by
Vinay Couto
*vinay.couto@booz.com*
Mahadera Mani
*mahadera.mani@booz.com*
Arie Y. Lewin
*ayl3@mail.duke.edu*
Dr. Carine Peeters
*carine@duke.edu*

booz&co.

# The Globalization of White-Collar Work

## *The Facts and Fallout of Next-Generation Offshoring*

Offshoring Research Network

DUKE THE FUQUA SCHOOL OF BUSINESS

Booz & Company is a leading global management consulting firm, helping the world's top businesses, governments, and organizations.

Our founder, Edwin Booz, defined the profession when he established the first management consulting firm in 1914.

Today, with more than 3,300 people in 57 offices around the world, we bring foresight and knowledge, deep functional expertise, and a practical approach to building capabilities and delivering real impact. We work closely with our clients to create and deliver essential advantage.

For our management magazine *strategy+business*, visit www.strategy-business.com.

Visit www.booz.com to learn more about Booz & Company.

## CONTACT INFORMATION


**Chicago**
**Vinay Couto**
Vice President
225 West Wacker Drive
Suite 1700
Chicago, IL 60606-1228
312-578-4617
vinay.couto@booz.com

**McLean**
**Mahadeva Mani**
Senior Associate
8283 Greensboro Drive
McLean, VA 22102
703-377-0109
mahadeva.mani@booz.com

**Arie Y. Lewin**
Professor of Business Administration and Sociology
Fuqua School of Business, Duke University
919-660-7832
ayl3@mail.duke.edu

**Dr. Carine Peeters**
Research Associate
Duke Center for International Business Education and Research,
Fuqua School of Business, Duke University
919-660-7887
carine@duke.edu



Originally published as:

*The Globalization of White-Collar Work,*
by Vinay Couto, Mahadeva Mani, Arie Y. Lewin, and Dr. Carine Peeters, Booz Allen Hamilton, 2006.

# The Globalization of White-Collar Work

## The Facts and Fallout of Next-Generation Offshoring

Offshoring is not what it used to be. From the 1970s, when manufacturing jobs were being relocated to low-labor-cost countries, through the early 1990s, when IT applications work first migrated to India, offshoring—literally—meant moving jobs elsewhere with all the dislocation and distress that it entailed. The most recent findings of a 2006 survey conducted by Duke University's Fuqua School of Business and Booz Allen Hamilton (the Duke/Booz Allen Offshoring Research Network Survey) reveal profound shifts in the rationale and direction of what we've come to call offshoring. No longer is offshoring all about moving jobs elsewhere; increasingly, it's about sourcing talent everywhere. What began with rules-based, "follow the book," codified tasks now encompasses procurement, HR, legal services, engineering services, R&D, and product design. And what used to be a tactical labor cost-saving exercise is now a strategic imperative of competing for talent globally. White-collar work can be performed where it makes the most sense and saves the most cents. More important, a looming shortage of technically trained talent, such as engineers and computer scientists, in advanced economies will require the ability to source and manage such talent globally. Needless to say, this trend has significant implications for both businesses and governments the world over.

The advanced economies of the world no longer have a lock on high-skilled, high-paying jobs. In fact, the findings from the 2006 survey and our ongoing, in-depth discussions with companies currently offshoring and those considering it reveal a salient shift toward locating more sophisticated and mission-critical work in countries such as India, China, Hungary, Brazil, and the Philippines.

Initially, offshoring was limited to highly-codified, transactional work such as credit card processing, claims administration, and call center functions, as well as routine software development. In its second wave, work involving more technical judgment (e.g., finance and accounting, mortgage origination, and other back-office functions) was offshored. Now, according to the 2006 Duke/Booz Allen Offshoring Research Network Survey, companies are offshoring high-end work that has traditionally been considered "core" to the business, including chip design, financial and legal research, clinical trials management, and book editing. As offshoring steadily makes its way up the value chain, it is not only encompassing higher end white-collar work; it is fundamentally redefining the organizational structures and management practices of major corporations around the globe.

While cost reduction remains a prime justification for many offshoring implementations, labor arbitrage is no longer the only impetus. Our survey reveals that, increasingly, companies are offshoring to gain critical access to highly skilled scientific and engineering talent in China, India, Eastern Europe, and other emerging locations. In other words, offshoring is evolving from a cost-saving tactic into a workforce management strategy with significant long-term ramifications.

This new trend has a silver lining for those who have long bemoaned and deplored the exodus of jobs from the advanced economies of the U.S. and Europe. Our analyses indicate that the offshoring of high-skill content work does not result in job losses in the originating country; rather the overall job pool is increasing.

The reality is that jobs are being added offshore because the supply of higher-skilled engineers, computer scientists, software developers, and other scientists in the talent pool has not kept pace with demand onshore. In the long term, businesses and governments in the developed economies need to address this critical skills gap if they wish to retain their technological and scientific competitive advantage. The strategic priority for businesses is to develop human-capital strategies for sourcing talent globally and to build organizations that more effectively and seamlessly integrate talent located anywhere in the world. Governments need to address the growing shortage of technically skilled talent, develop new macroeconomic policy initiatives, and vigorously promote investments in science and engineering education to ensure continued global competitiveness.

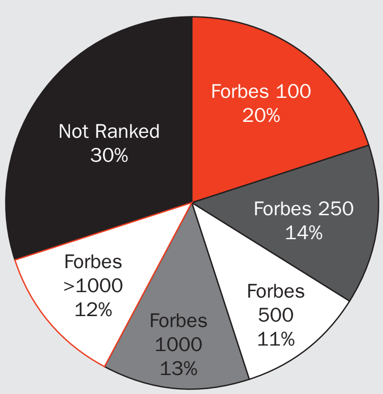
This article discusses the five principal insights that have emerged from the 2006 research conducted by Duke and Booz Allen Hamilton and the associated business and policy implications:

1. Labor arbitrage is giving way to accessing talent as the primary driver of next-generation offshoring.
2. Offshoring high-skilled functions does not replace jobs onshore.
3. Companies look elsewhere because they can't get it at home.

