INDIAN IT FIRMS

Another giant leap

EVEN two decades after the Indian technology miracle began it is hard not to be impressed by the scale of the achievement. Particularly considering the obstacles. The roads in Bangalore, the city at the heart of the revolution, still suck. Power cuts still periodically kill the lights and air conditioning on the campuses of the big IT firms, until back-up generators come to the rescue. This is a world-class industry built from nothing, that won most of its business abroad, while overcoming India's lousy infrastructure and inept, and sometimes venal, state.

Indian IT has made shareholders and employees rich and now boosts the country's balance of payments by $59 billion a year. Yet its impact goes far beyond the numbers. The big firms were among the first to win blue-chip American and European clients and to adopt blue-chip governance and accounting norms themselves. This won acclaim from foreign investors. The industry "changed perceptions of India as a third world country," says S Gopalakrishnan, the chief executive of Infosys who heads upstairs to become co-chairman in August. On the other side of town, Suresh Senapaty, the chief financial officer of Wipro, says the industry "created a global brand for India" that helped firms in other sectors to compete abroad.

Yet there is a slight whiff of a mid-life crisis. So far this year both Infosys and Wipro, two of India's "big three" IT firms, have given guidance for profits that has disappointed analysts. Both are restructuring their operations and have had turbulence at the top. Infosys muddled the transfer of power among its founders. Wipro, a firm still controlled by its long-time leader, whose villa can be spotted through a forest glade next to its headquarters, lost its joint-chief executives. Only the largest, Mumbai-based TCS, is firing on all cylinders.

In the grand scheme of things these companies' performance is still strong, with sales growth and margins which are, by global standards, impressive. Although many Western multinationals initially slashed their budgets in response to the financial crisis, they quickly performed a U-turn and increased spending, as they redoubled their efforts to redesign and outsource key parts of their businesses. Still, there is a growing drumbeat among the IT providers about the need to create "non-linearity". Translated into English, this means severing the umbilical link between sales growth and employee growth. Indian IT companies are desperate to escape their tag as "body shops" whose main competitive advantage is low labour costs.

That advantage is still formidable. The cost arbitrage available by employing Indian engineers

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rather than Western ones is still at least 50 percent. The strategic worry probably reflects three things, though. First, large Western rivals have come a long way in replicating some of the advantages of Indian firms. Wipro's Mr Senapaty says that for many years they dismissed the Indian model as a temporary phenomenon boosted by the dotcom bubble and the Y2K scare: "It was only in 2003 and 2004 that they realised the Indian model would survive." Now firms such as IBM and Accenture have vast employee bases in India too, and although they still struggle to grow as consistently or as profitably as Indian firms, they can compete better.

Second, there are long-term worries about the supply of cheap labour. Wages for employees in India are rising at over 10 percent this year, and as the economy develops there will be more competition for talent from other industries. The solution is to improve the supply, and the quality, of graduates -- only about a quarter of job applicants are typically considered employable but that will take time and patience.

Third, there are echoes of a political backlash, particularly in America, over the granting of work permits to Indian engineers and of

outsourcing jobs more generally. One state, Ohio, has banned the use of public funds for services that are provided offshore. Mr Gopalakrishnan looks pained when discussing this. His view is that the industry has created new jobs not stolen old ones. Still, he admits, that "recently the disparity in growth rates and in job creation have created renewed focus on domestic job generation" in rich countries.

What might the next stage of the industry look like? Most firms want to build their presence in emerging markets. Today they usually serve the local operations of multinationals. Tomorrow, with luck and effort, they may win the business of big companies based in countries such as Brazil and China. With existing Western customers, however, the urge of all three of the big Indian IT firms is to embed themselves deeper in the client -- providing not just a laundry list of specific services at a low cost, but becoming a more integral part of how they run their business.

This has its own risks -- a rising portion of Indian IT firms' revenues come from fixed price, long-term contracts, for which they must estimate their outlays over years and attempt to

deliver on budget. In may other industries, from catering to infrastructure, such contracts mean taking more risk, and accepting higher upfront investments in return for the promise of an influx of cash at the end of the contract. Mr Senapaty's response is measured. He says that the hope is that after many years of doing business with its clients, Wipro knows its stuff well enough to understand how its costs will pan out. All the same, it has beefed up its risk management as the nature of pricing has changed.

