

Offshoring of Skilled Services: An Analysis of Opportunities in Developing Economies

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ABSTRACT

The purpose of this paper is to contribute with the studies about policies, programs and practices possibilities in the public and private sectors related to the insertion of companies in the market of offshoring services. We define offshoring services as “[...] the shifting of services from an existing to a new location that is outside national borders independent of control” (Daub, 2009, p. 34). While developed countries experience a remarkable shortage of knowledge workers, especially in the Science and Technology (S&E) areas, emerging economies have been taking advantage of this opportunity to create and improve their own pools of skilled workers in order to answer to this demand (Manning, Massini, & Lewin, 2008). In this context, the following question is proposed: What are some feasible public policies and collective actions that can be undertaken by emerging economies to play an important role in the offshoring services industry global market? Especially, this study aims to analyze the potential of policies, programs and practices in the public and private sectors related to the insertion of Brazilian companies in the offshoring global market. In order to achieve this objective, four specific objectives were established: (a) to identify evidences about the shortage of knowledge workers; (b) to analyze the sources of skilled talent; (c) to identify public policies that already take place in developed and developing countries; and (d) to propose collective actions that should be put in force in order to help developing economies to play an important role in the offshoring services industry global market. Also, bibliographies and secondary data were researched, consisting in a synthetic recovery of mostly recent works on the subject. Based on the studies undertaken for the development of this paper, it was realized that there is a tendency of growth of the global demand for offshore services, besides a shortage of knowledge, skilled workers. Populations in developed economies are aging; students are losing interest in essential areas, such as science, technology, engineering and mathematics; technology innovation is constant. These are just some of the factors which can explain and predict the ongoing shortage of knowledge workers that is being experienced worldwide. In specific relation to Brazil, studies showed that the country will face challenges to differ its offering from its main competitors. Some of the challenges include constructing and promoting a consistent image of technological offer and content, influencing positive perceptions about the stability in the business environment, improving the quality and guarantying a growing human resources offer, expanding investments in innovation and the domain of new technological platforms and balance the tax burden with international market practices.

1 INTRODUCTION

In the last two decades, the U.S. economy and also other advanced economies have been experiencing the increase of the demand for knowledge workers in determined areas as well they have been experiencing the lack of such workers and the growth in the number of new groups of knowledge workers in emerging economies (Gordon, 2009), such as Brazil. In the context of the search for knowledge workers, Brazil has been the preferred location for the Indian companies: HCL Technologies stated on its website that Brazil has not only a vast IT pool, but it is the seventh largest economy in the world and the strongest economy in Latin America (Gereffi, Castillo, & Fernandez-Stark, 2009).

Developed countries have been facing new facts related to the shortage of knowledge workers and the offer of talented professionals in mathematics, sciences and technology to the market: (i) many schools of secondary education are experiencing a big lack of teachers in the areas of mathematics, sciences and technology; and (ii) there is an ageing of the population and the disinterest of students themselves in mathematics, sciences and technology, which affects the market (Manning *et al.*, 2008).

One option to fulfill the lack of skilled professionals is the use of offshoring strategies, which is “[...] the shifting of services from an existing to a new location that is outside national borders independent of control” (Daub, 2009, p. 34).

Offshoring allows companies to access pools of highly skilled professionals around the globe, according to Bunyaratavej *et al.* (2007), Deloitte (2004), Farrell *et al.* (2006), Lewin and Couto (2007), Lewin and Peeters (2006)¹, as in India and China, for example. The first country especially witnessed the labor market heating since the big boost in demand for IT services in the 90s, creating great job opportunities for its recently English-speaking graduates (Ethiraj *et al.*, 2005).

In this context, the following question is proposed: What are some feasible public policies and collective actions that can be undertaken by emerging economies to play an important role in the offshoring services industry global market?

The purpose of this paper is to contribute with the studies about policies, programs and practices possibilities in the public and private sectors related to the insertion of companies in the market of offshoring services.

This paper was written based on bibliographic research and secondary data. Especially, this study aims to analyze the potential of policies, programs and practices in the public and private sectors related to the insertion of Brazilian companies in the offshoring global market. In order to achieve this objective, four specific objectives were established: (a) to identify evidences about the shortage of knowledge workers; (b) to analyze the sources of skilled talent; (c) to identify public policies that already take place in developed and developing countries; and (d) to propose collective actions that should be put in force in order to help developing economies to play an important role in the offshoring services industry global market.

Such a subject is still relatively new in Brazil, which is one of the reasons why it was chosen for this paper. This matter should grow in importance as the country intends to be a player on the global market of skilled services. This study summarizes and organizes information about the mentioned subject and it aims to contribute to the ongoing discussion about the Brazilian insertion on the offshoring global market. Besides the Introduction and the Final Considerations, this paper presents a structure based in the subdivision of subjects in chapters, aiming at facilitating the comprehension of its objectives.

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The first section presents the offshoring of services and facts about the shortage of knowledge workers, based on the authors consulted.

The second section seeks to demonstrate the sources of skilled talent, and uses the examples of two countries: India and China.

The third section identifies offshoring public policies that have already been explored by the U.S. and by emerging economies, and it also details feasible collective actions, suggesting possibilities for the U.S., but especially for Latin America and Brazil.

Based on the above, it is believed that this paper may contribute to offshore studies, especially in terms of public and private and public policies that can be put into practice by companies and governments, helping the industry markets to succeed even more and still be aware of differences and limits to be achieved.

2 THE OFFSHORING OF SERVICES AND THE SHORTAGE OF KNOWLEDGE WORKERS

During the 20th century, developed countries used to have the domain of complex services, but, over the past decade, developing economies have emerged as new competitors. Countries such as India and China, and Eastern European and Latin American countries are offering not only low cost work, but also technologically skilled workers and enough language proficiency, as to become key service suppliers (Gereffi *et al.*, 2009).