### Duke/Booz Allen Offshoring Research Network Survey

Since 2004, the Offshoring Research Network (ORN) at Duke University has been conducting a multiyear survey and panel study to gain insight into the strategic drivers, operating models, and financial results of various companies' offshoring implementations. The first two surveys were conducted by Duke University and Archstone Consulting in 2004 and 2005. The 2006 survey is the third annual study, and data collection was completed September 6th. The 2006 study is being undertaken in partnership with the global management consulting firm Booz Allen Hamilton and includes responses to date from 537 public and private-sector organizations in the United States and Europe. In 2006, the survey was extended beyond the United States to the European Union through partnerships with universities in the United Kingdom, Germany, Spain, the Netherlands, Scandinavia, and Belgium. The 2006 study surveys companies that currently offshore, as well as firms that are either considering offshoring or do not plan to offshore.

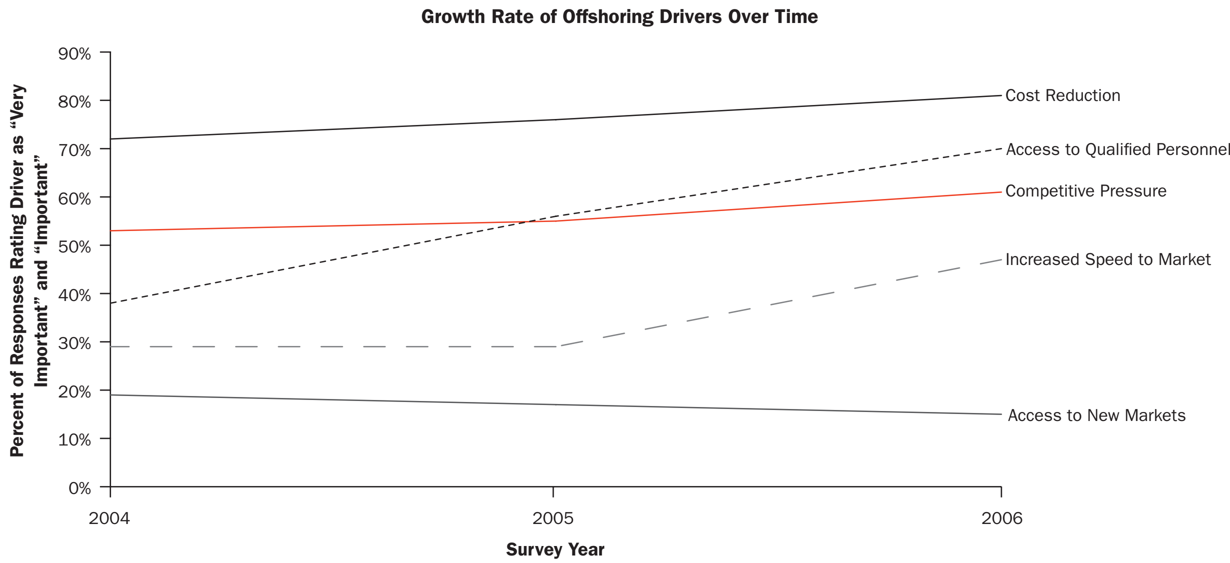
**Duke-Booz Allen Hamilton Offshoring Survey Demographics**




- 537 companies
  - 60% currently offshoring
  - 17% considering offshoring
  - 23% not considering offshoring
- Major industries represented: Financial Services, Manufacturing, Technology, Computer Technology, Media, Software & Programming, Energy, Aerospace & Defense, Automotive
- Functions Offshored: IT, Customer Service, Business Processes, Engineering, Marketing, R&D, and Product Design

Source: Duke University/Booz Allen Hamilton Offshoring Research Network 2006 Survey.

**Exhibit 1**
The Key Reasons Offshoring Has Evolved Beyond Cost Reduction




Source: Duke University/Archstone Consulting Offshore Research Network 2004 and 2005 Surveys; Duke University/Booz Allen Hamilton Offshoring Research Network 2006 Survey.

4. Where you offshore depends on what you offshore.
5. The obstacles to successful offshoring are increasingly internal and organizational.

**Insight #1: Labor arbitrage is giving way to accessing talent as the primary driver of next-generation offshoring.**

If there is one thing that the critics and proponents of offshoring can agree on, it's the fact that most companies first consider offshoring because they are looking to lower costs, specifically labor costs. Cost reduction was the predominant driver of offshoring in the 2004 and 2005 surveys (see Exhibit 1).

The recently completed 2006 study, however, reveals that the business case for offshoring is evolving beyond a pure cost play. Companies are leveraging offshoring strategically to create competitive advantage. As a result, "access to qualified personnel" has increased substantially (by approximately 75 percent in the past two years) as a major driver of the decision to offshore. "Increased speed to market" is another fast-emerging driver, jumping by almost 70 percent in just the past year.

The sustained growth trajectory of the "access to qualified personnel" driver suggests that companies are placing more and more emphasis on sourcing talent as a decisive factor in their offshoring decisions. Furthermore, they are incorporating offshoring of innovation, engineering, and product development functions (including software development) as an integral element in their global talent sourcing and corporate growth plans. A growing number of companies the world over are drawing the qualified talent they need from an increasingly global labor pool.

