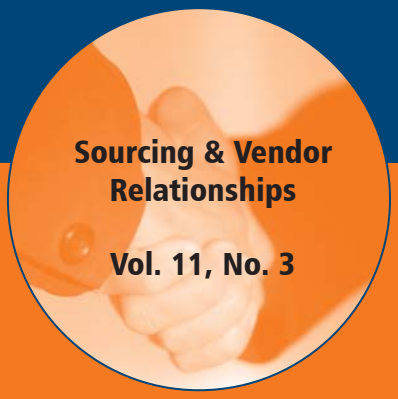

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Executive Report

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The Debate Surrounding Offshoring and Its Effect on Employment

by Dr. Sara Cullen, Senior Consultant, Cutter Consortium; Nupur Gupta, Madina Manap, and Alejandro Rosales

Although offshoring has existed in a variety of forms for decades, its controversy continues unabated. The debate includes whether offshoring actually saves money or not, what activities are and are not good candidates for offshoring, and most controversial of all, its effect on employment in the consuming countries. This *Executive Report* discusses the offshoring phenomena in an historical context, investigates whether offshoring has actually resulted in IT-related job losses, and examines its effect on IT-related occupations in the US and Europe.

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Cutter Business Technology Council

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IN THIS ISSUE

> The oldest and strongest emotion of mankind is fear, and the oldest and strongest kind of fear is fear of the unknown.
>
> — H.P. Lovecraft

In his international best-selling book, *The World Is Flat*, author Thomas L. Friedman describes globalization, outsourcing, and its impact on the world economy in the early 21st century.[1] Friedman used the title as a metaphor for a level playing field where companies across the globe have equal opportunities, including third-world nations that used to be considered backward and poor only two decades ago. The book came out at a time when the US market was observing significant outsourcing activities that caused downsizing of large corporations and massive layoffs, particularly in the technology sector.

That was five years ago, and one would have expected that things have changed and people have become more accustomed to the idea of offshoring — particularly as the offshoring phenomenon has been in the global market for decades, originating in manufacturing and now with white-collar work because of advancements in IT capabilities.

In 2010, while the world is still going through an economic downturn, the fear of job loss and redundancy still abounds. Recently, a cover story for *Chemical Week* noted that IT outsourcing (ITO) and business process outsourcing (BPO) activities continue to grow, even in recession, because they have the potential to save significant costs and help with the bottom line.[2]

When people lose jobs, it is always a matter of concern and debate in any society. Friedman's book came at a time when the hype of job loss due to offshoring had started taking its full effect on the US economy. Like any new trend, outsourcing, and in particular offshore outsourcing, has had its fair share of criticisms. While senior management continued to claim that their offshore outsourcing decisions were sound, skeptics continued to propagate fear amongst the people, and media fueled the blaze further. The reaction to outsourcing has

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been quite extreme in some instances where it could potentially influence government policy.

In a 2006 article, Alan Blinder, former vice chairman of the US Federal Reserve Board and a member of President Bill Clinton's Council of Economic Advisers, claimed that 40 million US jobs were at risk of being outsourced in the next 10-20 years.[3] The offshoring topic and related job losses became so heated in the US that it became a political agenda in the elections, and contestants from states that had lost the most number of jobs made claims to reduce outsourcing/offshoring in their pitch to collect votes from their constituents.

Many claims appear to be more of emotional statements than logical ones based on sound evidence. One of the early estimates of the effect of offshoring caused quite a stir when released but was subsequently "corrected."

Outsourcing and offshoring have been, and continue to be, highly contentious topics, as they affect millions of people.

Researcher John McCarthy wrote an often-cited report after his arrival from India in 2002. He was impressed with the amount of services offered and the capability of the providers to win contracts from American companies for white-collar work, such as processing insurance claims. On his arrival, he gathered statistics on 505 white-collar jobs and prepared a report on future trends of offshore outsourcing. In this report, he reveals that 3.3 million US white-collar jobs will be moved offshore by 2015. The future trends and figures provided therein were subsequently used for years in a variety of studies. However, in 2004, McCarthy acknowledged that his estimates were based on an educated guess but were also exaggerated.[4] He then estimated that offshore outsourcing would affect only .2% of the total employment of a country in a given year.