Looking for remaining competitive in this challenging economic scenario, companies are now searching for talent where it is somewhat cheap and plentiful, such as locations in the emerging economies mentioned above (Gereffi *et al.*, 2009). In order to answer to such a demand of talented professionals, investment on human resources development is needed by companies as a way to create required capabilities.

2.1 THE OFFSHORING OF SERVICES

The offshoring phenomenon has widespread around the world in innumerable companies, many in the industry of software development, banking, brokerage, medical and legal services, according to Grupta and Sao (2009). Thirteen years ago, Ferdows (1997) pointed out that many companies were not tapping the full potential of their foreign factories, assigning a limited series of activities, responsibilities and resources for them, focusing only on benefiting “from tariff and trade concessions, cheap labor, capital subsidies, and reduced logistics costs” (Ferdows, 1997, p. 73). This author predicted that companies could get much more from their foreign factories just by the fact that they have closer access to their customers and suppliers, and also by the fact that it would become much easier to attract skilled employees, allowing such companies to perform beyond their usual activities, including functions such as after-sales services and product engineering.

One of the benefits obtained by offshoring developments is the cost, which is going to be lower in a project execution in proportion to the work completed offshore. The more it is executed abroad, the less it will cost in the project (Gopal *et al.*, 2003 *apud* Ethiraj *et al.*, 2005), since employees in onsite projects are paid according to the host country regulations, eliminating a great percentage of the cost-based benefits that are enjoyed by Indian companies, for instance (Ethiraj *et al.*, 2005).

In recent years, new trends have risen for a growing number of companies. Nowadays, reduced labor costs are only one of a range of strategies when it comes down to offshoring decisions, but not the only driver behind them anymore. Again, as predicted by Ferdows (1997), offshoring indeed provides access to pools of highly skilled talent globally and this fact has become a new key strategic decision (Bunyaratavej *et al.*, 2007; Deloitte, 2004; Farrell *et al.*, 2006; Lewin and Couto, 2007; Lewin and Peeters, 2006 *apud* Manning *et al.*, 2008), where offshoring is not limited to information technology or business processes

anymore, opening up space for other activities, such as product design and development, research and development (Engardio and Einhorn, 2005; Lieberman, 2004; Maskell *et al.*, 2006; Patel; Vega, 1999; Subramaniam and Venkatraman, 2001 *apud* Manning *et al.*, 2008).

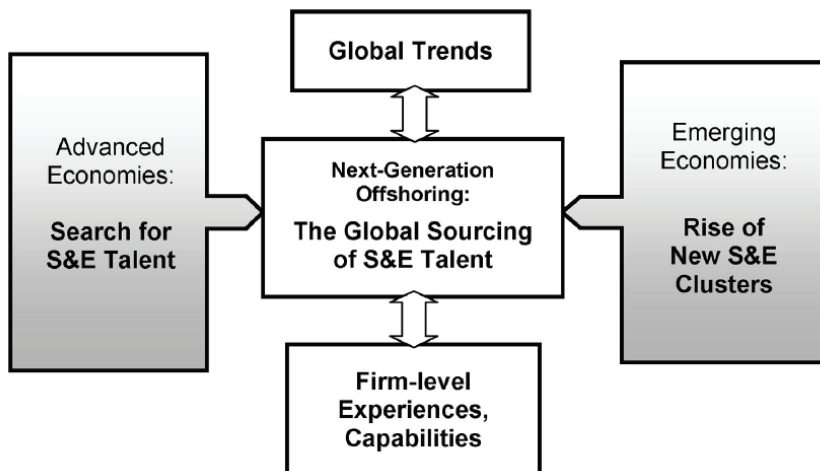


Figure 1: The Dynamics of Next-Generation Offshoring

Source: Manning, S.; Massini, S.; Lewin, A.Y. (2008). A Dynamic Perspective on Next-Generation Offshoring: The Global Sourcing of Science and Engineering Talent. *Academy of Management Perspectives*. 22 (3): 35-54.

Figure 1, created by Manning *et al.* (2008) based on empirical findings of the Offshoring Research Network (ORN)ⁱⁱ project and other recent offshoring studies, presents deciding factors and tendencies that are driving the next-generation offshoring, uniting trends that should be seen as coevolutionary:

To begin with, a number of global trends can be named that arguably have facilitated and are being reinforced by recent offshoring decisions (top box of the figure). Advances in, and the availability of, information and communication technologies (ICT) are often mentioned as a key factor (e.g., Blinder, 2006) [...]. Other factors include increasing global competition and cost pressures across most industries and the standardization, modularization, and commoditization of advanced business operations and services that increasingly are simplifying the hand-off of tasks and global division of labor (e.g., Blinder, 2006; Helper&Khambete, 2005). At the same time, companies have developed organizational capabilities that enable and are, in turn, further applied in more complex sourcing decisions (bottom box of the figure). (Manning *et al.*, 2008, p. 40).

Companies are becoming more experienced in dealing with wage inflation and worker turnover, which are important offshoring challenges, therefore their confidence in offshoring higher end functions and sourcing S&E talent globally is growing higher. Thus, according to Manning *et al.* (2008), the increase in the search for S&E talent around the world by developed economy companies and the creation of new S&E clusters providing talent with such skills in emerging economies are two important factors that contributed to this new trend of sourcing S&E talents globally.

2.1.1 Resistance to offshore

Although offshoring services is an activity defended by many companies as a great advantage for their businesses, some organizations still show resistance to it. The main motivations for this opposition are layoffs and organizational changes that are needed for implementing global sourcing (Linder, 2004 *apud* Levina; Su, 2008).

