



## Get Ready for Global IT to Target the U.S. Health Delivery Market

By Daniel J. Coate

### Meet the Author

Mr. Coate has over 20 years experience in provider and payor healthcare. He focuses on linking business benefits and priorities to operational and information technology initiatives.



He is skilled at leading large-scale clinical, operational and financial projects. In 2005-06, Mr. Coate relocated to Bangalore, India where he developed expertise in creating and growing global capabilities to support U.S. healthcare technology and business process needs. His clients have included academic medical centers, managed care and Medicare Advantage organizations, specialty university hospitals, multi facility/multi regional Integrated Delivery Networks, large physician group practices and start-up technology companies.

*I relocated from the U.S. to Bangalore, India in early-2004. When I left U.S. soil, terms like “Outsourcing” and, more accurately, “Global Sourcing” were in all the headlines. Given the frequent focus on Indian IT in the U.S. papers, I expected that these terms would be used even more frequently on this side of the world. I was wrong.*

What I soon realized was that terms such as “Global Sourcing” aren’t used here in general conversation because it is just how business is done. The ubiquity of the concept makes naming it unnecessary – similar to today’s use of the term “Client-Server”. In the early-90s the term Client-Server was used to differentiate it from mainframe, green-screen computing. Now, in 2005, the term Client-Server isn’t used much because virtually all computing is done using some sort of Client-Server architecture. The numbers certainly support what I felt in language. The export market for Indian software has more than tripled in the last three years – from \$4 billion in 2000, to \$12 billion in 2004. These numbers also foreshadow a secondary trend: as existing markets mature, established global IT suppliers will search for new markets and revenues.

While other U.S. industries have embraced the cost, quality, and speed benefits of globally supplied IT, health delivery is just beginning to experiment. In U.S. health delivery IT the term “Global Sourcing” is not in the day-to-day vernacular. With all of these factors converging, it’s clear, the global sourcing of IT will have a significant impact on U.S. health delivery in the near future. It’s important to understand the benefits and challenges of this shift, as well as the specific impacts that we will see in our industry.

### Global Sourcing: Benefits & Challenges

There are several key benefits of using global sourcing — the most obvious of which is cost. Global IT suppliers are set up in locations where the cost of living of qualified resources is significantly less than the cost of living in the U.S. While Forrester Research reports price advantages of 30 to 60 percent for globally-sourced IT work performed for seasoned buyers, the 30-to-40 percent savings range is probably more realistic for health delivery organizations new to global sourcing. Still, saving 30 percent on a budget counted in tens of millions of dollars is significant. Note that while global IT salaries are often less than a quarter of comparable U.S. IT salaries, making a global project work requires a blended team. That blend of domestic and global resources, along with the various costs for infrastructure and communications, increases the cost.

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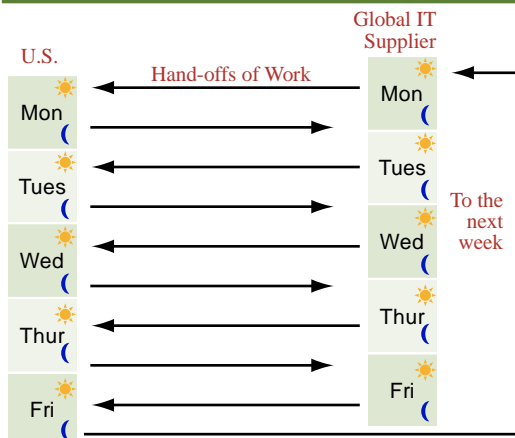
The quality benefit is less obvious but just as compelling. Well-respected global IT suppliers are relentless in their pursuit of quality. All of the leading suppliers either have or are working toward CMM or CMM-I Level 5 assessments. The CMM and newer CMM-I (Capability Maturity Model and Capability Maturity Model-Integrated) are defined by the US-based Software Engineering Institute as frameworks that describe key elements of effective software development and support processes – with Level 5 being the highest assessment. What this means is that a Level 5 organization maintains defined process for all aspects of software development.