Yet some of the research shows some frightening figures. Charles Whalen, in the *Journal of Labor and Society*, indicated that a country loses more than one job for each job moved abroad.[5] He also predicted that previously secure positions such as software engineering and other high-skill demanding jobs are at a high risk to offshore outsourcing in the US.

Lori Kletzer, professor of economics at the University of California, Santa Cruz, showed that offshore outsourcing forces some jobless specialists to work for a lower salary.[6] She revealed that between 1979 and 1999, cheap imports in nonmanufacturing sectors resulted in a 30% unemployment rate. Moreover, Robert Bednarzik, who spent 20 years as a senior economist in the US Bureau of International Labor Affairs, reported in the *Monthly Labor Review* that many unemployed people had still not found jobs one year later.[7]

Since those earlier analyses, a number of empirical works and economic studies have been done to separate the facts about offshore outsourcing consequences from exaggerated claims. Outsourcing and offshoring have been, and continue to be, highly contentious topics, as they affect millions of people. Accordingly, a great deal of research has been performed to date on the effects of outsourcing on the global economy and "first-world countries" such as the US and the UK.

In this *Executive Report*, we gather a plethora of research-based evidence to date to shed some clarifying light on the effect of offshoring on employment and offer a prediction on where it might be heading. We begin with a chronicle of offshoring to put the debate in its historical context. We then explore findings from US and European research as to the employment situation and the degree to which offshoring has affected IT-related jobs. We also offer a prediction on the next wave of offshoring, not quite originally envisioned to further accelerate offshore adoption, but for which we believe it inevitably will.

A BRIEF HISTORY

> Offshoring in IT is, arguably, the most significant phenomenon to occur in recent decades.
>
> — David Avison and Gholamreza Torkzadeh

The beginning of the offshoring era took place in the 1960s when manufacturing industries in developed countries started sending out work to factories in developing countries like Taiwan, China, and Malaysia.[8] The main reasons for outsourcing at the time were low costs of manufacturing and the availability of cheaper labor in other developing countries. This change of economic landscape was a major cause of concern for the blue-collar workers at the time and hence was met with a fair bit of criticism.

Later, the IT sector was the "new wave" for offshoring, as many back-office development and IT maintenance jobs were outsourced to low-wage countries. The Association of Computer Machinery (ACM) stated that the offshoring of software services started nearly three decades ago, with Israel and Ireland offering services to the US in the 1980s.[9] ITO was made possible by the mass prevalence of high-speed Internet and communications technologies

such as telephone and video conferencing. According to the ACM's Job Migration Task Force, there are at least six kinds of work sent offshore related to software and IT:

1. Programming, software testing, and software maintenance
2. IT R&D
3. High-end jobs (e.g., software architecture, product design, project management, IT consulting, and business strategy)
4. Physical product manufacturing (e.g., semiconductors, computer components, computers)
5. BPO/IT-enabled services (e.g., insurance claim processing, medical billing, accounting, bookkeeping, medical transcription, digitization of engineering drawings, desktop publishing, and high-end IT-enabled services such as financial analysis and X-ray reading)
6. Call centers and telemarketing

However, in the 1990s, when the global economy was growing rapidly and filling positions was easy for employers, offshore outsourcing experienced relatively low growth.[10] More recently, further advancements of IT (predominately Internet and broadband capabilities) have significantly reduced the "shipping" costs of large amounts of digital data. Consequently, white-collar professional jobs are moving to India and manufacturing jobs to China, and the range of services that may be offshored is growing.

Interestingly, Meenaskshi Rishi and Sweta Saxena, in a University of Pittsburg working paper, claim that compliance with the US Sarbanes-Oxley Act (SOX) was also a reason behind the increase in the offshoring of finance and accounting functions during the years following the act.[11] Due to tight internal control requirements, the overhead costs of compliance with SOX became extremely costly for many companies. Therefore, in order to meet the costs of compliance, organizations outsourced finance and accounting business processes to cheaper third parties.

In the 1990s, the market was shaken by a new set of entrants, the major one being India, which resulted in a disruption mainly due to a combination of size, sophistication, and low costs. It has been noted that even though the ITO sector in India had come under close scrutiny after the admission of Satyam Computer Services' Chairman about falsified overstatement of assets by nearly $1 billion, the industry has moved on.[12] Due to the quick action of the government, the scandal was claimed a "financial fraud, not a customer fraud" and hence the outsourcing and offshoring activities continue to thrive in the subcontinent.