Bivens (2004) uses the U.S. as an example of the concern governments have with the job losses faced by citizens of developed economies. A study carried out by the federal government's Bureau of Labor Statistics found out that U.S. manufacturing employment is

down to almost 20 percent in just a few years: it stands at 14.3 million, down more than 3 million since July 2000. What is the main reason for this? The study points to the amount of work moved abroad. Whalen (2005) presents data provided by the U.S. Labor Department, where it shows that the majority of unemployed workers end up accepting a pay cut to gain reemployment, and a third of them experience a pay fall of 20 percent or more, not counting the ones that were not able to find a job. A 2004 survey also by the U.S. Labor Department shows that about 35 percent of unemployed workers between January 2001 and December 2003 were still displaced when surveyed in the beginning of 2004.

Theorists of the Dependency Theory, a tendency that emerged between late 1960s and early 1970 “[...] to counter the presumption that the growth patterns of developing and developed countries would converge, and that barriers to capital and technology flows prevented this convergence” (Doh, 2005, p. 696), opposed to the thought that the development of industrialized countries happened at the cost of emerging nations and that these nations were victims of multinational corporations and institutions (Cardoso and Faletto, 1979; Frank, 1967 *apud* Doh, 2005). Actually, as research increasingly affirms foreign direct investment is as important as domestic investment to the growth of a country, based on the fact that investments made by multinational corporations contribute for better technology convergence (Taylor, 1999 *apud* Doh, 2005).

The cost advantages for companies that decide to send work to countries such as the Philippines and China are understandable and obvious: data of 2005 show that computer programmers in the Philippines can be hired for \$1.50 an hour (Outsource Philippines, 2005 *apud* Whalen, 2005). And, as informed by Coy, 2004 *apud* Whalen, 2005, Chinese factory workers can be hired for 64¢ an hour. It is also undeniable that the big losers are American workers who find themselves jobless.

West and Bogumil (2000) say that there is also the risk of offshoring having implications for the home countries. For example, in the case the flow of knowledge workers from Mexico and Canada, in one hand, improves the U.S. economy; on the other hand, this might happen at the expense of the workers’ countries of origin, resulting in international objections and policy changes, consequently.

Hira (2009) states, though, that the main problem of offshoring is the misalignment of interests from two parts: corporate and government in a national level. In the case of the U.S., as noted by Ralph Gomory, former senior vice president for science and technology at IBM, there are diverging interests among companies and countries.

Corporate leaders, whose performance is not measured by how many U.S. workers they employ or the long-term health of the U.S. economy, will pursue their private interests with vigor even if their actions harm their U.S. employees or are bad prescriptions for the economy. Simply put, what’s good for IBM may not be good for the United States and vice versa. Although this may seem obvious, the policy and political processes have not fully adjusted to this reality. Policymakers still turn to the CEOs of GIEs for advice on what is best for the U.S. economy (Hira, 2009, p. 54).

This misalignment of corporate and government interests amplifies a current storm that the world is going through, where executives, their companies, workers, and their families have engaged in conflict with “[...] escalating corporate competition worldwide, rising job insecurity, and reduced government attention to jobs and worker health and safety, coupled with shifts in the burden of training, pensions, and healthcare from firms to workers.” (Rousseau; Batt, 2007, p. 16), undermining the common good and national competitiveness. According to the Organization for Economic Cooperation and Development (OECD)ⁱⁱⁱ, this problem is not unique to the U.S., since workers’ share of gross domestic product in Germany fell by 3.1% in the last half decade. Also, Japan went down 3 points, compared to 2.5 in the United States (Porter, 2006 *apud* Rousseau and Batt, 2007).

Concerns on public policy have been expressed by opponents to offshoring, in terms of protection of privacy, since some critics show the fear that employees' data may be misused or even stolen with the transfer of professional and personal information during the relocation of services. Another concern is engaging in business that involves nations that might not agree with the U.S. ethical and democratic principles, for example (Gupta and Sao, 2009). In order to gather support against these matters, careless of having evidentiary assistance or even validation, "[...] political representatives at local, state, and federal levels have responded to and fomented these concerns by introducing bills and enacting legislation against offshoring [...]" (Gupta and Sao, 2009, p. 634).

All these concerns about global sourcing go beyond economic challenges and the fact that offshoring provides the possibility of a broader analysis of corporate social responsibility (Wood, 1991 *apud* Doh, 2005). Offshoring can be understood just as part of a natural process that has been happening for centuries: economic globalization, which has had its successes and failures, and, thanks to it, labor and capital are now mobile (Doh, 2005).

2.2 THE SHORTAGE OF KNOWLEDGE WORKERS

The ORN study, initiated in 2004, tracks offshoring activities, such as strategic drivers, risks, performance and job outcomes, and future plans of small U.S. and European companies, in around 1,600 large, mid-cap firms (Lewin and Couto, 2007 *apud* Manning *et al.*, 2008). The results of the survey from 2004 to 2006 show that the second most important offshoring motivation is access to qualified professionals, right after cost savings (see Figure 2). It also confirms that IT is still the most frequently offshored business activity and reveals that the second one is new product development, which includes product design and R&D, among others (Manning *et al.*, 2008).

