

CHAPTER 5

Costa Rica in the Offshore Services Global Value Chain

OPPORTUNITIES FOR UPGRADING



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This research was prepared on behalf of the Costa Rica Foreign Trade Ministry (COMEX). The report is based on both primary and secondary information sources. This includes 21 interviews conducted with offshore services companies representing the different segments of the value chain, educational organizations, and supporting organizations from both the private and public sector. In addition, the report draws on extensive research on the sector previously carried out by Duke CGGC and data provided by Costa Rica organizations including the Costa Rican Investment Promotion Agency (CINDE) and the Ministerio de Comercio Exterior (COMEX). The project report will be available at www.cggc.duke.edu.

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Acronyms

ACS	Affiliated Computer Services
BFSI	Banking, Financial, Services, and Insurance
BPO	Business Process Outsourcing
CAMSCAT	Cámara de Servicios Corporativos de Alta Tecnología
CAMTIC	Cámara de Tecnologías de Información y Comunicación
CENFOTEC	Centro de Formación en Tecnologías de la Información y Comunicación
CINDE	Costa Rican Investment Promotion Agency
CRM	Customer Relationship Management
COMEX	Costa Rican Ministry of Trade
CORFO	Chilean Economic Development Agency
DSP	Digital Signal Processing
ERM	Enterprise Resource Management
ERP	Enterprise Resource Planning
EU	European Union
FLASCO	Facultad Latinoamericana de Ciencias Sociales
FTZ	Free Trade Zone
GDP	Gross Domestic Product
GDS	Global Delivery Systems
GMA	Greater Metropolitan Area
GVC	Global Value Chain
HRM	Human Resource Management
ICT	Information and Communications Technology
IDC	International Data Corporation
IP	Intellectual Property
IT	Information Technology
ITeS	Information Technology-Enabled Services
ITO	Information Technology Outsourcing
KPO	Knowledge Process Outsourcing
MNC	Multinational Corporation
NASSCOM	National Association of Software and Services Companies
NGO	Nongovernmental Organization
PROCOMER	Foreign Trade Corporation of Costa Rica
PwC	PricewaterhouseCoopers
R&D	Research and Development
SEZ	Special Export Zone
SME	Small and Medium Enterprises
SWOT	Strengths. Weaknesses, Opportunities, and Threats
US	United States

1. Introduction

Costa Rica is a pioneer in attracting offshore services to Latin America. Since the mid-1990s the country has been a preferred location for multinational corporations (MNCs) looking to reduce costs and take advantage of the country's unique combination of draws, including its close location to the United States' Central Time Zone, largely bilingual population and relatively safe and stable security environment. These MNCs have set up both captive centers and third party service providers in Costa Rica, with the latter allowing companies to use the country as a platform to export competitively priced services. This 'first mover' strategy produced excellent results. In 2005, there were 33 MNCs firms employing 10,802 people and exporting around US\$387 million. Today, these figures have tripled; in 2011 there were close to 100 offshore services MNCs operating in the country, employing 33,170 workers and exporting US\$1,390 million¹ (CINDE, 2012f).

Competition, however, has grown considerably in recent years as a plethora of new countries all over the world have begun vying for the opportunity to participate in the global services sector. In Latin America alone, the majority of governments are actively recruiting offshore services providers to set up operations in their countries. These governments hope to attract offshore services MNCs by virtue of the availability of educated human capital, inexpensive labor and good telecommunications infrastructure their countries can provide. As more countries enter the industry, it is becoming more difficult to compete based on costs, especially for small nations with limited labor pools such as Costa Rica. These countries must thus develop creative strategies based on niche sectors, and differentiate themselves from competitors based on the premise of quality rather than quantity.

Costa Rica has been successful in attracting some of the top companies in the offshore services industry to establish operations within the country, and the MNC representatives interviewed for this study generally reported satisfaction with the quality of labor provided by Costa Rican employees. The country has a positive track record for cultivating quality, and this analysis offers suggestions for sustaining and improving this labor quality going forward.

