business solutions, the Internet is reaching deeper and wider, and search engines and social networking are becoming everyone's applications.

Digitalisation will play a significant role in enhancing the reach and impact of this industry. Newer distribution platforms like digital cable, DTH and IPTV, digital newspapers, magazines, films and sale of online and mobile music are some of the ways in which the industry has benefited from digital content generation and distribution.

Starry-eyed about the movies

The huge film industry earned nearly US$2 billion, last year but it is projected to touch US$3 billion by 2014, growing at 9 per cent, according to the FICCI-KPMG report. In the cities, and now in the smaller towns as well, the movie experience is undergoing a sea change. Cinema halls are turning into smart, modernised, revenue-churning 'experience centres', where people gather, not just for a movie, but also to experience comfort, good sound and picture quality and a certain amount of pampering. Multiplexes are replacing single screen theatres, boasting fast food counters and even quality restaurants, to round off a day of entertainment. In the metros, multiplexes have become

the order of the day. The smaller towns are following suit. Also, the ever-hungry television channels need film-based content and movies to fill their 24/7 broadcasting. Revenue options through television premieres, promotion, and cable and satellite rights are expanding. Growth drivers for the film sector include expansion of multiplex screens bringing higher revenue, an increase in the number of digital screens facilitating wider releases, higher cable and satellite revenues, and improving collections from the overseas markets. Ancillary revenue streams like DTH, digital downloads and Internet webcasts are still solidifying and will assume significance in the future.

The booming radio

The KPMG report also said that last year, radio earned US$171 million. Growing at 16 per cent, it is expected to cross US$360 million, by 2014. There was a time when every Indian household, urban or rural, had a transistor radio, even if not a newspaper - through the fifties, sixties, seventies, and even into the eighties. People grew up on a staple diet of news, reviews, features, drama, music and educational programming, from the only national broadcaster, the state-owned All India Radio. The new generation, however, has been born to television. It is aware of the radio, but hooked to television. Radio sets began disappearing from most urban households, replaced entirely by television. For ten long years, radio almost faded away, and it seemed like curtains, forever - new technology had made the older radio redundant. Early in 2000, however, a new wave of resurgence brought the radio streaming back into the lives of Indians. The government's readiness to privatise FM broadcast has had a lot to do with it. But many experts believe that the mobile phone has single-handedly revived radio broadcasting in India. Nationwide, when the phone is not in use, it is playing either a cricket commentary, the news, or songs. The air waves are charged again, even though the mobile phone has, in part at least, replaced the transistor radio. Now, nearly 250 privately owned FM radio channels are beaming to listeners, nationwide.

15%

PROJECTED ANNUAL GROWTH OF TELEVISION INDUSTRY 2010-2014

But what has really got everyone talking is the **growing popularity of mobile television. Content producers, broadcasters, software and networking companies,** mobile phone manufacturers and cell phone service providers, are all eyeing this emerging market with interest. This market is set to explode, soon.

Radio is not all commercial in India. Educatinal institutions, voluntary organisations, and community minded people's groups have also won licences to broadcast educational and informative radio content. Thirty such stations are operating now.

Going digital

The digital recording, editing, storage, networking and broadcasting technology has helped television spread to the far corners of the world. It is less bulky, installs quickly, is cheaper to set up and operate, and has proliferated worldwide. Still, every television signal is not digital. Therefore, distributors of television channels, who download hundreds of signals simultaneously, need the signals to be homogenised. Enter HITS – head-end in the sky. Proprietary to the American media giant Comcast, HITS combines cable stations into a much simpler and cheaper set of multiplex signals on just a few satellites, instead of the multitude of satellites that are mostly in use. The Telecom Regulatory Authority of India has recommended to the government that it formulate policy on the adoption of HITS as the delivery mode for cable operators.

In 2008, the government allowed Internet Protocol TV(IPTV), opening doors to the world of Internet, and giving the television channels another platform for market expansion and revenue generation.

But what has really got everyone talking is the growing popularity of mobile television. Content producers, broadcasters, software and networking companies, mobile phone manufacturers and cell phone service providers, are all eyeing this emerging market with interest. Once the regulatory framework is firmly in place, new applications will arrive, the phones will become better adapted to the needs of the consumer, as will the service, bandwidth and tarrifs. This market is set to explode, soon.

The government has allowed 100 per cent Foreign Direct Investment (FDI) in advertising and films, including film financing, production, distribution, exhibition, marketing and associated activities related to the film industry. However, there are FDI limitations of varying degress in terrestrial broadcasting, cable networks, DTH, television channels, and the print medium.

The recession is behind us and no one seems happier than the entrepreneurs of the entertainment industry. When the cash squeeze began, two years ago, they were the first to feel the pinch, as the advertiser cut down severely on less-than-necessary spending – advertising.

Now, the growing economy is a signal for ever-increasing ad budgets and ever widening smiles in boardrooms across the entertainment industry. ■

POWER GRAIN

Two IIT graduates leave promising careers with leading multinationals in the US, and return to rural Bihar–to set up ecofriendly mini-power plants that run on rice husk

BY HEMANT KUMAR

PHOTO BY PHOTOS.COM

According to HPS, there are nearly 25,000 villages without electricity in India's 'rice belt' where husk gassifiers can be set up. They aim to establish more than 1,000 new units in India, and pilot units in Nepal, Indonesia and Cambodia, in the next five years.

Gyanesh Pandey and Manoj Sinha are exceptionally bright. Both went to the coveted Indian Institute of Technology (IIT), and then to the US for higher studies. Afterwards, Gyanesh joined Intel, designing microchips, while Manoj worked for an international power equipment firm.