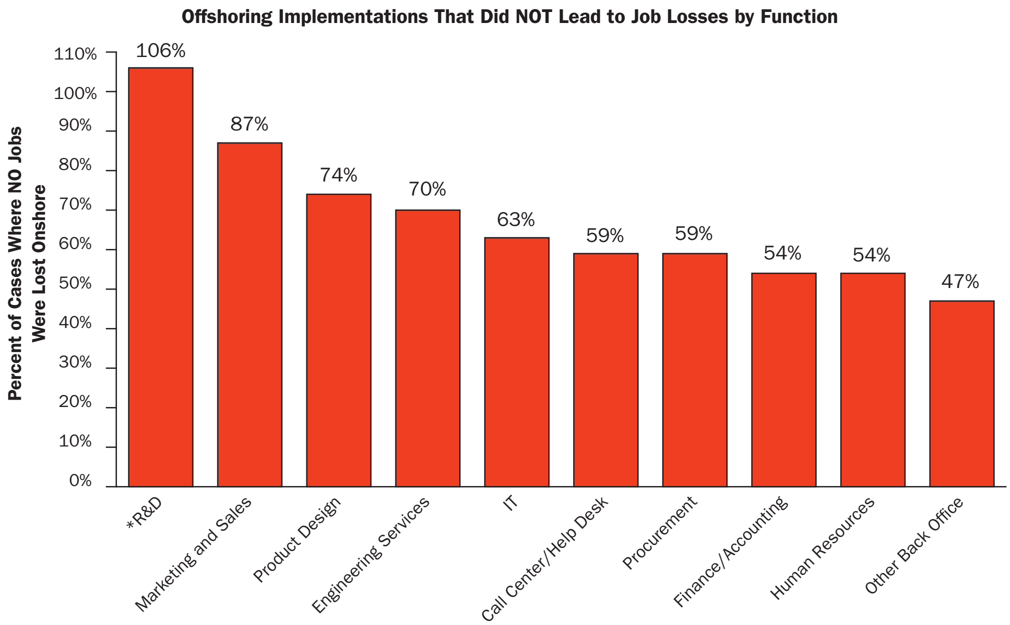
"Offshoring is a matter of global access to intellectual capital. In the end, companies will go to low-cost countries for the people, not for the costs."
— Chief Technology Officer, Global Electronics Company

**Insight #2: Offshoring high-skilled functions does not replace jobs onshore.**

Over the years, offshoring has attracted more than its

**Exhibit 2**

Offshoring of High-Skilled Business Functions Does NOT Lead to Loss of Jobs




* Jobs gained onshore.

Source: Duke University/Booz Allen Hamilton Offshoring Research Network 2006 Survey.

fair share of critics—politicians and members of the press who decry its effect on domestic employment argue that the more jobs are added in offshore locations, the more they are lost in the original high-wage market, which seems logical. The very term "labor arbitrage" suggests a trade. And yet, the most recent evidence doesn't support this theory. Offshoring today is not necessarily a zero-sum game; it very much depends on the function being offshored.

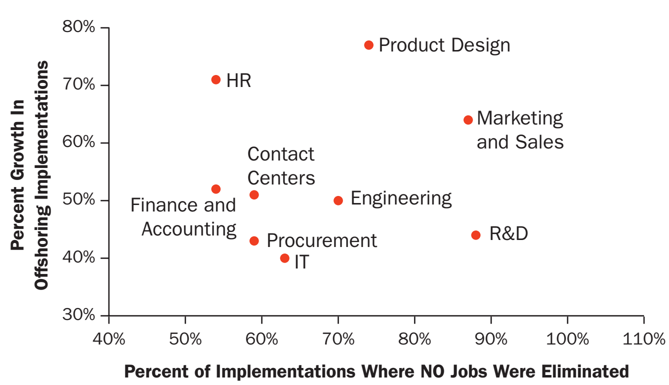
We analyzed the impact of offshoring at the specific functional level and discovered an interesting distinction: the more sophisticated or higher-skilled the function, the lower the impact of offshoring on "home country" employment. In fact, no domestic jobs were lost in three out of every four offshoring implementations involving R&D, sales and marketing, product design, or engineering. In contrast, offshoring routine back-office functions does result in lost jobs approximately half the time (see Exhibit 2).

The obvious implication from the above findings is that as companies offshore functions that require higher-skilled talent, they are less motivated by the labor arbitrage opportunity (i.e., replacing existing jobs in the high-wage home country) than they are by the need to fill critical talent gaps. And, indeed, when we mapped survey responses against the growth areas in offshoring, this finding was borne out (see Exhibit 3).

Those functions being offshored at the highest rate (more than 50 percent annual growth in

**Exhibit 3**

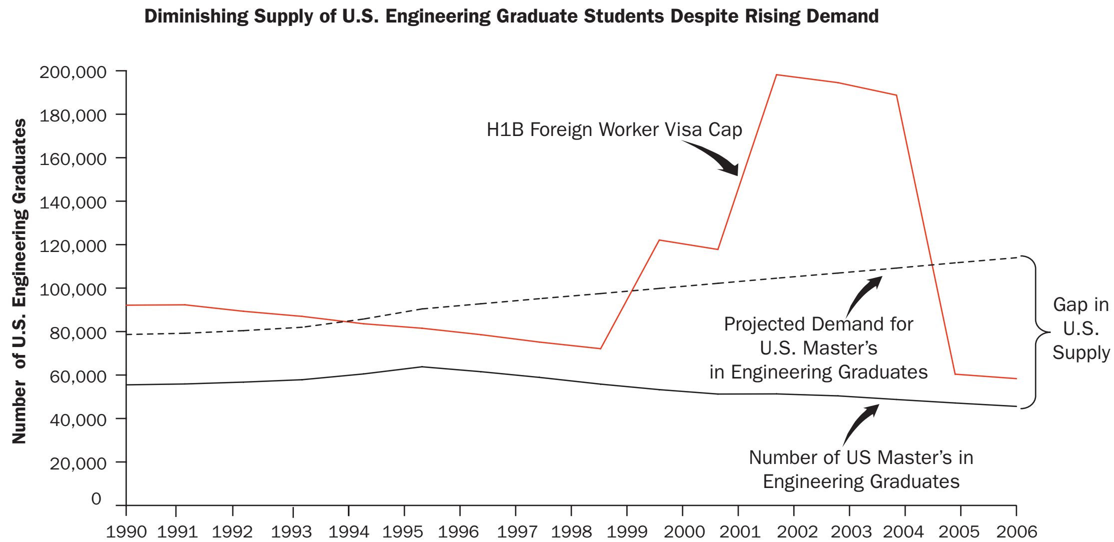
As Offshoring of Higher-Skilled Job Functions Grows, Fewer Jobs Are Likely to Be Lost in Advanced Economies




Source: Duke University/Booz Allen Hamilton Offshoring Research Network 2006 Survey.

