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# Offshoring and beyond

Cheap labor is the beginning, not the end.

**VIVEK AGRAWAL, DIANA FARRELL, AND JAANA K. REMES**

*The McKinsey Quarterly, 2003 Number 4 Global directions*

The enticement to companies of a worker who earns \$2 an hour in India as against ten times that amount for a worker in the United States is obvious. For years, such wage differentials have attracted leading manufacturing companies to low-wage nations. More recently, businesses of all kinds have also exported back-office functions such as data entry, payroll processing, and call centers. Business-process offshoring is all the rage, and the hundreds of companies that have taken this route often cut their costs by as much as half.

Yet as impressive as these achievements may appear, new research by the McKinsey Global Institute (MGI) finds that companies are leaving billions of dollars in savings behind when they offshore back-office functions and service jobs.<sup>1</sup> Such companies are merely replicating what they do at home, where labor is expensive and capital is relatively cheap, in countries in which the reverse is true. What is needed? Nothing less than a total transformation of business processes to harness the new environment's potential. And by undertaking such a transformation, many companies will find that the resulting lower cost structure releases massive new revenue opportunities even more valuable than the savings.

## HALFWAY TO GLOBAL

The first wave of globalization began a hundred or more years ago, when companies were lured abroad by the prospect of new markets. Even today, we estimate, the age-old motivation of reaching vast new customer pools explains perhaps 80 percent of cross-border investments. Many of them, such as Wal-Mart Stores' operations in Mexico and HSBC's in Malaysia, are in service sectors that require a local presence by definition. Others are in industries such as automotive, in which high tariffs and other trade barriers effectively force foreign companies to set up shop locally if they want to do business.

Despite the fits and starts of progress in world trade talks, the policy barriers that limit foreign investment and trade have fallen significantly over the past ten years. The result has been a second wave of globalization, in which companies from North America, Europe, and Japan build plants in low-wage countries to take advantage of enormous wage differentials and then export the finished goods back to the home market. These companies have substantially cut their costs for a variety of products, particularly labor-intensive ones such as textiles and toys, even taking into account the extra expense of transportation and overseas management and training.

Companies in a few industries have gone further, specializing in component production and final assembly in the countries or regions with the strongest comparative advantage. Nowhere is this third wave of globalization more evident than in consumer electronics (see sidebar, "[How far can it go?](#)"). Business-process offshoring, made possible by the dramatic fall in telecommunications costs and the ability to transform paper-based activities into digital ones requiring only a telephone and a computer, is just the next logical step. A broad range of service jobs and back-office functions can now be performed remotely in India, for example, or in the Philippines. Low-skill work such as data entry and transaction processing, real-time customer support, and research services are obvious candidates. But even high-skill activities such as customized software development, the design of automotive and aerospace components (CAD/CAM), and pharmaceutical research are increasingly undertaken outside the United States.

Many of the jobs sent offshore may be considered undesirable and lacking in prestige in developed countries yet are highly attractive in developing ones. So offshore workers not only cost far less but also are often more highly motivated, which means that they perform better. One British bank's call-center agents in India, for instance, process 20 percent more transactions, with 3 percent more accuracy, than their counterparts do in the United Kingdom. Some companies set up their own

"captive" operations in offshore locations to take advantage of these benefits, while others outsource to local companies, particularly in India.

Companies in the United States and Britain account for roughly 70 percent of the business-process-offshoring market. Relatively liberal employment and labor laws give such companies flexibility in reassigning their activities and eliminating jobs, and they can take advantage of the sizable English-speaking populations in many low-wage countries, such as India, Ireland, the Philippines, and South Africa. With a shared language, errors are far less likely and functions that require voice interaction or text-based work are straightforward. The opportunities for Continental European and Japanese companies are thus more limited.