But both were restless—constantly mulling ways to do something meaningful and sustainable. They knew villages in their home state (Bihar) badly needed power. They were electrical engineers and yearned to set up rural power plants but shuddered at the thought of the staggering cost, and the mountain of paperwork it would entail.

All that thinking, however, didn't go to waste. And, it was from waste, literally, that their idea emerged—from rice husk.

Today, their bright idea has lit up the homes and hearts of thousands of villagers in the eastern state of Bihar.

Three years ago, they teamed up with Gyanesh's Darden School of Business classmate, Charles Ransler—and Husk Power Systems (HPS) was born.

In the backward river-fed plains of Bihar, rice is the chief crop, and its husk is mostly discarded. Gyanesh and his team designed a gassifier that burned the abundantly available husk to produce gas that powered a generator. The rest was simple electro-mechanical engineering—simple enough for the inspired engineers. Their first mini-power plant started working in Bihar's Champaran district, supplying much-needed electricity to nearly 500 households. Today, HPS has 25 such units across the district—and its wings are spreading.

The company distributes the electricity through cables mounted on bamboo poles. Each such unit generates between 35 and 100 kilowatts of electricity, running for about eight hours every day.

Delivering environmentally-friendly and affordable energy, the power-from-husk project has helped the real bottom-of-the-pyramid households, apart from generating employment locally.

Slowly, but certainly, Husk Power Systems is networking the absolutely left-out villages of eastern India.

35-100

KILOWATTS OF ELECTRICITY ARE GENERATED BY EACH UNIT

According to HPS, there are nearly 25,000 villages without electricity in India's "rice belt" where the husk gassifier can be set up. The company aims to establish more than 1,000 new units in India, and more pilot units in Nepal, Indonesia and Cambodia, over the next five years.

The electricity is affordable, but not free.

According to HPS, the monthly bill is lower than the nearly INR 150 (US$ 4) each household spends on kerosene for its lamps. As a result, villages are plugging in to HPS, especially those that have no power at all. Such community-based units become profitable within the first year of operation.

Gyanesh and Manoj's idea has not only met with instant acceptance at home, but also received world-wide recognition. The mighty Shell Foundation provided them with seed capital for the project. Networking giant Cisco stepped in, too. Last year, HPS won the first Global Business Plan Competition in San Jose, California, USA, prompting Cisco to invest US$250,000 in the company. American venture capital firm Draper Fisher Jurvetson and Cisco are co-sponsors of the competition that brought together entrepreneurial teams from 15 business schools in six countries.

Gyanesh and his friends are not just bright. They spread brightness. ■

PHOTO: PHOTOS.COM

Prudence: the mantra for inclusion

Sound, regulated banking helps realise financial inclusion goals.

BY HEMANT KUMAR

At a recent high-level international banking seminar, Deputy Governor of the Reserve Bank of India (RBI), Usha Thorat, explained the rationale behind India's financial inclusion and methodology. She was addressing the Tenth Annual International Seminar on Policy Challenges for the Financial Sector, in Washington DC, USA. The seminar was co-hosted by the US Federal Reserve, the International Monetary Fund, and the World Bank.

According to Thorat, financial inclusion represents reliable access to affordable savings, loans, remittances and insurance services. In the Indian experience, financial inclusion means that an account is backed by deposit insurance, affordable credit and the payment system. She added that prudent financial inclusion could work within the framework of mainstream banking with sound regulatory practices.

The National bank for Agriculture and Rural Development (NABARD) set the ball rolling in 1992 through a programme that allows banks to extend loans to self-help groups (SHGs). An SHG is an informal group of 15 to 20 women from low-income families, who come together to save money and take loans by turns. The SHG stands guarantor to the loan and even pays the bank's transaction cost. What's more, the loan recovery rate is remarkably high. According to NABARD, nearly 90 million households are covered under this programme linking the informal SHGs with the formal banking system.

The Centre has shown its seriousness by mandating that domestic banks allocate 40 per cent of their lending to priority sectors of agriculture and allied activities, micro and small enterprises, education, housing and micro-credit. Last year, the sectors had 51 million loan accounts. Realising the enormity of the task of covering 600,000 villages in rural India, RBI allowed commercial banks to use agents—business correspondents—who could open accounts, manage transactions and render financial services. "If banks can't reach people, or if people can't reach banks, then it is time for go-betweens—technology and facilitators. That, in essence, is branchless banking," says Chandra Shekhar Ghosh, chairman and managing director of microfinance institution, Bandhan, of West Bengal.

In 2007, *Forbes* magazine listed Bandhan as the world's second-best microfinance institution, and India's best. "We work like putty to plug tiny cracks in the system, taking care of the scattered micro loan sector. We complement banks, not compete with them," explains Ghosh. The sprawling mobile phone network and widely available IT tools have accelerated the growth of this practice. RBI regulates that such transactions reflect in bank books within 24 hours. So, correspondents use biometric scanner-cum-identifiers, mobile phones and printers.

The biometric device authenticates the account-holder, charging the Radio Frequency Identification Device chip embedded in the smart card, which logs on to the banking server through the phone.

The rest is commonplace mobile banking.

Earlier, to check fraud, RBI had placed limitations on who could qualify as a business correspondent. Now, it has relaxed norms a bit to include retired government officials, school teachers, defence personnel and shopkeepers. This has the potential to take branchless banking to every corner of India.

Early this July, RBI also freed interest rates from regulation. For the priority sector, commercial banks can now fix their interest rates, as long as they are "reasonable"—up to INR 20,000 (US$ 430). As Thorat says, the decision came from the thought that sustainable financial inclusion must cover bank fee and costs. If costs are not covered, it will always remain a burden. The RBI has also set up Banking Codes and Standards Board of India to enforce a comprehensive code of conduct for fair treatment of customers.

