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Geraldo Santoro Gomes

Orientadora: Profa. Dra. Cristiane Pizzuti

How Suitable India and Brazil are for offshore IT from the USA point of view?

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Contents

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1. Introduction

Since the 90's, more and more American companies have been moving big parts of their IT departments to offshore centers. India was their first choice due to some reasons very well described in the book "The world is flat" by Thomas L. Friedman (2005). After the first wave, other countries started going throughout the same process even though in a smaller scale. India is still the highest global offshore market (more than 50% in 2008). The revenues of India's business and technology services companies have grown to about $58 billion at the end of 2008 (including about $46 billion in exports), from $4 billion in 1998 (McKinsey, 2009). The Brazilian government is interested in entering this market to achieve better economic results in their payments' balance of technology and electronics area.

Despite the growing interest in this subject, as far as we know, there is not any research with American IT managers answering about their real concerns and desires about the offshore IT organizations. How they see the offshore outsourcing model and how they rate the performances of Brazil and India IT organizations. This survey would like to shed some light on this area and help the managers from India and Brazil to create a strong action plan list based on the real customer needs.

Offshore Outsourced IT industry is growing very fast. It represents a multibillionaire market and is available for under developed countries with skilled IT professionals. The competition is growing very fast and new players are trying to enter in this profitable arena. It is critical for the players understand the needs and perceptions of the main clients in this market. Based on this knowledge, managers responsible for offshore centers may strengthen their organizations. The main threats are the current economic downturn that are reducing IT investments and the new players coming to the global arena with different business models varying factors like cost, quality and engagement model. The consultants companies have put Brazil as one of the possible players in this multibillion-dollar business where India is the largest exponent and the U.S. its biggest customer. They have also developed models to help the multinationals companies to create a decision-making process. Among the several

items described by consulting companies like Gartner Group and A.T. Kearney this survey will try to answer the following key questions:

- **Which are the most important factors from American IT managers' point of view to make their investment decisions in offshore centers?**
- **How Indian and Brazilian managers rate their centers' performance?**
- **Do they really know their strengths and weaknesses from the customers' point of view?**
- **Are they focused on the right factors to improve their competitiveness?**

Therefore, the main goal of this research is asking the executives and managers about the offshore model they have in mind. What is important for them? Cost, labor pool availability, labor pool quality, cultural compatibility? These questions will be answered through an international survey with the participation of managers of these three countries (Brazil, India and USA).

2. Theoretical basis

2.1. The IT industry

Information technology (IT), as defined by the Information Technology Association of America (ITAA, 2009 page 30), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information.

Today, the term Information Technology has ballooned to encompass many aspects of computing and technology, and the term has become very recognizable. IT professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases. A few of the IT professionals' roles may include data management, networking, engineering computer hardware, database and software design, as well as the management and administration of entire systems.

This industry has some interesting economic advantages; it does not need intensive capital to be deployed. However, it is very sensitive to the costs and quality of its labor poll. The IT industry employs intensively and pays better salaries in average than the ordinary manufactory industries (US Department of Labor, 2009).

2.2. A bit of IT industry history

In the article “An Overview of the History of the Software Industry”, 2007 we learn the software industry started in the 60’s when big companies and universities started using computers in tasks that requires repetitive mathematical calculations. Most of the programs were written and processed internally by its employees. Computer makers as part of their mainframe’s packages distributed also the operating systems and just few were sold by the new American software companies.

The industry has grown strongly in 70’s years when most organizations were able to purchase or rent computers for the processing of financial and human resources data.

In the 80’s, the launch of the personal computer (PC) democratized the use of computers and created an unbelievable fast growing market for application programs, games and utilities provided by new companies such as Microsoft's Bill Gates. The first IBM PC hit the market in 1981 and the first "friendly" versions of Windows (3.0) hit the market on 22 May 1990.

In 90’s, a new change, the World Wide Web (Internet) has revolutionized the use of computers. In the mid-90s, the duo PC & Windows working alone had reached its limit. In 1991, it was created the first site in the Internet and soon after was created the first browser from the academy. These programs greatly facilitated navigation through the sites that were growing exponentially. The browse developed and sold by Netscape was an important technological milestone at that time. Games, applications and utilities that have justified the use of computers so far, were reinforced by new tools such as search engines, news, music, movies, collaboration services, social networks and several other new services. Most of them were free for the final consumers. IT was no longer an activity restricted to large organizations and their

huge mountains of data to be electronic processed to become an activity commonly used by the ordinary people. This has expanded the size of the market for software and services.

2.3. The IT's businesses

IT encompasses two main types of business: the industries of software and hardware. The software and IT services industry has higher margins than the hardware one. The hardware industry responds by the highest sales volumes, but has low profitability. For this reason, the computer's manufacturers are investing billions of dollars buying software and IT services companies. The most recent are the HP acquiring EDS (2008), Dell buying Perot Systems (2009) and Xerox incorporating the Affiliated Computer Services (2009).

The most profitable business in IT is represented by the software and services supplier companies such as Microsoft, Oracle and SAP AG. These companies sell software licenses for businesses and final consumers. Each application requires a large initial investment in its development, but over time, the maintenance costs decreases and the profits appear strongly (An Overview of the Software Industry Study, 1995).

In the early 21st century, with the consolidation and expansion of the Internet, new and different business models were presented. The most important was the Google one. It offers several applications (such as its famous search engine) free to final consumers generating traffic to your website and cashing in on the sale of advertising.

Other growing model is the software as a service (SaaS). The customer uses the application throughout the Internet and pay only for its utilization. The customer company does not own the licenses and the servers that run the applications. Therefore, the customer does not need to invest in software upgrades (Delivering Software as a Service, 2007).

These different business models increased the volume of customers generating a steady growth of the IT industry. The continued growth has forced companies to look for high skilled people in various parts of the world.

In the 80's, American and European companies have imported many professionals from India. In this country, there was not a high demand in their home markets. During the Internet bubble (2000), many of the Indian engineers who were working in the United States with temporary work visas were laid-off had to return to India starting a new IT industry model (The world is flat, 2005).

2.4. The birth of the Offshore Outsourcing business model

The offshore outsourcing model was born due to some actions, not necessarily coordinated. They had their convergence in the early '90s, but had begun many years ago as teach Thomas Friedman in his book "The world is flat" from 2005.

In 1951, Indian Prime Minister Jawaharlal Nehru created the first of the seven Indian Institutes of Technology (IIT). Within 50 years, thousands of Indians fought to get in these centers of excellence. The extreme competition produced and, for lack of job opportunities in India, exported thousands of software engineers very well prepared.

These professionals have been absorbed by American and European companies that provided the work experience that the sluggish domestic market in India could not provide.

In the early 90's, with the forecasted explosive expansion of the communications' demand for Internet, telecom companies in USA have invested frantically in the deployment of fiber optic cables that allow transmission of voice, images and data at high speed. The investments did not achieve the expected high return and many companies have broken. However, they left the fiber optic cables structures as heritage. They were acquired by a small fraction of their cost allowing affordability of the telecommunications.

In the mid-90's, the explosion of the Internet has generated a great demand for software applications development. The decrease of telecommunication's cost along

with the existence of Indian software engineers at a very low-cost generated the optimum condition for the creation of a new industry. The industry of offshore outsources software development.

This industry was born in 1989, when Jack Walsh (GE's CEO) visited India and got impressed with the quality of the Indian's engineers. He decided to develop some of IT tasks at GE in India, using the local low cost labor.

The return movement of Indian professionals trained in the U.S. and Europe to India, strengthen this business model. Indian companies received experienced professionals trained in U.S. and European companies, their main customers. The IT services have been reinforced and the movement has intensified.

2.5. The Offshore Outsourcing business models

We find the following definition of "Offshore Outsourcing" by Herb Krasner (2004): "Outsourcing is the management and/or day-to-day execution of an entire business function by a third party service provider. Outsourcing can be provided on or off premises, in the same country or in a separate country. Offshoring is outsourcing overseas or in a separate country. The definition of offshoring sometimes includes organizations that build dedicated centers of their own in remote, lower-cost locations."

Opponents point out that the practice of sending work overseas by countries with higher wages reduces their own domestic employment and domestic investment. Many customer service jobs as well as jobs in the information technology sectors (data processing, computer programming, and technical support) in countries such as the United States and the United Kingdom - have been or are potentially affected (Krasner, 2004).

Outsourcing is seen as a strategic option and not just a way to cut costs. It helps companies to achieve their business objectives throughout the operational excellence and focus on their competitive advantages. Today, every company has one or more of its services outsourced therefore they can focus on their core competencies. Business resources (human and financial) need to focus more on core business

functions and less on non-essential functions that should be outsourced. Outsourcing model provides the right combination of people, processes and technologies to operate effectively in the market without straining their resources and budget. This is why more companies are showing interest in outsourcing of IT activities.

Generally, the companies outsource tasks and processes to achieve the following key benefits.

The Top 10 reasons from the outsourcing institute (Carnegie Mellon - Software Engineering Institute, 2003):

- Reduce and control operating costs
- Improve company focus
- Gain access to world-class capabilities
- Free internal resources for other purposes
- Resources are not available internally
- Accelerate reengineering benefits
- Function difficult to manage/out of control
- Make capital funds available
- Share risks
- Cash infusion

Other benefits achieved by the outsourced customers are:

- Time to market
- The number of employees' reduction.
- Refinement of project management, risk management, and skills of service providers.
- On demand utilization of expensive specialized features.