**Exhibit 4**

Supply of U.S. Engineers Dwindles as Demand Grows




Source: National Science Foundation, Duke University analysis.

implementations) are what most observers and managers consider to be core business functions (e.g., product design, engineering, sales and marketing, R&D). As Exhibit 3 demonstrates, the offshoring of these high-skilled functions to low-cost countries is associated with minimal job loss back in the advanced "home economy," unlike the offshoring of more transactional functions such as finance and accounting, procurement, and contact centers.

> "After 10 years, the concerns we had about offshoring quality are gone, and the offshore personnel are outcompeting us with similar or better quality, significantly more availability, and lower cost."
> — Director of Technology, Major Canadian Manufacturer

Clearly a new logic is driving decision making as offshoring moves up the value chain. It's less and less about low-skilled labor arbitrage and more and more about accessing new pools of high-skilled talent anywhere.

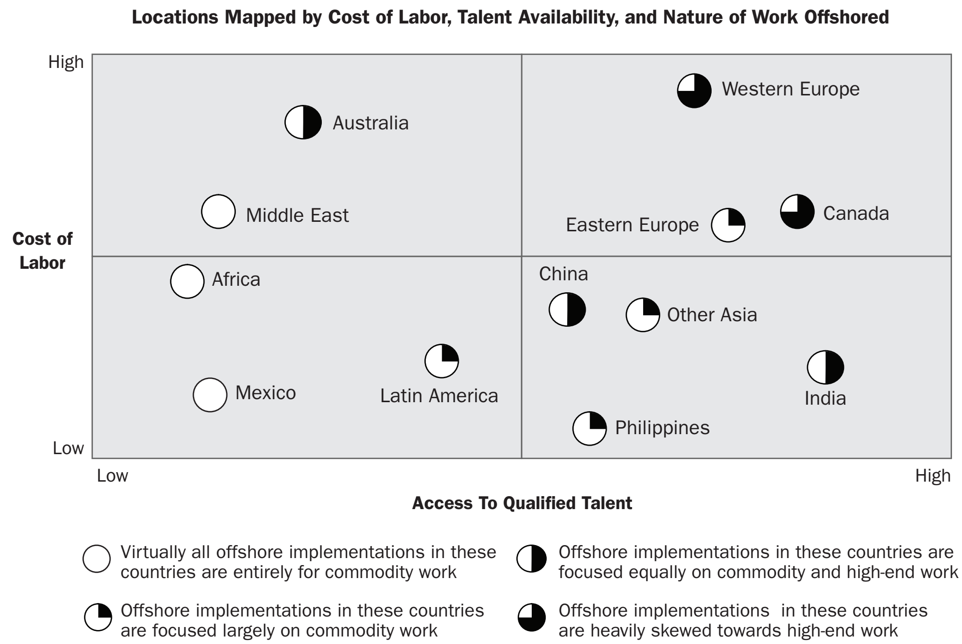
**Insight #3: Companies look elsewhere because they can't get it at home.**

Twenty years ago, if anyone had advocated locating core engineering jobs in a developing nation, he or she would have been greeted with derision. Not only were engineers in developing countries considered less competent, they also did not have the access to state-of-the-art computing and telecommunications infrastructure that these jobs demanded. Furthermore, the sharing of blueprints and data was a time-consuming, risky, and expensive enterprise.

A great deal has changed since then. Not only have digital technologies compressed time frames and dramatically reduced the cost of data communications, but the supply of qualified talent has grown significantly in developing markets such as India and China, while it has been steadily declining in more advanced economies such as Germany, the United Kingdom, and the United States.

As Exhibit 4 illustrates, the number of U.S. residents (including immigrants with green cards) graduating with master's and Ph.D. degrees in engineering has steadily eroded over the past three years. Meanwhile, the demand for science and engineering graduates has been growing over the same period, creating a

**Exhibit 5**
Offshore Locations Mapped by Cost of Labor and Talent Availability




Note: Shading of circles indicates degree to which high skilled work is currently offshored to the specific country.
Source: Booz Allen Hamilton/Duke University Offshoring Research Network 2006 Survey.

widening gap in the supply of engineering talent in the United States. The impact of this supply gap had been masked for some time due to a growing quota of H1B immigrant work visas that allowed foreign workers to be imported. However, since the slashing of the annual H1B visa cap from 195,000 to 65,000, this onshore supply problem has been revealed and employers may now be forced to hunt for talent offshore.

