IT IN INDIA AND CHINA

The Third Industrial Revolution

Hand-in-hand with the digitalization of services, offshoring is transforming the economy to such an extent that there is now talk of a new industrial revolution. And its indisputable stars are China and India.

One of the major boons of globalization is that it allows companies greater freedom in their productive processes. The possibility of moving their industrial structures to one country or another, coupled with the quest for greater economic efficiency, has unleashed an offshoring process. The concept of offshoring encompasses three very different models: the transfer of production to subsidiaries in other regions in the world, outsourcing production, and subcontracting other companies to do a given job, the latter two either in the same country or abroad.

The new offshoring

Until recently, offshoring had mainly affected the low-level manufacturing industry. Nowadays it is a different story. Any service that can be digitalized, that is, transformed into zeros and ones, can be outsourced. This new offshoring, the outsourcing of services, is even more surprising as it has reached services of a surprisingly high level, such as IT, accounting, financial engineering, and pharmaceutical R&D. The fact that today companies have to face international competition has enhanced their efficiency. Companies likeAccenture, IBM, Eli Lilly, Cisco Systems, Boeing, Citigroup, Airbus, and Morgan Stanley are on the verge of launching this second wave of offshoring.

A blossoming revolution

Offshoring translates into more efficient production, and it thus exerts positive effects on companies not just in developed countries but also in China and India, the two largest targets of Western investment.

Alan Blinder, former vice president of the U.S. Federal Reserve, has described the offshoring process as the “third industrial revolution.” According to Blinder, this revolution will have a major impact on the U.S. industrial sector within the next two decades, with the transfer abroad of 28 to 40 million jobs. If we bear in mind that the manufacturing sector in the U.S. currently employs at least 40 million people, his prognosis is mind-boggling. Blinder wanted to coin the
term “third industrial revolution” to highlight the fact that offshoring is causing profound changes in the structure of the economic and social systems in 21st century cultures. These transformations are materializing in the ownership and structure of companies, how work is organized, and labor relations. Yet they also affect our way of life, where we decide to live and how we educate our children.

IT: India and China in the spotlight

In this issue we shall analyze what is happening with technological outsourcing in India and China. Although the former is attracting the lion’s share of both IT and technological services, China’s vast potential is just waiting to burst. Both countries, which follow divergent models of growth, offer Western companies not just significant cost savings but also an enormous pool of talent and the possibility of focusing on quality, a key factor that until now seemed to have been relegated to secondary status. In the case of China, we should also bear in mind the increasing demand for technology products from its burgeoning middle class. Not only have the large multinationals managed to see the advantages of technology outsourcing in these two Asian powers: as shown by the case of Spain, albeit at more modest levels, SME’s are increasingly venturing to explore this route, especially in India.

Among the top three in the world

China and India’s economic growth is the most important event of this century. As a result of their impact, the world economy is in the midst of a transition in terms of both demographics and productivity. Western companies cannot remain aloof from this transformation.

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In the IT Sector, India and China offer Western companies not just significant cost savings but also an enormous pool of talent and the possibility of focusing on quality.
An Opportunity Called India

Last year, the IT sector in India once again amazed the world with its dynamism. This is a tempting scenario indeed for Western companies; however, they should be cognizant of the challenges posed by offshoring their processes in this country.

For yet another year, India has consolidated its leadership in the IT sector in Asia. The figures speak for themselves. Last fiscal year, the sector once again beat its own record, with 28 percent growth. Of the $36.3 billion in total revenues, $23.4 billion (64 percent) came from exports. The forecast for this fiscal year is even more promising: growth is slated to surpass 30 percent. The dynamizing effect of this sector is clear: it employed 1.3 million people in direct jobs and another 3 million in indirect jobs.

