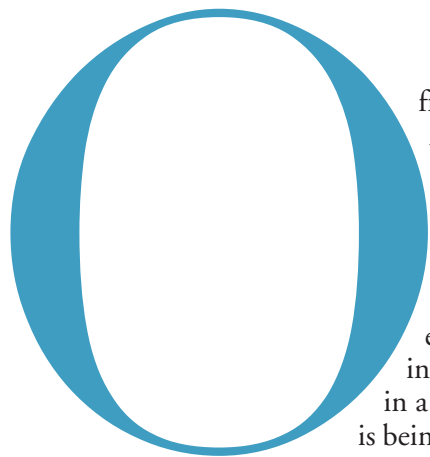


By Benjamin B.M. Shao *and* Julie Smith David

The Impact of Offshore Outsourcing on IT Workers in Developed Countries

Examining the global implications of outsourcing for IT workers.



ffshore outsourcing has been featured in recent headlines and is said to create scores of challenges, controversies, and worries for businesses, government agencies, and IT workers in developed countries like Germany, the U.K., and the U.S., among others. Referring to a company contracting out its IT operations to a company in a foreign country, offshore outsourcing is being viewed by management as an attractive operational alternative and as an opportunity to control costs. Although the offshore model has existed since the late 1980s [8], it has been gathering momentum recently. The International Association of Outsourcing Professionals announced the 2006 Global Outsourcing 100 firms that had experienced a 15% growth in 2005 and with 1.03 million employees generated \$68.9 billion in rev-

enues [11]. These firms provide a wide variety of services, ranging from information technology and business processes to asset management and logistics.

OFFSHORE OUTSOURCING: A TWO-DIMENSIONAL DECISION

Although much of the literature suggests that moving toward an offshore outsourcing arrangement is a single decision, the evaluations to outsource and to go offshore are actually made separately. As such, management may choose one of the four operational models specified in Figure 1.

Among the four business models identified in Figure 1, the onshore insourcing model represents the traditional IT department where the internal IT staff is responsible for creating, providing, and maintaining information system services. The onshore outsourcing model involves both domestic clients and domestic vendors. This model has by far made up most of the outsourcing contracts. The offshore insourcers typically are multinational companies like GE, IBM, and SAP that have the means to set up regional branch centers to exploit lower cost and other resource advantages in different countries. Finally, the offshore outsourcing model is the one that has been gaining favor. In this model, clients outsource their IT functions to foreign vendors in developing countries such as India, China, the Philippines, Hungary, and several Latin American countries [3]. While these four business models represent the majority of operations, there are also variations of these. For example, hybrid organizations have developed in which the offshore entity is initially part of the parent company but, over time, is bought out by the offshore organization [2].

DRIVING FORCES

The major forces behind this offshore movement can be articulated along technological and economic dimensions. On the technological front, advanced technologies of networking, digitization, and storage are transforming IT operations, particularly those

routine tasks, into a utility-like service that can be provided and managed from anywhere at anytime. When communication networks like the Internet are ubiquitous, reliable, and operating at almost zero latency, it makes little difference if IT services are provided down the hallway, across town, or half across the globe. In other words, with the assistance of appropriate project management techniques, companies now can outsource various projects either locally or globally.

Profit motivation has also driven firms to offshore outsourcing. Due to the recent sluggish economic climate, many companies have turned to offshore sourcing to keep their costs in line. Companies benefit from this offshore proposition because vendors in developing economies usually cost one-third less than domestic vendors and even less when compared with in-house operations [9]. Additionally, as offshore

vendors gain experience, their service quality improves, and they learn radically new ways to meet customer requirements. In fact, it is perceived that offshore outsourcing vendors can add significant value to their clients' supply chains. Domestic firms that are capable of managing operations with these vendors effectively will outperform those that rely solely on internally developed innovations. Thus, with the growth in free markets and increased pressure from globalization, businesses have to consider taking advantage of outsourcing strategies, not only to harness the cost advantages but also to benefit from the quality improvement that offshore vendors provide [5].