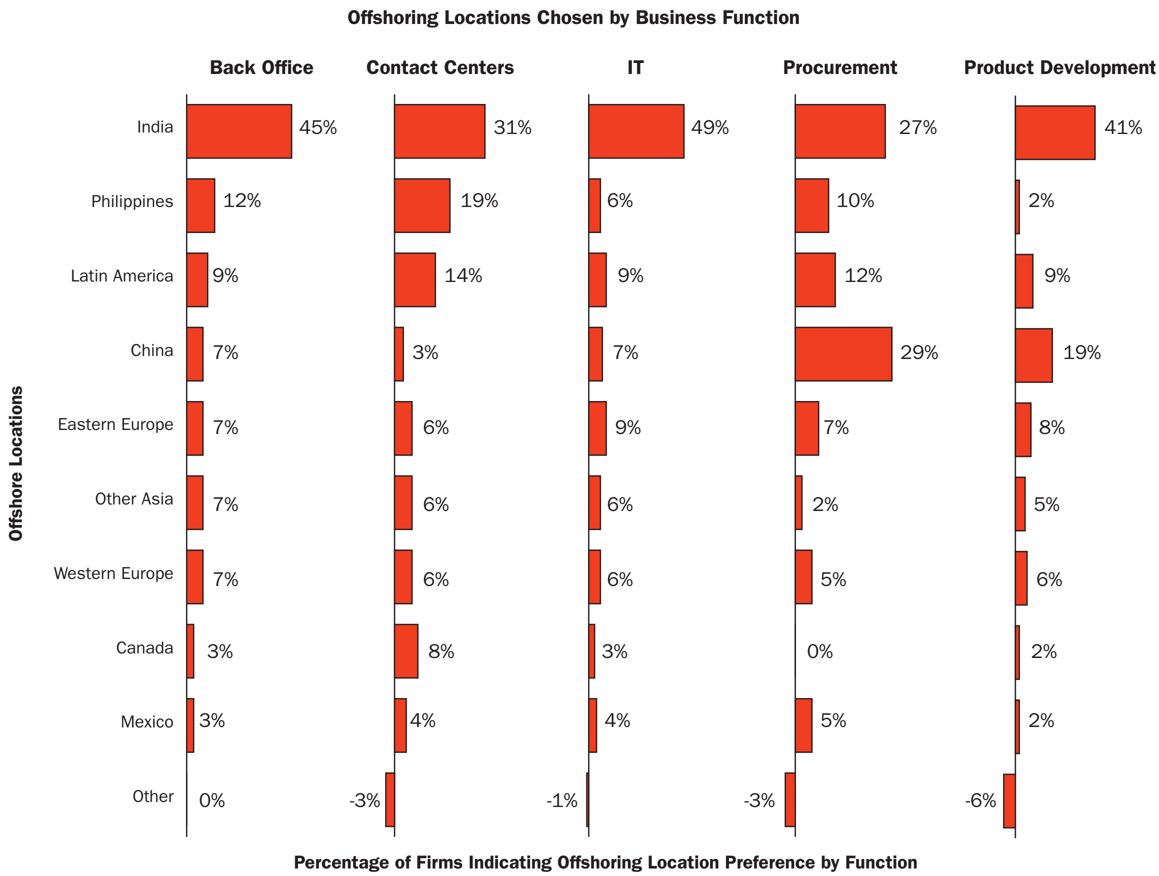
The research from Duke and Booz Allen confirms the correlation between the steadily declining pool of science and engineering talent in the advanced economies represented in our study and the increase in offshoring of high-end work. Participants in the Duke/Booz Allen 2006 survey cite the need to “gain access to qualified personnel” as a primary and growing factor in their decision to offshore innovation, product development, and engineering work. What is clear is that companies are now sending work offshore to where the talent is available and costs are lower, rather than importing foreign workers.

As the technical barriers engineers must overcome to work in distant locations across multiple time zones become less apparent, major corporations are tripping over themselves to tap the inventive minds of engineers and scientists in various countries. As an example, IBM has already established an R&D lab in New Delhi and has announced its intention to recruit 14,000 additional “software inventors” in India. Motorola operates 16 separate R&D centers in China that collectively employ 1,800 engineers—10 percent of the company’s global R&D head count. Other companies have established engineering groups and sister technology centers in many Eastern European countries, as well as in Russia and Israel.

**Insight #4: Where you offshore depends on what you offshore**

Companies are becoming more sophisticated in assessing and integrating a variety of factors when selecting an offshore location. Increasingly these factors include availability of qualified labor, access to technology clusters or academic institutions, political stability, robustness of infrastructure, and the hospitality of the local business environment. Exhibit 5, maps offshore markets according to the two most important

**Exhibit 6**
China Still Lags India Across Most Offshored Functions




Source: Booz Allen Hamilton/Duke University Offshoring Research Network 2006 Survey.

factors that emerged from our analyses: relative cost of labor and potential access to qualified talent.