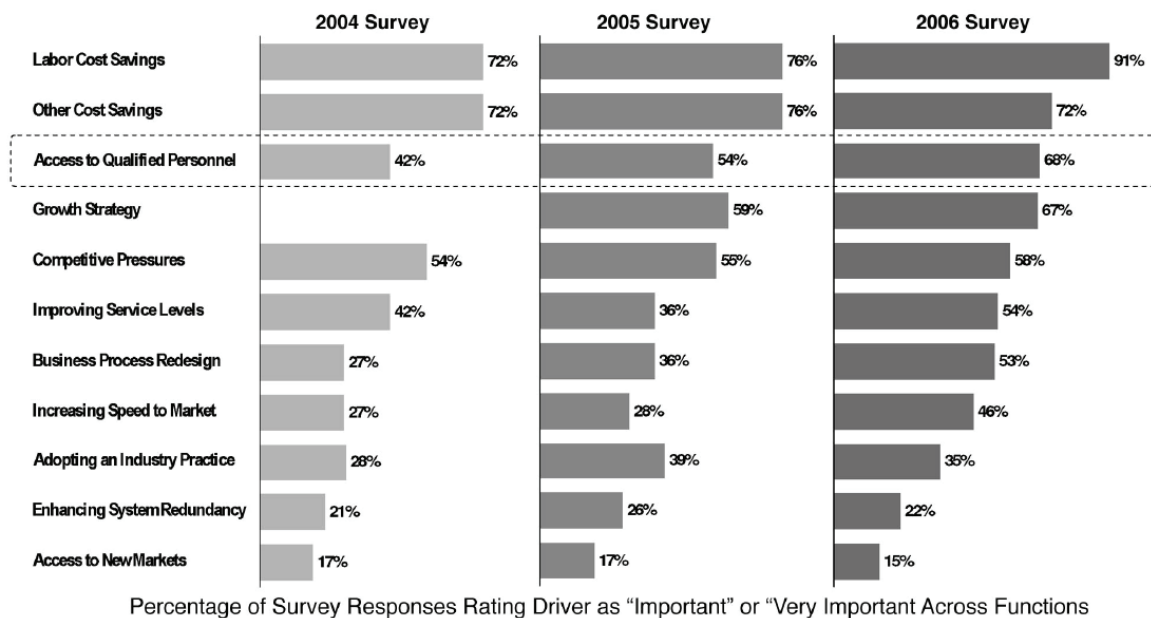


Figure 2: Changing Importance of "Access to Qualified Personnel" as a Strategic Driver of Offshoring Decisions

Source: Manning, S.; Massini, S.; Lewin, A.Y. (2008). A Dynamic Perspective on Next-Generation Offshoring: The Global Sourcing of Science and Engineering Talent. *Academy of Management Perspectives*. 22 (3): 35-54.

Katz (2007) presents results of a Deloitte & Touche LLP^{iv} survey, showing that more and more companies are looking for talent overseas in an attempt to answer the internal demand of qualified workers in the U.S. The study, conducted with 500 CEOs, reveals that

55% were planning to offshore talent for the next five years. This tendency coincides with an effort of finding knowledge workers, since around half of the CEOs surveyed affirm that locating and retaining knowledge workers is the biggest operational challenge they face. Almost two-thirds of them claim that they are offering stock options and more than half of them are providing flexible work hours, as a motivation to attract and retain workers.

Outsourcing talents overseas is a good way of addressing a specific labor shortage, since if an employer sponsors a training program for a particular need, the results of such activity could take from six months to 10 years to produce an outcome. Also, an employer can not guarantee that the newly trained employee will remain with the sponsoring company after the training (West and Bogumil, 2000).

It is undeniable that we are in times of radical changes when it comes to global jobs and talents, comprehending all aspects of the world economy, and perhaps the most noticeable upheaval since the Industrial Revolution. These changes, according to Gordon (2009), are being driven by the growing need for highly skilled technical workers and it is expected to grow at a constant pace through the next decade and beyond.

This is not a recent situation, though. Back in the 1990s, as affirmed by West and Bogumil (2000), the U.S. economy had a continuous increasing demand of a workforce that was not growing as it used to, since there were already deficits in the offering of labor in certain areas and the supply and demand for labor was almost equal in 1996.

According to West and Bogumil (2000), all kinds of industries are searching for highly skilled knowledge workers, since in some cases this shortage represents a threat to their productivity, although in others it represents a minor problem for managers at the human resources departments. At the same time that industries go through this problem, many school districts also experience a severe shortage of teachers in the areas of math, science, and technology.

Offshoring is getting STEM (Science, Technology, Engineering, and Mathematics) workers worried about this activity's impact on their careers, concern which is making them change their career selections. Computer science degrees are losing prestige and preference of students, since the risk of IT job losses is on the rise. Hira (2009) uses the example of data provided by the Computing Research Association, in the U.S., informing that bachelors programs in computer science have seen their enrollment fall in 50 percent in only 5 years (from 2002 to 2007).

The number of citizens graduating with S&E master's and PhD degrees has not only been stagnating in the U.S., but in Western Europe as well, since the mid-1990s (BUTZ *et al.*, 2003; Deloitte, 2004; Freeman, 2006; Lewin *et al.*, 2008; NSF, 2006 *apud* Manning *et al.*, 2008). Arguments for explaining this phenomenon include the fact that high school students have lost interest in investing in S&E courses due to the low quality training offered by high schools in mathematics and science, not providing them with enough knowledge to enter S&E careers (e.g., Cervantes, 2003; see also a critical discussion in Lowell and Salzman, 2007 *apud* Manning *et al.*, 2008). Actually, only 25% of U.S. students who begin postsecondary education do obtain a full college degree, expressing the lowest rate in any of the major developed economies. Gordon (2009) also exemplifies this low quality in education by presenting an expressive number of students who need to take remedial courses in basic skills, such as mathematics, reading, and writing: 42% of public community college freshmen students and 20% of them in public four-year institutions.

Gordon (2009) blames this problem to the education-to-employment system:

But the heart of this issue is the seldom understood fact that the education-to-employment system worldwide is badly out of date. The United States and most other nations are not producing enough graduates with the kinds of technical, communications, and thinking skills needed in the twenty-first-century workplace (Gordon, 2009, p. 35).

Hira (2009) defends that workers will only be able to make better choices for investing in their capacities if they have a better idea of which jobs are geographically stable and which ones are offshorable, but because of all the uncertainty originated by globalization, it is difficult to evaluate that.

This increasing uncertainty about job prospects is an additional disincentive for students to invest in science and engineering careers (Ernst, 2006). Offshoring of engineering jobs to Asia brings widespread anger among electronic engineers of the Silicon Valley (U.S.), reveals a research exemplified by Ernst (2006). These engineers are so frustrated that some of them even stress that it is impossible for them to recommend their children to study science and engineering, and results reported by the National Science Board's Science and Engineering Indicators in 2004 attest that many student indeed are following their parents advice: they are investing in areas such as financial analysis, law, and certain medical professions, choices that have caused a serious domestic brain drain in the U.S. S&E community (Ernst, 2006).