"Millions need micro loans running into hundreds of billions of rupees. The right mix of concern, planning and technology, will help reach it to everyone. Microfinance is taking roots in India. This largely privately-owned market will need support, regulation and control," adds Bandhan's Ghosh, on a thoughtful note. ■

LEADING THE BIOTECH PACK

Under Kiran Mazumdar Shaw's stewardship, Biocon has become India's top biotechnology company. Now, it is gearing up for its place among world leaders in technology and innovation. BY INDU PRASAD

If you call Kiran Mazumdar Shaw a visionary, she will probably retort sharply: "All leaders need not be visionaries and all visionaries need not be leaders. I believe that more than being a visionary, a leader must inspire people, help them share their ideas and aspirations. What is a vision anyway? The vision concept is hyped and overstretched."

It might seem strange coming from the head of one of India's top bio-technology and pharmaceutical companies. But probe further and Kiran will say: "A visionary need not be one who has foreseen the future, mapping out each and every milestone and problem. I can honestly state that I personally did not imagine when I began, that Biocon would achieve success of this stature. Vision is an evolving process, not something to be rigidly adhered to. My mission, rather than my vision, was to build a globally respected biotech company. I wanted to change the world's perception

that India is not capable of research-based business. To me, a leader should have more mission than vision," says Kiran.

Biocon – the beginning

Biocon happened more by chance than by design. In 1975, Kiran returned to India after training as a brewmaster, a person in charge of producing beer – it's a Master's equivalent title, earned after more than two years of study in the art of brewing. But despite her noteworthy qualifications, no one was ready to give her a break in this male-dominated profession.

A chance meeting with Leslie Auchincloss, the owner of Biocon Biochemicals Limited, led to the birth of Biocon India.

"I set up Biocon in 1978, in the garage of a rented house in Bangalore, which doubled as my office. I had to make the most of my available resources and started with US$215 in the bank," recalls Kiran.

Biocon started with the manufacture and export of papain, an enzyme in papaya, which prevents chilled beer from turning hazy, and isinglass, a marine hydrocolloid from fish moss, another key product for the brewing industry. Within two years, Biocon established a steady flow of exports to Ireland. As the export grew, the manufacturing activity shifted from the garage to a 20-acre site near Bangalore, in 1983. Not content with just exporting extracts to Ireland, Kiran decided to research into enzyme technology.

Kiran had the sharpness to spot gaps in the market, and soon began producing an enzyme to clarify tea.

The big break came in the 1990s, when Biocon invented a fermentation technology that would replace the conventional tray-based method of culturing microorganisms. Known as PlaFractor, the technology uses a bioreactor. Entirely computer-controlled, the method integrates all the stages and processes of cultivating and extracting microorganisms into an enclosed system. The highly precise invention was a commercial success and boosted Biocon's reputation for innovation.

More importantly, the PlaFractor took Biocon from making industrial enzymes to producing biopharmaceuticals. With it, Biocon moved into areas such as immunosuppressants that are difficult to produce via conventional tray method of culture. Immunosuppressants block the body's antibody response to transplanted organs, so that they are not rejected.

By the mid 2000s Biocon had emerged as the number one biotech company in Asia and sixteenth in the world, revenue-wise. Biocon was producing everything, from insulin to antibodies, and was involved in ground-breaking research. In 2004, Biocon became the first biotech company in India to go public.

THE BIOCON WAY

As a pioneer in her field, Kiran is aware of the responsibility she shoulders. "I find that my sense of purpose has shifted from concentrating solely on my company to broader realms. I owe to the business community, as it is my way of giving back to the industry, which has indeed nurtured my company and given it the platform to grow. An important ingredient to leave behind with your leadership signature is to build strong fundamentals for the company," she says.

Kiran says that her learning came from the success of the software industry. "The ability to sense trends and give strategic direction to the company is important," she mentions. Therefore, diversification, as against expansion, has been the key factor for Biocon.

Biocon's success can also be attributed to responsibility-driven motivation. As Kiran points out, "Giving high levels of responsibility is a large motivational factor for many employees. To perform well under this pressure introduces a feeling of achievement. Awards and incentives are important but cannot be equaled to responsibility, which takes the employee to an emotional crest. Nothing surpasses such recognition in the organization. It's a primal human instinct to strive for fame and feel wanted by others." In addition, Biocon focuses on gender-sensitivity and addressing of employee apprehensions with facilities like the crèche.

This is perhaps the reason that Biocon has one of the lowest attrition rates in the country, less than 1 per cent. "The osmosis of ideas at Biocon prevents territorialism between people, thus holding the organization as a unit. I believe in informality as rigid structures decimate employee morale. For people to express themselves, organizational hierarchy must be reduced to the minimum, and that stands true for me too," says Kiran.

Kiran follws her own role models. "I admire Infosys and Wipro along with HDFC and ICICI. Tata is also high on my list. I admire Dr Devi Shetty for his work at Narayana Hrudualaya in terms of culture and implemented systems. Overseas, I choose GE for their management style. Among Biotech companies, I benchmark Biocon against Genentech, especially, for the pioneering and strategic initiative they have taken to build their product portfolio," she adds.

Biocon—Today and in future

India's leading biotechnology magazine *BioSpecturm*, places Biocon in the number one position with a total revenue of a little over US$253 million in the last financial year. Four-fold increase in revenues from licensing, an 11 per cent raise in the insulin business and entry into a host of new markets—including those of Brazil and Chile — were the highlights of the company in the preceeding year.