The least obvious but most intriguing benefit of global sourcing is the compression of work to increase overall speed of delivery. With global IT suppliers in Asia roughly 12 hours ahead of the U.S., work taking place during the Asian day occurs overnight in the US and vice-versa. For manufacturing (steel, automobiles, etc.), this time difference really doesn't matter. However, with IT work occurring real-time, this 12-hour differential is critically important. Figure 1 illustrates how the 24-hour clock can be effectively leveraged to produce a globally blended team delivering work around-the-clock rather than "nine-to-five". This speed benefit is magnified in segments of work like software testing in which there is a clear separation of tasks. The testing process consists of the actual test execution as well as the subsequent investigation and remediation of bugs found during that execution. In a globally-blended testing team, the (global) software testers can test the application during the U.S. night. Then during the U.S. day, domestic staff can investigate and remediate bugs, apply fixes, and reboot systems without delaying the test execution.

Global sourcing does have its challenges; if someone says it doesn't, don't believe them. The key challenges are language and accents, knowledge transfer, process definition, cultural differences, and effects on internal worker morale. These challenges are real and must be addressed. However, it's important to remember that IT leaders in other industries have successfully met these challenges and are reaping the cost, quality, and speed benefits of global sourcing.

Now that the general thesis of this article has been stated, and the benefits and challenges defined – let's look at the specific areas that global IT will impact.

Figure 1: Example of 24-Hour Clock



## Development and Testing for Vendors

The first impact area is clearly the development and testing of packaged applications for established U.S. vendors. Global software development and testing for U.S. vendors can be delivered via several different approaches – the most straightforward of which is the direct set-up of global operations by U.S. health delivery vendors. While this approach represents the most control for the vendor, it also equates to the longest lead time. In addition, with attrition being a key challenge in hot global IT markets, established U.S. vendors will have difficulty attracting and retaining IT professionals for a "start-up" situation when other much more established IT firms are vying for these professionals.

The second approach to delivering global software development and testing is to have the U.S. vendor simply outsource specific work to global IT players. While this can result in "quick-hit" progress, there is significant loss of control for the U.S. vendor. Given that U.S. health delivery vendors typically have years of development capital invested, few established vendors will choose this approach because of concerns with having their intellectual property jeopardized in the off-shore, global sourcing transaction.

The Build-Operate-Transfer model (BOT) is a hybrid of the above two approaches and incorporates key benefits of each. Given this, the BOT model is likely to be preferred by U.S. health delivery IT vendors. In BOT, the client (in this case, the U.S. software vendor) and global IT supplier sign a multi-year deal that includes the IT supplier initially building, and then subsequently operating the client's IT operations. At the end of the specified period (typically 4-6 years), the client has the option to transfer ownership of the business within their corporation, or to continue having the IT supplier operate the organization. This hybrid approach has the advantages of giving U.S. vendors a quicker access to the benefits of global IT – especially important for healthcare packaged application software vendors that are late entrants to global sourcing. In addition, U.S. vendors have more intellectual property protection given the partnership-oriented approach of the BOT deal. Finally, building a capability with an established global IT supplier is generally more attractive to global professionals looking to join a locally well-known company.

## Implementation Services

Implementation services will be another key area in which global IT will impact U.S. health delivery. Complex packaged application systems require significant preparation before productive use at a hospital or clinic. The package must be designed, integrated with processes, configured, and carefully tested. In addition, it must be interfaced to legacy applications, and often with significant quantities of data converted. In U.S. health systems today, virtually all of these tasks are accomplished by a team of client, third-party and/or vendor analysts on-site at the hospital. This is a very expensive mix of staff – in terms of both time and travel expenses. As an example of this, research in leading U.S. hospitals has shown that for each dollar spent on software and hardware, two to three

dollars were spent on the associated implementation. Given that implementation services require more real-time, end-user interaction than code development or testing, it will be challenging to implement software in the U.S. using globally-sourced resources. However, the reward to both the U.S. health delivery organization and the IT services supplier is great.

### **Full-Scale Development for Hospitals**

The access to low-cost and high-quality IT services will change the way that some larger U.S. hospitals look at their build versus buy decisions. In a typical hospital system selection today, the decision is between vendor A and vendor B, custom development is often not considered. Because of this, vendors have concentrated on winning the functionality “arms race” resulting in vendor supplied applications that are often large, monolithic systems that are very expensive and require years to implement.

Increasingly, U.S. health delivery organizations will likely balk at the proposed costs of purchasing and implementing a new clinical system from an established vendor. Savvy organizations will compare the vendor-proposed costs and timeframes to internal development and may find that it is more cost-effective to transform their existing Intranet clinical data viewers into full-fledged hospital and clinical information systems using global sourcing.