An expanding sector

The leading quoted companies, such as TCS, Infosys, Wipro, and Satyam, recorded an average 36 percent rise in turnover, while the Indian operations of multinationals like IBM Global Services, Accenture, and others announced meteoric business growth, clearly seen by a 30 percent increase in staff. As an example, Accenture now has more employees in India than in the United States. Stakeholders in the sector believe that the goal of $60 billion in exports by 2010 will be reached much sooner. The large Indian companies keep diversifying their markets, as they want to be present in non-English speaking countries. Even though they have set up distribution centers in the United States, they are starting to inundate China in the quest for engineering and design; South Africa to take out insurance policies; and even Eastern Europe and Mexico. Companies from all over the developed world are arriving in India seeking its software know-how, encouraged by the country’s favorable legal climate and export incentives.

Europe, the laggard

Europe is the destination for a scant 23 percent of the exports from the Indian IT services sector, while America accounts for 68 percent of these exports. Within Europe, the United Kingdom receives 15 percent, which means that the share of the continental European markets is paltry. Given the fact that offshoring activities in certain European countries is on the rise, the conclusion is that it is aimed at countries other than India. In 2004, companies from the United Kingdom, Germany, and Benelux monopolized 90 percent of the service-oriented jobs offshored to other countries. The offshoring of companies in southern Europe remains minimal compared to their investment in IT.

The cultural barrier

Experts in the Indian IT sector calculate that Spanish companies are lagging three to four years behind the United Kingdom, and two to three years behind Germany, Benelux, and Switzerland. Linguistic and cultural factors largely account for delay, as Indian companies set English-speaking markets as their main target, and only later did they create the capacities needed to serve German-speaking markets. Now they are aggressively beginning to develop their capacities for Spanish-speaking markets. Gabriel Rozman, vice president to TCS Latin America, estimated that the company reached 4,000 employees in Latin America by the end of last year. Another reason is that Spanish companies have reached Asia late in the game, especially India, a delay that has contributed to a lack of understanding of the region and its potential.

An impeccable pedigree

Regardless of whether they are from Spain or the rest of Europe, companies whose main business processes are based on IT should think about the role India plays in this sector worldwide. If the United States is still ahead of Europe and the rest of the world in terms of ICT (information and communication technologies), it is largely due to its ability to more successfully leverage India’s IT resources and capacities. No European executive in charge of IT can afford to
Cost savings is just one of the plethora of advantages of offshoring IT processes to India. Others include its companies’ emphasis on processes, their high level of quality, the abundance of talent and their solid experience in a broad range of sectors.

Working with Indian teams either within the company or via outsourcing will necessitate a substantial change in organizational culture in the guise of a heavier orientation towards processes.

One initial, low-risk option would be to outsource a well-defined, reasonably sized pilot project. If the operation is successful, companies can then consider more complex models, such as setting up dedicated centers in India.

Advantages beyond just cost

Cost savings is just one of the plethora of advantages of offshoring IT processes to India. Others include its companies’ emphasis on processes, their high level of quality, the abundance of talent and their solid experience in a broad range of sectors, ranging from banking to financial services, insurance, retail distribution, and industry. Companies such as TCS and Infosys received more than 1 million job applications last year, only 1 percent of which actually materialized into hires. It should come as no surprise that with such a strict recruiting policy, the quality of job seekers in the Indian IT sector is exceptional.

Cultural challenges

Before venturing into India, we should bear in mind that only processes can be transferred there, not activities on an ad hoc basis. This is a very important detail, as process-orientation is not one of the strongest points in southern European or Latin America companies. For this reason, working with Indian teams either within the company or via outsourcing will necessitate a substantial change in organizational culture in the guise of a heavier orientation towards processes. This adaptation will not take place overnight, so companies should set realistic profit targets.

Finally, companies have to consider the most suitable offshoring model. There are several different possibilities, ranging from captive offshoring (such as the operations of Nokia, Dell, and Alcatel) to the outsourcing of processes to a specialized partner, the model chosen by the vast majority of companies, and finally hybrid models.