Half of all the pharmaceutical drugs sold worldwide, are sold in the US and Europe, while emerging markets account for 40 per cent of the sales.

"Our focus will be on the emerging markets of Brazil, Russia, China and Latin America to drive growth in the future. Though the domestic market shows healthy growth, the share in the total revenues will remain in the range of 10-15 per cent in the near future," says Kiran.

The last couple of years have been particularly significant. Kiran says: "The only way we can hope to enter some markets, is through acquisitions. We don't have the luxury of time to build capabilities from the ground up. If we want to become a big marketing company, we have to look at companies with strong distribution channels," she contends.

Biocon has tied up with pharmaceutical majors like Axicorp of Germany and Mylan of USA, for developing, manufacturing and supplying multiple generic biologic compounds. There is also the strategic tie-up with the US pharmaceutical giant Optimer, that could help Biocon's revenues grow by upto US$50 million.

Globally, Kiran herself admits that the US and European markets have been the hardest to crack. And it's a battle that continues with high regulatory charges and far stronger competitors. Biocon will also begin to feel the heat as heavyweights, including Amgen and Biogen, prepare to enter the Indian market.

The Indian biotech industry is set to touch revenues of US$10 billion according to industry estimates.

India will soon become the vaccine capital of the world, and that is where Biocon plans to make its mark in the future, adds Kiran. Clinical trials, agri-biotech and bio-fuels are becoming areas of expanded opportunities.

With its niche insulin product, Insugen, Biocon is fairly secure. But there is also research in advanced stages on drugs that hope to cure cancer.

With 120 million patients worldwide and 30 million in India alone, diabetes has emerged as another important area of research for the company. Through its subsidiary, Clinigene, Biocon embarked on a longitudinal research programme in Type II diabetes. Having completed clinical trials, Biocon plans to launch the seminal oral insulin drug next year.

Internationally, Biocon is working seriously on biosimilars to fuel future growth, despite the 12-year exclusivity clause in the US Healthcare Bill. Also known as follow-on biologics, biosimilars are officially-approved subsequent versions of a drug or pharmaceutical product made by another company, after the molecule's original patent expires.

"It is a matter of concern for all biosimilar players. We obviously wanted it to be less than 10 years. However, there are many opportunities in this space despite 12 years of the exclusivity provision. We hope that nobody will be able to enter the US market before 2015, and by that time, quite a number of products will exit the 12-year exclusivity period," says a confident Kiran.

"I set up Biocon in 1978, in the garage of a rented house in Bangalore, which doubled as my office. **I had to make the most of my available resources and started with US$215 in the bank."**

—**Kiran Mazumdar,** Chairman & Manging Director

Biosimilar products play a big role in Biocon's plans for India, too—Insugen is one of them. Biocon has also invested significantly in the development of other biosimilars such as granulocyte colony stimulating factor (GCSF), streptokinase, reteplase, human growth hormone, etc. using bacterial (E.coli) and yeast fermentations.

The company is poised to enter the contract manufacturing space but only at the very high-end level, Kiran emphasises.

"We have Asia's largest Insulin facility. We will have one of the world's largest Statin facilities. We have Asia's largest Monoclonal Antibody facility and in due course, perhaps, the world's largest antibody facility. Our ambition is to be among the top 10 Biotech companies, globally," she says.

In June, this year, when Kiran announced the figures for 2009, she said Biocon had started the financial year on a very strong note. The group's profits have grown by a third, to US$16.6 million.

She added that Biocon has identified biosimilars, immunosuppressants, research services and the emerging markets as key growth drivers for the near term.

Beyond business, too, Kiran says that her, Biocon's and India's futures are intrinsically linked. Towards that, Biocon has tied up with the renowned Indian School of Business (ISB), Hyderabad, to create a Biocon Cell for Innovation Management.

Part of ISB's Centre for Leadership, Innovation and Change, the cell will help companies fill gaps in their ability to innovate; assess, manage and mitigate risks associated with innovation, and; study how to produce high value, low-cost, strategic innovation.

As a manufacturer of mostly intermediaries for industrial customers, Biocon has remained a step behind the retail counter. But Kiran knows the value of the retail market. She signs off with: "We are doing well in selling our products to large customers but have not yet addressed the retail market. There are many opportunities to focus on a number of unmet medical needs." ■

ARTS & CULTURE

Nagaraja: An exquisite panel of stone carving on one of the walls of the Akshara Theatre. *(Below)* A scene from a musical soiree at the theatre

Akshara, The Crucible

Artist couple, Jalabala Vaidya and Gopal Sharman's temple of art is in Delhi's heart.

BY ROHINI BANERJEE

I was in Lutyen's Delhi, gazing at the letters that announced the name of a carved stone building—Akshara. The name seemed simple enough. In Hindi, *akshara* stands for the letters of the alphabet. It seemed logical enough—I was here to meet a man of letters and his highly-talented wife.

Inside, I saw paisleys and peacocks; Ganeshas and Nagarajas—red, beige and pink. Next door to one of Delhi's largest hospitals, this is a healing centre of an entirely different kind. Gopal Sharman and Jalabala Vaidya's Akshara theatre is no less a landmark. It's a pilgrimage for theatre lovers, a school of art, centre for promotion of ethical behaviour, and a beautiful home. Like the unique building where they live, Gopal and Jalabala, too, are multifaceted.

How does one even begin to define a man such as Gopal Sharman? Or, his wife, Jalabala. He is an artist, playwright, poet, former journalist, musician, sculptor and a builder who made this shrine from scratch. He built the theatre brick-by-brick—designed it, and constructed its floors, ceilings and walls. Then, he carved the exquisite birds and animals and designs. He sculpted the impressive Ganesha that guards the entrance to the main theatre.