While students in the U.S. have been losing their interest in S&E careers, the number of citizens from India and China who graduate and start careers in the U.S. has increased (Freeman, 2006; Martin, 2005 *apud* Manning *et al.*, 2008). Also, as it becomes more difficult to find S&E talent with advanced degrees, such as MSc or PhD, more S&E clusters emerge in developing economies, providing this kind of talent and becoming the new geographical concentrations of such talents (Manning *et al.*, 2008).

Gordon (2009) affirms that India and China have not yet established standards in college and university accreditation that can be compared to the U.S., therefore, the quality of such institutions vary a lot in those countries. It is believed that even India and China will not have enough high skilled workers to supply all job vacancies that will be open in the future, as these countries' economies are moving up the high-tech value chain at a fast pace. "As the global need for talent grows, even China's and India's educational systems will not be able to produce enough qualified graduates for themselves, let alone act as safety valves for the rest of the world" (Gordon, 2009, p. 35).

This problem for sure is not limited to India and China. As Gordon (2009) also points out, demographic trends show that pools of new highly knowledge workers have dramatically gone down in the U.S. and Europe, as mentioned, and also in Russia Japan, and the reasons for that are lower birthrates and higher retirements. "The CIA World Factbook estimates Germany's fertility rate now to be 1.4; Italy's, 1.31; Russia's, 1.41; Japan's and South Korea's, 1.21." (Gordon, 2009, p. 36). All of this also means that the working-age populations in the countries mentioned above will shrink and have to work harder to support higher and higher numbers of retirees Gordon (2009).

Manning *et al.* (2008) also include the declining interest in S&E careers and inadequate high-school level training in math and science. National investments in domestic higher education in the U.S. and Europe could help restrain some of these trends, but the baby-boom generation retirements, aging and little growth population will probably go against these policy measures, causing an expected shrinking of the potential talent pool accessible in developed economies (Deloitte, 2004 *apud* Manning *et al.*, 2008).

In terms of population growth, Gordon (2009) affirms that what are mostly impacting the demographic declines are the shifts in generational values, and explains that the X and Y generations (the first one was born between 1961 and 1980, and the second one, between 1980 and early 1990s) do not have the same moral nature regarding work as their parents did. Baby boomers learned to live to work long hours in exchange for high salaries and to shop, and this characteristic is changing, since many boomers are looking to work less hard as they age. The X generation is more interested in obtaining and maintaining a good balance with work and personal life, especially women, who are graduating at higher rates than men, and

appreciate being able to take time off to raise their children. Women also wish to be able to work from home with flexible hours and equivalent pay with men, but many companies are having a hard time to deal with these new situations (Gordon, 2009).

Manning *et al.* (2008) affirm that new opportunities will emerge for locating offshore S&E activities as the global demand for this kind of talent continues to grow at an unrelenting pace, and as countries fail to supply this demand. They also affirm that talents with S&E skills at locations that are distributed globally will transform business practices; therefore, companies should expect the increase of sourcing and using such talents. New S&E clusters that provide highly skilled talent in particular activities, such as IT or product development are emerging and becoming very attractive to Western clients from one industry to another.

Hira (2009) confirms, through the results of an influential report named *Rising Above the Gathering Storm*, which was drafted by the National Academies committee, that there is indeed a shortage of qualified STEM workers. This problem, as the report suggests, should boost investments in R&D in order to expand the pool of STEM workers, and recruit more high school level teachers in the areas of science and math.

In the United States, in some industries, it's almost impossible to find skilled employees in the labor pool. So companies go to India, China, and other countries to find more talent," says Allen Schwyer of Human Capital Institute (HCI), a talent management think tank. "There's a need to expand the talent pool and bring great minds together across borders. We can learn from other countries' top talent" (Shankman, 2006, p. 25).

Instead of having a boost in investments to expand the pool of STEM workers, recent studies have showed that the access to highly skilled professionals is becoming an important incentive for offshoring, along with labor costs (A. T. Kearney, 2006; Deloitte, 2004 *apud* Manning *et al.*, 2008). The ORN survey conducted in 2006, confirms that more and more companies decide to go where they can find the talent they need, and consider it a strategic necessity, since it has become harder for companies to encounter in recruiting talent domestically. "For approximately 70% of all offshoring projects, access to qualified personnel was cited as an important or very important driver" (Manning *et al.*, 2008, p. 41). Based on the same survey, the authors conclude that companies should work on strategies for recruiting, developing, and retaining talent globally in order to succeed in this fierce global race for highly skilled talent. It is not an easy task to maintain service quality, managerial control and operational efficiency and many companies end up discovering such challenges over time, along the way, as they engage in offshoring (Lewin and Couto, 2007 *apud* Manning *et al.*, 2008), by experimenting and learning from their own experiences or through strategic partners experiences.

3 WHERE DO TALENTS AND CAPABILITIES COME FROM?

The increasing difficulty of finding S&E talent, especially with advanced degrees (MSc or PhD or their equivalent), in developed economies is a somewhat recent trend, along with the rise of new S&E clusters which provide such talent in emerging economies (Manning *et al.*, 2008).

This situation leaves space for countries such as India and China, which have been taking advantage of the first great demands for knowledge workers a few decades ago, by providing technical and other advanced services using S&E talent available at these new geographical concentrations of S&E talent pools (Manning *et al.*, 2008).