Typical long-term benefits include:

- Expenditures budget under control for the functions contracted over an outsourcing contract.

- Business applications portfolio superior management.
- Outsource management, procurement and integration competencies.

Around the world, India is certainly the most preferred destination for outsourcing of IT organizations. Brazil is trying to enter in this market in a more incisive way.

It is also considered "offshore" when a company creates a subsidiary in a foreign country to perform IT business tasks. This model is called Captive Center" and it is an alternative to the traditional outsourcing. In a captive center, the subsidiary handles the assignments for exclusive use by the parent company.

In the mid-1990s, many companies installed "Captive Centers" in India for tasks such as software maintenance and customer support (model GE). In more recent years, many have changed their strategies to manage these organizations. Some, for example, decided to sell the services of their Captive Centers to external customers, and use the services to their own needs. The organization becomes more efficient and valuable because it improves the use of existing resources among several projects. As the workload increases, the cost per unit of work decreases.

Other companies outsourced non-essential functions to local suppliers (in India to reduce costs further). By outsourcing non-core tasks, the Captive Center invests more time and money on jobs with higher value added while reducing overall costs. Local suppliers provide lower cost than a Captive Center because their business model is lighter, with less management structure. Among the challenges of a shared Captive Center is the competition. If the competition for local customers is driven by cost, local suppliers may have an advantage. Therefore, shared Captive Centers must look primarily to global customers.

Opposition to this business practice alleges that sending IT work abroad increases unemployment rates in countries with high wages. Many of the jobs in the sector of Information Technology (data processing, application programming and technical support) are among the leaders of this movement toward developing countries with lower wages.

2.6. Offshore market size

The size of the global market for goods and IT services is estimated at US$ 1.6 trillion for 2009. According to consulting firm A. T. Kearney, the offshore IT services market size is US$ 70 billion per year (2008) and it is growing at rates around 40% per year.

India responds for most of this market ($ 41 billion). The offshore IT market grows faster than the IT market itself. This demonstrates the strength of this business model, which is based on an economic model winner (labor-force quality plus low cost) (A.T. Kearney, 2009).

The trend is a continuous growth of this market, even (or especially) in an economic downturn situation. The IT market size is many times greater than the offshore outsource market and its growth does not depend on the growth of IT market as a whole as we can see in the table below.

Table 1 - Global IT Services Market Evolution (US$ Bi)

	2004	2005	2006	2007	2008	Growth 2008/2007
IT Services Expenses(in-house and outsourced)	1.081	1.106	1.142	1.186	1.233	3.96%
IT Services Expenses(outsourced)	607	636	671	711	755	6.19%
IT Services Expenses(outsourced and offshore)	18	26	36	50	70	40.00%

Source Gartner Group 2009

Table 1 shows this is a rapidly growing industry with very significant numbers focused on developing countries with a skilled labor force and low cost.

Due to the problems found in India (weak infrastructure, high turnover rates, increasing costs), large corporations are looking for new countries to support the high rate growth of the process of outsourcing. The Gartner Group has listed 30 countries with potential to get slices of this market. The list includes seven countries of the Americas: Argentina, Brazil, Canada, Chile, Costa Rica, Mexico and Panama. In Asia

/ Pacific region: Australia, China, India, Malaysia, New Zealand, Pakistan, Philippines, Singapore, Thailand and Vietnam. In Europe and Middle East: the Czech Republic, Egypt, Hungary, Ireland, Israel, Morocco, Poland, Romania, Russia, Slovakia, South Africa, Spain and Ukraine.

The Brazilian government wants to transform the country into a strong competitor among this restricted group. The main reasons are the following:

- High demand for skilled labor work force.
- Good wages compared to other traditional industries.
- Great working conditions for qualified professionals.
- Increase exports in an area (technology / electronics) which commercial balance is negative.
- Green Industry. Low carbon emissions.

2.7. The next big wave in Outsource Offshore

The first Offshore Outsource wave was in software development in India. The next wave, which is already well under way as described by Steve Lohr in Offshore Outsourcing's Next Wave: How High? (The New York Times, 2008), is sending back-office jobs abroad. Activities such as financial tasks, payroll processing and purchase orders processing and sales order entry. This is the business process outsourcing, or BPO.

How much of this back-office work can be outsourced in countries with low cost labor force and the speed of this movement is still an open question. These semi-automatic tasks are a blend of technology and human skills. The cost reduction is still considerable despite the weak dollar (in the 2009 year) and the rising wages in countries like India. However, these are tasks rather than programming, which often require knowledge of specific industries, business processes and even legal differences for each country.

A report presented in 2009 concludes that the offshore BPO can grow explosively in the coming years. The report made by Everest Research Institute, a consulting firm in outsourcing, found that the potential market for BPO can grow in India to US$ 220

billion/US$ 280 billion in 2012. Currently (2009), the report says, the market size for offshore outsourcing is about US$ 28 billion, with the Indian market share of US$ 10.2 billion.

3. Methodology

The method used was the quantitative, descriptive with a cross-sectional survey. The survey proposed questions for American, Indian and Brazilian managers. It was designed as a traditional 360° evaluation. Brazilian and Indian managers were asked to make a self-assessment and American managers gave their opinion about Brazil and India (questionnaires in Annex 1).

The survey was based on a relationship networking built by managers from these three countries during the last 10 years. Those managers have spread out in several different companies and they went through a large amount of offshore experiences.

Two social networking tools (LinkedIn and Plaxo) were used to contact the respondents. The survey took the answers anonymously as the survey was interested neither in a particular opinion nor in receiving “politically correct answers”. Most of the managers have current offshore teams in Brazil and India and their answers could jeopardize their relationships with the offshore teams. This survey shows a broader set of companies with offshore centers, although it is not citing company names in the analysis.

The survey’s objective was not comparing Brazil and India as those markets are in different cycles. India has a strong and mature market and Brazil is just starting as a serious player in this industry.

The survey worked on 13 factors commonly used in research carried out by international consultants companies like The Gartner Group and A.T. Kearney. The survey’s design did not offer space for respondents’ comments.

The survey was sent to 75 managers in USA, 75 in Brazil and 50 in India. Some managers in India sent the survey to their peers and because of that was achieved the minimal number of 30 respondents for each country. Eventually we got 37 answers from USA, 51 from Brazil and 37 from India. This good responses rate (125 of 200 – 62.5%) was a result of the direct contact with each respondent.

Why there was a target of at least 30 respondents from each country? It is often suggested that a sample size of 30 will produce an approximately normal sampling distribution for the sample mean from a non-normal parent distribution. Although there is little or no documented evidence to support that, a sample size of 30 is the magic number for non-normal distributions (Smith & Wells, 2006). The results show a strong similarity among the raters and this sample size seems to be good enough to support the findings.

The survey scale had a 5–point (two positives, one neutral and two negatives); each point represents 20% of the data. Including a neutral point could negatively impacts the results on many different levels based on the National Business Research Institute opinion (2009). The eventually decision to include a neutral option was based on the idea that people harbor opinions about virtually everything, including things on which they think they have no opinion. An American manager has commented: “I completed the survey for you, but want to be clear, I am not knowledgeable on the differences or what is even really available in either country in regards to cost, government, schooling, etc. For questions I wasn’t sure, I took ‘middle ground’ of Acceptable”. That was exactly what the survey was expecting: works with perceptions as it is very difficult see decision-making processes working with a full set of perfect data. In order to facilitate the analysis and simplify the report, the answers were summarized as Positive (sum of Very Good and Good), Neutral and Negative (sum of Unsatisfactory and Unacceptable).

Among the 13 variables, the managers were asked to indicate their top five. It was a very difficult proposition because all of these factors are important, but the researcher would like to know how the American managers were working on their decision-making process and if Brazilian and Indian managers were aligned with those American Top 5 factors. A Brazilian manager has commented by e-mail. “Done! Congratulations on your survey. I was really in doubt about the five most and five least important factors. It means that they were all important.”

The analysis is based on the top factors defined by American, Brazilian and Indian managers. The Top 5 became a list of six factors that were analyzed. The cut was based on the American managers’ responses. The sixth factor achieved 47.2% and

the next achieved only 19.4%. The seventh factor from Brazilian managers achieved only 22.4% and, in India, 21.9%. They are both far away from their sixth factors.

3.1. Factors

Thirteen factors were selected based on Gartner Group and A.T. Kearney research.

1. Labor pool availability
2. Attrition Rates (Turnover)
3. Labor pool quality
4. Cost
5. Government support
6. Infrastructure
7. IT Market
8. Educational system
9. Language skills (English)
10. Political and economic environment
11. Cultural compatibility
12. Global and legal maturity
13. Data and intellectual property security and privacy

Labor pool availability - The availability of skilled professionals determines the size of the market that each country could handle. The industry demands skilled professionals with expertise in ultimate specific technologies.

Attrition Rates – An item barely considered in common researches is the turnover in each market. A "turnover" (made up of voluntary and involuntary layoffs) from 10% to 15% per year is healthy for the organizations because it allows a constant renewal of the teams especially if it means the elimination of poorly performing professionals (involuntary attrition). A "turnover" above this value increases the cost of re-training and knowledge transfer that affect the overall cost of the organization offshore.

Labor pool quality - Companies look for skilled professionals in sophisticated technologies (ERPs, BI) and business processes' knowledge. Technical certifications, international experience in complex projects are key profiles beyond the flexibility, initiative and communication skills.