Alongside expanding geographically and deepening client relationships, all three firms are also exploring the outer reaches of technology and how society will use it. From the impact of cloud computing and mobile services, to clients' desire to make their businesses more environmentally sustainable, projects are afoot to anticipate the future. Coming from most companies such speculations would be dismissed as guff. But in time India's IT firms will surely invent new products and markets. After all, they are past masters of taking something that only exists in their imaginations and turning it into a multi billion dollar reality.

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iPads replacing note pads as Asian schools go high-tech

Apple's iPad and other tablet computers are replacing traditional note pads in some Asian schools and making the lives of thousands of students a whole lot easier.

Soon pupils could be reading on their tablets about a quaint old communication device called "paper", especially in Asia's advanced economies where many schools are racing towards a paperless classroom.

The slim glass slabs slip easily into a bag and can store thousands of textbooks, making a fat school bag full of heavy books, pens and notepads a thing of the past.

"I like the iPad because it is portable and we do not have to carry so many bags and files around," said 13-year-old Nicole Ong, who now makes notes on her iPad during class at Nanyang Girls' High School in Singapore.

A sample group of more than 120 students and 16 teachers at the school have been given iPads, at a cost of over $100,000. By 2013, every student in the school will have one.

The number of software applications -- or apps -- that can be used for educational purposes on tablet computers is set to explode.

It's a brand new business that even media mogul Rupert Murdoch has identified as an area of huge potential growth.

Murdoch said his News Corp group is to push into the education technology market in a speech to the e-G8 conference of Internet entrepreneurs and European policymakers in Paris last month.

He described education as the "last holdout from the digital revolution" and outlined a vision for personalised

Singapore students using the iPad in a language arts class in Nanyang Girls' High School. AFP

learning with lessons delivered by the world's best teachers to thousands of students via the Internet.

"Today's classroom looks almost exactly the same as it did in the Victorian age," Murdoch added.

But many Asian schools are already way ahead of the game.

"No longer is language learning solely based on the teacher commenting on students' works -- classmates can feedback on one another," said Seah Hui Yong, curriculum dean of Nanyang.

Rene Yeo, head of the information

technology department at Tampines Secondary School, also in Singapore, teaches science with his iPad. His students learn factorisation by simply moving the numbers around on the screen.

They also read about animal cells and the human brain structure by clicking on the various parts. And tablet computers make the double helix structure of a human DNA practically come to life before a student's eyes.

There are apps to learn English and maths, pupils can do cause and effect analysis on iBrainstorm, prepare for

oral exams and speeches with AudioNote and even strum the guitar for a music lesson on GarageBand.

The rise of classroom technology will mirror its rise throughout society, says Sam Han, a US-based expert on the role of technology in education.

Han, instructional technology fellow at the Macaulay Honors College, City University of New York, said he expects some Asian countries to leapfrog the West.

"While the Internet was birthed in the US, Singapore and South Korea (for example) boast far greater broadband

Internet access penetration and infrastructure than the US," he said.

Japan's communications ministry has given tablets to more than 3,000 under-12 pupils at 10 elementary schools and even fitted classrooms with interactive electronic blackboards under the so-called "future school" pilot project.

In South Korea, where schools have WiFi zones, the education ministry has been testing 'digital textbooks' in some schools since 2007. In 2012, the ministry says it will decide whether to supply tablets to schools nationwide.

Singapore has a hugely competitive education system known for its high level of science and mathematics instruction. The education ministry provides a grant for schools to buy this kind of equipment, as well as software and services.

Many schools already have WiFi, making it easy for students to connect to the Internet.

But some teachers acknowledged there are students who get distracted by playing games or surfing Facebook and other social media sites like Twitter.

Education psychologist Qiu Lin cautioned against schools getting carried away and promoting the blind use of technological devices, and neglecting the real goals of education.

"The trend of integrating technology into education will definitely increase," said the assistant professor at Nanyang Technological University, which is separate from the high school.

"But after one month when the novelty of iPads wears down, a good curriculum and teaching materials that can increase deep thinking and problem solving in students need to be in place."

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