

EAA Interview with Pradeep Singh



Pradeep Singh is an internationally famous Information Technologies entrepreneur. Singh, who holds a BS in Engineering from the Indian Institute of Technology, Delhi (IIT) and an MBA from Harvard, founded the Bangalore-based Aditi Technologies in 1994, after nine years in management positions at Microsoft and previous employment at Texas Instruments and McKinsey. Aditi, an outsourced product development company, assists a wide variety of software companies and financial institutions across the globe—from Microsoft to MetLife—in developing

consumer products and make their businesses more efficient through innovative uses of software platforms. Aditi has offices in five American locales and in the UK, has been selected for the Global Services 100 list as one of the top IT Companies in the world, and has won awards in India for its high quality work environment. The World Economic Forum named Singh as a Technology Pioneer. In the following interview, Singh briefly discusses his early years, India and IT, the evolving nature of entrepreneurship in India, and India's economic prospects.

Lucien: *Thank you for agreeing to this interview. Would you please tell our readers a bit about your early years and recount some of the major factors that motivated you to start your own company in Bangalore?*

Pradeep Singh: I am a software entrepreneur and a first generation immigrant to the US, as well as a husband, a father, and the many other identities that world-famous economist Amartya Sen would encourage us all to recognize!

I grew up in India, born to Punjabi refugee parents who came from Lahore (now Pakistan) during the tumultuous India-Pakistan separation in 1947 when India gained independence from British colonial rule. My father was an Indian Army officer and we grew up nomadic, living in small towns and big cities all over India. I left home at the age of twelve to go to a private boarding school, and after high school I went to IIT, Delhi—one of India's better-known engineering schools.

After graduating from the IIT, I worked as a programmer in Mumbai in 1979, but a year later found a programming job in Doha, Qatar in the Middle East. My wife and I came as immigrants to Boston in 1982, certain I was an admissions mistake at Harvard Business School, and uncertain of how we would fund the second year at school. Between summer jobs, starting a successful small business, and immigrant frugality, we were cash flow positive in those two years. We traded in our bicycles for a car and spent seven weeks driving from Boston to Oregon to San Diego camping out and seeing our adopted country

close-up. Our daughter, Ambika, was born nine months later, and a year and a half at Texas Instruments yielded an important asset—a green card—and we were legal.

In early January 1986, a few days before their IPO (initial public stock offering), I went to work at Microsoft. I could not have timed my nine-year stay at Microsoft better—joining just before the IPO and leaving before the Department of Justice antitrust case. It was a great ride: a relatively small company of 800 people when I joined, 15,000 when I left. I began as the Excel product manager and left as General Manager of Windows Mobile.

Near the end of a multi-month training regimen and only a few days before the 1993 Seattle-to-Portland bike ride, I cycled into work and met with an accident. Unconscious for a few hours, I woke up in the ICU. After two weeks of recuperation and reflection, I came back to work recognizing that I had been fortunate beyond anything I had dreamt possible in my ambitious admission essays in the Harvard Business School application process. I was certain that it was my turn to give back in some fashion for what I had received.

Aditi Technologies has been my way of enabling that return. Based in India, we started in 1995 with Microsoft as our first customer, leveraging an early insight that technical support would be delivered from low cost centers distributed globally. We created Talisma, one of the first 'Made in India' software products in the late 90s, and spun that out into an independent company. Today, Aditi is a software services boutique

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with a staff of over one thousand that is a product research and development (R&D) partner to global businesses and provides technology consulting and outsourced product development on emerging technologies. Offering end-to-end product engineering services, the company enables customers to scale product development capacity, improve R&D economics, and accelerate new technology adoption in ways that enrich their functionality, user experience, and user benefits.

The Aditi/Talisma journey has been a fascinating one. Microsoft before the Department of Justice case had been my professional childhood, and Aditi/Talisma has embodied the values I absorbed in those years. We have created challenging environments that attract bright minds, and an intensity and passion that is unusual for a services company. We have also created stock option policies that mimic Bill Gates’ generosity and community giving partially modeled on United Way efforts.