Although the Costa Rican Investment Promotion Agency (CINDE) and companies operating in the offshore services sector have, in the past, worked together to address human capital needs as they arose, Costa Rica has not yet developed a sectorial strategy—which would identify and enumerate goals, objectives and a plan of action—to secure its position in the offshore services industry. To be successful in addressing some of Costa Rica's key challenges in this sector—including limited human capital—the sector stakeholders will need to develop a clear strategy to provide vision and guidance for the future of the industry.

While certain segments of the Costa Rican offshore services value chain are coming under pressure, especially transactional activities, the evolution of the global offshore services industry since its inception has created important new opportunities that Costa Rica can leverage. The goal of this

¹ This information is from MNCs operating in an FTZ regime that represents around 80% of the total companies. According to CINDE, the Costa Rican Central Bank estimates that in 2011 the offshore services industry employed 37,049 and exported almost US\$1.6 billion. In this report we use the data from companies operating under the FTZ regime due to the data availability.

report is thus to determine how Costa Rica is currently participating in the offshore services industry, identify potential opportunities to increase its gains from participation, and examine the key challenges that may detract from its ability to take advantage of these possibilities.

This report uses the global value chain (GVC) framework to help policy makers in Costa Rica appreciate the global structure of the sector, identify new areas for upgrading, and develop a strategy for the future. This framework allows one to understand how this global industry is organized by examining the structure and dynamics of different actors involved. The framework is also a useful tool in tracing the shifting patterns of global demand and supply, linking geographically dispersed activities and actors, and determining the roles they play in developed and developing countries alike. The GVC methodology focuses on the sequences of value-added within an industry, from conception to production and end use. It examines the job descriptions, technologies, standards, regulations, products, processes and markets in specific industries and places—thus providing a holistic view of this global industry, both from the top down and the bottom up. In this way, a GVC framework facilitates firms' and policy makers' understandings of the global nature of a given industry, and provides them with tools to be more intentional and directed in their approach to driving growth in developing countries.

Due to a lack of quantitative data in the services industry, Duke CGGC used a two-pronged approach to collect the data upon which this analysis, its findings and its recommendations are based, relying on both primary data and government reports. A major strength of this analysis is its incorporation of primary data. In order to provide the government of Costa Rica with valuable information regarding the perceptions of the country within the offshore services industry, Duke CGGC's researchers went straight to the source. The researchers conducted 21 interviews with firms in the offshore services industry and other relevant sector stakeholders during field research in Costa Rica in July 2012 and conference calls during August–November, 2012. This report therefore provides the Costa Rican government and others with the rare opportunity to get inside the mind of an industry, so to speak, and to gain valuable insight into what the major offshore services MNCs view as draws to investing in Costa Rica, and what aspects of Costa Rica's offshore services sector might give them pause. This qualitative, primary data also played a key role in identifying leverage points and bottlenecks in Costa Rica's offshore services industry within the context of this GVC analysis.²

The bulk of the quantitative data used in this report came from the Costa Rican Investment Promotion Agency (CINDE), which provided company-specific data on employment, exports and entry year, as well as educational data.³ Secondary data was also collected from global databases and industry specific sources to provide relevant country comparison. Previous Duke CGGC publications about the offshore services GVC (Fernandez-Stark et al., 2010a, 2010c, 2010e, 2011b; Gereffi et al.,

² The scale to quantify the responses from companies is: few: 0-25%; several: 25-50%; the majority: 50-75%; the vast majority: 75-100% and all: 100%.

³ CINDE maintains data on companies operating within the Free Trade Zone (FTZ) regime, which represent approximately 80% of the total industry. This report's conclusions are therefore based on an analysis of this 80% of the industry, and on primary data collected during field work. Data on the entire offshore services industry in Costa Rica were not available at the time of writing.