Sales in the Indian IT Sector, 2004–2006

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<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006 (estimated)</th>
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<tbody>
<tr>
<td><strong>IT services</strong></td>
<td></td>
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<tr>
<td>IT services</td>
<td>10.4</td>
<td>13.5</td>
<td>17.5</td>
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<tr>
<td>Exports</td>
<td>7.3</td>
<td>10.0</td>
<td>13.2</td>
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<td>Domestic market</td>
<td>3.1</td>
<td>3.5</td>
<td>4.3</td>
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<td>IT enabled services</td>
<td>3.4</td>
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<td>IT enabled services</td>
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<td>IT enabled services (ITES)- Outsourced processes</td>
<td>3.4</td>
<td>5.2</td>
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<tr>
<td>Exports</td>
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<td>4.6</td>
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<tr>
<td>Domestic market</td>
<td>0.3</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Engineering and R&amp;D services, software products</td>
<td>2.9</td>
<td>3.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Exports</td>
<td>2.5</td>
<td>3.1</td>
<td>3.9</td>
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<tr>
<td>Domestic market</td>
<td>0.4</td>
<td>0.7</td>
<td>0.9</td>
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<tr>
<td>Total turnover for software and services</td>
<td>16.7</td>
<td>22.6</td>
<td>29.5</td>
</tr>
<tr>
<td>Percentage corresponding to exports</td>
<td>12.9</td>
<td>17.7</td>
<td>23.4</td>
</tr>
<tr>
<td>Hardware</td>
<td>5.0</td>
<td>5.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Total in the IT sector (hardware included)</td>
<td>21.6</td>
<td>28.4</td>
<td>36.3</td>
</tr>
</tbody>
</table>

Note: Figures are rounded up.
Source: Nasscom.
Next Stop: China

China offers a huge pool of talent in the IT sector that should not be ignored. Nor should companies pass up the business opportunity posed by its increasing demand for high quality products and services.

Executives in Western companies tend to view China as an offshoring destination to manufacture their products or for services operations. Yet they should not lose sight of the increasing demand for quality products and services within the Chinese economy. This demand is growing at an average rate of 10 percent per year, a pace that would be unimaginable in developed countries. The majority of foreign companies purveying consumer goods have managed to position their products in the segment with the highest purchasing power in the Chinese market, which accounts for only 10 percent of all consumers. This is also a business opportunity for services and industry, including hotels, hospitals, and IT service providers. The quality offered by local suppliers is not on par with Western levels, so companies can rush to fill this void and make a handsome profit while doing so.

The largest pool of talent

In the case of IT, regardless of whether the goal in China is to offshore operations or to start up a business to cover the increasing demand, Western companies can squeeze the most from the largest pool of talent on the planet. In 2006, more than 4 million students graduated from Chinese universities, a huge mass of graduates that the job market cannot possibly absorb. This is a new situation in a country where until very recently graduates jumped from job to job in a matter of a few weeks. There are two reasons for this irregularity. First, it is an excessive figure even for the Chinese economy. Secondly, recent graduates’ tendency to look for jobs only in Beijing, Shanghai, and Guangzhou only serves to further aggravate the problem.

What is surprising is that the unemployment rate in the large cities remains within the range of full employment (around 4.2 percent), which reveals that the surplus of university graduates are working at jobs for which they are overqualified. However, this underemployment and the consequent low salaries are actually advantageous for Western companies, as they have a huge pool of cheap, qualified labor. Even though Chinese university graduates’ level of knowledge is below that of their European or U.S. counterparts, the low salaries allow several qualified workers to be hired instead of just one, at a cost that is still lower in comparison.

Quick learning and flexibility

On the flip side of the coin, the lower level of knowledge among Chinese university graduates is easily reversible in the short term. Some companies claim that the learning curve is quite high. If the sequences of jobs new hires are assigned is well thought out beforehand, Chinese graduates can quickly reach a productivity level close to their Western counterparts. The inexperience of the graduates also has another positive facet: the majority comes directly from the universities, so they have not had the time to pick up the poor operational habits that Western companies tend to suffer from. Chinese workers’ flexibility and adaptability is another point in their favor. Plus, spurred on by stiff competition, the most qualified will further their studies with master’s and doctoral programs abroad.

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Accomplish Wonders in India and China

Before venturing into technological outsourcing, first find out what the pioneers have done and what they recommend.