3.1 TALENTS AND CAPABILITIES

According to the Merriam-Webster Online Dictionary^v, capability is "1: the quality or state of being capable [...]; 2: a feature or faculty capable of development: potentiality; and 3:

the facility or potential for an indicated use or deployment [...]” (Merriam-Webster Online Dictionary, 2010a). Talent is defined by the Merriam-Webster Online Dictionary as:

[...] a characteristic feature, aptitude, or disposition of a person or animal; 3: the natural endowments of a person; 4a: a special often athletic, creative, or artistic aptitude; b: general intelligence or mental power: ability; 5: a person of talent or a group of persons of talent in a field or activity (Merriam-Webster Online Dictionary, 2010b).

Manning *et al.* (2008, p. 41) say that “talent is broadly defined here as personnel with appropriate skills and qualifications.”

Ethiraj *et al.* (2005) quote Amit and Schoemaker (1993) to define resources and capabilities: “[...] that ‘resources consist ... of know-how that can be traded, financial or physical assets, human capital etc. ... [whereas] capabilities ... refer to a firm’s capacity to deploy resources” (Amit and Schoemaker, 1993, p. 35 *apud* Ethiraj *et al.*, 2005, p. 27). Ethiraj *et al.* (2005) also affirm that Andrews (1971)^{vi} defended that the competence of an organization is not distinctive due to what it can do, but what it can do particularly well.

Back in 1982, Nelson and Winter (1982) believed that capabilities come from the knowledge accumulated by firms over time, through a “learning by doing” process (Nelson; Winter, 1982 *apud* Ethiraj *et al.*, 2005). Firms were defined by them as historical entities, surrounded by a bunch of routines that can be compared to the genetic material of firms, producing capabilities through endogenous and “learning by doing” processes that are rooted in the organizations skills and turn into the memory of firms (Ethiraj *et al.*, 2005).

Along with this theory that capabilities are the result of experiences accumulated through routines and learning by doing processes, other researchers believe that capabilities result also from planned investments for enhance routines and processes by improving organizational systems and structures (Zollo; Winter, 2002 *apud* Ethiraj *et al.*, 2005).

In sum, it appears it is important to show that: (1) capabilities involve the deployment of resources and there are strong theoretical reasons that undergird how and why they generate rents; (2) capabilities tend to evolve over time to reflect the joint effects of passive learning-by-doing and deliberate firm-level investments in learning and making improvements; and (3) capabilities are hard to imitate or easily acquire in factor markets and this forms the basis for rent generation (Ethiraj *et al.*, 2005, p. 28).

Emerging economies should take advantage of this new knowledge era and play a distinguished role in the international division of labor, by providing a cheaper and educated workforce to offshore services to customers in developed economies (Gereffi *et al.*, 2009).

3.1.1 Offshoring Capabilities

West and Bogumil (2000) affirm that the decision of using foreign labor in order to answer to the need for knowledge workers introduces new challenges and requirements of management at different levels. According to Doh (2005), offshoring does have implications for strategic management and presents challenges to collective understandings in regards to the development and deployment of capabilities in a firm-level. For Ethiraj *et al.* (2005), in terms of talents and capabilities in industries, client-specific capabilities and project management capabilities are very important in the software services industry.

Offshoring could represent, as indicated by Doh (2005), a direct application of firm-level capabilities and result in successful management of resources, but if it becomes an activity that is not unique or easily and widely capable of being copied, offshoring may end up reflecting the commoditization of a production activity and put an end to the benefits obtained from capabilities and resources management.

Although offshoring presents such challenges and limitations, it is and will remain an accelerating trend and an important instrument for the management and deployment of international human resources (Doh, 2005). Managers in firms around the world should adapt

to the following four renewed abilities in order to develop from project managers into high-performance global managers, according to Shankman (2006): (a) analytical thinking: it is known that managers need to be excellent analytical thinkers, but recent studies have found that top-level global managers do not reach this quality as much as average global managers, but present high energy and deal well with time differences and unexpected changes; (b) adaptability: as things change so fast in the context of a global project, top-level global managers are characterized as professionals that quickly adapt to new situations, as opposed to their colleagues, ranking almost 30 percent more adaptable than average managers; (c) emotional intensity: as global projects come with highs and lows, top-level global managers show themselves as 45 percent more intense than average managers in recent studies, since they have a lot of passion for their work and prove to be resilient to withstand all situations faced in a project; and (d) competitiveness: this is a quality that is usual in the industry for all workers, but it is more intensively required when it comes to top-level global managers. They need autonomy to better adapt to cultural sensitivities and to clients, colleagues and partners expectations. Recent studies show that they are almost 20 percent more competitive and have 20% percent more autonomy than average managers.

Skilled international managers with such abilities are much needed to coordinate and oversee all the different and complex relationships that arise from subcontracting, according to Doh (2005).

4 OFFSHORING PUBLIC POLICIES AND COLLECTIVE ACTIONS

The global search for talent in recent years has increased remarkably and is probably going to create a major impact on strategies of firms and on national policies, which comprehend in education, innovation, and immigration policies (Manning *et al.*, 2008).

Rousseau and Batt (2007) suggest that new types of partnership need to be created so that government structures and institutions are better prepared for the global competition. No solutions have come from one or two parties alone, but all of them together. Business, labor and government need to sustain attention and none of them should ignore problems that they have not been able to solve.

4.1 FEASIBLE GENERAL ACTIONS IN THE U.S. AND LATIN AMERICA

It was back in the 1990s when the development of offshore services in Latin America began in the IT sector. Recent estimates of 2007 show that the export of offshore services from Brazil reached US\$ 800,000 (KPMG International, 2008 *apud* Gereffi *et al.*, 2009), and Mexico was valued at US\$ 1.3 billion (Business News America, 2009 *apud* Gereffi *et al.*, 2009) still in 2007.

According to Gereffi *et al.* (2009), factors such as the production offshoring of manufacturing and electronics in 1990 decade, large domestic markets and geographic proximity to the U.S. have contributed to the fast growth of the industry in those two Latin American countries. Here one will see general actions that can be taken in the U.S. to improve the offshoring industry and also what other advantages Latin America has to become even more important to the U.S. in this industry.

