



Home Ice Advantage

Local Software has a Competitive Edge

As business leaders consider the viability of hiring low-wage, offshore developers for their software projects, they must understand that the cost of labour is only one piece of a larger outsourcing puzzle. In fact, the very success of complex, highly collaborative software engineering projects can be jeopardized by offshoring because of the communication problems and management challenges inherent in a long-distance partnership. This white paper describes some of the difficulties experienced by companies that send projects offshore and explains why it is often more advantageous to collaborate with a local software development firm.

Introduction

Offshoring, or outsourcing work to offshore companies, has been steadily increasing for decades but it's not necessarily a better alternative for software projects.

Undeniably, large numbers of low-wage, well-educated workers in India, China, Eastern Europe, and elsewhere have made offshore outsourcing attractive to many industries, including software development. Numerous large IT multinationals with deep pockets and long-term strategies are now firmly established in these developing economies, and continue to expand their transplanted operations.

But companies looking to outsource a limited number of relatively small software projects should not be misled by the apparent offshore success of giants like Microsoft and IBM. Large multinationals spend years building global operations and can afford to experiment in-house with remote (or distributed) development techniques. Business leaders that occasionally need to outsource an important project do not want to experiment. They want great software, period.

Choosing the Right Option

According to some studies, about 40% of offshore software development projects do not yield the expected benefits.¹ Therefore, when considering whether to engage an offshore development firm, business leaders must look beyond the initial price tag and assess the suitability of a project for remote development. After all, the cost of labour is only one factor among many that will ultimately influence the total cost of a project and the quality of the finished software.

Making the right choice between an offshore firm and a local firm often depends on the type of project under consideration. In some situations, hiring an offshore vendor for lower value, process-oriented activities, like testing and “grunt” programming, can be cost-effective. Such projects can be packaged up and sent off with a high probability of successful completion.

On the other hand, design and development of complicated systems is highly specialized and collaborative, which makes it a poor candidate for sending offshore. *Close collaboration* with a local firm on complex, higher value work, like solution architecture and proper software engineering, enables business leaders to achieve the innovations and cost reductions that lead to greater competitive advantage. Project examples include the design and development of software applications for customer service systems, online retailing, and integrated business systems.

This white paper describes some key problems with outsourcing software projects to offshore developers and explains why a local software development firm can provide better value...and better software.

As new global sourcing options become available, forward-looking managers are actively evaluating tasks, processes, and functions inside their firms—from back-office support to leading-edge research—to determine the most cost-effective and highest quality location to carry out these activities. In other words, it's not just about finding a low-cost location. It's about gaining access to the best combination of talent, resources, and local markets.

- Kennedy and Sharma
The Services Shift²

Wage differentials are also often mentioned as a factor in India's attractiveness as a location for software-related activities. However, wage differentials to some extent reflect differences in productivity. Other types of costs, including overhead, organizational and transactions costs are also incurred when activities are sourced internationally and these are often relatively high in India.

- Lippoldt and Stryzowski
Innovation in the Software Sector³



Problems with Offshore Development

Companies can experience a number of difficulties when outsourcing software projects to offshore developers. These include:

- **Limited potential for collaboration**

With no opportunity for regular face-to-face meetings, communication is restricted to phone calls (at odd hours) and e-mail messages, making it hard to collaborate⁴ and manage change effectively. An offshore development team will find it easier to follow instructions and meet predefined targets rather than get to know the client company and push back with advice on what's really needed to support business objectives.

It's no surprise, then, that a long-distance partnership would have difficulty producing great software, which must be developed in small increments as the product owner and the development team work in unison along a shared learning curve. As one management consultant says, "Ironically, the greatest measure of successful outsourcing is the extent to which a process appears to be in-sourced."⁵

- **Communication across several time zones**

Communication naturally suffers when the product owner and the development team are separated by multiple time zones. With the two parties out of sync, problems often take longer to resolve because one team must wait for the start of the other team's workday. Inevitably, team members in both companies end up burning the midnight oil to attend phone meetings, which can adversely affect the quality of the project.^{7, 8}

- **Cultural and linguistic differences**

Language barriers can slow down communication. Even worse, miscommunication can lead to costly mistakes and lost productivity.^{9, 10} In countries with a cultural bias against challenging or questioning a client, many firms can write code exactly to your specifications yet cannot collaborate as a true technology partner to ensure your project's success.

- **Dubious protection for intellectual property**

Many developing countries either lack adequate laws to protect intellectual property (IP), or simply do not enforce existing laws. China, in particular, is known to have a poor track record for protecting IP.^{12, 13}

- **High employee turnover rates**

With demand for IT workers now exceeding supply in some countries, turnover rates at offshore development firms are skyrocketing as workers are lured away for higher paying jobs. Obviously, this lack of continuity across a project lifecycle hurts software quality.^{14, 15}

- **Inexperienced or poorly trained workers**

Because qualified programmers and software engineers are now in short supply, many offshore firms are hiring inexperienced workers and throwing them into software projects with minimal training.^{16, 17}

- **Rising labour costs**

Competition for top talent among offshore firms is driving up wages at approximately 15% annually. Offshore outsourcing is rapidly losing its low-wage advantage.^{19, 20}

...how do companies ensure that whatever trade secrets or other IP a third party is exposed to is not stolen? Intellectual property laws in many countries are lax. Can you imagine how to stop an employee of a company in Asia from selling your trade secrets?...Especially when software is being developed offshore, companies must ensure that backdoors are not left open to enable uninvited hacking.