For one, it is wonderfully cool. It will lull you into a sense of peace—so much so that you tend to linger moments longer than intended. Then, there are the exquisite details, a stony pattern here and a wood carving there, that forces you to examine each, more closely. The couple's German Shepherds provide the accent, as they snooze peacefully, while you wander about. It gets even more surreal with the Persian cats, blending into the wall colour, and stretching and glancing past your shin.

After having built a veritable shrine to English the-

Gopal Sharman

A leading playwright, Gopal Sharman is responsible for keeping English theatre alive to a large extent in India.

A man who was never trained as a sculptor or as a carpenter, planned, laid, carved and chiselled Akshara Theatre—based in south Delhi. It is Gopal's "Ark", a reference that amuses the great (and humble man). Once you enter through its intricate doors, everyone has to play a part—act, recite or simply watch. A former journalist, Gopal also has to his credit a play called *Ramayana*

atre, any other couple would have given themselves well-deserved pats on their backs, and retired. But, not Gopal and Jalabala. Somewhere along the way, while he was busy chiselling, Gopal found time to re-invent the *Ramayana*. His take of the Indian epic had a more pragmatic Rama—a master strategist. "Our protagonist is a hands-on man, taking on a far stronger and wealthier adversary. He recruits locals for an army rather than travelling thousands of miles back to his home city and then making his army travel across the nation from the north to the south. That makes him a great general." Gopal wrote his play for a whole team of actors. But, circumstances forced Jalabala to perform every single role herself, a feat that Gopal says his partner-in-art pulled off effortlessly. "She has an extraordinary range of voice," he adds, proudly.

Jalabala is Hindi for daughter of water. "There was also a ship by that name, but a German U-boat torpedoed it at the start of the second world war," quips Jalabala. Like her name, she is strong and quick-witted.

Some artists acquire their inspiration from the street, others in the divine, several more from popular culture. Gopal and Jalabala's ideas of life and living, and of their art, stem from the history (and conscience) of India—what Gopal has labelled Indian "classicism". It's impossible to talk to the couple without referring to this idea of a "collective inheritance". Classicism is a little more than just culture—it's this collective history of all groups that make India the nation it is. It's through this vision, that they have discovered the quality of their minds, which has led them to excel in their art—a trait that the couple

A usual day: Assorted plays being conducted by friends and participants at Akshara. *(Above)* Jalabala Vaidya and Gopal Sharman share the stage for one of their performances

wishes to share with the next generation.

As one sits across from the two of them there is one nagging question. Who next? "Our grandchildren are real gems. The eldest is a dancer, painter and all three of them are singers. So, I am not terribly worried," says Jalabala, with quiet pride. "As artists, our duty is to articulate what we perceive as reality beyond the manifest. That duty, needless to add, falls upon everyone," says Gopal Sharman. Even the cats.

I had entered the building imagining the name of the theatre was apt enough—*akshara*, for the letter of the alphabet—until I went home and looked up the dictionary. In Sanskrit, the word *kshara* stands for the finite. Therefore, *akshara* becomes the infinite, one that can not be destroyed. Undoubtedly, Akshara will last forever—it can only be refined. ■

TOURISM UPDATE

DARJEELING

The Herb: Tea has been growing in Darjeeling since the 1840s, when it was introduced by a British surgeon, Dr Campbell

Tea Garden: Rolling acres of such 'gardens' dot Darjeeling and its neighbouring lands—as far as the eye can see

The Kanchenjunga: This one requires no introduction. Kanchenjunga is the world's third highest peak, after Mount Everest and K2

Savouring Darjeeling

Drink up the flavours of the Queen of the Himalayas, right here, or out there...

BY ROHINI BANERJEE

Our story of Darjeeling begins thousands of miles away from its lush valleys and snow-capped hills—in an eight-foot by eight-foot store, sandwiched between a curio shop and a jeweller, in New Delhi. The unlikeliest of places, you would think. Not really.

For, an evening here is no less invigorating than a visit to the Himalayan paradise, I can promise, as I sip cup after heartwarming cup of delicate Darjeeling tea, brewed to mathematical perfection and fawning attention. My host, Vikram Mittal, is the soft-spoken owner of this very well-known tea shop in the capital's posh residential district. He personifies his prime leaves from Darjeeling. He is erudite and proud in one cultured mix of polish and humility. And, he watches his brew over a triple-tube hour-glass array, timing it to the last grain of sand. I am meeting Vikram because a friend has said I must, if I have anything to do with Darjeeling. And I do—I am, after all, writing a travel story on Darjeeling. It seems there isn't a tea lover within 50 miles of his shop who doesn't stop by. There are the Japanese, the Koreans, British, Germans and the French and locals of all hues. They smell the leaves, make the right noises, sample the brew and take away armloads of tea. Darjeeling brings them together, even though they are miles away from it. Such is the pull of Darjeeling.

But Darjeeling is not just its tea. It is one of the most beautiful places on earth. At nearly 7,000 feet

above the sea, it is perched on the Himalayan foothills, at the northern tip of the West Bengal state, but you can easily call it the soul of Bengal. Part of the Lesser Himalayas, a prominent range where mountains can be as high as 10,000 feet, Darjeeling developed as a hill station and sanitarium during the British Raj. A British surgeon, Dr Arthur Campbell, is said to have introduced the tea plant to Darjeeling, in the 1840s. It took to the hills like a fish takes to water.

Stand on a hill top on a clear October morning, and you can see Mount Everest and the world's third tallest peak, Mt Kanchenjunga, together.

On a good day, the 8,500 foot Tiger Hill, nearby, turns into a royal grandstand, as you watch the rising sun turn Mt Everest into a solid block of gold. Mt Kanchenjunga is the bonus view.