Cost - For the companies, what matters is the employee's total cost, not only its salary (Total Cost = salary + benefits + tax). In this industry, the work is performed mostly in projects and a flexible labor laws is much appreciated.

Government support - It is an important competitive advantage for the countries candidates to this market that their governments develop programs to support the industry. Paradoxically, it is an industry that does not require initial capital intensive, but is very sensitive to cost and labor pool quality. These two items can be influenced by government actions favorably or unfavorably.

Infrastructure – IT infrastructure is all that supports the flow and electronic data processing. Infrastructure includes logistics systems (availability of international flights, for example), power supply, telecommunications systems, data transmission (telephony, routers, satellite and microwave dishes, etc.) and Internet access.

IT Market - Countries with a mature IT market with the leading global providers such as SAP, Oracle, Microsoft, Sun, Dell, IBM, HP, facilitate the installation of offshore organizations for software export.

Educational system - This factor will determine the growth capacity that each country can achieve. Software development is an activity that requires skilled and highly trained people. Countries with universities able to prepare engineers skilled and creative create a competitive advantage.

Language skills (English) - This item should be considered together with the quality of Educational System, but it is not intrinsically connected with the university education in most of the countries. English is the language spoken by the majority of corporate customers.

Political and economic environment - Political stability is essential for the transfer of the development of new tools and data processing from developed countries (USA and Europe) to under developed countries. Large global companies cannot take risks in areas as critical to their business. The stability of the exchange rate allows the long-term planning and investment's protection. Large variations of the exchange rate

(falling or rising) against the U.S. Dollar or Euro directly affect the cost of global projects generating a lack of confidence for new investments.

Cultural compatibility - This factor is not commonly considered in many reports but is considered important by many professionals, especially in long-term projects developed by global teams. Developing a relationship based on mutual trust is essential for the establishment of productive work. Similar cultures allow talented workers acting as a high performance global team even when spread across different countries.

Global and legal maturity - Countries have macroeconomic policies that control the general business affairs. Global and legal maturity is the country's capacity to legally act in a global market. This includes banking rules, commercial laws, bankruptcy laws, contract laws and corporate codes of conduct. International companies protect their interests and investments based on laws globally accept.

Data and intellectual property security and privacy - Large global companies require legal security to move your data offshore. Access to data, source code, business processes, and patents must be protected by intellectual property protection (copyright). Property rights help the companies to take risks if they can believe on an impartial judiciary.

3.2. Survey Issues

The survey has presented some issues that would be fixed in a future research. Those issues may cause some impact in the result.

Some respondents have missed factors they believe are important and it can help future surveys.

- Time zone. Brazilian managers think it is an important factor when the companies distribute their teams in different time zones. Brazil may have an advantage against Asian countries when working for American companies. A Brazilian manager has written: “Just didn’t see one topic in the questionnaire: time zone – which is a huge advantage for Brazil.”

- Innovation. There is not a question about innovation capabilities in offshore and it seems important to add more value to the Offshore Outsourced deliverables.

The survey did not present options like “not applicable” or “I do not know” in its questions. The reason was to encourage the respondents to make a selection even if they lean that way only "slightly". Also, there was not also a room for comments. One respondent from India has complaint. “My views Geraldo, is that this survey may not truly reflect a country's present state for offshore initiatives because a lot of questions cannot be just answered within the scale that you have for these questions. Probably it would have helped you a lot more if you would have added a remarks column which would have helped us elaborate the answers.“ The main reason was the complexity to analyze quantitatively the comments among the other answers.

The survey did not ask for the respondent position in the companies. Based on the American managers’ responses around cost and quality, the survey is not able to say if there is a different point of view from the top management (CIOs and VPs) and the other managers (Directors and first line managers). Maybe the top management is more interested in low costs, but the other managers must deliver the projects and may be more interested in quality.

The lack of direct contacts in India represented a huge difficulty for the researcher; it was minimized by several Indian managers who resend the survey to their colleagues.

The survey used the Attrition Rate instead Turnover Rate. It may cause some confusion for the respondents even though the concept was explained in the question and Attrition Rate is a denomination commonly used in IT companies.

Those items may be considered in other surveys about the same subject.

4. Results

Survey's results will be presented in three main parts:

1. American managers' answers
2. Brazilian managers' answers
3. Indian managers' answers

In order to simplify the analysis, the survey will focus the analysis on the Top 6 factors chosen by the American managers. They were asked to choose their Top 5 factors to use in their decision-making process about offshore outsourcing. It resulted in six main factors based on their answers' analysis. Those six off 13 factors received most of the American managers' votes. The sixth more voted factor received 48.6% and the seventh factor received only 18.9% that difference defined the cut-off point. Here are the results that defined the analysis approach.

Table 2 - Top 6 Factors

American Managers' Answers US Answers		**Brazilian Managers' Answers BR Answers**		**Indian Managers' Answers IN Answers**	
Labor pool quality	86.1%	Cost	88.2%	Cost	93.9%
Language skills (English)	80.6%	Labor pool availability	82.4%	Labor pool quality	78.8%
Cost	77.8%	Labor pool quality	72.5%	Labor pool availability	72.7%
Labor pool availability	72.2%	Language skills (English)	70.6%	Infrastructure	66.7%
Attrition Rate	55.6%	Infrastructure	56.9%	Language skills (English)	51.5%
Infrastructure	47.2%	Attrition Rate	35.3%	Data and intellectual property security and privacy	45.5%

American and Brazilian managers have chosen the same factors into the Top 6, just changing their positions. Indians agreed on five. Their managers rated the factors

that made a difference between the American and Brazilian managers' responses and Indian managers' responses in the following way.

Table 3 - Different Factors among the countries					
US Answers		**BR Answers**		**IN Answers**	
Attrition Rate	55.6%	Attrition Rate	35.3%	Attrition Rate	12.1%
Data and intellectual property security and privacy	19.4%	Data and intellectual property security and privacy	11.8%	Data and intellectual property security and privacy	45.5%

The Top 6 factors are showing a very good alignment, nevertheless this difference between USA and Brazil responses and India responses around the Attrition rate, and the Data and intellectual property security and privacy. Indian managers rated Data and intellectual property security and privacy higher than Brazilian and American managers in a great extend.

4.1. American managers' answers

Here is the complete list of the five most important factors for American managers that have defined the Survey results' analysis:

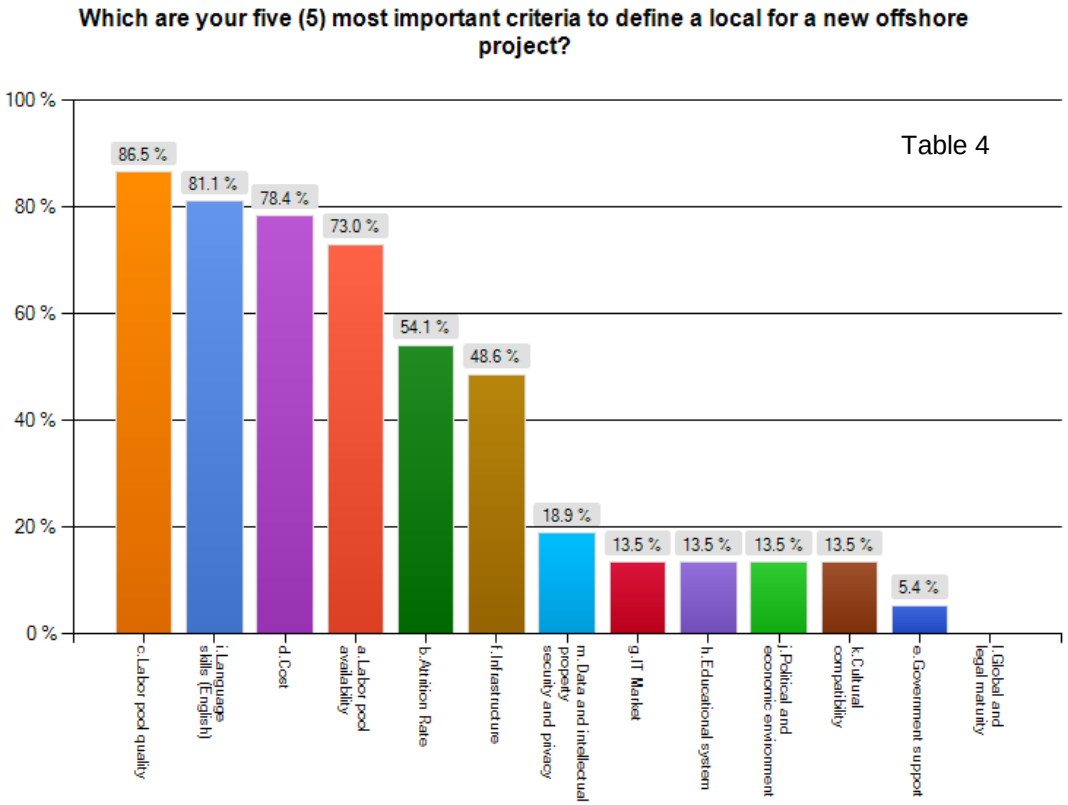


Table 4

Although the Top 4 factors are very close, it is significant that the factors related to labor pool quality (Labor Pool Quality and Language Skills (English)) were more considered than the Cost itself for the American managers. For the Brazilian and Indian managers, the Cost has come in the first position. At a downturn moment, would be possible to have the same result also for American managers, but quality has won by a neck.