**INDIA**

India is the largest destination for outsourcing worldwide: the country is home to almost 70 percent of IT off shoring and almost half the outsourcing of processes.

**When facing risks, have a strategy**

Large Spanish technology companies such as Indra and Abengoa, but also SME’s like Bankoi, Gorlan Team, inQAlabs, Avisor, and Lantek, either have set up shop in India or are looking for local partners to sell and develop their technology in Asian countries. The success of Spanish high-tech SME’s in India is proven by the speed with which they have managed to lay down roots, just a year and a half on average compared to seven and a half years for the textile industry. The steps to follow are:

1. **Define the goal of the operation beforehand:** just to develop technology in India, or to sell it there as well.

2. **Explore the country and its market.** Travel to India, dig for in-depth knowledge on its technology sector, seek advice, visit local companies, and get an on-the-ground sense of any potential problems. The cities that are the most highly recommended due to their concentration of technology companies and their pool of talent are Bangalore, Bombay and Pune.

3. **Study whether it would be wiser to create a subsidiary or seek a local partner to set up a joint venture.** During this decade, subsidiaries with 100 percent Spanish capital are beginning to be more numerous than joint ventures due to more flexible legislation and a greater need for control.


**CHINA**

For 2006, Gartner Dataquest predicted a turnover of $8.8 billion for IT services in China, which means an annual growth rate of 19.6 percent. The majority of large technology companies are moving at least part of their production there. IBM already has several development centers in the country, as well as one center to coordinate outsourcing in Asia and a research centre.

**A fragmented sector**

In Shenzhen, an emerging high tech segment is being created in the heat of the stock exchange in this city, which has a technology index and is the second largest after Shanghai. Companies tend to be located on the eastern seaboard; this is the region with the most technology companies, plus it boasts the most highly qualified technical staff. The location is also dependent on the population’s restrictions on internal mobility.

**Six golden rules**

1. **Be flexible and diversify your suppliers.**

2. **Forge associations with privatized state-owned companies.**

3. **Do not only seek low costs when choosing a province or city.** Also bear in mind government incentives, reliability, distribution speed, and suitable infrastructures.

4. **Use your suppliers to gain access to the Chinese market.**

5. **Try to understand the cultural differences:** you have to be patient and flexible in order to handle a society in which decisions have traditionally been based on power and relationships.

6. **Pay attention to changes in regulations and technology standards, and adapt your strategy accordingly.**

Sources: The Outsourcing Institute; Chinese Ministry of Trade; CIO

**Spotlight on quality**

Although the main reason why technology companies set up shop in India and China is to save on costs, some companies have realized that quality is what should come first. For this reason, they end up making concessions on cost and responsibility, such as by hiring local project leaders in China – to avoid translation problems – and adopting more suitable knowledge transfer practices and management models.

**The role of the local partner**

When there is a local partner, to ensure that outsourcing is successful Western companies should view the partner as such and not as just another vendor. Key requirements are a type of management in which both sides participate, coupled with a structure oriented towards cooperation.

Sources: The Outsourcing Institute; Chinese Ministry of Trade; CIO
Once you have decided to develop a strategy in Asia, which should you choose: China or India? Both countries pursue different political and economic lines, so some companies have decided that instead of choosing, they will set up shop in both countries, which is known as “Chindia.” As it is by no means clear which one will be the winner, or even whether there will be a winner, opting for both countries seems to be a sound strategy in which the risk is shared.

India has the language advantage, since many Indians speak fluent English. However, China is experiencing swifter growth, plus it has better infrastructures and more outside support.

A common advantage: Economic development before anything else

Both countries place economic development far above their other priorities. In 2006, their leaders decided to set the goal of doubling the trade exchanges between the two countries in order to reach $400 billion by 2010. This agreement illustrates a much higher level of pragmatism than most countries in the world, which is even more exceptional if we bear in mind that the pact was signed between the two most populous countries in the world. The result of this trade opening can already be seen: the largest companies in each country are losing no time in taking up their positions in the other country’s market. For example, the Chinese company Haier is already one of the most important washing machine purveyors in India. Meanwhile, Tata Consultancy Services has set up a joint venture with the National Reform and Development Commission, a governmental agency, and Microsoft to develop IT in China, where it expects to have around 5,000 employees in the near future.

