

The Emerging Brazilian I.T. Industry and its Time-Zone Proximity Advantage

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ABSTRACT

Brazil has been emerging as an offshore destination for offshore IT software and services. The country already had a strong domestic base of IT clients to global companies. One of the competitive factors is time zone location. Brazil has now positioned itself as easy for collaboration because of time zone overlap with its primary partners in North America and Europe. In this paper we examine whether time zone proximity is indeed an advantage for software development by conducting a country-level field study of the Brazilian IT industry using a cross section of firms. The results provide some support for the claims of proximity benefits. The Brazil-to-North dyads use moderate timeshifting that is perceived as comfortable and advantageous for both sides of these dyads. The voice coordination that the time overlap permits helps address coordination challenges and foster relationships. These and other practices relating to time zones are described in detail.

Keywords: Brazilian IT Industry, Global Software Engineering, IT Offshoring, Time-Zone Coordination, Time-Zone Proximity

1. INTRODUCTION: BRAZIL'S IT INDUSTRY AND ITS EMERGENCE AS A GLOBAL COMPETITOR

With its political stability, talent pool and reliable telecommunications infrastructure, Brazil has been emerging as a key offshore destination for IT software and services (KPMG, 2009). Brazil's IT industry is already large, and the sector employs 1.7 million people, including programmers, systems analysts and managers.

Brazil's IT-BPO export market turned over US\$ 2.4 billion in 2010 (including IT-BPO services captive centers and software).

Yet, paradoxically, Brazil is still a small global player in IT. India is the largest competitor in the "offshoring industry", exporting at 20 times Brazil. A recent report shows that Brazil has the seventh largest domestic Information and Communication Technology (ICT) market in the world (Brasscom, 2011). The largest share of the ICT market is technology developed by the government and the business sector. Therefore,

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the country has a strong domestic base of IT clients and for this reason the vast majority of the Brazilian companies are focused on domestic clients and do not focus attention on export. But this is changing. Brazil is becoming a world player in the IT-BPO area. As stated in an A.T. Kearney report (A.T. Kearney, 2011), "Brazil-based IT companies such as Politec, Stefanini, CPM, and Ci&T are equal in size to many key international competitors and are successfully expanding their capabilities beyond Brazil". In addition, data released by Gartner in 2010 shows Brazil as the most balanced IT market among the BRIC nations (Brazil, Russia, India and China), particularly because of the market size, the quality of resources, and the robustness and stability of the economic and political environments. The same survey ranked the Brazilian IT market as the 2nd largest among emerging nations - after China - and identified Brazil as the Latin American headquarter of globally competitive firms, responsible for the creation of innovative and sophisticated technology. The formation of Brasscom, the Brazilian Association of Information Technology and Communication Companies, confirms the strategic intent to play the offshoring game. The Brazilian IT industry has grown 43% since 2008 and Brasscom estimates that in 2020 Brazil will have a USD 200 billion IT industry and will export USD 20 billion (Brasscom, 2011).

Brazil is just beginning to emerge as a global IT competitor many years after India's emergence. National competitiveness has long been of interest. Heeks et al (2009) presented the success factors for nations to successfully export IT services. Factors include the familiar, such as low wages; and the less intuitive, such as intellectual property regimes. Absent in this and early lists was *location*. Countries have historically competed or failed because of their location (Weber, 1929). But it is only recently that economic geographers have come to realize that there is a dimension of location that was previously overlooked: time zone (Stein, 2007).

The importance of time zones is also present in the IT industry. For example, according to Brasscom, Brazil's value proposition is

based on seven pillars (Brasscom, 2011). The first six are predictable: industry and business knowledge, qualified human resources, infrastructure, governmental support, favorable economic, political, and legal environment, cultural compatibility; *but the seventh is time zone proximity*.

As for the first six pillars, the Brazilian IT sector has developed the ability to create effective and innovative solutions for a variety of industries, such as IT in the financial sector. This creates the opportunity for leverage the business knowledge around the country. As for human resources and cultural compatibility, Brazil is the fifth largest country in landmass. The migration that occurred in the 19th century established an atmosphere of tolerance and plurality in the Brazilian society. According to the Ministry of Education, about 10,000 PhDs and 36,000 masters graduated in 2008, and a total of 4,355 IT related undergraduate courses. The IT sector employs 1.2 million people, 400,000 in IT companies and 800,000 in other sectors. There is also a specific agenda for investment in infrastructure, related to communications, real state, energy and transport. The IT sector is also of strategic importance for Brazil. As an example, in 2012 the government has launched a program called *IT Maior*, with investments of USD 250 million for 2012-2015 (TI Maior, 2012).

Regarding the seventh pillar, nearly 100% of Brazil's IT/software export clients have time zone overlap with Brazil (Brasscom, 2011). US companies are the main clients, accounting for over 80% of demand, followed by Latin America (especially Argentina, Chile, Colombia and Mexico), and Europe (especially Germany, Spain, France, England and Portugal).

For this reason, in this paper we investigate if time zone proximity may indeed be advantageous. Instead of examining the time separated dyad of US-India, as Carmel did (Carmel, 2006), we examine the North-South configuration of Brazilian software engineers with their primary partners in North America and in Europe. We intend to answer the following research question: "Are there advantages of Brazil in terms of time

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