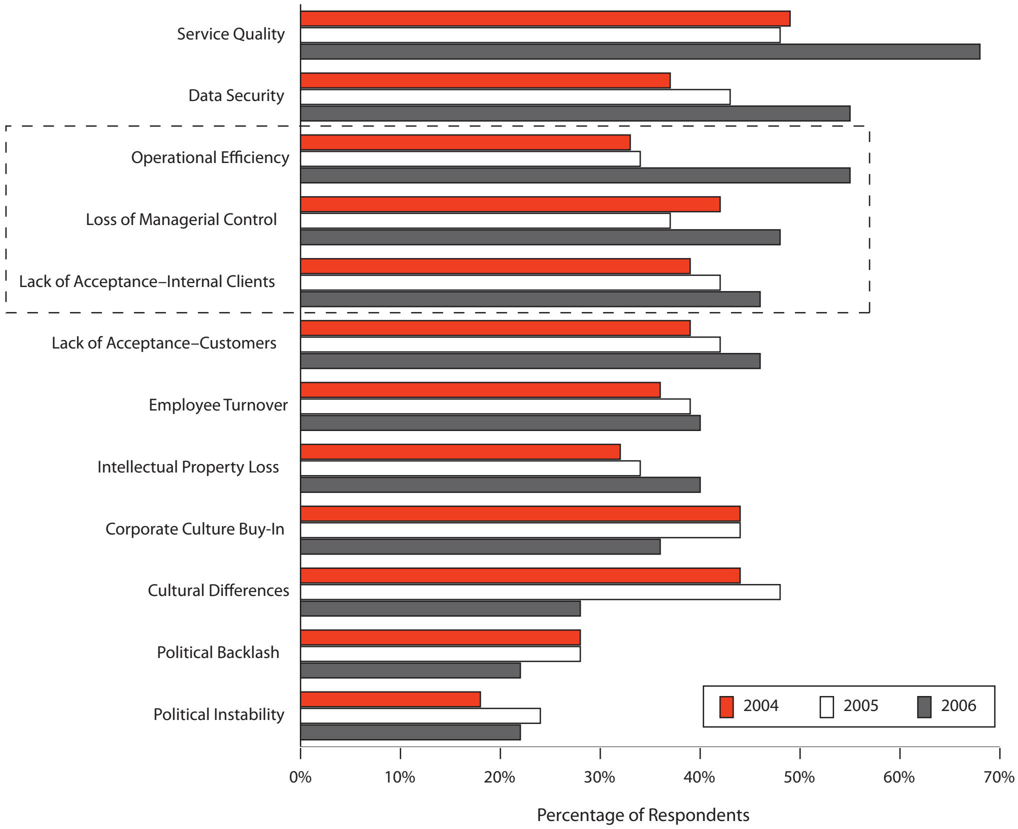
An interesting pattern emerges that illuminates why companies offshore to certain countries. On the lower left are Mexico, Africa, and Latin America, where companies offshore simple functions in order to reap the benefit of low labor costs. Companies do not look to these markets to offshore highly skilled work. In contrast, India's placement in the lower right indicates that it rates well on both dimensions: access to qualified talent and low cost of labor. Canada, on the other hand, rates well in terms of access to highly skilled, English-speaking, geographically proximate talent, but it's no bargain.

Although much of the recent literature on offshoring highlights China as a favored destination alongside India, our research confirms that India is still perceived to be in a league of its own when it comes to attracting high-skilled offshored work. Its talent pool is rated as both less expensive and more qualified than China's by our survey respondents (see Exhibit 5).

On the location selection criteria that matter most to the companies we surveyed—expertise and language requirements (i.e., English proficiency)—China still significantly lags behind India. Moreover, it suffers from lingering concerns about piracy of intellectual property, cultural incompatibility, and poor infrastructure outside the major cities. The most recent findings indicate that the Philippines is emerging as a closer competitor to India for contact centers and administrative and back-office capabilities, although its smaller size naturally constrains the growth of the Philippines as a major offshoring market.

**Exhibit 7**

Loss of Internal Control Is of More Concern Than Cultural Fit




Source: Duke University/Archstone Consulting Offshoring Research Network 2004 and 2005 Surveys; Booz Allen Hamilton/Duke University Offshoring Research Network 2006 Survey.

As Exhibit 6, page 7 indicates, although India has been the preferred location for most functions offshored, China is making inroads into select areas, notably in the offshoring of product development and procurement functions. Moreover, government policy–related factors (e.g., quality of infrastructure, political stability, government incentives) are increasingly persuasive in selecting offshore sites, so the competitive playing field is far from static. Governments in many prospective offshore destinations have made attracting this business a matter of national economic development policy.

**Insight #5: The obstacles to successful offshoring are increasingly internal and organizational.**

The design of the survey sample provides a basis to also examine why some companies have not yet initiated offshoring strategies or why they have decided not to offshore at all. In the 2004 and 2005 surveys, concerns about achieving desired service quality and the ability to assure data security were cited as the most important perceived risks and the 2006 findings are proving to be no exception (see Exhibit 7). In sharp contrast to prior years, however, internal organizational constraints are also emerging as very clear impediments to offshoring. Specifically, “operational efficiency,” “loss of managerial control,” and “lack of acceptance among internal clients” have emerged as hot-button issues—all increasing significantly (in terms of percentage of respondents concerned) since the 2005 survey (see Exhibit 7).

It seems that companies are opting not to offshore, not because there is anything inherently unworkable or difficult about the arrangement or service provider, but rather because they don’t think their own organization can handle it. That is a cause for concern and a call to action—particularly since many of these issues are controllable through careful planning, continuing adjustment, and effective execution.

Follow-up discussions with survey respondents reveal that these internal concerns stem from the fact that many companies do not have a management model built around clearly defined processes, standard operating procedures, and control parameters that can guide and enable offshoring. Absent this process architecture, it is challenging and sometimes downright impossible to distinguish between core and commodity work and to make the right call on what to outsource and where. When these companies do try to move a function or task offshore, they do not have in place the organizational structure, processes, tools, or skill sets to manage the transition. Nor is it easy to establish appropriate metrics to measure and control this work once it is being performed remotely, often by a third party.

"All along we thought the problem was that our vendor was not delivering. When we discovered that we were the problem, we hired a manager in-country to manage the offshore relationship and started to talk to our employees about career paths that gave importance to global experience. All of a sudden, the problems subsided and our offshore team was trying to sell us on new product ideas and coming to the table telling us they could do more."
— Vice President of Global Delivery, Major Information Services Firm

In addition to the concerns about loss of managerial control and the other internal barriers, external impediments (e.g., cultural differences, political backlash, political instability) are also growing in importance, according to Duke/Booz Allen survey respondents. Offshoring has always presented unique challenges, such as the need to work between time zones and across diverse cultures. Therefore, it is telling that in spite of major investments by third-party offshore providers, who have invested significant effort and money to overcome these challenges through language training, cultural awareness, and integration, the challenges persist. In many instances, the providers have tried to close the gap (quite literally) by aligning the schedules of their offshore workers with the customers they serve (see "Bridging the Cultural Divide in Technical Support").