IT WORKERS AFFECTED

While offshore outsourcing may be good news for management looking to cut costs, it is ominous for domestic IT workers who are worried about being replaced by lower-wage earning but equally skilled foreign labor. Many experienced IT workers in developed countries have been laid off when companies turned their outsourcing needs to overseas service providers. Some research posits that the job market will get even worse as more businesses ship

	Onshore	Offshore
Insource	<p>Traditional Internal IT Department</p>	<p>Multinational Operations (Job Transfer and Loss)</p> <ul style="list-style-type: none"> • Astek Limited (France) • GE (U.S.) • IBM (U.S.) • SAP AG (Germany) • Silja Line (Finland) • Tata (India)
Outsource	<p>Domestic Outsourcing (Job Transfer)</p> <ul style="list-style-type: none"> • British Aerospace (U.K.) • British Petroleum (U.K.) • General Dynamics (U.S.) • Kodak (U.S.) • Proctor & Gamble (U.S.) • Xerox (U.S.) 	<p>Offshore Outsourcing (Job Loss)</p> <ul style="list-style-type: none"> • British Airways (U.K.) • BMW (Germany) • DaimlerChrysler AG (Germany) • Delta Airlines (U.S.) • Sainsbury (U.K.) • SAP AG (Germany)

Figure 1. The two-dimensional IT sourcing decision, examples, and labor effects.

WITH THE ASSISTANCE OF APPROPRIATE PROJECT MANAGEMENT TECHNIQUES, COMPANIES NOW CAN OUTSOURCE VARIOUS PROJECTS EITHER LOCALLY OR GLOBALLY.



Jobs Likely to Be Sent Offshore	Jobs Likely to Stay Onshore
Routine Tasks – <ul style="list-style-type: none"> • application development • detailed design • program coding and unit testing • system maintenance and support 	Specialized IT Skills – <ul style="list-style-type: none"> • global project management • large-scale system integration • system architecture • IT liaison
Commodity Services – <ul style="list-style-type: none"> • system administration • network management • infrastructure management • help desk • back office support 	Localized Activities – <ul style="list-style-type: none"> • security expertise • preliminary requirement analysis • logic design • system testing/installation • user training
BPO – <ul style="list-style-type: none"> • human resources • accounting • financial reporting 	Business Processes – <ul style="list-style-type: none"> • SCM • business analysis • inventory

Taxonomy of IT jobs
subject to offshore
outsourcing.

more of their IT functions offshore [12]. Moreover, offshore outsourcing affects not only technologists but also a variety of support jobs that these IT professionals help sustain, such as sales clerks and human resources. As a result, offshore outsourcing has been identified as a critical issue that calls for closer examination and the impact of offshore outsourcing on the domestic IT work force warrants attention and further analysis.

Offshore sourcing is expected to grow, but there also have been encouraging patterns and potential good news. For instance, the software industry experienced a 130% job growth between 1992 and 2003, and the median salary for full-time employees in the industry rose from \$44,242 to \$66,595 during that period [1]. The future outlook is also positive. The U.S. Bureau of Labor Statistics predicts a 45% growth in employment for computer engineers in applications and systems software. At the same time, the supply of well-skilled labor is predicted to fall short of demand [4]. Therefore, regardless of whether companies use offshore outsourcing to reduce costs in a tight economy or to meet critical IT needs that cannot be met by the local labor market, offshore outsourcing clearly will have an impact on the domestic IT work force in most developed countries.

OFFSHORE VS. ONSHORE

When onshore outsourcing occurs, it is common for the outsourcing customer to transfer its internal IT

staff, along with IT assets and equipment, to the domestic service contractor [6]. For IT workers being transferred in these outsourcing deals, they keep their jobs and often work on the same site to service their previous employer. In many cases, the domestic outsourcing vendor can even provide better career opportunities for these IT professionals, as there are more opportunities for advancement in an IT-focused company. As for the other onshore outsourcing contracts where the internal IT workers have been replaced, these workers are expected to find another job without too much difficulty because the displaced jobs still remain at home and are only redistributed to another domestic company. In other words, the effect of onshore outsourcing on IT workers is mostly in terms of job transfer (see Figure 1).

By contrast, offshore outsourcing poses greater risks for the IT work force in developed countries because it typically translates into the exportation of domestic jobs to foreign countries. For IT workers, offshore outsourcing represents job insecurity, possible unemployment, lower wages, and fewer benefits. Once companies turn to offshore outsourcing, it is uncommon for them to bring jobs back. Consequently, many jobs lost in these arrangements are likely to be gone forever. This predicament explains IT workers' concerns and their recent attempts to stymie the growth of offshore outsourcing. Through extensive campaigns, awareness has been raised of the growing threats of offshore outsourcing to IT workers. IT professionals in the past were not used to forming labor unions, but now many of them are doing so fervently. Their negative reactions and anxiety for potential joblessness have led to a political backlash toward offshore outsourcing. Stringent laws are being lobbied through several state legislatures, hoping to encumber the trend and save tech jobs [9]. All these actions, in turn, are likely to create a new wave of protectionism.

