



All signs point east:
Why China is optimized
to win the IT services race



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Abstract

Today, there is no question as to the viability and economic benefits of offshore software development and IT services outsourcing. To compete globally, virtually every technology company must, at a minimum, review their offshore options and evaluate costs versus benefits. In fact, International Data Corporation predicts that global offshore IT services outsourcing will grow to \$29.4 billion USD in worldwide customer spending by 2010.

India has been the most visible benefactor of this relatively recent boom. IBM alone, for example, plans to invest more than \$6 billion USD and hire more than 3,000 new employees in India over the next three years. With universities bursting at the seams in India's cities, there is a general perception that there are plenty of highly educated, skilled technology workers available.

Perceptions are often wrong. According to an October 17, 2006 New York Times article,¹ software exports from India expanded by 33 % in 2005. While India produces 215,000 engineering, computer science and information technology (IT) graduates per year, the same article raises serious questions about the competence of those engineers. In fact, a study commissioned by the National Association of Software and Service Companies (NASSCOM) found at most only one in four, and as few as one in ten engineering graduates to be employable.²

This "skills gap" has been driven by the limited availability of high-quality college education throughout India, and the fast growth of the Indian technology economy.

With high-quality universities concentrated in major cities, and much of the population too poor or distant to take advantage of those opportunities, finding new workers to continue its pace of growth will be one of India's greatest challenges.

Posing an even greater threat to India's continued pace of growth is a gap in its core structure — an "infrastructure gap."

In the Indian offshoring success story, Bangalore is the country's brightest star. The city contributes 38% of India's \$22 billion IT and software export market.³ As a result of this massive growth, Bangalore's infrastructure is stressed to near breaking, facing a crescendo of demands by resident IT companies for improvements, and a state bureaucracy whose electoral base

1. <http://www.nytimes.com/2006/10/17/world/asia/17india.html?pagewanted=1&ei=5087%0A&em&en=e9df231161fd1b76&ex=1161230400>

2. <http://www.ecommercetimes.com/story/53702.html>

3. <http://en.wikipedia.org/wiki/Bangalore>

is primarily rural and agricultural. Said President A.P.J. Abdul Kalam in a recent speech to legislators in Karnataka, where Bangalore is situated, "road capacity in Bangalore has reached a saturation point."⁴

Beyond Bangalore, especially in tier 2 and tier 3 cities, India faces massive problems in terms of poverty and literacy that will continue to distract the government away from developing the infrastructure required to meet IT industry demands.

Less than 7% of India's 430 million strong workforce is in the formal economy, and only 35 million pay income tax. The rest are most likely to be poor, providing rural agricultural and local services outside the purview of government. Of those 35 million taxpayers, the government employs 21 million. That leaves just 14 million in India's private sector, of which just one million are in IT.⁵

Once thought to be unshakable in its role as the leading offshore IT and software development services provider because of its low-cost structure and burgeoning population of educated technicians, engineers and administrators, India is now at risk.

China stands to be the most likely benefactor of this change. With its combination of a dispersed, highly literate population, better educational systems in both major urban centers and tier 2 and tier 3 cities, and a functional, fast growing infrastructure, China is poised to lure global software development and IT services customers away from India.

Innovative companies like Achievo are seizing this opportunity, leveraging the advantages of doing business in China by recruiting employees with the greatest potential, and motivating them to make a difference in the global economy through ongoing employee education programs, a culture that builds teamwork and commitment, and a business model that fosters a global perspective.

The education foundation: Creating a new generation of engineers

In India, just 61% of adults are literate, well behind other developing countries, and far from China's 91% adult literacy rate.

Historically, India has devoted equal resources to universities and primary education. This has resulted in a society with a highly educated elite, but a poorly educated majority.

4. The Hindu: <http://www.hindu.com/2005/11/21/stories/2005112112130100.htm>

5. <http://www.supplychain.cn/en/art/?1336>

China, by contrast, has invested much more heavily in elementary schooling, impacting every rung of the social ladder throughout the country. And while the populations of Beijing, Shanghai and other major Chinese cities continue to quickly grow, culturally, the Chinese in general prefer to remain closer to home.