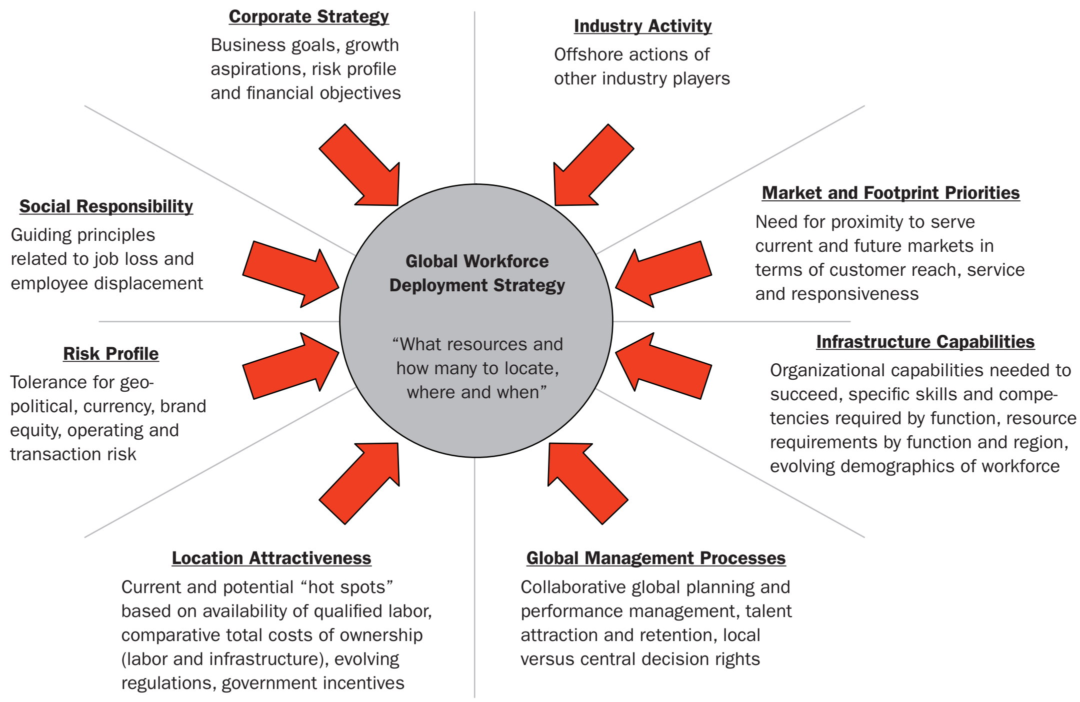
**Case Study: Bridging the Cultural Divide in Technical Support**

Managers at an Internet networking company that participated in the Duke/Booz Allen Offshoring Research Network 2006 Survey related their experiences in addressing the disconnect between their technical-support operations located in Southeast Asia and the customers they served in Europe. Because of the time difference, European customers in need of technical support were being routed to second- and third-shift engineers working through the night in Southeast Asia. Transactional analyses revealed that customer-satisfaction scores associated with these shifts were significantly lower than those associated with the day shift.

The executive in charge described the situation as follows: "We had opened up this center in Southeast Asia based on the cost of doing business there, but we didn't take into account the importance of a certain cultural affinity with the customer. What we found very quickly was that cultural affinity is being in the same time zone, understanding the culture and all that…not just language and accents. We could also tell by comparing shifts that the second shift was getting the B players. They did not perform as well as the first shift because by the time an engineer got some experience, he would negotiate to be on the first shift or leave the company. Our customers in Europe were bearing the brunt of this."

The company addressed the problem by shutting down the third shift and opening a new technical-support center in Eastern Europe and another in Jordan for the

**Exhibit 8**
How to Think About Deploying Your Workforce Globally




Source: Booz Allen Hamilton

Middle East, so that tech support engineers would be on the same cycle as the customers they supported. To support and better integrate these operations, the executive in charge partnered them with similar but more senior centers in Belgium and the United States...and then held the Belgian and American managers accountable for their younger "siblings'" results.

By the time the company conducted its next customer transactional survey, the customer satisfaction issues had been successfully resolved. Customers were being provided with a consistent and professional technical-support experience, and escalations were dramatically reduced.

How do these insights translate into an action plan? Below are the overriding business and policy implications of the insights we've just discussed.

**Business Implication #1: Develop a global workforce sourcing strategy now.**
As business becomes more global and labor markets grow more expansive and complex, an organization's ability to manage its own multinational and mobile workforce will become increasingly critical. Indeed, the ability to source, develop, and manage talent on a global basis may well turn out to be a key competitive differentiator in years to come.

An effective global talent management strategy starts with knowledge of the new worldwide labor and talent landscape coupled with a smart, pragmatic approach to making specific decisions about where to locate key processes and people, and when. It combines the capacity to see the global big picture with the ability to translate it into action in each individual labor market—and to do it over and over again as circumstances change (see Exhibit 8).

Although this strategic exercise may sound straightforward, the Duke/Booz Allen 2006 survey results suggest that it is anything but. Offshoring today presents senior management at companies large and small an unprecedented and bewildering array of choices and challenges in locating their global operations. Pick the wrong country, or a "hot spot" where the labor supply is tightening, and a company can find itself being set back with its offshoring strategy and its long-term competitiveness seriously undermined. Workforce deployment decisions, therefore, need to take into account likely trends in wage rates and availability of talent over the medium and long term.

But that's not all. A country's labor rates need to be weighed against the skills, productivity, and education levels of its workforce, the transportation and telecommunications infrastructure of its cities, and the receptivity and stability of its government, all of which influence relative competitiveness. Skill differences among countries will likely become even more pronounced than salary differentials in years to come—and even more critical. Gaining access to key skills will necessitate continuing mobility, as companies shift R&D, product development, business analytics, market research, and other operations around the globe.