- The Portable MBA in Finance and Accounting⁶

The proliferation of high-paying multinational firms and abundance of alternatives [in India] have increased local costs...

- J.M. Swaminathan
Indian Economic Superpower¹¹

For offshore outsourcing to be economically viable, however, savings from the lower wage rate must exceed the additional costs of management and risk associated with offshore outsourcing.

- T.R. Ramanathan¹⁸



Although offshore outsourcing is technically possible because any work that can be digitized can be moved, there are many managerial challenges. One common complaint was that overall cost savings was less than anticipated due to the high transaction costs associated with finding suppliers, coordinating, and monitoring work done offshore. Other common complaints were that quality was initially poor, delivery was slow, and personnel issues such as high supplier turnover interfered with success...

- Rottman and Lacity²⁷

Given the high stakes involved, companies deciding not to offshore software development reported that the relatively small savings in labor costs weren't worth the benefits of finding and using such talented individuals at home. The CEO respondents were more comfortable, however, offshoring more routine functions, such as data entry and call centers and some routine manufacturing activities, a finding that accords with popular perceptions about offshoring.

- Audretsch, Litan and Strom Entrepreneurship and Openness²⁸

- **Questionable infrastructure**

Unreliable power grids and communication lines can cause project delays.^{21, 22}

- **Currency exchange rate fluctuations**

International financial transactions can be adversely affected by changes in currency exchange rates.^{23, 24}

- **The need for increased management “bandwidth”**

A project that has been outsourced to an offshore vendor requires more effort to monitor and manage.²⁵ Additional management resources are needed to resolve issues related to offshore legal protection (lawyers, consultants, non-disclosure agreements, contracts, etc), cultural and linguistic differences, offshore work disruptions (perhaps due to high turnover or political instability), communication logistics, and other areas.

According to M. M. Sathyanarayan, president of Global Development Consulting, “India, the most popular destination being 10,000 miles away means it takes an entire day to reach your vendor. Travel to the vendor at regular intervals will be part of managing offshoring.”²⁶

Offshoring is Hard

The idea of *opportunity cost* should figure prominently in any comparison of offshore and local software development firms. Business leaders who are serious about going offshore must put significant effort into learning about the world market. They must understand how to do business in the home countries of potential vendors, and how to protect their companies’ interests with internationally binding contracts and non-disclosure agreements.

When they have completed this part of their due diligence, business leaders must then initiate a selection process. Unlike local outsourcing, this process may require extensive travel on the part of some managers and other employees to learn about potential vendors and ensure that informed decisions are made. Further due diligence will be needed to thoroughly investigate a preferred vendor—investigation that must be undertaken in the vendor’s country of origin or perhaps in other countries, as well.

At any stage of the selection process or during implementation of the project, there could be delays with immigration departments over securing necessary work visas when employees from either company must travel. And what if the project fails because of high turnover and inexperienced workers at the offshore development firm? The product owner must start the whole process over again and select another vendor. Even if the project is completed on the first try, outsourcing to an offshore vendor often requires longer timelines because of the extra steps involved and the constraints of long-distance communication.

Is it Worth the Risk?

Going offshore represents a higher risk for companies that outsource software projects: Quite simply, there are more things that can go wrong. Can your company afford to have the first few software releases scrapped



and redone because of low quality? Before committing to a course of action, business leaders should be certain that the anticipated cost savings are substantial enough to justify the increased risk.

Indeed, some experts claim that “Only significant cost benefits will warrant offshore outsourcing of information systems services. With only a marginal cost benefit of say 10-15%, most organizations are better off retaining their information systems activities in-house or in-shore.”²⁹

In the end, business leaders often find it cheaper and easier to go with a local firm.

Benefits of Choosing a Local Firm

Companies that collaborate with a local software development firm enjoy several benefits, including:

- High quality software.
- Cost-effective solutions.
- Clear, no-hassle communication with people who understand your business.
- Experienced engineers and programmers with proven track records.
- No international learning curve to delay the start of a project.
- Strong protection for intellectual property under Canadian law.
- Reliable infrastructure.
- Immunity to fluctuations in currency exchange rates.

Other Local Advantages

A local software development firm has a lot going for it. Some notable advantages are:

- A stable, experienced workforce to draw upon.
- Excellent institutions of higher learning that graduate highly skilled workers and foster innovation.
- A local culture that embraces technology and knows how to use it.
- Shared business values and industry standards.
- Political stability, low corruption, and the rule of law.

If you want to learn more about collaborative software development, go to www.architech.ca and download our white paper on Agile development.

The transition to the high risk (and high value-added) realm has been a difficult one for firms in India...while the local technical talent is strong, the educational infrastructure for the development of complementary skill sets, such as the management of technology, marketing, new product development, and technology entrepreneurship, has been lacking...firms have found it difficult to build the capabilities to provide complete end-to-end IT solutions...

- J.M. Swaminathan
Indian Economic
Superpower³⁰



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