Even though most of the offshored work comes from the software industry and not from IT management services, offshoring vendors have made important progress in securing the infrastructure and the right pool of skills required to move into the IT services area. For example, Wipro and TCS, two of the world's biggest offshore service providers, have infrastructure management services, business process outsourcing, enterprise application services, and other offerings as part of their services. These can potentially be bundled and offered as an integrated solution that would result in cost savings and efficiency gains for the customers.

In addition, vendors have been improving their offerings, for example through the adoption of international standards such as:

- **Six Sigma.** Six Sigma was originally developed by Motorola in 1981 to identify and remove the causes of defects/errors and in which individuals seek increasing qualifications in terms up to "black belt."
- **IT Infrastructure Library (ITIL).** ITIL provides detailed descriptions of IT practices and comprehensive checklists, tasks, and procedures (and is produced by the UK's Office of Government Commerce).
- **Capability Maturity Model (CMM).** CMM was originally developed in the late 1980s by Carnegie Mellon University as a tool to assess the ability of government contractors' processes to perform a contracted software project but is now applied to all organizational business processes (an organization is rated at maturity levels ranging from one to five with five being the most mature).
- **ISO.** Last but not least, is the plethora of standards produced by the IS0 (over 18,000 standards to date ranging from activities such as agriculture and construction through mechanical engineering to medical devices to the newest IT developments).

Advanced development of IT makes offshoring of nearly anything possible. In its turn, offshoring facilitates the distribution of IT and offers the potential to take advantage of accessible human resources. In fact, ready (and cheap) access to educated human resources is a significant driver of the supply side of offshoring. That is, some developing countries have such large populations that they train significantly more specialists relative to developed countries (see Table 1[13]). Most of these specialists will not be absorbed by their own economies. Instead, foreign companies access them by means of offshoring.

Table 1 — Undergraduate Degrees in Engineering Granted Annually (Source: Oglobin.)

China	195,354	US 60,914
India	129,000	
Russia	82,409	

The differences in currencies and wage costs between countries caused providers from third-world countries to join the market and previously onshore outsourcing providers to set up shops in low-wage countries. For example, according to the School of Economic Development at Georgia Southern University, programmers in the Philippines earn US $1.50 per hour; a chip designer in India gets $1,000 per month compared to $7,000 in the US; and an infotech support specialist in India earns $500 per month whereas the same US specialist earns up to $10,000.[14]

As the providers picked up their game, obtained independent certifications of capabilities and quality processes,[15] and increased their pool of an inexpensive but highly educated workforce, offshoring became inevitable for organizations regardless of the industries, sectors, and size. It just made sense to let someone who knew what they were doing do the job instead of trying to figure it out yourself.

By 2006, 95% of the top 100 firms were offshoring services, and 82% of the *Fortune* 500 firms were offshoring.[16] This is despite the terrifying tales of hidden rework costs, lack of accountability, cultural issues, and unrealistic service expectations of the clients.

Nonetheless, there were some winners who successfully implemented the processes and improved practices emerged. In this time, the world has seen many success stories from reduced costs. For example, companies that began moving their internal IT help desk operations and server monitoring, management, and support work to India years ago have already achieved savings in unit labor costs of as much as 60% — though 20% is more typical — after an initial investment period.[17]

Overall, customers have become savvier regarding what works and what does not when it comes to offshoring. As the market matured and lessons were learned from the good and bad practices, it quickly became evident that simply signing contracts and transferring the task across did not mean the end of the responsibility for the client. There were costs involved with the management and monitoring of contracts. If knowledge transfer and process controls were not transitioned properly, that meant more costs for the organizations in correcting the mistakes — sometimes, in worst-case scenarios, leading to lengthy and costly litigation. And more mature offshoring clients changed their focus from cost to quality.

Moreover, those organizations rated with the highest degree of offshoring maturity levels (typically using a combination of offshore providers and offshore captive centers), witnessed the greatest levels of profitability growth over the two-year period comprising 2004 and 2005.[18]

The last few years have seen fierce competition as the economic downturn has adversely affected the global market. In such times, senior management is forced to choose the core capabilities of the organization and outsource all other generic processes like IT, HR, data entry, and so on, to competitive service providers that are capable of delivering similar (or, in some cases, better) quality of work at a cheaper operational cost. Hence, the controversy begins anew.