It will leave you gaping. But somehow, the glacial draft doesn't chill you to the bone—the place has a warmth all its own. It is the easy swagger of the local bright-eyed and ruddy-cheeked Gorkhas and Sherpas that puts you at ease, within minutes of setting foot.

The place is pristine, the weather fine, the mood right and the air, oh, the air is a story in itself. Depending on where it is coming from, the air is smelling of clove-spiked tea, freshly fallen snow or smoky mist rolling downhill.

But, tea has been infused so completely into the soul of Darjeeling that you can smell it even before you see it. Eighty-seven tea estates together produce nearly 10 million tonnes of the priceless leaf. Hill upon rolling green hill is covered in a mauve blanket of the plantations that generate nearly US$8 million each year. On its website, *www.darjeelingtea.com*, the Darjeeling Tea Association says tea makes more money for Darjeeling than its tourism.

It takes a little more than two hours to fly from New Delhi to the nearest airport, Bagdogra. Darjeeling is a scenic 90 km drive from the airport that's primarily an air force base, but doubles as a civilian facility.

Usually, the town remains rain-drenched. If you are lucky enough and the sky clears up, there are breathtaking views of the towering Himalayan peaks. A personal favourite, however, is watching the evening mist blanket out twinkling lights that dot the hillsides. It takes the mist seconds to put out the brightness, forcing everyone to bid an early goodnight.

But no story of Darjeeling is complete without the mention of its famed toy train. Well, not exactly toy train. Pulled by a real, full-sized, vintage steam engine, it's a fully-functional narrow gauge train of the Darjeeling Himalayan Railway, running daily from Darjeeling to a place called Jalpaiguri, nearly 90 kilometres away. If the magnificence of the Himalayas and its stunning valleys don't take your breath away, then the treacherous hairpin bends and the sheer drops most certainly will.

FIVE KEY HIGHLIGHTS

1. BENGAL NATURAL HISTORY MUSEUM

Founded in 1903, it houses more than 4,000 specimens of flora and fauna

2. HIMALAYAN MOUNTAINEERING INSTITUTE

Since 1953, the institute has been training amateurs, enthusiasts and professionals in mountain climbing

3. BATASIA LOOP

The nearly circular loop in the railway track is both a heart-stopper and tourist attraction

4. LLOYDS BOTANICAL GARDEN

Built over 40 acres, the garden was a gift to Darjeeling from William Lloyd in 1878

5. HIMALAYAN ZOOLOGICAL PARK

Home to India's only collection of Siberian tigers, Himalayan black bears, barking deer and the solitary snow leopard

Ghoom Monastery: Also known as the Sampten Choeling or Yiga Choeling Monastery

And if you are up to exploring, don't miss some of the most revered Buddhist monasteries you will ever find. The oldest such buddhist centre, called the Ghoom Monastery, was built in 1875.

A day starts and finishes early here. A note to the traveller who needs night life—you won't get one. Darjeeling offers a handful of eateries and watering holes that down shutters early. But, the food and *chang* (local brew) are served with a smile. Local cuisine is as tasty as it is cheap at the tiny Bhutanese and Tibetan restaurants—try their unique pancakes and bread. If you fancy something more posh, head to Glenary's or Keventers'. Joey's Pub is an excellent choice for a night cap. Residents throng there in the evening. Its affable owner (yes, he is called Joey) is a retired musician. After his band dismantled, he headed home to start his landmark pub.

When in Rome, do as the Romans do. When in Darjeeling, do have a cuppa. Local dumplings (called momos here), noodles, *thupka* (noodle soup), eggs and bacon for breakfast, or *roti* with curry lunches—you can gorge to your heart's content. When you have eaten enough, sit back and enjoy the brew. Depending on the season, you can sip a sparkling light yellow spring flush to the brooding coppery autumn flush. Three summers ago, a few friends and I went visiting to Darjeeling. One afternoon, a sudden shower sent us scampering into Nathmulls, a boutique tea shop. There, a smiling assistant not only offered us fresh towels, but also free samples of the estate's produce, in dainty china.

Sometimes, I wish Darjeeling was closer by, not so many thousands of miles away. But at least, there is Vikram Mittal, and his little world of tea, right here in the heart of bustling Delhi.

If I can't have Darjeeling, I can drink Darjeeling. ■

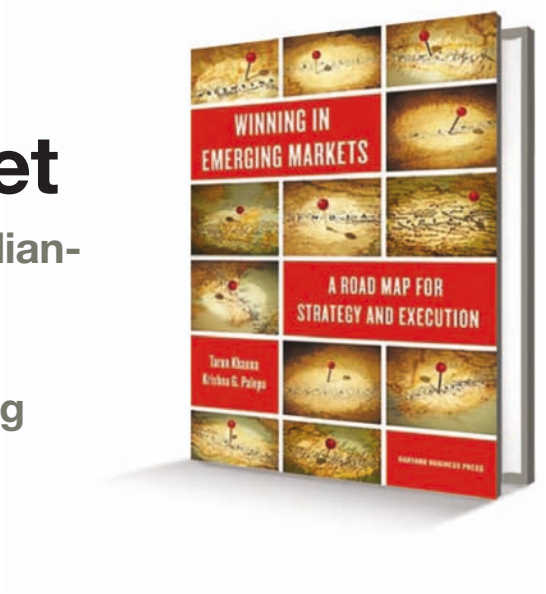
"Firms should create value where they are"

Author: Tarun Khanna

Emerging Market Survival Kit

Two Indian-American Harvard professors pen the entrepreneur's 'rough guide' to the world's promising markets.