Business-process offshoring is still a nascent industry. By our estimates, in 2002 it was worth \$32 billion to \$35 billion, just 1 percent of the \$3 trillion worth of business functions that could be performed remotely. Because of the significant benefits already being realized through offshoring, the market is projected to grow by 30 to 40 percent annually over the next five years.<sup>2</sup> This prospect may cause consternation over job losses in the United States (see Vivek Agrawal and Diana Farrell, "Who wins in offshoring," *The McKinsey Quarterly*, 2003 Number 4 Global directions, pp. 36–41), but it will make offshoring an industry with well over \$100 billion in annual revenues by 2008.

## GETTING MORE FROM OFFSHORING

Merely replicating processes developed at home, however, is not the way to realize offshoring's full potential. Wages represent 70 percent of call-center costs in the United States, for instance, so these operations are designed to minimize labor by using all available technology. But in low-wage India, that makes little sense, since wages represent only 30 percent of costs, and capital equipment (to provide telecom bandwidth, for example) is often more expensive than it is at home. The way to reduce the cost of offshore operations even further (Exhibit 1) is to reorganize and reengineer operations to take full advantage of these differences. In a low-wage country, the capital infrastructure—including office space, telecommunications lines, and computer hardware and software—should be used as intensively as possible. For a call center, this approach can reduce costs by an additional 30 to 40 percent, boosting total savings to as much as 70 percent of the cost of onshore operations (Exhibit 2). The potential value for other offshored functions, like data entry, payroll processing, and financial accounting, is similar.

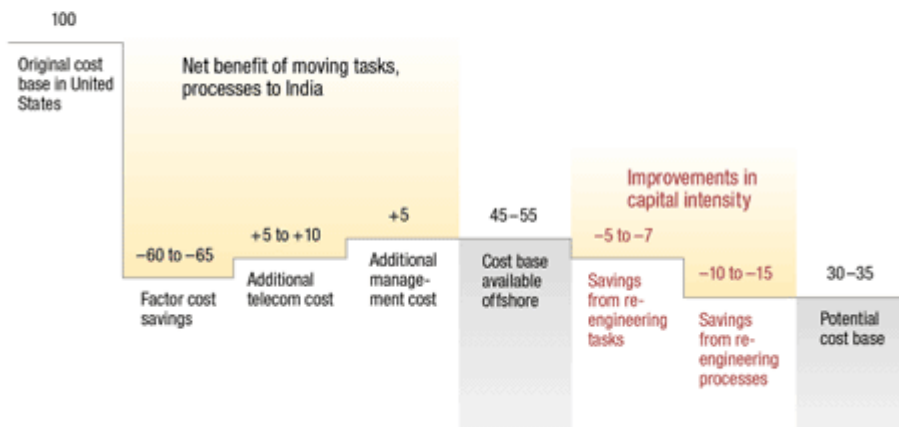
EXHIBIT 1

### Pushing the envelope

Current business practices		Recent and ongoing innovations		
Degree of global operations				
Low		High		
<p><b>1 Enter new markets</b></p> <p>Companies enter new countries to expand consumer base; use production model similar to one used at home in foreign country</p>	<p><b>2 Move production abroad</b></p> <p>Entire production process (components to final assembly) is relocated to take advantage of different factor costs or natural advantages; export finished goods globally</p>	<p><b>3 Disaggregate value chain</b></p> <p>Components of product (such as PC hard drives) are manufactured in different locations/regions; countries may specialize in component manufacturing, in assembly, or in both</p>	<p><b>4 Reengineer value chain</b></p> <p>Tasks and processes are redesigned to maximize efficiency and cost savings—for example, auto OEM uses manual labor in place of robots for body welding to take advantage of capital/labor trade-off</p>	<p><b>5 Create new markets</b></p> <p>By capturing full value of global activities, companies can offer new products at significantly lower prices and penetrate new market segments, geographies, or both</p>

**Capital intensity is the key**

Economics for typical offshore call center in India; index: original cost base in United States = 100



Companies can boost their capital productivity in low-wage environments in three ways:

- Round-the-clock shifts.** The most obvious way to use the capital infrastructure more intensively is to run round-the-clock shifts, even if they mean higher wages for odd hours. This option simply wouldn't exist in a high-wage environment, where wage premiums offset any capital savings. We estimate that just by increasing the number of shifts, companies can reduce their operating costs by 30 to 44 percent for many types of offshore work, including financial accounting, procurement, call centers, transaction processing, and more complex functions such as knowledge services and R&D (Exhibit 3). But in India, we found that even the most efficient third-party providers run only two shifts a day, and most of the captive operations set up by multinational corporations are running only one.