THE SITUATION IN THE US

> There is growing apprehension among business leaders, economists, and ordinary Americans that we are witnessing what may well be the largest out-migration of non-manufacturing jobs in the history of the US economy.
>
> — Askok Bardhan and Cynthia Kroll

Since 2000, employment in the US IT industry has declined significantly. In 2004, the number of IT related jobs was 70% less than when it reached its peak in 2000 of 6.47 million.[19] But, although some of those jobs were eliminated because of offshore outsourcing, the foremost causes were the Y2K crisis, the dot-com collapse, and the global recession/financial crisis.[20] Without a doubt, when the Y2K bug was urgent, all major government and commercial organizations heavily invested in IT in order to solve it. In turn, this created great demand for IT professionals, albeit only short term. After Y2K solutions were put in place, predominately through the implementation of new systems and some legacy repairs, the demand for IT professionals dramatically decreased by eliminating those extra enterprise resource planning (ERP), COBOL-coding, and Y2K audit-type jobs.

Rishi and Saxena tested whether decline in overall employment (IT and non-IT) in the US could be perfectly attributed to the increase in offshoring.[21] During their study, they reviewed job losses in occupational categories between the 2000-2002 period and found a 1.7% decline overall. However, when analyzed by sector, it

appeared that the manufacturing sector had endured the highest decline in employment (25.4%). In contrast, the services and government sectors had seen a slight increase (.6% and 1.7%, respectively). Looking at these numbers, one cannot conclude that the number of jobs lost were actually offshored to another country because the services sector, for example, saw an increase in employment, which means that an onshore workforce was hired more than offshore ones.

This can be explained in part because service providers do not necessarily have to be from offshore countries. Several companies based in cheaper states in the US, such as Ohio and Texas, are also vying for outsourcing contracts from other more expensive states. Hence, even in those circumstances, people are losing their jobs due to outsourcing that is still onshore.

Consider these numbers: in *International Economy*, William Dickens and Stephen Rose claim that the ratio of imports to GDP in the US was less than 18% in 2006; similarly, in the UK, this figure was less than 5% in 2004 when studies were conducted by economists at Nottingham University.[22] Low ratio of imports means that jobs were being removed locally, but were not exactly moving offshore. Either those jobs were being replaced by automated systems and technologies, or they were being shuffled into more value-add roles for the organizations.

While the former is likely to come into play more in the future, as we will discuss later, it appears that the latter is a better explanation for the earlier part of this decade. Professor Nitin Joglekar of Boston University discovered that in large financial firms more than 80% of workers whose jobs have been outsourced were reemployed either within the firm or within another company.[23]

In the IT realm, as one area loses jobs overseas, the research has indicated that other areas grow. This is because, most often, IT employment is occupation-based and widely spread across companies from different sectors of economy.[24]

In their 2004 study of the software sector, Ashish Arora and Alfonso Gambardella showed that software companies offshore the production of the software to India, but retain the design, integration, and user-involved testing works onshore.[25] That is, companies offshore the time and labor-intensive coding, thereby saving money through effective international labor division and hiring cheaper workforce. This became true only by the means of offshore outsourcing. Furthermore, they conclude that the position of "the centre of innovation in software" demands important inputs such as "access to talented and highly skilled designers, software engineers and programmers; and proximity to a number of large and technically sophisticated users."

While the offshore workforce does the labor-intensive work such as hard coding, the onshore graduates focus on design, overseeing and managing the projects. For example, a UK chip-design cluster employs 2,000 very large-scale integration (VLSI) engineers and focuses on technology innovation, while in Bangalore 15,000 VLSI engineers work on chip manufacturing.[26]

In their report "The New Wave of Outsourcing," published by the University of California, Berkeley, Askok Bardhan and Cynthia Kroll noted that offshoring is attractive for the organizations/countries sending out the work due to "higher value-added, better paying jobs" that it creates in the home country.[27] They also noted that most economists believe that offshoring should not necessarily lead to job loss in the long run. This is because as the economy matures, the reshuffling of jobs creates a new set of roles that are more analytical and challenging. For example, offshoring promises significant benefits, but these can only be realized through proper coordination with internal systems and processes as opposed to ad hoc attempts at blindly reducing costs. Accordingly, monitoring and managing outsourcing contracts in itself is a skill set that was not required in the market 15 years ago but is highly sought after nowadays.