The survey should be able to split the American responses between executives (CIOs and VPs) and the first line managers and confirm whether they think equally or if there is a different perception around quality and cost. The survey has shown the managers responsible to deliver the IT projects have put the Quality in first place.

Survey's results have found that decisions around offshore investments are based on these Top 4 factors:

- Labor pool quality
- Language skills (English)
- Cost
- Labor pool availability

This is very important information for Brazilian and Indian managers because it is not aligned with their common sense. The Cost is in first place for them. As the Brazilian cost is higher than Indian cost, this information opens possibilities for Brazilian managers to find different task's niches where the labor pool quality is more critical for their customers.

Let us see how the American managers rated Brazil and India according each Top 4 factors.

Table 5 - Labor pool quality			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**83.8%**	**8.1%**	**8.1%**
India	**64.9%**	**24.3%**	**10.8%**

Brazilian labor pool quality was rated higher than India and it could be a surprise, but the engagement model may explain this fact. Usually, the Brazilian offshore centers have a more complete set of roles that deliver higher value added (project managers, analysts and architects), but India centers are more focused in development (architects, developers and testers). Both countries have shown a good performance in this factor, but Brazilian managers shown a better business alignment with American managers' expectations.

Table 6 - Language skills (English)			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**59.5%**	**27.0%**	**13.5%**
India	**51.4%**	**35.1%**	**13.5%**

Although both countries have shown a low performance, the surprise was the low rate of India. English skills are considered an India's strength as it is the official language used inside their companies, but only 51.4% of American managers agree with this statement. In other hand, English is still considered a weakness among the Brazilian professionals as they use Portuguese in their day-by-day activities. Both countries should continue to creating special action items to improve their English skills.

Table 7 - Cost			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**59.5%**	**37.8%**	**2.7%**
India	**86.5%**	**10.8%**	**2.7%**

Brazilian cost is higher than Indian and most of the Asian' countries, the American managers' answers just reflect this very important fact. Among the Top 4, this is the strongest factor for India and it defines India's more important strength. The low positive answers for Brazil were based on the comparison with Asian countries specially India. Brazilian managers must find the fine line between quality and cost to become competitive in this market. Cost reduction is a mix between the building of good IT teams' and governmental support to reduce taxes and create incentives. A.T. Kearney consultant company has stated that even if the Brazilian government cut to zero all labor taxes, the cost would still be higher than India cost.

Table 8 - Labor pool availability			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**82.9%**	**17.1%**	**0**
India	**82.9%**	**14.3%**	**2.9%**

Another surprise based on the size of IT markets devoted to offshore IT. India market is much larger and more mature than the Brazilian market, but the perception of the Labor Pool availability is exactly the same. In Brazil, the effectiveness of talent acquisition has influenced positively the answers. In India, the IT market size and its diversity has explained the good perception.

Here are the remaining two top factors from American managers' point of view:

- Attrition Rate
- Infrastructure

The percentage achieved by those two factors was significantly lower than the Top 4 (54.1% and 48.6% respectively).

Table 9 - Attrition Rate			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**80.0%**	**20.0%**	**0.0%**
India	**5.7%**	**25.7%**	**68.6%**

There are several Attrition Rate metric results available in the market for the two countries and these rates were not a surprise. Brazilian results were excellent and aligned with American managers' quality expectations. Low attrition rate means the professionals will stay more time in the organization. This fact keeps the training and knowledge transfer investments longer increasing the deliverables quality. In other hand, these investments are wasted and the constant talent acquisition process

(select and hire new professionals) generate an additional cost for the organization. There is a huge opportunity for managers in India to change their mindset. Based on their answers about this factor, there is a clear discrepancy between their vision and how American managers think. A better alignment will help Indian managers to improve this metric. Attrition must be considered as a critical factor and to be managed properly by Indian managers. Brazilian managers should better communicate their results showing this factor may help to reduce their total cost.

Table 10 - Infrastructure			
Country	**Positive**	**Neutral**	**Negative**
Brazil	**77.1%**	**17.1%**	**5.7%**
India	**34.3%**	**45.7%**	**20.0%**

The last Top 6 factor was also not a surprise as the Infrastructure capabilities from India and Brazil are very well commented in the media. It is an issue for Indian IT market and its managers as they are not able to fix the problems without a strong governmental support. Fortunately, 78.3% of IT managers in India rated their Governmental support as Positive, so we can expect some improvement within the next years mainly in logistics and energy (electric power stability). Brazilian managers should start demonstrating this good rate in Infrastructure factor.

4.1.1. Less important factors for American managers:

The survey has asked the American managers to point out which are their five less important factors to make decision about offshore outsourcing.

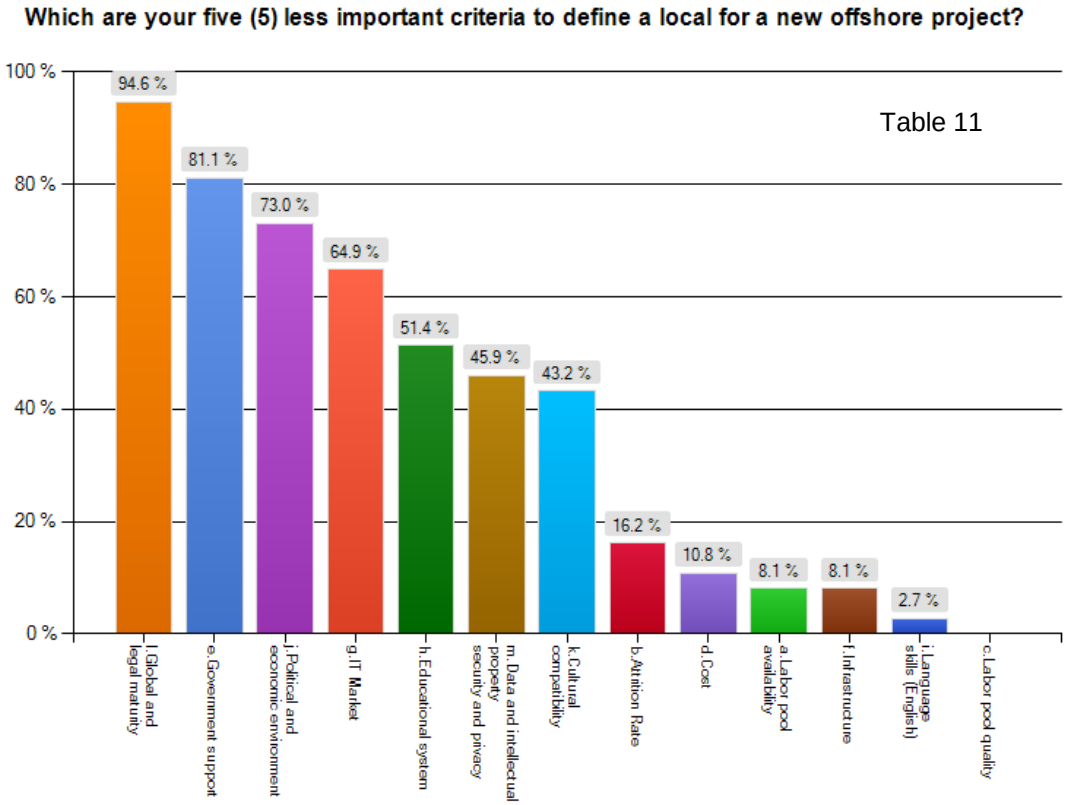


Table 11

Seven (7) among thirteen (13) factors dominated the responses (see table 10):

Table 12 - Less Important 7 Factors					
US Answers		**BR Answers**		**IN Answers**	
Global and legal maturity	94.6%	Global and legal maturity	74.5%	Cultural compatibility	73.0%
Government support	81.1%	Government support	66.7%	Global and legal maturity	70.3%
Political and economic environment	73.0%	IT Market	64.7%	Political and economic environment	67.6%
IT Market	64.9%	Cultural compatibility	62.7%	IT Market	64.9%
Educational system	51.4%	Data and intellectual property security and privacy	56.9%	Attrition Rate	51.4%
Data and intellectual property security and privacy	45.9%	Political and economic environment	49.0%	Government support	51.4%
Cultural compatibility	43.2%	Attrition Rate	37.3%	Educational system	45.9%

Among those seven factors, there is the Educational System that is related to the Labor Pool Quality that was pointed out inside the Top 6 most important.

Global and Legal maturity, Political and Economic environment and Data and Intellectual property Security and Privacy are the tickets to entry in this global market. Every country must achieve this basic level. This is not a differentiation anymore. About Government support, Brazilian and Indian managers believe that Government support is almost a top factor (8° for Brazil and 7° for India) but it is only the 12° for American managers. It is an inheritance of the strong governmental presence in Brazilian and Indian markets. Managers from these countries believe that the government has the power and the obligation to change any bad economic reality. American managers have a very different experience and we can see a different

perception toward this issue. Usually, we find comments in the media about IT Market as an important factor to build offshore centers, but 63% of American managers do not believe it is so important. It brings new possibilities for countries that do not have significant IT markets, but are planning to build offshore centers around Labor Pool Quality and low Cost. Cultural compatibility is the last factor in this list of less important items. It helps in geographic distributed projects where to build trust among the team is very important, but it is not critical for the decision-making process owners. In the same way, we could have Time zone factor. It is important to guarantee a comfort zone for the project teams in US, but it would not be considered important for the managers.