In one such example, a large U.S. health delivery organization with which I have worked is in the midst of implementing a vendor-supplied clinical system that will cost over \$40 million and require over 5 years to implement. In comparison, this organization has also invested about \$1 million to develop a very good and well-liked Web-based clinical viewer. While this organization made the right decision to “buy” in 2001, its build versus buy decision would have been different if made in 2004 factoring in the cost and quality of readily-available global IT talent.

### **Wrap-Around Development for Hospitals**

This shift in mind-set will also change how forward-thinking hospitals leverage and wrap-around their existing technology to help improve the things that really matter.

For instance, virtually all U.S. hospital have an Admission-Discharge-Transfer (ADT) system to automate bed management and other functions. However (and unsurprisingly), a 2004 American Hospital Association Survey on Hospital Capacity and Emergency Department Diversion found that, “The midnight census as a marker of hospital capacity overlooks daily fluctuations in demand and supply.” The bottom-line is that the combination of hospital closures and an aging population are increasing demand and thus forcing U.S. hospitals beyond their current capacity. A printed midnight census from the ADT system does no good at 2:00 PM the next day when hospital leadership is trying to manage its way out of going on diversion. While the midnight census is necessary, what really matters is dashboard-style information about the diversion situation.

While all ADT systems can manage the bed information, none that I am aware of can push minute-by-minute trends to key decision makers and help them manage during high capacity crises. While hospital leadership and hospital IT can imagine such a dashboard, rarely do they have the bandwidth and product development skills to execute it. However, the access to global high-quality and low-cost IT resources can, and will, change that picture for hospital leadership.

### **Academic Medical Center Development**

Research departments within academic medical centers have very specialized reporting needs; they also have years of legacy data spread over disparate systems. To date, their options for accessing this data have been limited.

In these settings, traditional vendors typically propose that the medical center migrate to the vendor’s platform and then access the data. Research departments generally have excellent statistical analysis skills and some IT capability; however, they typically lack the capacity to build a full data-collection and reporting system with the necessary conversions, interfaces, and other functionality. Finally, academic medical center CIOs and IT departments have difficulty fielding these requests since they tend to be “bursty” and require specific skills (i.e., “We need four J2EE people for three months starting next week!”). This necessitates the use of external resources which, at domestic rates, exceeds the budgets of strapped IT departments and the requesting research department.

Given this situation, U.S. academic medical centers will likely look to global sourcing to help solve their most vexing research data problems.

### **Characteristics of Successful Suppliers**

To win U.S. health delivery business, global IT suppliers will need domain knowledge and client relationship-management skills. Additionally, there will be a distinct advantage for suppliers incorporated within the U.S.

Given that health delivery organizations are relatively new to global sourcing, their processes and capabilities for managing remote resources are still immature. Therefore, the companies that provide IT services will need to have solid client management skills. In addition, given the complexity and “high touch” nature of healthcare work, global IT services organizations will need to maintain an on-site presence at the client along with domain knowledge of healthcare. While providing these additional skills will increase the cost of services, doing so will be necessary to prove to a sceptical health delivery market that global sourcing can – and does – work.

Finally, global IT suppliers must understand the importance of data privacy and security to health delivery organizations. The U.S. Health Insurance Portability and Accountability Act of 1996 (HIPAA) dictates specific protections that a health delivery organization must maintain with its Business Partners

### *About Aspen Advisors*

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(including IT services firms). However, these protections are difficult-to-impossible to enforce with partners incorporated outside of the U.S. Therefore, global IT services firms that are subsidiaries of U.S. firms will have distinct advantages in allaying client concerns about data privacy and security.

### **Summary**

In the 1970s and 80s, shifting manufacturing outside of the U.S. revolutionized steel, automobiles, and most other U.S.-based industries. In the late-1990s, the spike in demand for Y2K software remediation and the rise of global communication networks opened the way for software services to be provided by global suppliers.

At the same time that the U.S. health delivery system is demanding more IT at a lower cost, global IT suppliers will be searching for fresh industries and revenues. The convergence of these two factors will dramatically change U.S. health delivery IT as we know it.

U.S.-based vendors and services firms will establish development centers in global locations and begin offering globally-blended teams of resources. Large global IT firms will begin to target U.S. hospitals and vendors. Wise U.S. healthcare IT professionals will benefit by identifying ways to leverage this trend.