Offshoring makes possible effective labor division internationally through refocusing local talents on value-added activities. This drove many IT professionals from developed countries to master new skills through reeducation and retraining. Thus, jobs lost to outsourcing will be outpaced by value-added IT-related jobs, such as project management, IT consulting, software architecture, product design, enterprise architecture, solution architecture, IS architecture data administration, data quality analysis, IT audit, IT-related risk management, and an entire set of new professions with reasonably high salaries. While some of these new professions are created to manage offshoring projects, others design and create new IT products whose labor-intensive parts will be done offshore. Furthermore, the recent boom in the number of technology-aided sales, electronic shops, and Web sites is good evidence of electronic entrepreneurship, which in turn is a type of self-employment and IT freelancing (e.g., PayPal, eBay, and social networking Web sites such as Facebook and Twitter).

Moreover, the development of the IT industry is strongly linked to computer science and mathematics, which in turn create new streams of IT jobs related to data mining, artificial intelligence, genetic engineering, computer-aided quantitative analysis, nanotechnology, 3D designing and modeling, and so on. Therefore, these new professions will design frameworks onshore that will be implemented offshore. This will make IT industry in the offshore-consuming countries even stronger than in the past.

Predictions indicate that, in spite of the shift to offshore outsourcing, the number of IT-affiliated jobs is expected to increase significantly in the near future. The US Department of Labor projects increases of between 35% and 60% by 2012.[28] The recent decline of IT-related jobs is doubtless only a short-term break before a robust return to job growth. For example, computer applications software engineer occupations will double in 2010 compared to 2000. And the good news for US IT jobs keeps coming.

Predictions indicate that, in spite of the shift to offshore outsourcing, the number of IT-affiliated jobs is expected to increase significantly in the near future.

Catherine Mann of the Peterson Institute for International Economics indicates that by the end of 2010, the rate of growth of jobs for specialists with IT skills will be double the total growth of all other jobs in the US economy.[29] According to Mann, the widening production of IT hardware and computer-related manufacturing contributed to both significant decline in hardware prices and job growth. This encouraged the further penetration of PCs, making them ubiquitous. Governments, commercial organizations, and individuals heavily rely on hardware in daily data processing and the IT infrastructure that transmits it. In turn, this increased IT manufacturing productivity between 1995 and 2002, creating many computer-related jobs across economies and around the world. Moreover, Mann notes that health services and construction are two large and important sectors whose potentials were overlooked. They both have potential to stimulate new productivity growth, such as global hardware production, if they become computerized and IT-supported, leading to the creation of more IT-related jobs in those sectors.

Although the new job opportunities are for all IT professionals, these new professions are likely to be adapted mostly by young IT specialists. The US Bureau of Statistics reports that aging IT employees, resistant to change, are at high risk of losing jobs because of the offshore outsourcing. Approximately 7% of unemployed IT workers are in their 50s, leaving 93% of unemployed IT workers younger and adaptable to change.[30]

But this high rate of younger, unemployed IT workers begs the question, "Why are these young specialists jobless if offshore outsourcing, in fact, creates new jobs?" Offshore outsourcing redirects the focus of IT professionals to higher-valued tasks, which require new skills through reeducation and retraining. Once these new skills and credentials have been achieved, not only do the newly minted believe these new competencies will help them get better jobs, they also demand higher salaries — which then decreases their return to employment chances. Moreover, a *Computerworld* article noted that IT professionals who believed that their jobs were too high-level to be offshored should take heed.[31] Vendors such as Affiliated Computer Services (ACS) plan to increase their offshore operations by moving more complex, higher-paying jobs to countries out of US. The explanation behind this move was not just cost savings but also investment in other areas such as innovation and development of new products.