Conclusion on American managers' answers

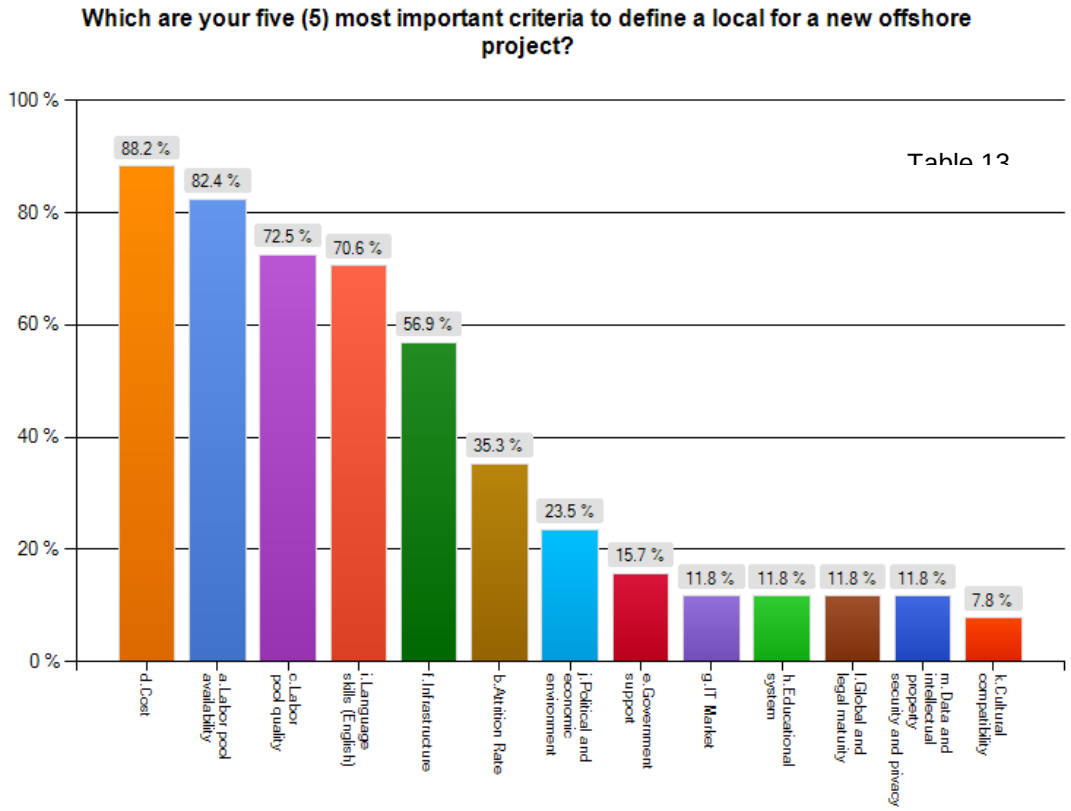
Primarily, American managers are looking for affordable high quality IT services. The Labor Pool Quality got zero answer for their five less important factors. It is a clear conclusion based on the Top 4 factors. In other hand, they are not giving high rates to some factors they believe are "ticket to entry" for this profitable market such as Global and Legal maturity, Political and Economic Environment and Data and Intellectual Property Security and Privacy. Surprisingly they seem not very interested on the Government Support and the local IT Market.

Among the Top 4 factors, Brazil had received good rates in two (Labor Pool Quality and Labor Pool Availability) and regular rates in two (Cost and Language Skills). In Top 6 factors, the result is better with four rates above 70%. Among the Top 6, Brazil has two factors around 60% (English and Cost). Brazilian managers must consider this fact in their actions items' lists.

India had good rates in Cost and Labor Pool Availability and regular rates for Labor Pool Quality and Language Skills. Among the Top 6, India got two above 80%, but two below 40%. They must consider spend effort to recover these bad rates.

4.2. Brazilian Managers' Answers

Here are the most important factors for Brazilian managers:



Also, six (6) among thirteen (13) factors have dominated the responses:

Table 14			
BR Answers		**US Answers**	
Cost	88.2%	Labor pool quality	86.1%
Labor pool availability	82.4%	Language skills (English)	80.6%
Labor pool quality	72.5%	Cost	77.8%
Language skills (English)	70.6%	Labor pool availability	72.2%
Infrastructure	56.9%	Attrition Rate	55.6%
Attrition Rate	35.3%	Infrastructure	47.2%

Overall, the factors' alignment is 100%. They are exactly the same Top 6 from American managers but in a different classification. It shows that Brazilian managers have a good perception about what is important for their customers. There are some differences on how Brazilian managers rated the factors. Below we can see the biggest differences between both Brazilian and American surveys:

- Attrition rate: -20.3%
- Labor Pool Quality: -13.6%
- Cost: +10.4%
- Labor pool availability: +10.2%
- Language skills (English): -10%
- Infrastructure: +9.7%

Top 6 factors – How Brazilian and American managers rated the Brazilian offshore performance.

Table 15 - Labor pool quality	Brazilian Managers	American Managers
Positive	70.6%	83.8%
Neutral	17.6%	8.1%
Negative	11.8%	8.1%

Brazilian Labor pool quality is good for American managers, but Brazilian managers are a bit less optimistic (-13.2%). Talent acquisition is the process to select people in the market. An efficient process in Brazilian companies may explain this good rate. Anyway, Brazilian managers show a strong understanding about their customer needs.

Table 16 - Language skills (English)	Brazilian Managers	American Managers
Positive	11.8%	59.5%
Neutral	33.3%	27.0%
Negative	54.9%	13.5%

Labor pool's English language skill is a real issue for Brazilian managers. It is the second more important factor from the American managers' point of view and Brazil has received just an average rate compared with the other Top 6. Brazilian managers are clearly not comfortable with its performance in this area. The large difference (-47.7%) seems related to a good performance of talent acquisition and management areas in Brazil to select people with English skills in a country with no tradition to develop English speakers. This factor must be in all action lists from Brazilian management teams.

Table 17 - Cost	Brazilian Managers	American Managers
Positive	35.3%	59.5%
Neutral	29.4%	37.8%
Negative	35.3%	2.7%

Cost is the other weak factor for American and Brazilian managers. American managers (59.5%) have given also just an average rate to Brazilian cost, but only 35.3% of Brazilian managers agree with them. The Brazilian managers are right to be concerned with other stronger competitors like India and China those who have more affordable costs. A Brazilian manager has written: "So comparing to USA it's very good. Comparing to India I think it's not so good… My answer will be acceptable". That is a good approach for this factor. Brazilian cost seems to be in an intermediate position. It is more affordable comparing with American and European costs but more expensive if comparing with Asian countries. Probably, American managers seem comfortable to pay the Brazilian cost if the labor pool quality continues high. The Brazilian engagement model (based on more value added roles) may support a higher cost, but it seems to be the main roadblock to reduce the growth of this industry in Brazil.

Table 18 - Labor pool availability	Brazilian Managers	American Managers
Positive	70.6%	83.8%
Neutral	17.6%	16.2%
Negative	11.8%	0.0%

Although the Brazilian managers seem a bit less optimistic (-13.2%) than American managers both gave good rates for the Brazilian labor pool availability. It is interesting as Brazilian IT offshore market is new and still not very big, but as the local market is strong, there is an expectation about a movement from the local jobs to the outsourced offshore market. The local companies' labor pool may be considered an important source to keep the offshore model growing in Brazil. It should be considered strength for the Brazilian market.

Table 19 - Attrition Rate	Brazilian Managers	American Managers
Positive	74.5%	81.1%
Neutral	25.5%	18.9%
Negative	0.0%	0.0%

Managers from USA and Brazil very well recognized attrition rate. It is a clear strength of Brazilian market. Brazilian managers should keep the attrition rate under control and better advertize their metrics, as it is an important competitive advantage compared with the Asian countries. It cans be considered Brazilian market strength.

Table 20 - Infrastructure	Brazilian Managers	American Managers
Positive	76.5%	78.4%
Neutral	15.7%	16.2%
Negative	7.8%	5.4%

There is an almost a perfect tie for positive answers. American and Brazilian managers recognized the good condition of the infrastructure and it became other Brazilian market's strength. Brazilian managers should be using better this advantage. In a very simple example we can see a big difference: because of the quality of the salaries and the available infrastructure, most of the IT professionals may be able to pay an Internet access broadband giving them a strong advantage in the technical support activities (24x7) because they can work from home at night and during the weekends.

4.2.1. Conclusion on Brazilian Managers' answers

Offshore IT market in Brazil depends on how the managers will handle with their two biggest issues: Language Skills (English) and Cost. Strong action items are needed to improve the American managers' perception and keep its competitively high. Based on the questions' answers, Brazilian managers expect some help from the local government to fix them, however both factors should also be in all managers' action items lists. They may be fixed based on a smart coordination and collaboration among the companies, universities, industry associations and government.

A Brazilian manager that is working in the USA has commented about another factor: "Brazil's biggest weakness? Definitely brand – before selling our services we first have to sell Brazil to our prospects - big time! Just my 2 cents." Brazilian managers must do their communication homework.

The other four Top 6 factors deserve a strong communication from Brazilian to American managers, as the results are very good. It is an advantage having American managers rated those factors higher than Brazilian managers. Actually, local managers rated all Top 6 factors below the American's rates level. Either there are two options the Brazilian are more conservative or they do not have a good vision about their strengths. If the first option is correct, it is a good sign that Brazilian managers are tough about their vision about the Brazilian IT offshore centers and they are looking for an outstanding performance.