**Rock around the clock**

Effects of additional shifts on operating costs, \$ per billable seat per hour

	Level of skills required →								
	Data entry, verification <sup>1</sup>			Rules-based decision making <sup>1</sup>			Knowledge-based services <sup>1</sup>		
	Fixed costs	Variable costs <sup>2</sup>	Total cost	Fixed costs	Variable costs <sup>2</sup>	Total cost	Fixed costs	Variable costs <sup>2</sup>	Total cost
<b>Voice services<sup>3</sup></b>									
1 shift a day	7.8	4.0	11.8	7.8	4.6	12.4	7.8	6.8	14.6
2 shifts a day	3.9	4.0	7.9	3.9	4.6	8.5	3.9	6.8	10.7
3 shifts a day	2.6	4.0	6.6	2.6	4.6	7.2	2.6	6.8	9.4
			-44%			-42%			-36%
<b>Nonvoice services<sup>3</sup></b>									
1 shift a day	6.3	3.8	10.1	6.3	4.3	10.6	6.3	8.0	14.3
2 shifts a day	3.1	3.8	6.9	3.1	4.3	7.4	3.1	8.0	11.1
3 shifts a day	2.1	3.8	5.9	2.1	4.3	6.4	2.1	8.0	10.1
			-42%			-40%			-30%

<sup>1</sup>Data entry, verification include simple manual processes that don't require decision making; rules-based decision making includes services that don't require managerial judgment, can be performed with mechanical rules-based directions, and require minimal supervision; knowledge-based services require skilled, knowledge-based professionals, such as engineers, MBAs, scientists.  
<sup>2</sup>Additional shifts in this example are daytime shifts and therefore require no wage premium.  
<sup>3</sup>Voice services include multipurpose, multichannel interactions serving needs of many constituencies, including customers, distributors, employees, prospects, suppliers; nonvoice services include processing of back-office functions with turnaround time >4 hours.

- Cheaper capital equipment.** Some service providers in India are using cheap local labor to develop their own software instead of purchasing more expensive branded products from the global software giants. American Express, for instance, hired programmers to write software to reconcile accounts, and the software now reconciles over three-quarters

of them, or more than half a million every day. The company, which paid only \$5,000 to develop this solution, estimates that licensing more sophisticated database software would have cost several million dollars. The Indian carmaker Maruti Udyog developed its own robots for its assembly lines; the robots, on average, cost a small fraction of what similar ones cost its partner Suzuki in Japan. In this way, companies maintain the level of automation that prevails in high-wage countries, but at a distinctly lower capital cost.

- **Reduced automation.** Some companies have gone a step further and used workers for tasks that would normally be automated at home. A payments processor, for example, might employ people to input checks manually into a computer system instead of using expensive imaging software. A telemarketing firm that would use expensive automatic dialers in a high-wage country might have workers make their own calls instead.

Manufacturers too can use this approach. Certain automotive original-equipment manufacturers (OEMs) in China use robots for only 30 percent of the welding in car assembly, as compared with 90 percent or more in US or European operations. (BMW's plant in South Africa employs the same line of attack.) In India, domestic car companies have reduced the need for automation throughout the manufacturing process: they use more manual labor to load and change dies in pressing, body welding, materials handling, and other functions—while suffering no discernible loss of quality in the finished product. In this way, these companies manage to cut their assembly costs by 4 to 5 percent or even more and save themselves millions of dollars annually.

Ultimately, companies might completely redesign the sequence in which tasks are performed, in order to leverage the opportunities above more fully. Consider the simple example of a call-center agent who manages customer accounts. In high-wage countries, each customer call is routed to an agent who listens to the request, opens up a computer database, and updates the account in real time. Neither the computer nor the telephone is used efficiently, since the agent is either talking or typing but not both.