FOLLOWING IN MANUFACTURING'S FOOTSTEPS

An analogy can be drawn between the past mass departure of manufacturing jobs to foreign countries and the current IT job loss caused by offshore out-

sourcing. During the last 25 years, the overseas production of commodity goods has been the direct result of the labor cost advantage in developing foreign countries. This outsourcing model has proved successful, and many manufacturing companies have come to realize that an offshore strategy is necessary for them to remain competitive in the global marketplace.

We have observed a growth pattern in manufacturing offshoring that consists of three stages, as shown in Figure 2. The development of offshore outsourcing of production in manufacturing first started off slowly, with only a small number of first movers experimenting with the new business model and enjoying the cost benefits. As time went on, the trend hit a “critical mass,” with many more companies also sending their production overseas. This second stage means that it simply became impossible for these manufacturing companies to compete without employing cheaper foreign workers. Eventually, the trend reached a plateau stage of maturation after a majority of companies that needed to do so had outsourced their manufacturing abroad.

Additionally, manufacturing outsourcing has continued to evolve. Initially, outsourcing focused on the basic manufacturing process itself, which followed the growth pattern discussed. Over time, however, as domestic firms gained experience in outsourcing, and as foreign firms gained more experience with their clients, additional services were outsourced. For example, the offshoring of assembly operations for electronics and computers has progressively advanced to the offshoring of higher value-added activities. Offshore sourcing has evolved from component and subsystems manufacturing, to design, to R&D, and finally to the management of inventory and supply chain [5]. Firms that adopt this approach, such as Dell, have performed better than other firms, such as HP, that mostly depend

on their own in-house development.

Driven by many of the same forces that manufacturing had experienced, the development of IT outsourcing is expected to grow and evolve similarly. Therefore, the important task for IT workers is to foresee the extent to which they will be affected by initial IT outsourcing decisions, and refine their skills

appropriately. That alone will not be enough, however. IT professionals must continuously develop new skills that will enable them to remain valuable to their local marketplace as IT outsourcing matures.

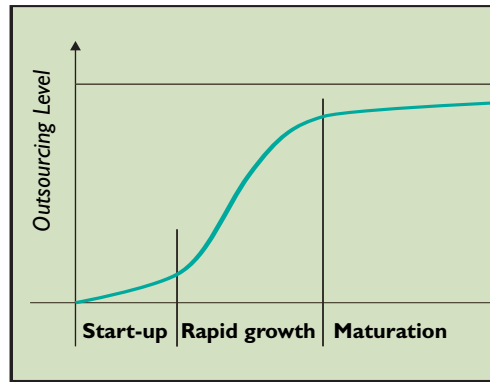


Figure 2. The growth pattern of offshore outsourcing.

WHO GOES, WHO STAYS?

It is critical for IT professionals to evaluate what kinds of IT jobs are most likely to be sent offshore and what IT skills will still be in demand or, at least, be relatively immune to offshore outsourcing. Synthesizing the drivers influencing IT sourcing decisions as well as numerous pertinent reports and analyses, the table here presents a current taxonomy of IT jobs according to their chances of being replaced subject to offshore outsourcing.

Routine labor-intensive IT tasks that require little or no client interactions have been and will continue to be moved abroad. These jobs include application development, detailed design, program coding and testing, and system maintenance and support [10]. Also on their way to offshore sources are commodity services, ranging from system administration, networking and infrastructure management, help desk, to back office support. These routine tasks and commodity services are unlikely to be core competencies for a business. They also tend to incur substantial labor costs and thus easily become the leading targets for being outsourced offshore.

A recent significant trend has been the business process outsourcing (BPO). With BPO, the offshore service provider is responsible for implementing and handling the entire delivery of a business process, not

❧
 AS GLOBAL MARKET DYNAMICS KEEP DRIVING
 ❧
 COMPANIES TO ACQUIRE IT SERVICES FROM LOCATIONS
 THAT PROVIDE THE MOST COST-EFFECTIVE SOLUTIONS,
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 ON THE CORPORATE STRATEGIC AGENDA.

just for developing and maintaining some IT functions or applications supporting the process. Among the business processes being transferred offshore are human resources, accounting, and financial reporting [7]. Therefore, IT workers involved in supporting these non-core business processes will likely be affected and become more vulnerable. They should start training to gain new skills in other areas to help ensure their continuing value for their firms.

