## **SPECIAL SECTION**

## **Information Technology**

### Offshore Software Development in Brazil

The Brazilian Government has demonstrated a renewed interested in exporting software-related products and services in recent years. Government agencies and Chambers of Commerce have stepped up their efforts considerably in support of the nation's homegrown software entrepreneurs. This trend parallels the strong increase in exports in other sectors of the economy and the strengthening of the political ties between Brazil and other leading developing countries, such as India and China.

This article identifies some areas for consideration by US companies considering offshore software development in Brazil and provides some recommendations for Brazilian companies pursuing the export of IT software and services to the United States.

#### **Market Data**

Offshore outsourcing refers to companies procuring parts of their products, materials, services or processes abroad, and it often applies to the development of software applications outside the US. The following data gives a brief snapshot of the demand for offshore software services in recent years:

- ◆ 50% of the respondents in a PM Network magazine survey in March 2004 stated that their companies do not outsource IT services outside the US; 27% outsource less than 25% of their IT services; 20% outsource near 50% of those services and only 3% outsource more than half of their IT services.
- ◆ Only 1% of the outsourcing contracts in the US go to software firms outside of the country. (Source: Pittsburgh Technology Council 2004 Outsourcing Summit)

- ◆ Economic growth forecasts and the projected human resource requirements of US technology firms reveal that the US will have a deficit of IT professionals in less than five years.
- ◆ Salaries in India for IT professionals increased nearly 15% since 2003. As a result, some companies in the US have contracted programmers in other countries such as Colombia for \$1000 per month instead of the average salary of \$3,200 per month in India. (Source: Business Week 1/2/04)
- ◆ There has been an increase in acquisition activity by Indian companies in the US to establish a local presence in the country. (Source: WSJ, 3/8/04)
- Quality, project management, data security and employee morale are among the risk factors companies face when outsourcing. (Source: Information Week)

#### Offshore Development in Practice

There has been an intense debate over the past couple of years regarding the impact of offshore outsourcing on the domestic labor force in the US. In January 2004, IBM was on the cover of the Wall Street Journal because of an internal document which recommended that company officials not disclose the company's intention to outsource positions to India, China and Brazil and avoid usage of the term "offshore". However, after the recent presidential election and additional analysis on the subject, this debate has waned considerably.

While the controversy may have dissipated, service providers outside

the US are still faced with significant legislative hurdles, such as complying with HIPAA, the US

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PATRIOT Act, and the Sarbanes-Oxley Act, a piece of legislation not fully understood even by most US companies. Intellectual property rights and the ability to enforce contracts abroad is also another area of major concern for US clients considering outsourcing as an option.

Nowadays, companies of all sizes can better evaluate the costs and benefits of offshore development. A recent Business Week article recommended three guidelines for companies considering offshore software development:

1) start with small projects, 2) negotiate large penalties for non-compliance with contract terms and conditions and 3) closely manage the project.

Many large multinationals are already well-established users of offshore software development services. GE has more than 11,500 employees

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in India, where nearly 35% of the Motorola software for cellular phones is developed.

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#### Risks and Weaknesses

Above and beyond the technical competence of the offshore software developers, there are other factors that can make or break an offshore arrangement. These include project management, quality control processes (normally measured by the Capability Maturity Model or CMM) and cultural awareness/sensitivity that goes beyond simple fluency in English.

Brazil offers a solid contingent of skilled technology professionals both for new application development and for the support & maintenance of legacy systems.

In Brazil, there are not currently many companies at CMM level 3, which represents a competitive level. Many companies lack clear strategies for investment and export promotion, and often underestimate the costs associated with the introduction of a software product or service abroad. Such costs include localization, trade mark registration as well as maintenance and support, among others.

The Brazilian workforce also needs to improve its fluency in English to avoid an intermediate layer between US and Brazilian project teams. It is important for Brazilian firms to recognize, howev-

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er, that partnerships with firms in the US are often a must. Many times, a US-based account service team is needed to serve as the direct face-to-face contact with the client. And this may significantly affect the costs of the project. The complex tax and labor structures in Brazil also reduce the competitiveness of the country. And many Brazilian providers are not publicly traded companies and lack the financial stability or guarantees that US clients expect for large projects.

Brazilian providers also need to understand the legal framework and regulations in the US which are very different from Brazil. As a general rule, US regulatory frameworks will govern such outsourcing agreements.

From a business development standpoint, Brazilian companies tend to be so eager to sign an international client that they do not properly prepare for entry and execution in a foreign market. As a result, premature negotiations may damage the reputation of the company, making it difficult to reverse incorrect perceptions. In fact, the research shows that 78% of outsourcing contracts are cancelled due to changes in

# The demand for offshore services will continue to grow over the next few years.

strategy, lack of performance, or costs. (Source: DiamondCluster International Research)

Brazilian companies need to work diligently to provide proper assurances regarding infrastructure, project management processes, quality control mechanisms and the legitimate ownership of equipment and software licenses used in developing technology applications.

#### **Strengths and Opportunities**

From a geopolitical standpoint, Brazil has been very stable over the past few years and the administration has become very supportive of software and IT service exports. In addition, Brazil is much closer in proximity than India or other Asian outsourcing markets, offering an ideal time zone difference (1-6 hours depending upon the US region and daylight savings time). This allows for an extended workday without compromising direct interaction between the US firm and the Brazilian application developer.

Brazilian companies should work closely with the government to promote compliance with internationally-recognized data privacy regulations and intellectual property protection agreements.

Historically, US companies outsource either cutting-edge application development or legacy systems (for support and maintenance requirements). Brazil offers a solid contingent of skilled professionals in both of these areas.

#### Recommendations

The data provided in a large portion of the research on outsourcing is not always consistent, reflecting bias from the sponsors or lack of a significant sample in the surveys. Yet, based on our experience in this market and the data available, we believe:

◆ The demand for offshore services will continue to grow over the next few years.

Brazilian companies should focus on areas where they enjoy competitive advantage, such as finance/banking, healthcare, gaming and security.

◆ During this same period, the supply of offshore technology developers will outpace demand, generating greater competition among offshore firms. The larger players will likely focus on expansive

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back-office processes. Small providers should compete for niche markets and subcontracting arrangements.

- Project management certification will become more important than CMM or ISO classification.
- Brazilian offshore service providers should focus on clients of similar size or seek partnerships with US integrators. The latter has been suggested repeatedly as a way US clients can hedge risks when dealing with an unfamiliar Brazilian technology company. On a sectoral basis, Brazilian companies should focus on areas where they enjoy competitive advantage, such as finance/banking, healthcare, gaming and security.
- The approach of exporting "off-the-shelf" software packages faces enormous challenges, from pricing and

- distribution to localization and support.
- ◆ Clustering smaller Brazilian companies into larger operational entities would provide Brazilian technology entrepreneurs with heightened bargaining power and critical mass when attempting to penetrate a foreign market.
- ◆ Firms should consider a model in which a high percentage of the employee compensation comes from performance factors, thus reducing the fixed costs allowing for profit sharing.
- Brazilian companies should work closely with the government to promote compliance with internationally-recognized data privacy regulations and intellectual property protection agreements.
- Brazilian software companies must establish a solid business plan, that:
  - Segments the market both

- by industry and type of technology application development in order to align company strengths with market opportunities
- Define a clear sales strategy (from prospecting to the negotiation and signing of contracts),
- Outlines operational and administrative processes.

Despite the strong focus on outsourcing powerhouses such as India, there is a clear opportunity for Brazilian firms to gain a stronger foothold in the US IT market and for US companies to take advantage of the competitive strengths of Brazilian software developers.

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