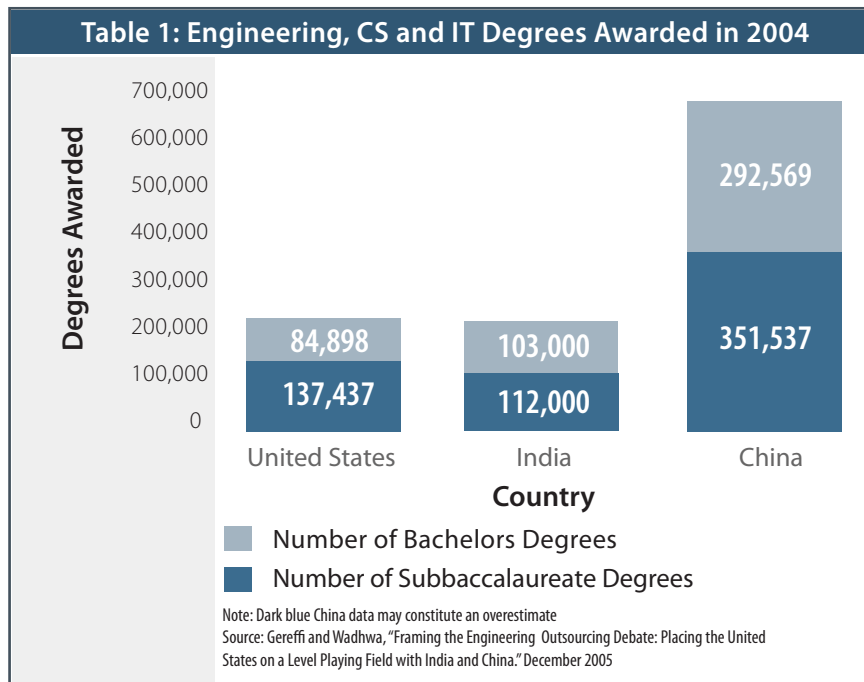
The Chinese government has responded by building highquality technical universities throughout the country, often in tier 2 and tier 3 cities. For the software and IT services industry, this translates into an opportunity to realize huge cost reductions, as tier 2 and tier 3 cities typically deliver savings of as much as 60% in comparison to tier 1 cities in China. These savings are due primarily to lower salaries, real estate costs, and cost of living.

Technical universities are typically at the center of the IT world in China. China’s IT executives, including several of Achievo China’s executives, are typically alumni of prestigious Chinese universities. And more and more companies are locating their offices close to college campuses, as Achievo has done, to fulfill their human resources and research and development requirements.

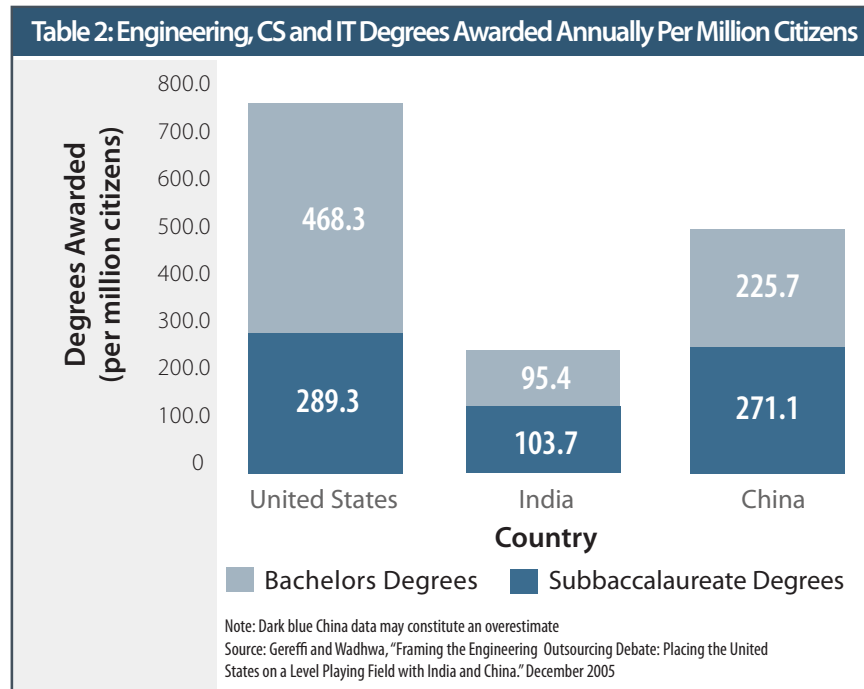
Numbers alone don’t tell the whole story

The synergistic relationships that are developing between companies in China and their local universities are producing stronger graduates, better job opportunities for those graduates, and a growing pool of viable, local talent throughout China. But there’s more to the story.

China leads both India and the United States combined in the number of engineering, computer science and IT degrees it awards, with more than 640,000 graduates in 2004 (Table 1).



This surge in trained technical graduates is helping China build the vibrant workforce it needs to meet growing demand. While the United States is still the leader in producing engineers per capita, Table 2 illustrates that China awards nearly 2.5 more degrees per million citizens than India. For every one million citizens, China graduates roughly 750 technology specialists, while India graduates just 200.