One exception here may be IT workers handling confidential data for these processes. For example, outsourcing human resource functions offshore is gaining popularity, with employee files being moved overseas. Management must evaluate the potential risks associated with the transition. Currently, these risks tend to be underestimated. There is a possibility that the employee data can be compromised at the offshore locations and the data disclosure can result in identity theft. The company experiencing such compromise can face significant monetary loss or reputation damage. By the same token, if the offshore location experiences disasters or political turmoil and payroll cannot be processed on time, the organization will meet serious challenges from its employees. Therefore, management must deliberate over which processes can be moved offshore safely by taking into account all the potential geopolitical risks involved with the decision. If the data is perceived too confidential to move offshore, there is a need for IT professionals to handle the data internally even when these non-core processes are being outsourced offshore.

Some jobs are too sensitive or too local to outsource offshore. The demand will increase for security experts who have the knowledge to safeguard a company's confidential data and information systems from being attacked, and who can quickly respond to emergencies should they occur. Jobs that require constant face-to-face interaction with end users or clients will also remain local. In the standard waterfall model for system development, this requisite for local user contact implies that front-end activities such as preliminary requirement analysis and conceptual architecture design as well as back-end tasks like system testing, system deployment, and user training will remain in place [10].

Specialized IT skills will also be in demand, some of which are even spurred by offshore outsourcing. Qualified project managers and skilled system integrators, for instance, will be heavily sought. Companies that have outsourced their IT functions offshore will need someone who can manage the budgets and contracts, build relationships with the suppliers, and coordinate different phases of a project in a global set-

ting to put various components into a cohesive final system [2, 12]. Also, an IT liaison equipped with the leads of where the best offshore resources are located and with the know-how of matching interested customers with competent vendors will be a popular commodity valuable to both parties in the outsourcing engagement.

With respect to BPO, the business processes that are strategically important and represent core competencies to a company will be kept under its own auspices. Examples of core business process functions include supply chain management (SCM), logistics, and inventory management. While some firms have chosen to outsource some of these support tasks [11], most firms today still prefer keeping these support functions in-house due to their bottom-line impacts. Thus, IT staffs whose jobs are related to these core business process functions are less vulnerable to job losses. Additionally, processes that are still evolving inside the company are not likely to move offshore [2]. This means that working on emerging processes, establishing their controls, and specifying best practices are all functions that need domestic IT staff.

If the previous outsourcing of manufacturing serves as any barometer, IT workers in developed countries must keep learning new skills and updating their IT capability portfolios so they can meet the challenges of more advanced job requirements and continue adding value to their employers. Moreover, IT workers who can work closely with business units and who can combine business acumen and technology savvy will always be in great demand.

CONCLUSION

We are currently witnessing a significant paradigm shift to offshore sourcing. Many companies, large and small, are pursuing these initiatives earnestly. When work sent offshore can be done in a timely fashion with high quality and lower cost, companies facing intensified global competition and trying to maximize their profits have little choice but to outsource some of their IT needs overseas. As global market dynamics keep driving companies to acquire IT services from locations that provide the most cost-effective solutions, offshore outsourcing will remain a viable option on the corporate strategic agenda.

Clearly, it is crucial to evaluate where the global IT industry is headed against this strong tide of offshore outsourcing. Current changes taking place in offshore outsourcing will shape the global IT industry's future. IT workers in developed countries must be prepared for the changing global market for IT labor. This change is expected to continue evolving, as leading Indian outsourcing companies like Tata Consulting

have also begun offshoring their own work to other less expensive countries including China, Hungary, and Chile [3].

Fortunately, there are opportunities associated with this offshoring evolution. As challenging as they are, these opportunities require IT workers to continually hone their skills and become more innovative so that they can move up the next rung of IT job ladder and make themselves more valuable. IT professionals who understand how to interweave their IT skills with new business know-how have the best chance of weathering this transformation. For many technology-obsessed IT professionals who have not been motivated to develop keen business acquaintance and effective communication skills, now is the time to do it. ■

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