Offshore, an agent equipped with only a telephone could write the customer request by hand into a tracking log and move on to the next call. Telecom costs are reduced because the agent spends less time on calls and customers less time on hold. Another agent, working at a computer station used around the clock, could enter the information into the database. While the new process requires more agents to handle requests, expensive computer hardware and software and telephone lines are used more intensively. Added wages are more than offset by savings on computers, software licenses, and telephone connections (Exhibit 4). The economics of an Indian call center suggest that this simple change could actually boost current profit margins for offshoring vendors by as much as 50 percent.

#### EXHIBIT 4

### Process reengineering lowers costs

Change in operating costs for typical call center in India,<sup>1</sup> \$ per billable seat per hour

<b>Decrease in labor productivity</b>		Cost of increased transaction-processing time and additional labor	+ \$1.20
<b>Increase in capital productivity</b>	Process reengineering	Savings from increased capital intensity (more efficient use of computers, telephones)	− \$2.60
	Task reengineering	Savings from reduced software-licensing costs	− \$0.20
<b>Net effect on operating costs</b>			<b>− \$1.60</b>

<sup>1</sup>In this example, agent equipped with only a telephone writes customer requests by hand into tracking log; agent spends less time per call, customers spend less time on hold; second agent working second or third shift enters information into database.

Reengineering offshore functions makes sense only if wages stay low. Over time, they will rise and technology costs will continue to fall. As this happens, companies can adjust their operations to reflect changing factor costs. But in most low-wage countries, labor is so cheap and the labor pool so large that rising wages are unlikely to be a problem for decades. India each year produces 2,000,000 college graduates—more than 80 percent of them English speakers—while China produces 850,000, though with minimal English skills. Even a small country like the Philippines annually produces 290,000 college graduates, all English speakers.

## **BEYOND COST SAVINGS**

By reaping offshoring's full potential, companies will find that their new, lower-cost structures open up a variety of opportunities to boost revenue growth. These opportunities will often far exceed the annual cost savings.

Some companies, for instance, can now chase delinquent accounts receivable they formerly had to ignore: one airline carrier is capturing \$75 million in previously lost receivables on top of the \$50 million it saves each year by operating its accounts-receivable department in India. Meanwhile, a leading US personal-computer manufacturer created telephone- and e-mail-based customer service centers in India to provide technical support. In addition to saving more than \$100 million annually, it has significantly increased the proportion of customer problems it resolves. The company thereby reduces the number of follow-up calls it receives and the amount of merchandise it must replace while simultaneously boosting its customer satisfaction levels. And a financial-services firm has extended to customers with lower account balances services previously limited to high-net-worth clients, thus opening up large new customer segments in its home market.

The new cost position can also be used to develop cheaper products for consumers in emerging markets. Consider the experience of one of their own local companies. The Indian automaker Tata Motors (formerly Telco) designed the low-cost Indica car for the domestic market. The Indica sells for roughly 10 percent less than cars from global OEMs and breaks even on a volume of 150,000 units, a fraction of the number global companies need. That Indicas have fewer features accounts for a small part of the cost savings. Most of the savings come from a lower level of automation in assembly, a reengineered process, and the use of very low cost local labor to develop the car (at a quarter of what a global OEM would have spent to develop something similar). As a result, the company has grown from virtually nothing to capture a quarter of the Indian market in its segment during the past four years—displacing Suzuki Motor, Hyundai, and other global brands—and is now under contract to export 100,000 Indicas to the United Kingdom and Continental Europe.

As companies go further down the road to globalization, the potential to create new markets and redefine industries is enormous. Consider how the dramatic price reductions made possible by globalizing production have changed the market for televisions in the United States. Just 25 years ago, almost a quarter of US households had no color TV. Since then, prices have declined by roughly 40 percent in real terms. Now 98 percent of US households have at least one, and many families have three or more. At the new price point, color televisions have been transformed from luxury items into nearly disposable goods that most of the population considers a necessity. And as color TVs have proliferated, they have given rise to an industry that produces television content and television-based games worth more than \$30 billion. Although the detractors of globalization fear that it has already gone too far, we believe that it has barely begun.