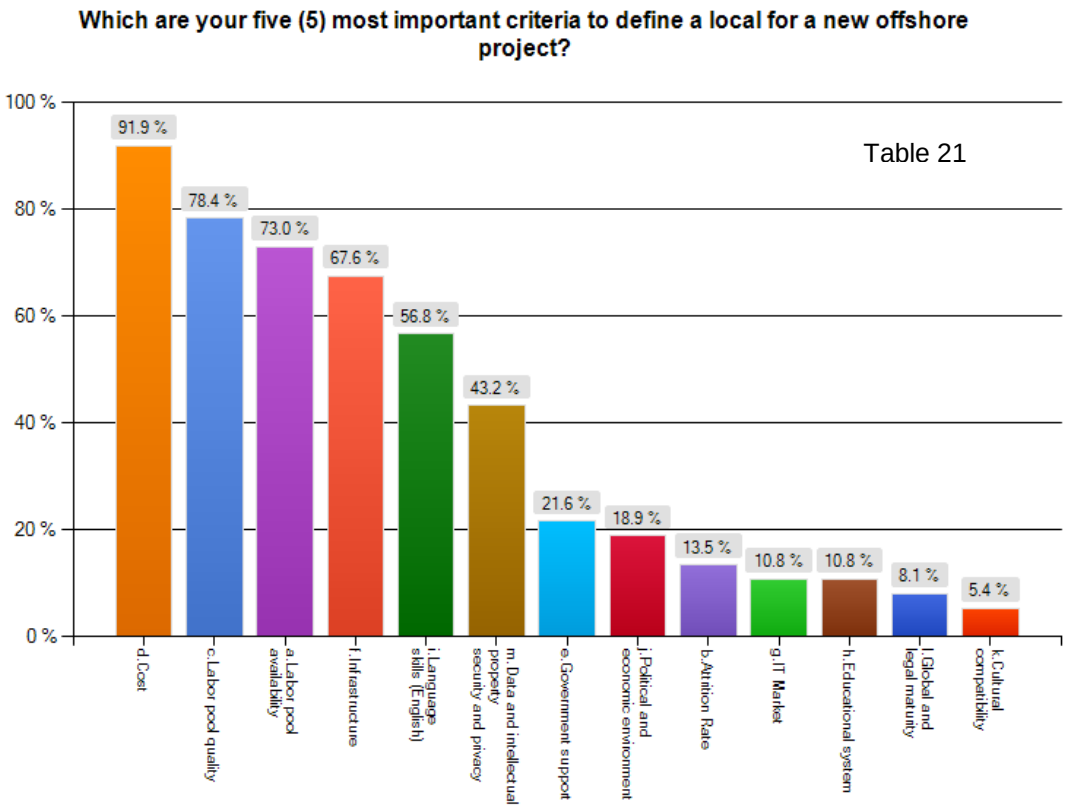
Surprisingly, Attrition Rate has shown up among the Top 6 and among the less important seven Factors for Brazilian managers. It means they are not sure about the importance of this factor. American managers' made it clear.

IT industry may play an important role in Brazilian economy. It is a green industry that pays good salaries for skilled people, without a huge initial investment. Based on Brazilian offshore centers' current performance, the country can deliver IT products and services with a good quality and a reasonable cost even though the cost is higher than India and China. Brazilian managers must know very well their strengths

and weaknesses in order to make the right choices in terms of products, services and markets.

4.3. Indian Managers' Answers

As asked for American and Brazilian managers, the Indian managers also indicated their Top 5 factors most important to make decisions about offshore outsourcing.



Like in American and Brazilian sections, six (6) among thirteen (13) factors have dominated the responses:

Table 22			
IN Answers		**US Answers**	
Cost	91.9%	Labor pool quality	86.1%
Labor pool quality	78.4%	Language skills (English)	80.6%
Labor pool availability	73.0%	Cost	77.8%
Infrastructure	67.6%	Labor pool availability	72.2%
Language skills (English)	56.8%	Attrition Rate	55.6%
Data and intellectual property security and privacy	43.2%	Infrastructure	47.2%

Indian managers agreed with five of six most voted factors by American managers. Attrition rate was not considered so important (only in ninth position) but Data and intellectual property security and privacy (the 7th for American managers) was rated in fifth position. Although this difference, it is still a very good alignment. They rated the Labor Pool Quality in second position very close with American managers' point of view. Cost factor was highlight with the highest rate (91.9%).

There are some huge differences how Indian managers rated the top 6 factors against the American's answers. Below we can see the factors sorted by the differences between Indian and American surveys:

- Attrition Rate -43.5%
- Language skills (English) -23.8%
- Data and intellectual property security and privacy -23.8%
- Infrastructure +20.4%
- Cost +14.1%
- Labor pool quality -7.7%
- Labor pool availability +0.8%

The biggest difference is the perception about the Attrition rate by far. All the others are varying between 0.8% and 23.8%, similar what we found in Brazilian answers. Indian managers should focus on this factor because American managers rated it

among the Top 6 and they rated Indian performance badly. It is a combination very critical for the Indian business, as the entire industry seems based on low cost.

Top 6 factors – How American managers rated the Indian offshore performance.

Table 23 - Labor pool quality	Indian Managers	American Managers
Positive	86.4%	64.9%
Neutral	13.5%	24.3%
Negative	0.0%	10.8%

Although the American managers rated positively the Indian labor pool quality, there is a significant gap (+21.5 %) between both perceptions. It is the number one factor and the Indian managers should understand why this gap is above 20%. Indian managers believe they are delivering an outstanding Labor Pool Quality, but American managers feel they are receiving a just good one.

Table 24 - Language skills (English)	Indian Managers	American Managers
Positive	89.2%	51.4%
Neutral	8.1%	35.1%
Negative	2.7%	13.5%

In language skill (English) the difference between Indian and American managers is also really large. English is considered an advantage for India market. Indian managers rated it outstanding, but the American managers clearly disagree. It is a hidden weakness and Indian managers, probably do not have it in their radar as an issue. They should move quickly and include this factor in their improvements action lists.

Table 25 - Cost	Indian Managers	American Managers
Positive	81.0%	86.5%
Neutral	18.9%	10.8%
Negative	0.0%	2.7%

Cost is clearly the Indian market's main strength, recognized by American and Indian managers with similar rates. Indian managers may use this factor as the main reason for American companies to invest in Indian offshore centers along with the labor pool availability. Indian managers have room to use partly their cost advantage to increase their labor poll quality throughout a better professional's preparation and the reduction of the attrition rate. This action seems to be on track as the Indian salaries are growing faster than in the rest of the industry in the last years. There is another reason for this fact: the huge competition for the local talents among the Indian companies. It has increased the salaries and the attrition rate at same time. This is not healthy for the Indian market and open opportunities to reinforce the position of the new players in the IT market.

Table 26 - Labor pool availability	Indian Managers	American Managers
Positive	94.6%	83.8%
Neutral	5.4%	13.5%
Negative	0.0%	2.7%

Availability is very well recognized by Indian and American managers with some how close rates. Other India IT market strength must be used to attract new IT offshore investments. Indian managers should better advertize these two factors (Cost and Labor Pool Availability) as they are their strengths. Indian companies are investing hard in mass training to increase the new professionals' availability and keep its high rates. The risk is not keeping the good quality of Indian IT labor pool.

Table 27 - Attrition Rate	Indian Managers	American Managers
Positive	28.2%	5.6%
Neutral	46.9%	27.8%
Negative	25.0%	66.7%

Indian and American managers recognized that attrition is the Indian market's worst weakness, although the American managers gave it still lower rates compared with Indian managers' rate. This question had the lowest rate among all question for

American managers. The important point here is that American managers defined this factor in 5th position and the Indian managers only in 9th position out of top 6. Although the Indian managers had pointed it as a weakness, it is still a hidden weakness because the Indian managers had not considered it among their Top 6 factor. They may believe it is not so important, but their customers are saying the opposite. An American manager has commented: “For India, my top 3 issues would be: Attrition, Attrition, and Attrition☺. Before I left, I had come to the conclusion that there are a few ways to address this:

1) Make their companies/organizations such a great place to work that folks don't want to leave. Personally, I think you should do that anyway. But, unfortunately, I think some of this is beyond the control of mid level managers, as it also depends on global economic forces.

2) More complete documentation, and better processes. Unfortunately, there are issues with generating documentation: 1) nobody likes to do it (let's face facts!) 2) people don't use it afterward 3) documentation is not kept up-to-date 4) It's expensive, especially if it becomes "shelf ware". My thought on how to solve that was thru collaboration tools like SharePoint.”

Table 28 - Infrastructure	Indian Managers	American Managers
Positive	67.5%	35.1%
Neutral	27.0%	45.9%
Negative	5.4%	18.9%

Managers from both countries agreed that Infrastructure is an important factor, but the perception about the quality of Indian infrastructure is very different. Indian managers rated this factor as reasonable, but from American managers point of view it is a weakness. There is a huge gap (+32.4%) between both perceptions. It can be considered other hidden weakness and Indian managers should start including it in their improvement action lists.

4.3.1. Conclusion on Indian Managers' answers

Indian managers have good opportunities to improve their performance in factors like English language skills, Attrition Rate and Infrastructure. They are among the American managers Top 6 and they received low rates from them. Labor pool quality is an intermediate situation with good rate from American managers but received an outstanding rate from Indian managers' self-assessment. The gap between the managers' perception was larger than expected. It may be the result of the Indian IT market boom in the last years. The professional's quality may be jeopardized in order to produce the Labor Pool volume necessary to expand the market. The key success factors from Indian IT market are clearly the Cost and the Labor Pool Availability. Indian managers should use them in their negotiations with American managers.