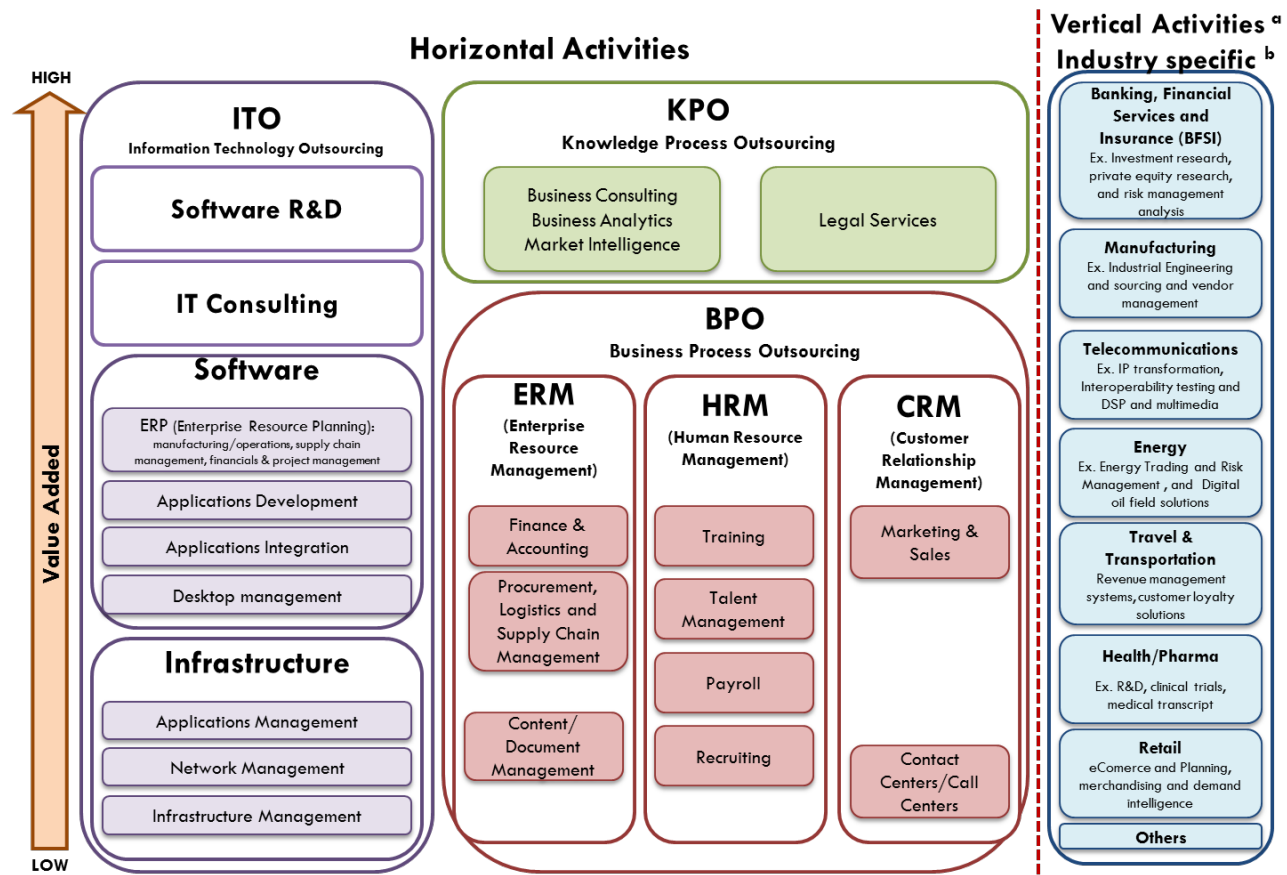
2009; Gereffi & Fernandez-Stark, 2010b) offered a valuable starting point to map the positions of Costa Rica in the chain.

This report is structured in the following manner: First, it provides an overview of the offshore services global value chain presenting the main segments of the chain: ITO, BPO, KPO and Industry-Specific Services, highlighting the major upgrading trajectories. This provides a global perspective for understanding where and how Costa Rica may compete in the future. The second part of the analysis maps the position of Costa Rica in the GVC, followed by an analysis of the evolution of the sector and a comparison of the country with other economies. This section also identifies key trends and highlights of the sector. Next, the report analyzes issues related to human capital in Costa Rica, the principal factor affecting a country's ability to compete in this industry. The report concludes with a discussion of the main challenges and opportunities policy makers should take into account as they define a strategy to ensure the industry's growth and upgrading in the future.