### **HOW FAR CAN IT GO?**

The personal computer on your desk today may have been designed in Taiwan and assembled in Mexico, with memory chips from South Korea, a motherboard from China, and a hard drive from Thailand. Not surprisingly, the value of world trade in consumer electronics components and final goods is 180 percent of the value of industry sales each year, and the industry has been completely restructured. Many companies around the world are now specializing in quite narrow segments of the value chain—for example, as innovators and designers of goods, low-cost producers, specialized assemblers, or marketers and distributors.

Countries too are starting to specialize: Mexico and Eastern Europe take advantage of their location to assemble goods destined for the United States and Europe, respectively, and China uses its huge labor pool to become a global base for low-cost manufacturing. Although companies have benefited from lower costs and consumers have enjoyed dramatically lower prices and more choice, few non-manufacturing industries have moved so decisively.

Clearly, not every industry could go as far as consumer electronics along the road to globalization: steel, for instance, is heavy and bulky to transport, while services such as retailing, banking, and entertainment must of necessity remain largely local. The interplay between the physical nature of any industry, its organizational environment, and the legal, regulatory, and policy barriers to its globalization determines its potential for restructuring.

The barriers to globalization are real, and many may not come down. But as an experiment, we looked at how much value could be created in the automotive industry if they did. We found that it could capture a staggering \$150 billion annually in cost savings and an additional \$170 billion annually in new revenues—a combination that would boost industry revenues by more than 25 percent from current levels. What stands in the way of achieving this increase?

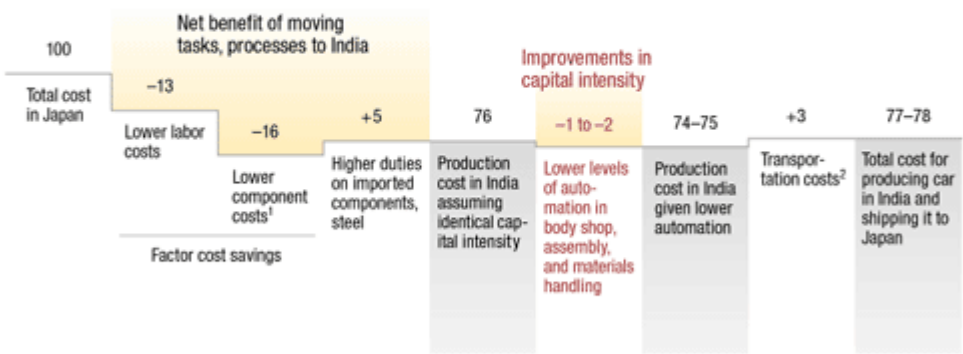
Most people think that the industry is already global, largely because of the popularity of foreign cars. Few realize that of the 55 million vehicles produced each year, more than 90 percent are sold where they are made. Although the leading OEMs have all built plants in low-wage countries, these facilities were built to meet local or regional demand. Very few cars move from one geographic region to another, and until very recently only about 100,000 cars produced in low-wage countries were subsequently exported to high-wage ones.<sup>1</sup>

Yet there are few good reasons for this pattern. After all, it costs only \$500 and takes only three weeks to ship an automobile anywhere in the world, and both the cost and the time are diminishing. More important, cars can be produced in low-wage countries for at least 20 percent less than in high-wage ones, even after shipping costs and tariffs are factored in (exhibit). The resulting boon to the world's consumers could be enormous.

EXHIBIT

**From India with love**

Economics of producing car in India for shipment to Japan; index: total cost of comparable car in Japan = 100



<sup>1</sup>Assumes 90% of all components are sourced indigenously, with equivalent or superior quality.  
<sup>2</sup>\$300 for small car, \$500 for large car; there are no tariffs on car imports to Japan.

