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**Indian IT: Wake up and smell the opportunity**

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*The same advances that are changing the IT landscape are also creating new opportunities, says Vivek Wadhwa, fellow at Stanford Law School and director of research at Duke University...*



A few years ago, Wall Street Journal and Forbes published articles predicting the demise of Indian IT. I responded with an article that they were dead wrong. I said that the outsourcing market had a long way to go before IT peaked; rising salaries and attrition rates were not a cause for long-term concern; and Indian IT would soon become a \$100 billion industry. It did.

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Now I am ready to declare the end of the line for Indian IT. There are new \$100-billion market opportunities that could revitalize this industry. But from what I've seen, Indian executives seem incapable of steering their ships in the right directions.

It is not that Indian outsourcers have become less capable of servicing Western needs. It is that their customer base — the CIO and IT department — is in decline. With the advent of tablets, apps, and cloud computing, users have direct access to better technology than their IT departments can provide them. They can download cheap, elegant, and powerful apps on their iPads that make their corporate systems look primitive. These modern-day apps don't require internal teams of people doing software development and maintenance. They are user-customizable and can be built by anyone with basic programming skills.

It takes decades to update legacy computer systems, and corporate IT departments move at the speed of molasses. So, Indian outsourcers have a few more years before they see a significant decline. They certainly won't see the growth and billion-dollar deals that have brought them this far.

The same advances that are changing the IT landscape are also creating new opportunities. For example, advances in robotics, artificial intelligence (AI), and 3D printing are making it cost effective to move manufacturing back from China to the US, Europe... and India.

Take the Baxter robot from Rethink Robotics. It has two arms, a face that displays simulated emotion, and cameras and sensors that detect the motion of human beings that work next to it. It can perform assembly and move boxes — just as humans do. It will work 24 hours a day and not complain. It costs only \$22,000. This is one of many such robots.

AI is making it possible to develop self-driving cars, voice-recognition systems, and computer systems that can make human-like decisions. AI technologies are also finding their way into

manufacturing and are powering robots such as Baxter.

A type of manufacturing called "additive manufacturing" is making it possible to cost-effectively "print" products. 3D printers can create physical mechanical devices, medical implants, jewellery, and even clothing. The cheapest 3D printers, which print rudimentary objects, currently sell for between \$500 and \$1,000.

Soon we will have printers for this price that can print toys and household goods. By the end of this decade, we will see 3D printers doing the small-scale production of previously labor-intensive crafts and goods. In the next decade we may be 3D printing buildings and electronics.

These technologies are becoming readily available and cheap, but America's manufacturing plants aren't geared up to take advantage of them. Most don't have the know-how. This is where India's companies could step in. They could master the new technologies and help American firms design new factory floors and program and install robots. They could provide management consulting on designing new value chains and inventory management.

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They could operate and monitor manufacturing plant operations remotely. This is a higher-margin business than the old IT services. And Americans would cheer India for bringing manufacturing back to their shores — rather than protest it taking their IT jobs away. We are talking about a trillion dollar market opportunity.

India's technology companies can also develop sensor-based biomedical devices, cures for diseases by analyzing genome and health data, drone-based delivery systems, smart cities, digital tutors, and sensors to improve farming. Software and IT are the key to developing all these.

In my discussions with Indian CEOs, they all acknowledge the reality. They are becoming aware of what lies ahead. I have implored them to start retraining their people in the new technologies and develop new businesses and consulting practices. They listen, nod their heads, and go back to trying to close the disappearing software-outsourcing deals. They are shuffling deck chairs on the Titanic.

**(The writer is a fellow at Stanford Law School and director of research at Duke University)**

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31 Dec, 2013 05:12 PM

Now India itself has opened doors for IT companies as many entrepreneurs starting their venture in technology.

**Niyaz** ()

31 Dec, 2013 05:10 PM

Why no innovative work from Indian IT companies.

**sr subramanian** (Bangalore)

30 Dec, 2013 01:54 PM

Indian IT industry playing a role in helping enterprises manage the various offerings they do buy over the cloud. The cloud-computing model makes it possible for corporations to not worry about the ingredients - be it computing power, storage capacity or software applications - that go into technology-enabled solutions. Instead, they can now consume these as a utility and pay for it based on usage. It is for the system integrators such as an Infosys, TCS or Wipro to piece together components from a legion of ecosystem partners and stitch it all together seamlessly to match clients' specific requirements. "Indian firms have reached a maturity in the total outsourcing space, taking away entire IT needs of large organisations end-to-end. In the cloud scenario they will take this story forward, forming new partnerships and new business models," said Srikanth Karnakota, director of Microsoft's server and cloud business. Indian IT companies are increasingly partnering with cloud platform providers to put together the products an enterprise has chosen from the vast array of cloud offerings, and tie those products into the parts of the corporation's IT infrastructure that have not moved to the cloud. And the new job is a lot like the old one, except the modes of delivery and payment will change. The challenge will be when clients' expectations for technology-led innovation increase and IT recedes into the background, much like plumbing.

**mohandas537** (Varanasi)

30 Dec, 2013 01:36 PM

Good article about IT industry. Continued Information Technology development and enlargement of market IT products is very important for creating lakhs of new job in India.

**sr subramanian** (Bangalore) replies to mohandas537

30 Dec, 2013 01:55 PM

also pls note Indian IT industry playing a role in helping enterprises manage the various offerings they do buy over the cloud. The cloud-computing model makes it possible for corporations to not worry about the ingredients - be it computing power, storage capacity or software applications - that go into technology-enabled solutions. Instead, they can now consume these as a utility and pay for it based on usage. It is for the system integrators such as an Infosys, TCS or Wipro to piece together components from a legion of ecosystem partners and stitch it all together seamlessly to match clients' specific requirements. "Indian firms have reached a maturity in the total outsourcing space, taking away entire IT needs of large organisations end-to-end. In the cloud scenario they will take this story forward, forming new partnerships and new business models," said Srikanth Karnakota, director of Microsoft's server and cloud business. Indian IT companies are increasingly partnering with cloud platform providers to put together the products an enterprise has chosen from the vast array of cloud offerings, and tie those products into the parts of the corporation's IT infrastructure that have not moved to the cloud. And the new job is a lot like the old one, except the modes of delivery and payment will change. The challenge will be when clients' expectations for technology-led innovation increase and IT recedes into the background, much like plumbing.

**Sandeep Das** (Unknown)

30 Dec, 2013 11:42 AM

Information Technology is such an industry sector where there is a very high demand of vision, foresight & maturity of Top Management to feel the pulse of change & do streamline accordingly. The business acumen & managerial capability play a vital role in making such decisions. Considering the fact that Indian Education System & Higher Education Sector is not at all excelling & the trend is a worryingly downward slope is taking its toll as well. An industry like IT can be considered par excellence only when both Management as well as the Development Layer are equally efficient & they both know each other's expectation well enough and at the same time flexible enough to compliment each others. Considering the radical paradigm shift in the nature of IT & Software thanks to Cloud Computing, Mobile Technology, Open Source & Analytics, Indian IT has to show the maturity to adapt to the changes. Outsourcing is a Service based Industry but it need a significantly strong platform of Management & Knowledge to perform. So, lack in any of these pillars meaning, you can't think of a long term survival & sustainable high rate of growth. Considering the way the Indian IT has ballooned in past 20 years or so, the comprise & decline was always on the horizon.