Lucien: *In a little more than twenty years, India seems to have developed an impressive record of achievements in the technology arena. What do you think are key historical, cultural, and contemporary causes of this phenomenon?*

Pradeep Singh: In 1984, in my final year of the MBA program at Harvard Business School, I chose to write my graduating research thesis on “Writing software in India for US markets.” At the time, it was a novel idea being explored by a handful of companies with a few hundred employees. But I embodied the evidence that Indian programmers could compete effectively with programmers growing up in the US. I had started my programming career only three years earlier in India making less than \$2,000 a year, and now I was at Harvard. The thesis was simple: businesses could leverage India’s combination of

English speaking skills, engineering degrees, and low wages to create competitive business propositions for global markets.

But it was a difficult business to run. There was incredible skepticism on the part of buyers that software could be written in a country that was perceived as a desperately poor Third World nation. Communication links were expensive—getting a phone in India could be a multi-year process and when you did get one, calls to the US were prohibitively expensive. And the supply of talent was limited to a few thousand engineering graduates who had any exposure to computers.

Then, an unexpected stimulus occurred—the Y2k software scare of the 90s. Many of the big, complex software systems written through the 70s checked for dates by simply looking at the last two digits of a date, not realizing that this check would fail at the end of the century. By the late 80s and early 90s, even consumer magazines were carrying highly exaggerated stories with doomsday scenarios of failing nuclear plants and airport systems. This paranoia drove the CIOs (Chief Information Officers) of Fortune 500 companies to invest a significant amount of resources in looking for the two ‘bad bytes’ in hundreds of pages of software code. This was an unwanted, brain-numbingly dull task, and a distraction from the new solution development that their in-house programming teams were focused on. Voila! Enter Infosys, TCS, Wipro, and a host of then small Indian software services companies struggling to convince the same CIOs to outsource software development and maintenance.

These new Indian companies offered to do this kind of work at a third of the cost of doing it in the US. From that entry point into the



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India brings a unique set of advantages. It is the only sizable nation that has a large number of English speaking, university-educated people who work for relatively low wages.

Fortune 500, the nascent Indian software services industry focused their huge cost advantage (average programmer salaries were only ten percent of US salaries at that time) on over-servicing their clients, and traded the Y2k success for a rapidly growing role in other maintenance and support work, eventually evolving their own skills and customer confidence into doing new product and application development.

Today, India is widely recognized as *the* outsourcing destination; communication costs are virtually zero (witness Skype), India adds ten million cell phone users a *month*, and graduates five hundred thousand new engineers every year! And, IT Outsourcing has arguably been the catalyst for the transformation of this nation with more than a billion people. It represents close to six percent of India's GDP, sixteen percent of exports, and directly employs 2.25 million people with indirect job creation estimated at eight million.

It is a miracle. And it is difficult to truly appreciate this transformation without understanding what India looked like in the late 70s and early 80s. The enthusiasm and excitement associated with India's Independence movement had died, while the corruption and poor governance associated with a socialist government had become deeply ingrained. There was little visible success, and Indians had come to believe that India would always remain a poor country unable to even feed its own people.

Today the country has optimism and confidence—"India Shining" was a rallying cry at a recent national election—a transformation initiated by the Y2k scare! Infosys, TCS, and Wipro were the first globally recognized brands to emerge from India. Entrepreneurs are the new heroes in India. The millions of well paying new IT jobs have been an economic engine for the rest of the economy. Hundreds of new private colleges have opened to produce the engineers that the industry needs.

So why did this happen? Beyond the Y2K trigger, the declining cost of communications and improving reliability were the disruptive forces that created the global outsourcing industry. Initially data communications, and now voice and video, are enabling a globally distributed workforce to work together. India's industry has been led by dozens of risk-taking entrepreneurs who learned how to leverage this technological change. They first developed programming shops, then call centers and help desks, and now a dizzyingly broad range of other services—graphics design, financial analysis, radiology to name a few—potentially any job that does not require physical proximity.