2. Offshore Services Industry Global Overview

The offshore services industry encompasses the trade of services performed in one country and consumed in another (Sako, 2005). This separation of production and consumption has permitted emerging nations to contribute significantly to the world's services industry for the first time (Fernandez-Stark et al., 2011b). Figure 1 illustrates the global value chain for the sector. The different stages are described below.

Figure 1. Offshore Services Value Chain



Source: CGGC, Duke University.

Note: ^a Vertical Activities (Industry Specific): Each industry has its own value chain. Within each of these chains, there are associated services that can be offshored. This diagram captures the industries with the highest demand for offshore services.

^b This graphical depiction of Vertical Activities does not imply value levels. Each industry may include ITO, BPO and advanced activities.

The industry can be subdivided into two main parts: **Horizontal Services** provided across all industries (presented on the left of the diagram) and **Vertical Services** specific to particular sectors (presented on the right). The activities included in horizontal services support generic business functions and rely on process expertise. These services range from repetitive transactional processes to transformational operations that depend on analytical skills. There are three main segments:

- **Information Technology Outsourcing (ITO)** includes services such as network management, applications development, IT consulting and software research and development (R&D). These services range from low to high value.
- **Business Process Outsourcing (BPO)** functions include services such as call centers, payroll, finance and accounting and human resources. These are in the low to mid segments of the value chain.

- **Knowledge Process Outsourcing (KPO)** includes higher value services such as market intelligence, business analytics and legal services. KPO services encompass the highest value horizontal services in the chain.

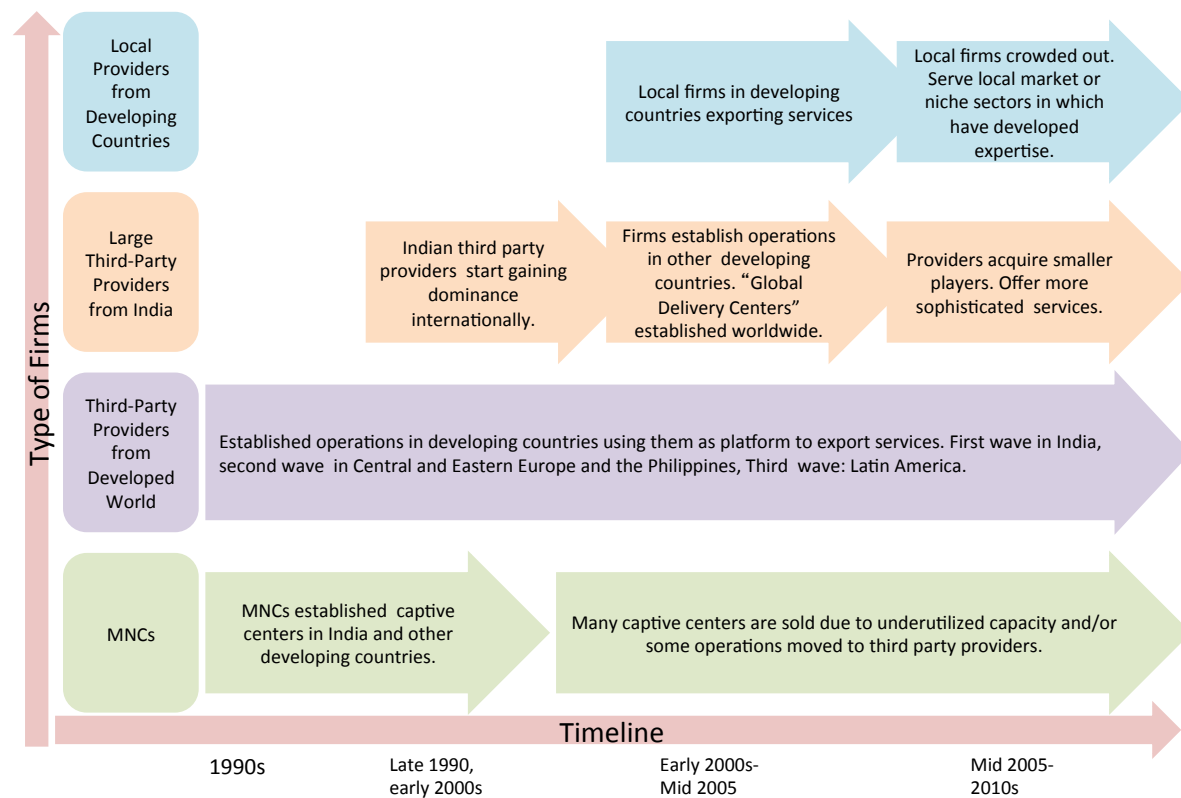
Vertical Services, on the other hand, require specific industry knowledge. These services may be so highly specialized to their sector that they have limited applicability in other industries; for example, check processing in the banking sector, clinical trials in the pharmaceutical industry and transcription services in the medical sector are all Vertical Services (Gereffi & Fernandez-Stark, 2010b).