Offshoring decisions need to also take into account the pros and cons of various service delivery models (e.g., captive subsidiary, joint venture, arm's-length outsourcing arrangement with independent vendor, or some hybrid thereof). In some cases, it will make sense to mitigate risk around location selection by using an outsourcer. In others—particularly where proprietary intellectual property is an issue—companies may want to set up a captive operation, after putting the appropriate market risk mitigation strategies in place.

To be relevant, global workforce planning needs to be tightly integrated with the corporate strategic planning cycle. Senior management needs to identify the capabilities required for the offshoring strategy to succeed and then translate those capabilities into organizational requirements (e.g., skill sets, knowledge, competitive pay structures, location). While the linking of corporate strategy and global workforce planning may seem self-evident, it is surprising how many companies have neglected to do it—until now.

Now, senior management at organizations ranging from high-tech companies to government agencies to outsourcing service providers are focusing attention on forecasting and quantifying their workforce requirements so they can make informed workforce footprint decisions.

**Business Implication #2: Erase organizational boundaries.**

Globalization has smashed many barriers, including the boundaries of the traditional organization. Work is now increasingly mobile, and management rules and practices are mutating. No longer does the employee move to the job; the job moves to him in Bangalore or Beijing or Budapest. Managers have to adapt their practices and beliefs to work effectively with employees who may be 10 time zones away, rather than expecting employees to adapt themselves to a far-away manager's style or the organization's long-standing culture.

As offshoring gathers momentum, businesses will need to evolve their organizational thinking to manage processes across diverse geographies and distinct cultures. Companies can no longer afford to think of themselves as "American" or "German" with a few scattered offshore operations. They must start to view their organization as a dynamic global enterprise. In the long term, this may lead to a blurring of the company's geographical borders and an obviation of such terms as "offshore" and "onshore." In the medium term, firms will need to adopt new management processes and organizational structures to incorporate effectively a larger offshore presence and an increasingly multinational workforce.

Challenges will mount as organizations leverage employees from all across the world to support work in a country that may be very far away. As the supply of talent in a given country gets absorbed and companies are compelled to look farther afield, a company's offshore labor force may become even more fragmented and thinly spread over multiple countries with widely varying cultures, time zones, and language requirements (to name just a few of the issues).

Objectives such as global collaboration between disparate workforces, efficient information flows, properly delegated decision rights, and appropriate incentives will rise in importance as significant organizations are built offshore. Management and organizational practices will necessarily need to adapt to address these priorities.

**Business Implication #3: Promote policies that cultivate innovation**

Moving forward, the intensity of global competition is only going to increase. Developing nations will continue to evolve and build a business climate and infrastructure that is more and more attractive to companies that are at the forefront of executing global innovation strategies. Many if not most of these countries will retain their labor cost advantage for the foreseeable future. Moreover, many of these countries are already educating rapidly growing numbers of scientists and technologists, spawning the next wave of competent, capable, and hungry young engineers, software developers, innovators, and managers.

Long-term competitive success requires access to the best and brightest globally. Without people to create, apply, and exploit new ideas, there is no innovation process. Innovation demands not only a trained corps of scientists and engineers to fuel the enterprise but a literate and numerate group to run it. In every country the talent pool must be actively nurtured; it is one of any nation's key assets and exceedingly hard to replenish.

In today's global economy, it's all the more important that nations invest in the education, training, and employment of their people. This is not just a social imperative, it is an economic one. And the focus of these educational investments and incentives should be on those skills or links in the value chain where a nation's workforce can achieve the greatest impact. India is the gold standard now in IT development; it would hardly make sense for the United States to invest heavily in trying to reclaim that space. But the United States can groom future innovators in other areas where it retains its advantage—where physical and/or cultural proximity to the end consumer is important (e.g., content creation in digital entertainment).

Our role is to provide facts and analysis, not issue-specific policy prescriptions, but it is clear that government needs to partner with business in creating the conditions for future economic success. That means improving the overall standard of education (particularly in science and math), encouraging and supporting the pursuit of higher education, establishing incentives for innovation, and revisiting immigration policies that have made it increasingly difficult for foreign-born engineers to study and contribute to countries with advanced economies. Government policy is an important factor that will impact the long-term competitiveness of firms in both the developed and developing world. We encourage business leaders to make themselves heard.

## The Duke Center for International Business Education and Research (CIBER)

Founded in 1992, Duke CIBER is one of 31 national centers funded under Title VI, Part B, of the Higher Education Act. The Center strives to internationalize the content of core and elective courses while developing innovative teaching materials for Duke's Fuqua School of Business. It promotes and advances research on international business and U.S. competitiveness. The multiyear Offshoring Research Network project represents the centerpiece of the CIBER effort to advance the competitiveness of American companies (Duke's offshoring research project began in 2004 and 2005 in partnership with Archstone Consulting LLC and continued in 2006 in partnership with Booz Allen Hamilton Inc.).

# BOOZ & COMPANY WORLDWIDE OFFICES

## Asia
Beijing
Hong Kong
Seoul
Shanghai
Taipei
Tokyo

## Australia, New Zealand, and Southeast Asia
Adelaide
Auckland
Bangkok
Brisbane
Canberra
Jakarta
Kuala Lumpur
Melbourne
Sydney

## Europe
Amsterdam
Berlin
Copenhagen
Dublin
Düsseldorf
Frankfurt
Helsinki
London
Madrid
Milan
Moscow
Munich
Oslo
Paris
Rome
Stockholm
Stuttgart
Vienna
Warsaw
Zurich

## Middle East
Abu Dhabi
Beirut
Cairo
Dubai
Riyadh

## North America
Atlanta
Chicago
Cleveland
Dallas
Detroit
Florham Park
Houston
Los Angeles
McLean
Mexico City
New York City
Parsippany
San Francisco

## South America
Buenos Aires
Rio de Janeiro
Santiago
São Paulo

The most recent list of our office addresses and telephone numbers can be found on our Web site www.booz.com.

05/08 Printed in USA