4.1.1. Some collective actions

Gereffi *et al.* (2009) present a few suggestions of gaps to be considered in terms of public policies, in order to develop the offshore services industry. First, they say that there must be a definition of the segments which have the greatest potential. Second, identifying the public-private institutional arrangements that are needed to address the challenges faced by the industry. Third, recognizing the set of incentives that are most effective in attracting offshore service centers.

Identifying regional and international best practices in networking suppliers and offshore services industry companies is also a way to start promoting strategic alliances among companies and improving small and medium-sized companies, consequently (Gereffi *et al.*, 2009).

Improving the regulatory framework, as also indicated by Gereffi *et al.* (2009), is important to meet the unique needs that offshore service companies have, by facilitating flexible work schedules, optimizing taxation practices, recognizing offshore services as an export function and strengthening data protection legislations.

4.1.2. New factors and trends

“Other factors, such as geographical and cultural proximity to major markets, are becoming even more important.” (ECLAC, 2008 *apud* Gereffi *et al.*, 2009, p. 6).

Latin America is a region that not only has competitive advantages in costs and cultural similarities with the U.S., but also geographic proximity and similar time zones. Also, it offers bilingual capabilities in the English and Spanish languages and well-educated workforce, and all these factors are great opportunities for Latin America to aim at becoming a leader in the industry of offshore services (AT Kearney, 2007a; Mullan *et al.*, 2008b *apud* Gereffi *et al.*, 2009).

A new trend is emerging based on all these advantages brought by geographical proximity: the *nearshoring* label. According to Gereffi *et al.* (2009), it highlights the benefits of offshoring platforms that are closer to major clients, and it is becoming an important factor for offshoring decisions. Countries like Hungary, the Czech Republic, and Poland are becoming *nearshoring* locations for advanced European countries, such as Germany and Austria, so Latin America should invest in its potential to play a similar role for the United States (The Boston Consulting Group, 2007 *apud* Gereffi *et al.*, 2009).

Latin America is definitely an emerging location with high potential for development:

Latin America has been identified as one of the locations with the highest potential for development in the offshoring sector. According to the 2009 AT Kearney Global Services Location Index, eight Latin American countries, including Argentina, Brazil, Chile, Costa Rica and Mexico, are among the top 50 most competitive international locations for offshoring services (AT Kearney, 2009b). Other countries such as Colombia, Guatemala, Peru and Uruguay have been identified as important “countries to watch” (Gartner, 2009). This is the result of a combination of favorable factors, including: improved economic and political stability, cost structure, availability of qualified human resources, and government support [...] (Gereffi *et al.*, 2009, p. 21).

The region not only has costs that are comparable with India and lower than Eastern Europe, but also a great pool of qualified workers, not to mention its physical and cultural proximity with the U.S. and a few parts of Europe. It clearly has a value proposition for companies that are aiming to expand their operations of offshore services, a great potential to play an important role in this industry (Gereffi *et al.*, 2009), as it can be seen in Figure 3.

	Latin America	India	Eastern Europe
Annual saving from the United States	25-40%	30-50%	10-20%
Time-zone difference with United States	2.5 hrs	13 hrs	7 hrs
Travel time from United States	8 hrs	21 hrs	10 hrs
Travel cost from United States	US\$ 2,750	US\$ 8,500	US\$ 5,400

Figure 3: Key Comparisons Between Latin America, India and Eastern Europe

Source: Gereffi, G.; Castillo, M.; Fernandez-Stark, K. (2009). The Offshore Services Industry: A New Opportunity for Latin America. Report prepared for the Inter-American Development Bank, Washington, DC. Retrieved June 30, 2010, from <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35030707>.

Based on this figure, one can say that Latin America has great advantages over India and Eastern Europe countries in providing services for the U.S. It is in second place when it comes to annual saving from the U.S., but it is in first place in terms of time-zone difference with the U.S., with only 2.5 hours, compared to Eastern Europe, which has 7 hours difference, and India, which has 13 hours difference. Allied with that, the travel time is much less if compared with India, which takes long 21 hours to get to the U.S., detail that makes it also more expensive in terms of travel cost.

4.1.3. Opportunities for Brazil

Brazil's attractiveness as an important player in the offshoring market is impacted by current structural conditions, such as medium level of education, social expenses in labor costs, relative inflexibility of the labor market, as well as the appreciation of the local currency. Even so, the country has consistently been keeping its place at the top 10 more attractive destinations. While China and India stand out for their low costs and human resources availability and capability, Brazil has been consistent as a member of a group of countries that compete to establish themselves as preferred alternatives (BRASSCOM, 2005).