We have received a very interesting commentary from an American manager: "This is a very interesting topic. I completed the survey this morning. I thought I'd add a few comments that may be helpful. Now that I don't work at the company anymore, I can be a little more straightforward in my assessment, which will be more helpful to you from an academic perspective. You already know that I have a lot of experience with both India and Brazil, so I don't need to detail that. From my experience, the individuals from both countries are equally skilled in their technical domains. I'd give Brazil the edge in language skills and cultural fit. From my experience, getting started in either country is equally easy and effective. But I do see one major difference and that is in attrition. After working with both countries, my most recent experience with the attrition level in India has almost leaded me to feel that working with India is a losing proposition. I want to emphasize that this is something that is definitely market driven and can quickly change. The attrition level in Brazil is comparable to what I have experienced in the US. In the last few years in India, however, the attrition level has reached a level that - for me at least - is unacceptable. I'd rather pay more to get a stable workforce than have to deal with constant turnover and the cost of re-training and loss of productivity." It is a good commentary for Indian managers, in order to achieve a better balance between low Cost and Attrition.

5. Overall Conclusion

The survey's goal was answering the following set of questions stated in the first section:

- Which are the most important factors from American IT managers' point of view to make their decisions about investments in offshore centers?

American managers gave us a clear answer. They expect a high quality service at an affordable cost. They indicated among the Top 3: Labor Pool Quality, Language Skills (English) and in third place the Cost. Low Cost is important to justify all the effort to move IT tasks offshore and to compensate the process' hidden costs, but without a high quality service the entire process does not make sense for the managers.

Stephanie Overby (2003) teaches us there are several hidden costs related to the offshore outsourcing process:

- The cost of selecting a vendor or creating a captive center;
- The cost of transition or knowledge transfer;
- The cost of layoffs inshore
- The cultural cost
- The cost of ramping up
- The cost of managing an offshore contract or managing the captive center

The total cost of ownership is far away of the salaries' cost.

- How Indian and Brazilian managers rate their performances?

Based on the Brazilian and Indian managers' answers compared with the American respondents there is a very different perception about how they self-assessed their performance. Assuming the American Managers are the ruler and represent the truth, Brazilian managers were more pessimistic about their performance than their colleagues from India were. In average, they rated their performance level 12.32% lower than American managers' assessment. Brazilian managers rated their centers performance above American's in only three questions. In other hand, Indian managers were very optimistic about their center's performance. In average, they rated their performance level 15.33% higher than American Managers' assessment.

These different perceptions from Brazilian and India managers may be stressed in another study, as it seems related to cultural reasons. Indian managers rated their centers' performance above American's in 12 questions of 13.

The table below shows the Positive answers by question.

Table 29 - Comparing the results

Question	Positive					
	BR	US	Diff	IN	US	Diff
1	70.60	83.80	-13.20	94.60	83.80	10.80
2	74.50	81.10	-6.60	29.70	5.40	24.30
3	68.70	83.80	-15.10	86.40	64.90	21.50
4	35.30	59.50	-24.20	81.00	86.50	-5.50
5	29.40	67.60	-38.20	78.30	56.80	21.50
6	76.50	78.40	-1.90	67.50	35.10	32.40
7	86.30	73.00	13.30	86.40	81.10	5.30
8	53.00	89.20	-36.20	91.90	89.20	2.70
9	11.80	59.50	-47.70	89.20	51.40	37.80
10	78.40	70.30	8.10	75.60	64.90	10.70
11	90.20	94.60	-4.40	64.80	32.40	32.40
12	51.00	51.40	-0.40	43.20	40.50	2.70
13	54.90	48.60	6.30	45.90	43.20	2.70
Average	60.05	72.37		71.88	56.55	
Max			13.30			37.80
Min			-47.70			-5.50
Count (+)			3			12
Count (-)			10			1

The larger differences between Brazilian and American managers are negatives. It means the Brazilian managers have a worst perception about their centers' performance. In opposite, the larger differences between Indian and American managers are positive. It means the Indian managers are more optimistic about their centers' performance.

- Do they really know their strengths and weaknesses from the clients' point of view?

Let us consider the American managers' positive answers above 80% to define strength for Brazilian and Indian offshore centers because they are the main customers of them.

For Brazilian Offshore Centers, American managers defined the following strengths:

1. Labor Pool Availability (83.8%)
2. Attrition Rates (81.1%)
3. Labor Pool Quality (89.2%)
4. Educational System (89.2%)
5. Cultural Compatibility (94.6%)

Brazilian managers identified the following strengths:

1. IT Market (86.3%)
2. Cultural Compatibility (90.2%)

However, American managers identified the following weaknesses (negative answers above 10%):

1. Language Skills (English) (13.5%)
2. Global and Legal Maturity (10.8%)

Brazilian managers identified the following weaknesses:

1. Labor Pool Availability (11.8%)
2. Cost (35.3%)
3. Government Support (54.9%)
4. Educational System (19.6%)
5. Language Skills (English) (54.9%)
6. Global and Legal Maturity (11.8%)
7. Data and Intellectual property security and privacy (13.7%)

Brazilian managers showed a lack of confidence in their offshore centers' strengths. They identified only two those were not considered among the American manager's Top 6. In other hand, American managers identified three of five among the Top 6. Brazilian managers identified seven weaknesses among the 13 factors, but the American managers identified only two. It seems that Brazilian managers do not know their strengths and weaknesses from the customers' point of view.

For Indian Offshore Centers, American managers defined the following strengths:

1. Labor Pool Availability (83.8%)
2. Cost (86.5%)
3. IT Market (81.1%)
4. Educational System (89.2%)

Indian managers identified the following strengths:

1. Labor Pool Availability (94.6%)
2. Labor Pool Quality (86.4%)
3. Cost (81.0%)
4. IT Market (86.4%)
5. Educational System (91.9%)
6. Language Skills (English) (89.2%)

However, American managers identified the following weaknesses (negative answers above 10%):

1. Attrition Rate (64.9%)
2. Labor Pool Quality (10.8%)
3. Infrastructure (18.9%)
4. Language Skills (English) (13.5%)
5. Cultural Compatibility (10.8%)
6. Data and Intellectual property security and privacy (10.8%)

Indian managers identified the following weaknesses:

1. Attrition Rate (24.3%)
2. Global and Legal maturity (10.8%)
3. Data and Intellectual property security and privacy (18.9%)

Indian managers showed an optimistic opinion about their offshore centers compared with the customer's perception. American managers identified four strong factors, but the Indian managers identified six strengths including Labor Pool Quality and Language Skills (English) that were considered weaknesses by the American managers. American managers identified six weaknesses among the 13 factors while

the Indian Managers identified only three. As we saw in Brazilian analysis, it is clear that Indian managers must improve their vision about their customer's needs.

- Are they focused on the right factors to improve their competitiveness?

Based on the analysis made in the previous section, it seems that either Brazilian or Indian managers have a poor visibility about their performance and their customer's needs. This lack of visibility is affecting their ability to invest time and money on the right factors to improve their competitiveness. They do not know exactly what are their strengths and weaknesses, because that the answer for this question is they are not focused on the right factors to improve their competiveness.

- How Suitable India and Brazil are for offshore IT from the USA point of view?

The answer for the main question is positive, but Brazilian and Indian managers must change the way they are leading their businesses. They should have a professional management as any other business, instead to work only with their own perception. Based on a professional management they will be able to avoid the issues found in Captive centers in India. Based on the research from Madhusudanan and Vollenweider (Evalueserve 2009), 61% of the captives studied have faced significant issues, with many of them already shut down. Smaller captive centers have been the worst hit, even though many of the larger ones are not in good shape either.

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Annex I – The complete set of questions for the Managers.

Questions for American managers

1. One of the key questions for IT employers seeking to locate or expand their operations is whether a prospective community has an available labor force with the prerequisite skills.

How do you rate the availability of IT professionals in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the availability of IT professionals in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

2.Attrition rate is an important factor because low annualized attrition rates (less than 15%) helps to keep the knowledge and avoid extra training costs. How do you rate the attrition rate in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the attrition rate in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

3.Labor pool quality is a critical factor for the IT companies' decision-making process to create offshore centers. They seek skilled professionals in sophisticated technologies (ERPs, BI) and business knowledge. Technical certifications, experiences in international projects are key additions beside flexibility, initiative and ability to communicate.

How do you rate the quality of IT professionals in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the quality of IT professionals in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

4.Affordable labor pool is a key factor for decision-making to create offshore IT centers. For the companies what matters is the total cost of the workforce (TCWF = direct salary + benefits + taxes).

How do you rate the total cost of the IT workforce in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the total cost of the IT workforce in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

5.Government support is a competitive advantage to establish an offshore IT center. Usually, the countries create programs that support the industry based on tax incentives.

How do you rate the government support for IT activities in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the government support for IT activities in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

6.IT infrastructure is everything that supports the flow and processing of electronic data. Infrastructure includes the electrical power systems, transmission paths (telephones lines, routers, satellites and antennas) and Internet access. A good infrastructure for energy, telecommunications and even logistics (availability of international flights, for example) is a competitive advantage for the country.