Different degrees of development

The development in these two countries is quite distinct. China has made serious efforts to build and update its basic infrastructures, ranging from highways to telecommunications networks. In contrast, India’s inroads in these realms are more sluggish. These differences have a political explanation: while the Chinese authoritarian regime does whatever it pleases, whether it be planning highways, ports, and industrial estates or demolishing old neighborhoods to build new developments, politicians in democratic India are beholden to their voters, so they must also take other social priorities into account as well.

Industry versus services

In the past ten years, China has become an industrial behemoth focusing on production, while India has made a name for itself in IT exports and services. China’s volume of product exports is twenty times higher than India’s volume of IT exports and services.

Adopting technology

China and India are the two markets experiencing the steepest growth in technological expansion. Between the two, there are over 12 million new telephone systems installed per month. The number of private Internet service subscribers in China exceeded that in the United States in 2005, and it is now close to being twice the figure. In contrast, Internet growth in India is much more modest. In terms of mobile telephones, the total number of users in China is now twice that in the United States. India, though lagging far behind, is rapidly catching up.

Perception: India is winning

In the technology and IT race, the majority of Western business leaders point out that India is better positioned than China. Nevertheless, this perception may well be due to the fact that China is not as well known, that it is more difficult to communicate with potential Chinese partners, and that the country’s business culture is so different from the West.
A new format for the publication *Notes on Globalization and Strategy* is being launched. Starting with this issue, there is a new section entitled “The Center Reports,” which aims to tell readers about the latest events held at the Anselmo Rubiralta Center for Globalization and Strategy.

You can now receive *Notes on Globalization and Strategy* electronically. We encourage you to subscribe for free at www.iese.edu/globalcenter.

In addition, to facilitate contact with our readers, we have created a mailbox where we invite you to send your opinions. Write to: globalcenter@iese.edu.

**Visitors**

Arie Lewin, director of the CIBER research center at Fuqua School of Business, Duke University, United States, is making several brief stays at the center during the 2007 academic year. Professor Lewin is the lead researcher of the Offshoring Research Network project, and he is working in conjunction with Joan Enric Ricart, associate professor of the project in Spain.

Dirk Müller, doctoral research at the Christian-Albrechts-University in Kiel, Germany, spent two months at the Center, from February to April. His research centered on how companies in the new technologies sector manage strategic alliances with their competitors.

**Center Projects**

Foreign direct investment: Models of decision-making is one of the research projects being coordinated by professor África Ariño with the help of research assistant Klaudia Vozila.

This study analyses the decision-making criteria used by top executives when they have to choose whether or not to involve their companies in an FDI. The research is being carried out in the United States and Europe and the information is being gathered by means of a questionnaire. The executives participating in the study will receive a summary of their decision-making model, comparing it with the aggregate results.

For further information, or if you wish to participate, please contact Klaudia Vozila: FDIstudy@iese.edu.

**New staff members**

Pankaj Ghemawat

Professor of General Management, IESE. He has been a professor at Harvard Business School since 1983. Currently, his research and teaching interests focus on the dynamics of globalization and how companies can create effective internationalization strategies.

**Recent publications**

Joan Enric Ricart and Izabela Kordecka adapted the acclaimed book *From Local Champions to Global Masters: A Strategic Perspective on Managing Internationalization* to the Spanish setting, untitled “De campeones locales a líderes globales. Una perspectiva estratégica de la gestión internacional.” The book was published by Gestión 2000 in June 2007, and it aims to be a practical guide to the internationalization process.

África Ariño and Jeffrey J. Reuer analyzed the heterogeneity of alliance contracts in their article entitled “Strategic Alliance Contracts: Dimensions and Determinants of Contractual Complexity,” published in the academic journal *Strategic Management Journal* in March 2007.