Furthermore, experience has shown that quality standards can be maintained in low-wage countries. BMW's South African plant, which exports to Europe and North America, is even slightly better than the German plant.<sup>2</sup> Volkswagen produces all of its popular New Beetles in Mexico. Operating in these countries often requires extra training for workers—BMW spends three to five times more on training in South Africa than it does in its other plants—but wage differences more than offset that cost.

Moreover, many analysts believe that overcapacity in the global automotive industry is now 30 percent or even higher. Much of the overcapacity is in emerging markets, where governments granted lucrative incentives to global OEMs during the 1990s but local demand failed to materialize. These factories could be supplying developed countries with lower-cost cars. Confronted by idle plants in countries from Thailand to Brazil, a few OEMs are now moving in this direction.

The barriers to globalization are government policies and some of the industry's organizational features. Apart from Japan, virtually every country has car tariffs, which range from 2.5 percent in the United States to 10 percent in Europe and to over 100 percent in some developing countries. What's more, strong unions mount stiff resistance to moving production offshore. Many auto parts are proprietary and there is very little standardization across manufacturers. So the complex supply chain—which can include hundreds of direct suppliers, each relying on hundreds of sub-suppliers—is still relatively fragmented despite current perceptions of rampant consolidation. And since assembly plants can cost up to half a billion dollars to build, OEMs have enormous sunk costs in their existing manufacturing facilities.

If the industry found ways to overcome these barriers, it could capture up to \$320 billion annually in cost savings and new revenues. The first step would be to use existing plants in low-wage countries more efficiently. By cutting the current overcapacity in half, the industry could reap \$10 billion annually.<sup>3</sup> By building all additional production capacity in low-wage countries, it could save a further \$40 billion annually after five years. Over time, if OEMs migrated 70 percent of their assembly and components sourcing in high-wage countries to low-wage ones, they could realize savings in the neighborhood of \$150 billion a year. (For most OEMs, as much as 30 percent of demand is variable and 70 percent stable and predictable. Moving 70 percent offshore is thus potentially feasible without making consumers wait longer to get their cars or building large inventories to compensate for fluctuating demand.)

But the benefits don't stop at cost savings. By taking advantage of low-cost labor and disaggregating supply chains, automakers could produce cars at least 20 to 25 percent more cheaply. If tariffs on parts were also to fall, these companies could, by conservative estimates, cut prices by 30 percent and unleash massive new demand. In emerging markets, where consumers are highly price sensitive and there is significant unmet demand for low-cost cars, we estimate that the industry could increase its sales by up to \$100 billion a year.

In developed countries, where most consumers already own cars, cutting the price of the lowest-cost models by 30 percent (to \$7,000, from \$10,500) could produce roughly \$70 billion in additional sales. Some of this demand would come from low-income households that currently don't own cars. But part of the opportunity would be generated by changing the way consumers view them: instead of having only one or two, households might opt for three or four, with some purchased just for fun. Parents might be more inclined to buy cars for their children, and young people might enter the market as well.

The potential value at stake in the auto industry is eye-popping but hardly unique. As the barriers to globalization continue to erode, many other industries could be restructured and capture similar value.

**Notes:**

<sup>1</sup>This estimate doesn't include production within the countries adhering to the North American Free Trade Agreement (NAFTA).

<sup>2</sup>"Two-way street: Automakers get even more mileage from the Third World," *Wall Street Journal*, July 31, 2002.

<sup>3</sup>For details on these calculations, see the October 2003 MGI report [New Horizons: Multinational Company Investment in Developing Economies](#), available free of charge.

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**Notes:**

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<sup>1</sup>See the October 2003 MGI report [New Horizons: Multinational Company Investment in Developing Economies](#), available free of charge. During the yearlong research project leading up to this report, we conducted in-depth case studies of foreign direct investment in five sectors (automotive, consumer electronics, retail banking, retailing, and the offshoring of information technology and business processes) in four major developing economies (Brazil, China, India, and Mexico). These cases generated the basis of our findings and conclusions.

<sup>2</sup>Consensus estimates of the market research firms Aberdeen Group, Gartner, and IDC.