Nevertheless, according to Whalen, the US Labor Department reveals that in order to gain a job, many employees agreed to work for lower salary.[32] Hence, those IT employees who lost their jobs due to offshore outsourcing would be employed on new jobs with lower salary, with the hope of increases to come. At the same time, the cost of labor in India and China is going up. According to the well-known futurist Patrick Dixon, labor prices in Hyderabad are 40% higher in 2008 than they were in 2007, and China labor costs have doubled over that same period.[33]

Continued offshoring remains dependent for places like India and China if and only if there is a considerable wage difference between the consumer and the provider countries. Not only is this required to make worthwhile the additional cost of an extra layer of management to ensure the offshoring process works efficiently, but also to cover the costs of higher-skilled onshore workers. If the salaries are going down in the consumer countries and up in the provider countries, offshore outsourcing loses its viability from a financial perspective. Nonetheless, this does not mean the end of offshoring — merely the creation of new nontraditional

competition on the supply side (e.g., the non-BRIC countries outside of Brazil, Russia, India, and China).

THE SITUATION IN EUROPE

> I tell my daughters to finish their homework because people in China and India are starving for their jobs.
>
> — Thomas L. Friedman

The anticipated boom in the IT-related jobs in the US may not be projected to all developed countries. Most of developed countries consume ICT services rather than export them as compared with the US. In their 2006 assessment of the consequences of offshore outsourcing on ICT jobs and related services in the EU, Barbara Gerstenberger and R. Alexander Roehrl found that ICT-related employment comprises only 6.3% of total European employment — 13.7 million workers.[34]

A 2008 article in the *Economist* described a study by economists from Nottingham University on 66,000 British companies.[35] In the mid-1990s to mid-2000s period, they found that even though offshoring increased by 35% and 48% in manufacturing and services sector respectively, it only accounted for less than 5% of GDP in 2004.

They paid particular note of 2,850 UK multinational companies that had subsidiaries outside of the UK. Only 4.5% of the services sector and 8% of the manufacturing sector subsidiaries were based in India and China despite the common belief that those countries take away most of the offshoring jobs. Most of UK's international outsourcing went to other developed countries within the EU. Reviewing the direct results of offshoring to employment, the economists found that although some local jobs were lost originally, as companies became more competitive and production increased, it also increased jobs in other areas.

Dickens and Rose also support the argument from Nottingham by claiming "lower prices allowed by increased productivity increase people's buying power."[36] They say that like any new invention or industry change (e.g., automobiles and mass production manufacturing plants), jobs are lost, and some industries even disappear completely. Nevertheless, that leads to new prospects and opportunities. For example, the US is economically better off from the changes in the automobiles era. Similarly, technological advances and improved efficiencies gained by outsourcing far outweigh the small challenges in the short term.

Nonetheless, Gerstenberger and Roehrl's employment analysis in the European ICT sector demonstrated that between 2000-2003 in all members of EU, with the exception of Denmark, there was a net growth in employment in this sector. Higher growth was particularly observed in the new states. For example, in the Czech Republic, ICT-related employment rocketed by up to 90% and captured a share of the global offshore outsourcing market valued at $ .9 billion. In general, this triggered a shift of employment to the ICT industry from other sectors of the economy, in particular the public sector, throughout EU countries.

As a result of this positive trend, one might think that offshore outsourcing does not carry an inherent risk of unemployment in Europe. However, Gerstenberger and Roehrl argue that it is suspicious. They base their argument on the analysis, which shows that offshore outsourcing was repeatedly the cause of shocking job cuts in particular companies in certain EU countries. This had a slightly negative effect on IT employment in Europe because the largest number of IT jobs is occupation-based, as in the US. What is more, while language and cultural differences create a significant barrier for EU offshore outsourcing to the current champion, India, workers from major EU countries such as Germany, France, and Spain have low-waged competitors from Eastern Europe, North Africa, and Latin America, who speak German, French, and Spanish, respectively.[37]

The penetration of the English language, in its well-established status as the computer industry language regardless of country, made UK service jobs more vulnerable to offshore outsourcing. In fact, it is estimated that the UK will account for the largest share (two-thirds) of the jobs at risk. For example, three large UK-based companies, Norwich, HSBC, and Prudential, moved their call centers and back-office operations, thereby reducing employment by 10.4%. However, only the Norwich case was directly related to offshore outsourcing business activities; the others were caused by company restructuring due to a combination of Y2K project closures, the dot-com collapse, and the global recession. Furthermore, Jacob Funk Kirkegaard, citing Eurostat, reveals that ICT employment in the EU-15 experienced double the growth of other industries in 2003.[38] Therefore, it is unusual for offshoring to be directly connected with actual job cuts, as job losses have a propensity to be characterized as the normal workforce movements in EU.