Certainly, there is no hiding the fact that, as a recent McKinsey study found, only a small percentage of both India's and China's graduates are considered sufficiently competent to compete in the global outsourcing arena.⁷ But China's higher literacy rate and burgeoning middle class are the hallmarks of a population that is increasingly motivated toward personal, professional and economic growth, and ready to learn the skills that are necessary to join the global workforce.

Ongoing education: Mission critical

Today, China has a significant lead over India in headcount of graduating engineers who are sufficiently educated and trained to join the global workforce.

But are sheer numbers really enough to effectively compete? With a more highly developed overall infrastructure throughout the country, as presented in the next section, and an institutional commitment to becoming a force in the global economy, China is also in a better position than India to support and develop those graduates who need further education and training.

7. Source: Gereffi and Wadhwa, "Framing the Engineering Outsourcing debate: Placing the United States on a Level Playing Field with India and China," December 2005

Both Microsoft and IBM have seen the writing on the wall: IBM recently signed deals to train 100,000 software specialists in China over the next three years, and Microsoft is spending \$750 million USD to build a technology center there.

Achievo, with its local front-end, China backend software and IT outsourcing business model, takes a unique approach toward ensuring excellence in both the skills of its employees, and the products and services it delivers to its clients, by staking a firm commitment to continuous, ongoing employee education. Achievo has recognized that this is vital to meet its customers' growing needs and to compete globally. To that end, Achievo University was created.

Achievo University: Filling the gaps

Like most technical training programs for employees, Achievo University addresses the changing technologies that are an everyday part of the company's IT and software development services portfolio. Achievo University's Technology School, for example, provides in-depth, ongoing education in current technologies, and training in new and emerging technologies.

But as part of its successful business model, Achievo has taken ongoing education in China much further. Looking beyond core technical skills, Achievo University's goals include developing stronger managers from within the company, and of equal importance, more competent, satisfied and well-informed employees.

Achievo University's Process School provides in-depth training in the company's proprietary Achievo Development Process (ADP), the software development lifecycle process, CMMI software development standards, and company policies. Achievo University's Business School teaches project management, cross-cultural communication, professional conduct and customer relations.

An existing large English-speaking population is clearly India's greatest competitive advantage over China. Recognizing that English is the global language of business, China's schools and universities have made English language training a major focus. In fact, Azim Premji, chairman of India-based Wipro, told a Federation of Indian Chambers of Commerce and Industry session that China would likely overcome its lack of English proficiency within the next five to ten years.⁸

Mr. Premji is correct. And Achievo has become a recognized leader in this area by helping its employees in China become English-proficient.

8. <http://www.hindu.com/thehindu/holnus/002200504041653.htm>

An overwhelming majority of Achievo's Chinese employees take ongoing English language courses at Achievo University, and English language and cultural clubs are extremely popular with Achievo's employees in China. English is also the corporate language in all of Achievo's global offices.

**China's aggressive development:
India's infrastructure gap**

India's per capita gross domestic product (GDP) stands at just over \$700 USD, compared to China's \$1,700 USD.⁹

In 2005 and 2006, China received \$60.3 billion USD in foreign direct investment, more than ten times that of India. "Part of the reason India hasn't attracted so much investment in manufacturing is the infrastructure is poor," said Robert Prio-Wandeforde, an economist at HSBC in Singapore. "India has infrastructure challenges, to put it mildly." India can also be incredibly slow to approve projects.¹⁰

This ongoing inflow of foreign capital drives the development of China's infrastructure to support manufacturing and its fast growing services sector. In turn, these businesses are finding dependable power and other utilities, high-speed data connections and modern networks already in place.

Another distinct advantage China has over India in this area is the dispersed nature of China's growing infrastructure. India remains a largely rural country, with the educated middle and upper classes concentrated in large urban areas like Bangalore and Delhi. China's educated population, on the other hand, can be found in small and large cities across its vast landscape.

In preparation for the 2008 Summer Olympics, China has for years been in a highly visible, massive development mode.

But the country has had a broader focus, making infrastructure investments in tier 2 and tier 3 cities as well, creating opportunities closer to where much of its workforce resides. These tier 2 and tier 3 cities typically have a well-established road structure, airports and utilities.

Of greater importance to those who buy IT and software services from China is the fact that as much as 60% in cost savings relative to tier 1 cities can be realized by working in tier 2 and tier 3 cities. Given that doing business in China's tier 1 cities is already much lower than most locations around the world, this is a key driver in the spread of software development and IT services businesses throughout China.