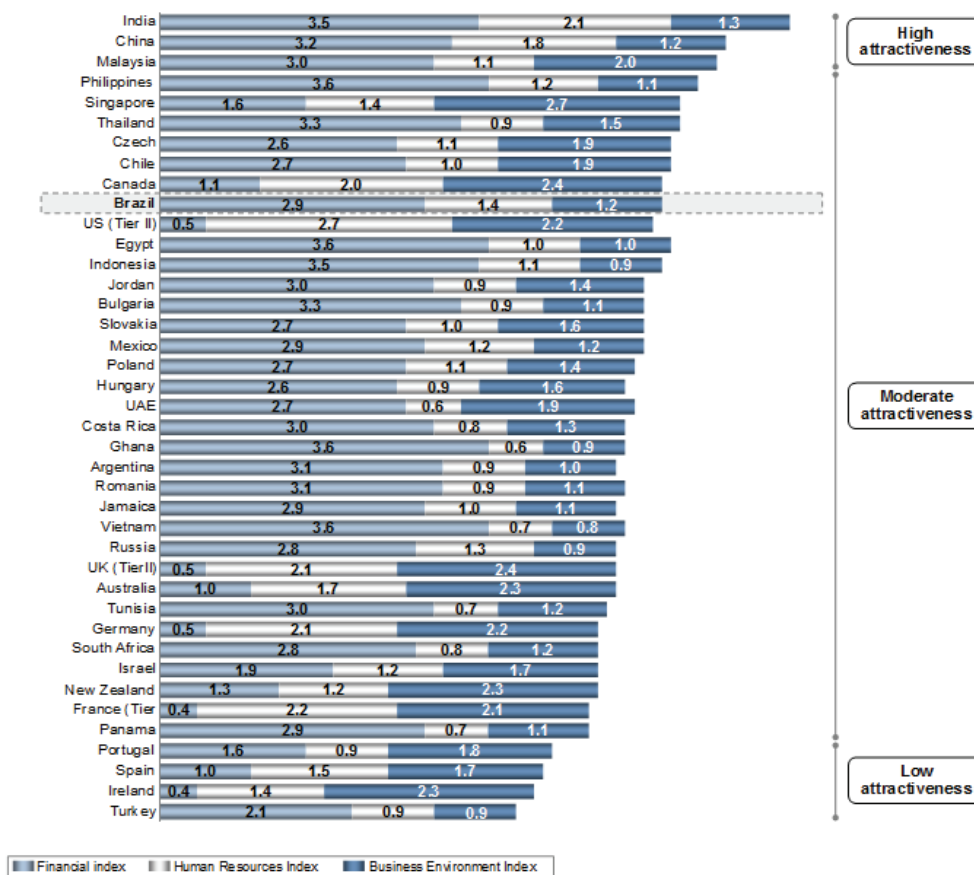


Figure 4: BRASSCOM’s index of global attractiveness of offshoring services leasing (2005 review)
Source: BRASSCOM. (2005). Desenvolvimento de uma Agenda Estratégica para o setor de “IT Offshore Outsourcing”. Project Report. Brasília.

The Brazilian offering of IT services presents a few advantages when compared to its main competitors (India, Canada and China) in a global context, such as size and sophistication of the internal demand, capabilities already showed through world class solutions for specific segments of the market, business culture which is similar to the main target markets (North America and Europe), modern telecommunications infrastructure and, of course, geographical proximity to the target markets if compared with China and India (BRASSCOM, 2005).

According to Gereffi *et al.* (2009, p. 16):

Brazil has the world’s second largest community of Java programmers after India, providing it with a strong base for software programming (Mullan *et al.*, 2008b), while the KPO financial services firm, Evalueserve, specifically chose Chile for its Latin American office due to the high number of trained financial analysts in the country (Srivastava and Ortiz, 2009, p. 37).

There are other factors that grant comparative advantage to Brazil, as states BRASSCOM (2005): Brazil is ahead of India and China especially in political and social stability; the protection of intellectual property rights and against software piracy are relatively more effective in Brazil than in India and China; the information technology and communication infrastructure in Brazil is better than the ones offered by India and China; Brazil presents high levels of internet expansion and embracement of information technologies; and, IT sector salaries are relatively competitive (BRASSCOM, 2005).

The key elements of the differentiated position of the Brazilian offering should be, according to BRASSCOM (2005): added value - the ability to solve problems effectively and efficiently; the technological innovation and upgrading, the expertise, the proactive action in

providing solutions, all emphasized by the plurality, cultural affinity and geographical conveniences; and, competitive costs.

In terms of innovation, in spite of the reputation of the Brazilian offering as to innovative solutions and excellence in services delivery in specialized sectors, investments in R&D taken by the private sector is still low, and the articulation between companies and excellency centers in technology development has little advanced (BRASSCOM, 2005).

And, in terms of the proactivity dimension, Brazil still needs to develop an image of “worldwide reference”, being recognized in industries so that it can leverage its capacity to offer innovative solutions and of extending the view of the proposed problem by the client, if necessary, guarantying higher resoluteness (BRASSCOM, 2005).

5 CONCLUSION

In a globalized world, offshoring services is an issue for governments, economies and companies. The purpose of this paper was to explore public policies, programs and practices possibilities in the public and private sectors in developing economies that can enhance companies to offer services based on talent in the offshore market. In order to reach this objective, bibliographies and secondary data were researched, consisting in a synthetic recovery of mostly recent works on the subject.

Based on the studies undertaken for the development of this paper, it was realized that there is a tendency of growth of the global demand for offshore services, besides a shortage of knowledge, skilled workers. Populations in developed economies are aging; students are losing interest in essential areas, such as science, technology, engineering and mathematics; technology innovation is constant. These are just some of the factors which can explain and predict the ongoing shortage of knowledge workers that is being experienced worldwide.

These countries' examples show evidences that support the relevance of companies' development and educational public policies, programs and practices. In order to have success in this emerging global race for high-tech talents, companies need to develop strategies for playing an important role in the offshore services industry, and Brazil can explore individual and organizational capabilities to compete for a market share in the offshoring business, facilitating offshoring and strengthening the offering in STEM programs.

In specific relation to Brazil, studies showed that the country will face challenges to differ its offering from its main competitors. Some of the challenges include constructing and promoting a consistent image of technological offer and content, influencing positive perceptions about the stability in the business environment, improving the quality and guarantying a growing human resources offer, expanding investments in innovation and the domain of new technological platforms and balance the tax burden with international market practices.

The main limitation to produce this paper was the lack of accessible data on the subject related to Brazilian companies and even public policies. While other countries, especially the U.S., have been keeping track of all the challenges faced by offshoring services in the last decades, and also have been studying and working on ways to improve this market, Brazil seems to be still in the beginning.

Based on this, it is strongly suggested that Brazilian researchers and market professionals to work together as to produce researches and data, as a way to gather substantial information for companies and the industry to work with. Brazil has a lot more potential for exploring the global offshoring market and would greatly benefit from such studies and data.

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