However, not speaking English is no protection against offshoring, either. While the US earns $1.12-$1.14 from a dollar spent, in contrast, Germany, according to an EU status report, loses €.2 for every €1.0 spent in India

or Eastern Europe.[39] This is due to low diffusion of the German language and the great cultural differences between India and Germany. Furthermore, this is the main reason for the lower return to employment of German workers.

Similar to the US, however, one cannot ascertain the fall of the EU as a result of offshoring. Job losses have not been able to be correlated to the degree of offshoring conducted, and ICT employment prospects appear healthy. Certainly, some EU countries will benefit more than others (the lower the wage of the EU country, the healthier the prospects, and conversely less so for those with more inflexible labor markets), and the UK may be particularly vulnerable, but it is likely to be a mere redistribution of wealth amongst the EU, but the union will hold. Unless of course, current countries in financial crises (i.e., Greece and Spain) cause it to do otherwise, hardly attributable to offshoring by any stretch of the imagination.

THE NEXT WAVE

> If past history was all there was to the game, the richest people would be librarians.
>
> — Warren Buffett

In a recent article in the *New York Times*, an HP executive forecasted that the next five years will shift from offshoring, which has been a pervasive phenomenon, to the use of technology to automate the delivery of IT services.[40] As reported in many IT-related journals, HP and the other leading vendors have recently made an aggressive buying spree, purchasing automation software in IT service management, business service management, and business service automation. This is collectively known as business process management (BPM).

Not surprisingly, the article generated a wide variety of reactions among the readers. These can be categorized into three fundamental "philosophical groups" whose beliefs center upon either the possible negative effects on individual workers, the positive effects on the economy as a whole, or those who have not yet formed a belief. The first group, the more pessimistic ones, foresaw serious damages to the economy due to the potential displacement of IT workers. A second group regarded the former group as economically illiterate for not understanding the benefits to society associated to automation. Finally, the third group of readers gave an unemotional opinion about the pros and cons of automation.

All three groups also held identical opinions regarding the debate on offshoring as well. Neither automation nor offshoring are new strategies; both are a fundamental part of present economies, and both raise controversy and social debate mainly due to unemployment concerns.

Two of the main reasons behind BPM's rapid growth are (1) the fact that the business is increasingly relying on IT and (2) the existence of a complex environment, which includes diverse hardware, operating systems, applications, and service providers.[41] Increased reliance on IT means that more computational power is required to support business needs. This translates into more servers to administer, running a wider range of complex applications and accessed by a higher number of users. Processes must be in place to ensure everything is running smoothly and serving the business appropriately.

The existence of a complex environment can be traced back to the 1990s, a period in which applications were proliferating in the companies and IT governance was still in its early stages. This resulted in highly heterogeneous environments, which are hard to maintain and usually have different silos looking after their own sets of applications. Moreover, IT organizations have increasingly become aggregators of services managed by different providers, which results in having multiple service-level agreements (SLAs) and key performance indicators (KPIs) that must be monitored.

BPM applications have come to address all this by providing an additional layer of intelligence on top of the IT infrastructure. They map multiple applications and the infrastructure resources they depend on to the business function they provide. Moreover, they offer automatic discovery services to identify application's dependencies on infrastructure, automatic resources reallocation, monitoring, problem identification and resolution, and change lifecycle management. Combined with other tools such as Web 2.0/cloud and collaboration tools, enterprise architecture, service-oriented architecture (SOA), and the like, technology's ability to completely transform individual organizations, and perhaps industries, has never been stronger.

BPM has become such an important topic recently that two *Cutter IT Journal* issues (11 articles in total) have been dedicated to the topic in 2010 so far.[42] And by no means is the topic even close to being exhausted.

Interestingly enough, the biggest winners out of BPM may in fact be offshoring outsourcing providers. These vendors have a bigger incentive than customers to adopt the latest tools, technologies, and automation techniques, such as BPM, since that would result in cost savings, and therefore margin gains. Also, making use of the latest technology is part and parcel of their value proposition to customers as the scope of offshoring is

ever-widening, and the offerings are continually moving up the value chain to activities that are more sophisticated. Offshoring vendors are in a position to offer solutions for every layer, from infrastructure management (including data center management and security) all the way up to business transformation consulting, and everything in between.