How do you rate the IT infrastructure in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the IT infrastructure in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

7.Countries with a mature IT market with key global vendors established in the country have a clear advantage in the decision-making process to create offshore IT centers.

How do you rate the IT market in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the IT market in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

8.Educational system is a formalized transmission of knowledge operating within a given country. Software Development is an activity that requires highly skilled professionals. Thus, countries with universities able to prepare skilled and creative engineers have a great competitive advantage.

How do you rate the Educational System in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the Educational System in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

9.English language should be considered with the quality of the education system, but in some countries it is not intrinsically connected with the educational system. Therefore, we have to analyze it independently. English language skill is key in global team communications.

How do you rate the IT professionals' English skills in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the IT professionals' English skills in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

10.Political stability is crucial for external investments in any industry. The transfer of the business knowledge and data processing from developed countries (U.S. and Europe) for under developed countries depend on it. Large global companies do not want take risks in this critical area of the business. The stability of the countries supports their long-term plans.

How do you rate the political stability in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the political stability in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

11.Cultural compatibility is not commonly considered in IT analysis, but it is key factor for long-term relationships inside global teams. Creating trust among the teams is essential to establishing a productive environment.

How do you rate the cultural compatibility between Brazil and the US?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the cultural compatibility between India and the US?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

12.Global and Legal maturity is the capability of the country to act as a fair global player. The international companies want protection to their investments based on the alignment with the international laws.

How do you rate the legal maturity in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the legal maturity in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

13.Data and intellectual property security is key for international companies to move their data to offshore IT centers. Access to data, source code, business processes, and patents must be protected by local laws about intellectual property (copyright). How do you rate the intellectual property security in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

How do you rate the intellectual property security in India?

a.Very good	b.Good	c.Acceptable (Neutral)	d.Unsatisfactory	e.Unacceptable

14.Which are your five (5) most important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Attrition Rate	c.Labor pool quality	d.Cost	e.Government support
f.Infrastructure	g.IT Market	h.Educational system	i.Language skills (English)	j.Political and economic environment
k.Cultural compatibility	l.Global and legal maturity	m.Data and intellectual property security and privacy		

15.Which are your five (5) less important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Attrition Rate	c.Labor pool quality	d.Cost	e.Government support
f. Infrastructure	g.IT Market	h.Educational system	i.Language skills (English)	j.Political and economic environment
k.Cultural compatibility	l.Global and legal maturity	m.Data and intellectual property security and privacy		

Questions for Brazilian managers

1.One of the key questions for IT employers seeking to locate or expand their operations is whether a prospective community has an available labor force with the prerequisite skills.

How do you rate the availability of IT professionals in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

2.Labor pool quality is a critical factor for the IT company's decision-making process to create offshore centers. They seek skilled professionals in sophisticated technologies (ERPs, BI) and business knowledge. Technical certifications, experiences in international projects are key additions beside flexibility, initiative and ability to communicate.

How do you rate the quality of IT professionals in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

3.Affordable labor pool is a key factor for decision-making to create offshore IT centers. For the companies what matters is the total cost of the workforce (TCWF = direct salary + benefits + taxes).

How do you rate the total cost of the IT workforce in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

4.Government support is a competitive advantage to establish an offshore IT center. Usually, the countries create programs that support the industry based on tax incentives.

How do you rate the government support for IT activities in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

5.IT infrastructure is everything that supports the flow and processing of electronic data. Infrastructure includes the electrical power systems, transmission paths (telephones lines, routers, satellites and antennas) and Internet access. A good infrastructure for energy, telecommunications and even logistics (availability of international flights, for example) is a competitive advantage for the country.

How do you rate the IT infrastructure in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

6.Countries with a mature IT market with key global vendors established in the country have a clear advantage in the decision-making process to create offshore IT centers.

How do you rate the IT market in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

7.Educational system is a formalized transmission of knowledge operating within a given country. Software Development is an activity that requires highly skilled professionals. Thus countries with universities able to prepare skilled and creative engineers have a great competitive advantage.

How do you rate the Educational System in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

8.English language should be considered with the quality of the education system, but in some countries it is not intrinsically connected with the educational system. Therefore, we have to analyze it independently. English language skill is key in global team communications.

How do you rate the IT professionals' English skills in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

9.Political stability is crucial for external investments in any industry. The transfer of the business knowledge and data processing from developed countries (U.S. and Europe) for under developed countries depend on it. Large global companies do not want take risks in this critical area of the business. The stability of the countries supports their long-term plans.

How do you rate the political stability in Brazil?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

10.Cultural compatibility is not commonly considered in IT analysis, but it is key factor for long-term relationships inside global teams. Creating trust among the teams is essential to establishing a productive environment.

How do you rate the cultural compatibility between Brazil and the US?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

11.Global and Legal maturity is the capability of the country to act as a fair global player. The international companies want protection to their investments based on the alignment with the international laws.

How do you rate the legal maturity in Brazil?

a.Very good	b.Good	c.Acceptable (Neutral)	d.Unsatisfactory	e.Unacceptable

12.Data and intellectual property security is key for international companies to move their data to offshore IT centers. Access to data, source code, business processes, and patents must be protected by local laws about intellectual property (copyright). How do you rate the intellectual property security in Brazil?

a.Very good	b.Good	c.Acceptable (Neutral)	d.Unsatisfactory	e.Unacceptable

13.Which are your five (5) most important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Labor pool quality	c.Cost	d.Government support	
e.Infrastructure	f.IT Market	g.Educational system	h.Language skills (English)	i.Political and economic environment
j.Cultural compatibility	k.Global and legal maturity	l.Data and intellectual property security and privacy		

14.Which are your five (5) less important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Labor pool quality	c.Cost	d.Government support	
e.Infrastructure	f. IT Market	g.Educational system	h.Language skills (English)	i.Political and economic environment
j.Cultural compatibility		k.Global and legal maturity	l.Data and intellectual property security and privacy	

Questions for Indian managers:

1.One of the key questions for IT employers seeking to locate or expand their operations is whether a prospective community has an available labor force with the prerequisite skills.

How do you rate the availability of IT professionals in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

2.Labor pool quality is a critical factor for the IT companies' decision-making process to create offshore centers. They seek skilled professionals in sophisticated technologies (ERPs, BI) and business knowledge. Technical certifications, experiences in international projects are key additions beside flexibility, initiative and ability to communicate.

How do you rate the quality of IT professionals in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

3.Affordable labor pool is a key factor for decision-making to create offshore IT centers. For the companies what matters is the total cost of the workforce (TCWF = direct salary + benefits + taxes).

How do you rate the total cost of the IT workforce in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

4.Government support is a competitive advantage to establish an offshore IT center. Usually, the countries create programs that support the industry based on tax incentives.

How do you rate the government support for IT activities in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

5.IT infrastructure is everything that supports the flow and processing of electronic data. Infrastructure includes the electrical power systems, transmission paths (telephones lines, routers, satellites and antennas) and Internet access. A good infrastructure for energy, telecommunications and even logistics (availability of international flights, for example) is a competitive advantage for the country.

How do you rate the IT infrastructure in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

6.Countries with a mature IT market with key global vendors established in the country have a clear advantage in the decision-making process to create offshore IT centers.

How do you rate the IT market in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

7.Educational system is a formalized transmission of knowledge operating within a given country. Software Development is an activity that requires highly skilled professionals. Thus, countries with universities able to prepare skilled and creative engineers have a great competitive advantage.

How do you rate the Educational System in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

8.English language should be considered with the quality of the education system, but in some countries it is not intrinsically connected with the educational system. Therefore, we have to analyze it independently. English language skill is key in global team communications.

How do you rate the IT professionals' English skills in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

9.Political stability is crucial for external investments in any industry. The transfer of the business knowledge and data processing from developed countries (U.S. and Europe) for under developed countries depend on it. Large global companies do not want take risks in this critical area of the business. The stability of the countries supports their long-term plans.

How do you rate the political stability in India?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

10.Cultural compatibility is not commonly considered in IT analysis, but it is key factor for long-term relationships inside global teams. Creating trust among the teams is essential to establishing a productive environment.

How do you rate the cultural compatibility between India and the US?

a.Very good b.Good c.Acceptable (Neutral) d.Unsatisfactory e.Unacceptable

11.Global and Legal maturity is the capability of the country to act as a fair global player. The international companies want protection to their investments based on the alignment with the international laws.

How do you rate the legal maturity in Brazil?

a.Very good	b.Good	c.Acceptable (Neutral)	d.Unsatisfactory	e.Unacceptable

12.Data and intellectual property security is key for international companies to move their data to offshore IT centers. Access to data, source code, business processes, and patents must be protected by local laws about intellectual property (copyright). How do you rate the intellectual property security in India?

a.Very good	b.Good	c.Acceptable (Neutral)	d.Unsatisfactory	e.Unacceptable

13.Which are your five (5) most important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Labor pool quality	c.Cost	d.Government support	
e.Infrastructure	f.IT Market	g.Educational system	h.Language skills (English)	i.Political and economic environment
j.Cultural compatibility	k.Global and legal maturity	l.Data and intellectual property security and privacy		

14.Which are your five (5) less important criteria to define a local for a new offshore project?

a.Labor pool availability	b.Labor pool quality	c.Cost	d.Government support	
e.Infrastructure	f.IT Market	g.Educational system	h.Language skills (English)	i.Political and economic environment
j.Cultural compatibility	k.Global and legal maturity	l.Data and intellectual property security and privacy		