What is it that enables India to be a globally effective competitor in the services industry? India brings a unique set of advantages. It is the only sizable nation that has a large number of English speaking, university-educated people who work for relatively low wages. India's colonial history gave India poverty and low wages (growth averaged less than one-half of one percent a year for 200 years of British rule), but the British created an Indian elite that was educated in English-medium schools and colleges. English, first rejected as a colonial language on India's independence, survived and eventually thrived because it was the only unifying language given India's huge language diversity. And

unexpectedly for a Third World nation, India had an educational focus that pre-dated the British. The Hindu Brahmins, while only five percent of the population, have an intellectual tradition that goes back thousands of years. India has some of the oldest universities in the world. After independence, India's new government spent a disproportionately large amount of the educational budget on higher education rather than primary education. So India was well-positioned to generate English speaking engineers and graduates when demand emerged. Also, India's huge population has become a competitive advantage. India's services industry is important, not because a few engineers create a phenomenon a la Google, but because a single company like Infosys can hire twenty thousand new employees every year, or the industry as a whole can add 250,000 every year.

India has emerged as a global services provider mirroring China's emergence as a global manufacturing power. Now the question India faces is whether this export-led growth can create a more inclusive growth that will bring its uneducated millions into the twenty-first century as well.

Lucien: *Some economists complain that India's legal and political structure causes substantial difficulty for would-be entrepreneurs. Did you encounter significant externally imposed constraints in the early 1990s when you founded your company? If inordinate government-imposed constraints on business startups still exist, do they vary depending upon the type of business?*

Pradeep Singh: When I landed in Bangalore in 1994, it was the first time I was starting a business in India. I had been told that the government bureaucracy would be a major hurdle. As things turned out, starting a software company was substantially easier than had been rumored. We had to submit eighteen copies (yes, eighteen!) of a thirty-five page application, but there was a special "single window" clearance process for software services export companies that brought the various government departments (Labor, Power, Communications, Roads, Sewage, Police etc.) together in a single twenty-person committee. Thirty days after submitting the application, I was asked to present in front of this committee. It was a pleasant enough experience, but there was one stressful moment when a committee member questioned me on whether I was going to do most of my hiring locally. I had been cautioned that there was a government official whose niece wanted a job and that we may get some pressure in our application process. So when the question was raised, I was prepared to make a strong forceful response that I hoped would let all the officials know that we would not be bullied. My rehearsed response was simple: I didn't need to start my new business in Bangalore; and that I would go elsewhere if I didn't have the freedom to run the business in the way I thought appropriate. That outburst served us well—we acquired a reputation that we would resist corruption, and we have lived up to the "ethical" value in our value system ever since. We got off easy. We were a software services company.

Nandan Nilekani speaks to the relatively charmed existence enjoyed by the software services export companies in his book *Imagining*

India. When the industry began in the 80s, it was small and blessed with a few passionate bureaucrats in Delhi who enabled the favorable government policies—the single window clearance process described earlier and the tax-free status that (controversially) are examples—that continue today. The industry’s rapid growth (over thirty-five percent annually for fifteen years) and a very strong industry association (Nass-com) have enabled the software services industry to become powerful enough before the “permission givers” could figure out a way to get their pound of flesh.

It isn’t that simple if you’re starting any other business. If you need approval from ten to fifteen government departments, then that is the number of bureaucrats who have the power to stop or at least delay the process. This is the basis for India’s infamous “license raj”—every little thing requires approval from someone. Edward Luce, who for many years was India’s special correspondent for London’s *Financial Times* writes in his book, *In Spite of the Gods*, how the legal “licenses” for auto-rickshaws (small taxis) in Delhi is a small fraction of the numbers actually plying the streets. Everyone is aware that the number of legal licenses needs to be expanded many fold, but the powers-that-be prefer to keep it the way it is—and the poor minimum wage rickshaw driver is compelled to pay bribes to the local police.

Government interference and corruption still run deep. Politicians make infrastructure investment decisions like airports, highways, metros, and shopping malls based on where they own land. Bangalore’s new airport location was debated for years depending on who was running the state government. It has finally been built (quickly and efficiently by a private consortium) in a suboptimal location. Scandals abound around telecommunication licenses, government infrastructure contracts, and defense procurement contracts.