One of the key requirements to achieve the benefits of BPM is the adoption of standard processes such as ITIL or those by ISO. In fact, the benefits of implementing BPM tools without the processes are minor. Mature offshore providers already have, in many cases, superior adoption to the consuming countries. The adoption of BPM more by offshore outsourcing providers rather than customers should come at no surprise. An evolution in the maturity levels of the IT organization, including better and more standardized processes, naturally leads to further automation. This is a two-way street, though: the path that must be followed to achieve high automation takes time and requires a big investment not only in software but also in process improvements.

Thus, back to HP's claim regarding a shift from offshoring toward automatic delivery of services in the IT organization, a shift from offshoring to automation is very unlikely. Both concepts are hardly mutually exclusive; quite the opposite, as there are evolving synergies present. BPM and offshoring can be used complementary to achieve the same objective: make an IT organization more efficient and cost-effective.

CONCLUSION

> Quantitatively, outsourcing abroad simply cannot account for much of the recent weakness in the US labor market and does not appear likely to be an important restraint to further recover in employment.
>
> — Ben Bernanke

Outsourcing and offshoring have been part of the business landscape for decades and despite all sorts of protests and negative publicity, they will remain for much longer — that is, until something else more cost-effective comes along. Whether that something else is BPM or whether BPM actually accelerates offshoring even further is yet to be seen.

In the meantime, both offshoring vendors and customers have an opportunity to leverage lessons learned from previous experiences. There is abundant academic literature about this topic, including best practices on how to manage the offshoring relationship. In fact, offshoring as a practice has become so prevalent that the term "outsourcing" is now almost synonymous with "offshoring."

Offshoring is only one of the aspects of the new "competitive reality" that organizations face today. It should not be judged through prejudiced eyes, as it skews the reality of what the numbers are saying (or not saying).

Millions of jobs are created each year, while millions more are lost due to increasing competition and technical change. Jobs will continue to become more challenging as mundane tasks are either computerized/automated or offshored to developing countries. Offshore outsourcing introduces a threat of unemployment in the IT sector of developed countries by making some less value-added job types vulnerable to displacement or elimination. Moreover, studies show that offshore outsourcing has a different effect on each developed country due to specific differences, such as culture and language penetration, but it is not the main reason for job cuts.

Offshoring is only one of the aspects of the new "competitive reality" that organizations face today. It should not be judged through prejudiced eyes, as it skews the reality of what the numbers are saying (or not saying).

Nonetheless, losses in local jobs are offset by the creation of new roles. Most academic authorities suggest that offshore outsourcing provides much broader benefits to developed countries, companies, and consumers through enhanced productivity and the concentration of human resources on the creation of higher-value jobs. But, and this is a significant but, research so far remains relatively silent about the effect on salary levels. This opens a question that needs the attention of economists: when offshore outsourcing eliminates jobs, does it also force people to accept new jobs at lower salaries and for how long?

Finally, offshore outsourcing has implications for IT professionals in terms of employment opportunities. IT will remain strong in the countries where they have been strong in the past, even if some IT jobs are targets of offshoring. Thus, individuals must get ready to master new skills and gain new secure value-added jobs with a lower likelihood of being offshored. In closing, consider this recent graduate experience:

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Neetu Mehta is a part-time master's student at Melbourne University who started her working career in 2004 as a programmer/developer with Management and Executive Software in Melbourne. In 2007, after three years, she was made redundant when her job was outsourced to India. She received a reasonable redundancy payment because her employer saved money through cheaper labor rates in India and the earlier release of the product. She also acknowledges that the company did not have the expertise, having only a small team of developers in Melbourne. Despite her redundancy, Neetu felt positively about the opportunity it provided to explore the recruitment market; she found an interesting and better-paying job within only one month. However, to secure herself she decided to undertake a master's degree as a part-time student. After only two years, in 2009, she again lost her job because of outsourcing. This time, however, she spent five months searching for a job before she was invited to rejoin her original employer, Management and Executive Software. She accepted the offer and believes that her higher degree will give her a competitive advantage, and she will be able to find a job that is secure with a lower likelihood of being outsourced.

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