BY HEMANT KUMAR



THE world's large, rapidly growing emerging markets represent the collective aspirations of people who populate them. In a sense, these markets are not much different in character from the mighty American corporations of the late 19th and early 20th centuries.

The markets are lucrative—but, doing business in such markets isn't easy for multinational companies. Key market-support institutions that are taken for granted in the Western world, are either weak, evolving, or entirely missing in most such markets. When the institutions of regulation, governance, facilitation and transaction, are missing, there exists an institutional void.

In their new book, *Winning in Emerging Markets: A Roadmap for Strategy and Execution*, Harvard veterans, Tarun Khanna and Krishna G. Palepu, work through a global maze of institutional voids—designing strategies to respond to them. If they can identify voids in product, labour, and capital markets, investors and entrepreneurs can succeed by harnessing private sector niches in the institutional infrastructure. These niches come in the form of information analysers and advisors, aggregators and distributors, transaction facilitators, and more.

Palepu is Harvard Business School's Ross Graham Walker professor of Business Administration and senior associate dean for international development. In his research, he focusses on strategy and governance. He has a doctorate in management from the Massachusetts Institute of Technology, and an Honorary Doctorate from Helsinki School of Economics and Business Administration.

Harvard's Jorge Paulo Lemann Professor, Tarun Khanna has studied and worked with multinational and indigenous companies and investors in emerging markets world-wide. He is also the author of *Billions of Entrepreneurs: How China and India Are Reshaping Their Futures And Yours*. A Fellow of the prestigious Academy of International Business, Khanna was nominated to be a Young Global Leader by the World Economic Forum, in 2007.

In their book, Khanna and Palepu identify and plug institutional voids by asking key questions. If a company is planning to enter an emerging market, it must ask itself questions such as—which institutions in the market are working and which missing; how the void can affect its business model; how it can compete by navigating the voids, and; where profit lies in finding opportunities to fill these voids.

According to Khanna and Palepu, emerging market institutional voids are a global phenomenon. They, therefore, their research focusses on markets worldwide, not just on the BRIC countries of Brazil, Russia, India and China.

"Today, the main prize often is the emerging middle-class that aspires to consume world-class products at lower price points," said Krishna G. Palepu in a recent interview to a senior editor of Harvard's speciality publication *Working Knowledge*.

"We have been studying emerging markets for 15 years. We are curious to know how international companies have been able to intimate themselves into the conditions of these markets," added Palepu.

In the same interview, Khanna said: "Everyone agrees that firms should create value wherever they are. But, when we ask what kind of value, and for whom, who are

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Krishna G. Palepu is Harvard Business School's Ross Graham Walker professor of Business Administration. He is also senior associate dean for international development.

Tarun Khanna is a Jorge Paulo Lemann Professor at Harvard. He has studied and worked with MNCs world-wide. He is the author of *Billions of Entrepreneurs: How China And India Are Reshaping Their Futures And Yours.*

Author: Krishna G. Palepu

"The prize, is an emerging middle-class that aspires to consume world-class products at lower price..."

the relevant stakeholders, and how is work actually going to be implemented on the ground, there are different answers in different circumstances. That's the intellectual puzzle we have been trying to wrestle with for 15 years."

On their book's promotional website, *www.winninginemergingmarkets.com*, the authors say that emerging markets like India "fascinate us because their ambition level is reminiscent of the ambition harboured among late 19th and early 20th century US. Then, companies and entrepreneurs were literally trying to build great companies of the future, while dealing with challenges of scaling-up, as well as opportunities in managing rapid growth."

For instance, a business school helps screen talent and certifies that it is of high quality. In the US, there is a rich ecosystem of competing business schools that are forced to remain honest. In most emerging markets, specialist institutions and intermediaries, such as executive search firms and business schools, are either absent or perform poorly. In a market where buyers of quality talent can't get together with the local sellers of talent—what do they do?

The book discusses at length how companies adapt to these voids.

For companies that want to enter emerging markets, the book can serve as a rough guide, or as a survival kit. Some questions that every company's leadership has to eventually ask itself, are; whether it should replicate (or adapt) an existing business model in that market; collaborate with domestic partners, or go it alone; navigate around that market's voids—or, actively try to fill them; enter the market now, or look for opportunities elsewhere, and; stay in, or exit the market if current strategies are not working.

Peppered with examples from real companies in the real world, the book has "field-tested" advice and knowledge of emerging markets.

It is not surprising, therefore, that the book's website quotes the founding chairman of Infosys, N. R. Narayana Murthy, as saying: "Emerging markets have piqued the interest of business scholars. Much has been written about them. But, this book is unique. It proposes an actionable framework for assessing the challenges and opportunities associated with institutional voids in markets."

Murthy set up Infosys Technologies Limited in Bengaluru, India, with a seed capital of US$250, in 1981. Now, Infosys is a neary five-billion dollar global software consulting and outsourcing giant.

Its offerings span business and technology consulting, application services, systems integration, product engineering, custom software development, maintenance, re-engineering, independent testing and validation services, IT infrastructure services and business process outsourcing.

Chairman and CEO of Coca Cola, Muhtar Kent, is no less eloquent about Khanna and Palepu's insightful book: "The scope of this book's research is broad and deep. The authors' thinking is deliberate and well tested. The result is a compelling must-read for any leader, seeking sustainable growth in dynamic emerging markets."

In one of the chapters, the authors write: "Emerging markets are so tough to crack that companies are highly unlikely to get their strategies right the first time out. Companies of all stripes need to experiment to fit their strategies to the unique contexts of emerging markets—and instill in their organisations an organisational openness to experiments. Zain's One Network and Microsoft's FonePlus are two examples of successful emerging market experiments."