9. <http://www.supplychain.cn/en/art/?1336>

10. "India still far from challenging China" - <http://www.supplychain.cn/en/art/?1224>

Now, even the Indian IT services giants are looking east. Infosys announced in 2005 that it plans to hire 6,000 engineers in China, and is building software development centers in Shanghai and Hangzhou. Satyam is setting up operations in Guangzhou, and also plans a large software development campus in one of China's tier 2 cities. And Wipro has firmed up plans to set up its third China development center.

No substitute for experience:

Filling the leadership gap

Because India's software and IT industries have been around years longer than China's, China is playing "catch-up" in terms of seasoned leadership and highly evolved project management skills.

While Achievo, like most software and IT services providers in China, is committed to growing these skills from within its team as evidenced by Achievo University, today's customers demand efficient services from their vendors to meet established productivity and quality expectations, and have little patience for less than stellar execution.

Achievo's unique business model exemplifies one way to solve this problem. A U.S. company, Achievo's American management team has an extensive history of successfully producing complex software and delivering world class IT services. Achievo's offices in China are led by some of its senior-most executives from the U.S. and other global offices.

With highly skilled and experienced local leadership, critical skills are efficiently and effectively passed on to the local team. In turn, those within the organization who have the desire, capabilities and willingness to learn and grow are finding significant opportunities for leadership roles as they become skilled at project and people management.

Filling this leadership gap enables Achievo to continue to quickly scale up operations in China, and has proven to be a key differentiator when customers compare Achievo with competitive outsource software and IT services providers.

The experience gap:

Recruiting and retention

Certainly, when it comes to the delivery of software development and IT services, the more experienced and educated the team, the better the result. With more and more technology companies competing for employees in China, finding and keeping talent is also critical to success.

Achievo's business model has taken this into account by focusing significant corporate resources on recruiting in China to support the company's fast growth. Senior Achievo executives in charge of recruiting in China come from within the Chinese business community and throughout Asia, Europe and North America. This team employs a wide variety of techniques to attract, identify and filter candidates. Among the most successful of these techniques is Achievo's development of synergistic relationships with universities throughout China.

By working closely with these schools, Achievo has developed a tremendous resource for finding the best and brightest graduates entering the job market.

Companies like Achievo recognize that competitive compensation, good benefits and career advancement opportunities attract good people. Achievo has also found success in retaining its best people through an American management style in its offices in China that fosters openness, teamwork and communication in the work environment. The company also hosts numerous clubs in its China offices. While not directly related to the work environment, Achievo has found these clubs also build teamwork and positive attitudes.

Combining recruitment best practices with an innovative business model that includes Achievo's career development, professional development, and overseas working and training opportunities, the company has found a way to scale quickly while providing reliable, high quality services.

Summary

The increasing availability of qualified, trained, English-speaking engineers throughout China is the first step in the country's advancement toward overtaking India as the leading global software development and IT services provider.

With substantial and growing concentrations of engineers in its major cities, and a large and growing pool of trained engineering, computer science and IT graduates, China has a talent pool that will scale to meet growing global demand.

Further, China's more highly evolved and growing infrastructure, fueled by massive foreign and domestic investment, ensures that this expanding cohort of trained professionals will have the resources, devices and technologies necessary for sustained growth.

Companies like Achievo are building on this solid foundation by providing continuing education, competitive compensation, challenging work, sound leadership, expansive opportunities, and a collaborative work environment to create a stable, highly effective workforce in China.

To foster a secure business environment and attract more technology companies, China has also strengthened its legal framework and amended its intellectual property rights laws and regulations to comply with the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). As a result, China is realizing improved, formal legal protection for intellectual property rights, a critical step for protecting key technology business assets.

When these factors are taken together, it is clear that China is poised to surpass India in the future as the leader in global technology outsourcing.

About Achievo corporation

Achievo Corporation is a leading provider of software outsourcing and information technology services to a global client base primarily through its regional offices in Japan, North America, Europe and Greater China. All seven of Achievo's delivery centers in Asia are ISO/IEC 27001:2005 certified, of which two are also ISO 9001:2000 certified and another is CMMI level 5 certified. In addition, Achievo's facilities in Germany are ISO 9001:2000 certified. With expertise in diverse technologies including Java/J2EE, .NET and embedded platforms, Achievo offers improved efficiencies, scale, diversification, and a skilled talent pool to deliver cost-effective, client-centric, and scalable IT outsourcing services to clients worldwide. Headquartered in the San Francisco Bay Area, Achievo has offices in the United States, Canada, Germany, China and Japan. For information on the company and its services, visit <http://www.achievo.com>