Many say that this is merely the cost of doing business in India. My view is harsher: not only does this unnecessary friction slow down investment decisions and create suboptimal outcomes, but it also saps the moral fiber of the country. It breeds a corrupt value system reflected in people’s relationships with their government, in taxes, and when they do business with each other.

Lucien: *Do you think that prospects for entrepreneurial ventures have changed since the 1990s? If so, how have they changed? What political or legal reforms would improve the climate for business startups in India?*

Pradeep Singh: India today is an exciting place for an entrepreneur. Opportunity abounds, entrepreneurs are heroes, and risk capital is easier to get. Yes, hurdles remain—government interference and permissions are still required and legal recourse is so slow that the rule of contract law is compromised. But India is still one of the most exciting places in the world for a start-up today—with its big, poorly served markets and a rapidly growing middle class that has a large appetite for goods and services.

In the late 80s and early 90s, entrepreneurs flourished by focusing on services export. That export industry created wealth and demand for products and services that has triggered the virtuous cycle of domestic-led growth. Today’s fortunes are being built by entrepreneurs who focus on local markets, whether it is modern retail, new schooling systems, or healthcare.

Poor infrastructure has, and continues to be, one of the primary hindrances. However, cellular phone technology has enabled the biggest infrastructural change that India has ever seen. In ten years, the

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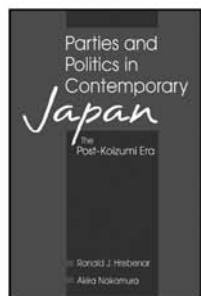
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number of telephones in India has gone from a mere ten million to 400 million. This has enabled huge gains in efficiency that have brought earning power to millions of ordinary people and improved their quality of life. It has enabled many small-scale entrepreneurs, including farmers and fishermen, to run their businesses more effectively by finding better prices.

Ongoing deregulation and lowered taxes have helped create the new face of India’s business, and it is likely that reform will continue. Slowly but surely, labyrinth rules that have been in place since the British ruled India in the eighteenth century are being changed. There is enough pressure from India’s business lobby that the government will to continue to reform.

Lucien: *By most accounts, since economic liberalization began in the late 1980s and early 1990s, the material quality of life for millions of Indians has substantially improved. What do you believe are the most critical obstacles to India’s further economic development that need to be addressed?*

Pradeep Singh: Even as I speak with optimism about India’s future, it is important to remember that while this is a country with promise, it is also one with severe deprivation. India has more people in poverty than anywhere else in the world, and for large parts of the nation, life has not changed for centuries. Infant mortality, absence of educational opportunity, non-existent healthcare, and lack of access to credit are everyday realities for hundreds of millions of people.

Enabling widespread literacy can make a vast difference to millions of people’s lives. It is the first step in lowering infant mortality and reducing birth rates while ensuring economic freedom, democracy, and efficacy. I am increasingly starting to get interested in technology, policy, and process solutions focused around education and literacy. I view it as India’s largest challenge over the next two decades. In Nilekani’s words, India’s youth can provide the nation “a demographic dividend” if educated, or be a source of severe unrest if uneducated and unemployed. Traditional brick and mortar solutions in terms of classrooms will be constrained by the amount of investment required, as well as the shortage of qualified teachers. Unorthodox solutions will be required.

India’s urban challenge is huge. Most of India’s growth is occurring in an urban context, and as huge cities emerge, the need for reliable infrastructure could be India’s Achilles heel. Sewage, public transport, and reliable power are all massive and rapidly growing needs. It has been argued that democracies cannot deliver this change as quickly as an authoritarian regime like Communist China. So far, the evidence supports that proposition, with New Delhi’s Metro being the exception that proves the rule.

Of course, traditional hurdles like the caste system remain. While rural India will continue to be plagued by this centuries old scourge, the caste system will crumble in the urban context. But the larger problem of inequality (caste, feudal, and now income and opportunity) will continue for the foreseeable future. This is scary—India has traditionally been less violent than other deprived societies, but growing awareness of inequality and breakdown of traditional ties could make India’s cities insecure like Mexico City or Rio.

Lucien: *Pradeep, thanks so much for illuminating our readers through this interview!* ■