Zain (formerly MTC) is a pioneer of mobile telecommunications in the Middle East. On its website, *zain.com*, the company says it caters to 400 million people across 12 countries—across Africa—in one borderless mobile network covering an area more than twice the size of Europe.

Winning in Emerging Markets is insightful and street-smart. This is the time of emerging markets. They are growing in size, importance and complexity. So, whether you are an armchair globetrotter or jetsetting CEO, the book is a treasure house of knowledge and wisdom. And even if you are not some master strategist mulling over how to penetrate the Indian sweet-meat market, you should read it.

Two highly accomplished and gifted teachers have spent their entire working lives working on it. ■

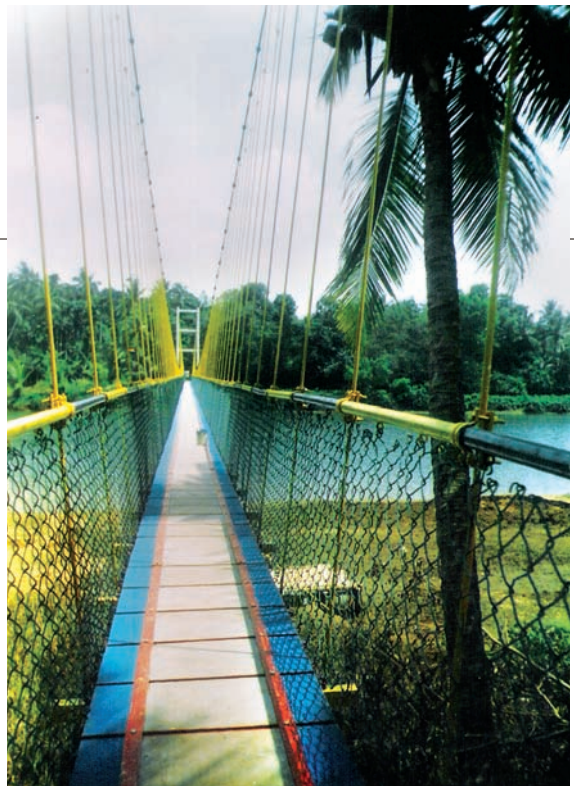
Emerging markets are so tough to crack that companies are highly unlikely to get their strategies right the first time. **Companies of all stripes need to experiment to fit their strategies to the unique contexts of emerging markets**

BOOK EXCERPTS

Foreign as well as domestic companies have found success in emerging markets by positioning themselves as partners in progress—building businesses that also advance market development. Initiatives along these lines can take a number of forms—from advancing traditional corporate social responsibility to filling institutional voids—in service of businesses or as stand-alone projects

Multinationals want to exploit the tremendous opportunities in emerging markets, but they need to carefully evaluate the extent to which they have the local knowledge and capacity to fully exploit those opportunities

RURAL UPDATE



Bridges Across Forever: One man's unrelenting commitment to building footbridges is changing the face of rural India.

BY HEMANT KUMAR

Girish Bharadwaj is an engineer. He understands the significance of a strong design. But, never in his wildest dreams, could he imagine that the arching span of a bridge could move people to tears—not for its design, but for the way it could change their lives, in rural India.

Born in coastal Mangalore, in southern India's Karnataka, Girish is familiar with the havoc that monsoons wreak on villages each year. Torrents cut off hills, and flood the plains. However small, a hilly river can cut a widening valley and a chasm. Villagers must then rely on overloaded and risky boats to stay connected with the rest of the world.

Chance brought Girish into the world of bridges. In 1989, villagers from nearby Arambur begged him to build a bridge across a river. For a man who had never designed a bridge, pulling a 90-metre span across a river seemed like an insurmountable task. He was a mechanical engineer—he understood engines and moving parts. But, putting bridges together was a civil engineer's job. However, Girish promised that he would try. After much planning, tireless community service from the entire village, and three months of hard work, Girish built a suspension bridge over the Payaswini river.

"When the footbridge opened to traffic for the first time, villagers couldn't stop walking on its wooden planks. Moved to tears, an old woman fell at my feet. And that was when I understood what I had done. That was the turning point of my life," said Girish in a phone interview to *India Now*.

It cost nearly INR 150,000 (US$ 3,224). "That was all cost. I did not charge anything for my effort," says a proud Girish. The terrain, soil, length of the span and height from the water-level chiefly decide the time it takes to make a bridge, and its cost.

An average, 50-metre footbridge on the plains can be ready in three months and for US$ 3,224. It could be slung like a giant hammock between sturdy tree trunks on either end, or on reinforced concrete pylons. "Using trunks as natural pylons saves cost. But, I peg the trees securely to other trees, to compensate for the rope tension from the suspended bridge," says Girish.

Girish Bharadwaj
Founder of Ayas Shilpa (sculptures in steel) situated in Sullia, 320km west of Bengaluru, Karnataka, is a Mechanical engineer by training. He has been building affordable footbridges since 1989. His ecofriendly bridges are changing lives in villages across the two states

He adds: "Bridges have to be reliable, weather-proof, flood-proof, durable and cost-effective. They take time and planning. Lives ride on them. I can only construct a limited number each year." And, he still does not charge a penny for himself.

Girish makes a living from his core business of fabricating steel structures and biomass gas plants. He has so far built 94 such bridges in Karnataka, Andhra Pradesh and Kerala and requests keep streaming in, steadily.

His longest bridge spans across a quarter of a kilometre over the Gataprabha near Belgaum in Karnataka.

At 60, the "bridge man" from Mangalore is still going strong—and designing tirelessly.

"I'll build as many as I can," adds Girish, determinedly. ■