In the GVC literature, value is generally determined by examining the transformation of inputs to outputs at each stage.⁴ Inputs in the services sector, however, are intangible, including factors such as customer service and analytical and communication skills. This creates difficulties in accurately depicting “value-add.” Industry analysis however shows that participation in different stages of the GVC depends on two key factors: labor costs and expertise (Fernandez-Stark et al., 2011b). Value in the classification scheme presented in Figure 1 is thus determined by using human capital requirements as a proxy, that is, the approximate employee education and experience level required to perform different service functions for each stage (Fernandez-Stark et al., 2010b). Employees located in the lower part of the value chain diagram have less education and experience, while the employees in the upper section of the value chain are more educated and have more years of experience. By indicating the human capital required at different levels of the offshore services value chain, this classification scheme provides decision-makers with an instrument for determining where they may be best suited to play a role in the industry (Gereffi & Fernandez-Stark, 2010b).

2.1. Industrial Organization and Lead Firms

The industry is composed of four groups of key players: Developed countries providers, such as IBM and Hewlett Packard, Indian providers such as Infosys and Wipro, captive or shared services centers of multinational firms (General Electric was one of the first MNCs to offshore services), and domestic providers. During the early 1990s, the industry was composed of primarily captive centers, with some developed country providers leveraging low cost locations. Figure 2 below highlights the evolution of the industrial organization of the sector. In Costa Rica, there is a strong presence of *Third Party Providers from Developed Countries*, as well as *MNCs establishing captive centers*. *Large Third Party Providers from India* do not have a strong presence in the country; however, Infosys—the third largest India offshore services firm—has announced it will be opening a center in Costa Rica in 2013 (CINDE, 2012e).

⁴ In product-based industries, value is measured by the price of the inputs and outputs at each stage of a product’s assembly. In the case of the services industry, measuring value is complicated by the lack of reliable company-level data and trade statistics for services (Sturgeon & Gereffi, 2009).

Figure 2. Industrial Organization in the Offshore Services Industry

Source: (Fernandez-Stark et al., 2010c).

Over the past two decades, the dominance of captive centers has given way to increased outsourcing with third-party providers playing a more important role. Providers from developed countries continue to lead the sector; however, Indian firms have been rapidly expanding and gaining market share. Table 1 highlights the leading service providers from developed countries—which are mostly headquartered in the United States (US)—while Table 2 lists the leading Indian service providers. All of the companies listed below have established operations in developing countries due to significant labor arbitrage opportunities and availability of talent, and use these nations as a platform to export services.

Table 1. Leading Service Providers from Developed Countries

	Company	HQ Location
1	IBM	United States
2	Accenture	United States
3	Hewlett-Packard	United States
4	CapGemini	France
5	ACS (Affiliated Computer Services)	United States
6	Teleperformance	France
7	Convergys	United States
8	Sitel	United States
9	Amdocs	United States
10	Teletch	United States

Source: (Gereffi & Fernandez-Stark, 2010a).

Table 2. Leading Indian Service Providers⁵

	Company
1	Tata Consulting Services (TCS)
2	Wipro
3	Infosys
4	Genpact
5	Mahindra Satyam
6	HCL Technologies

Source: (Gereffi & Fernandez-Stark, 2010a).

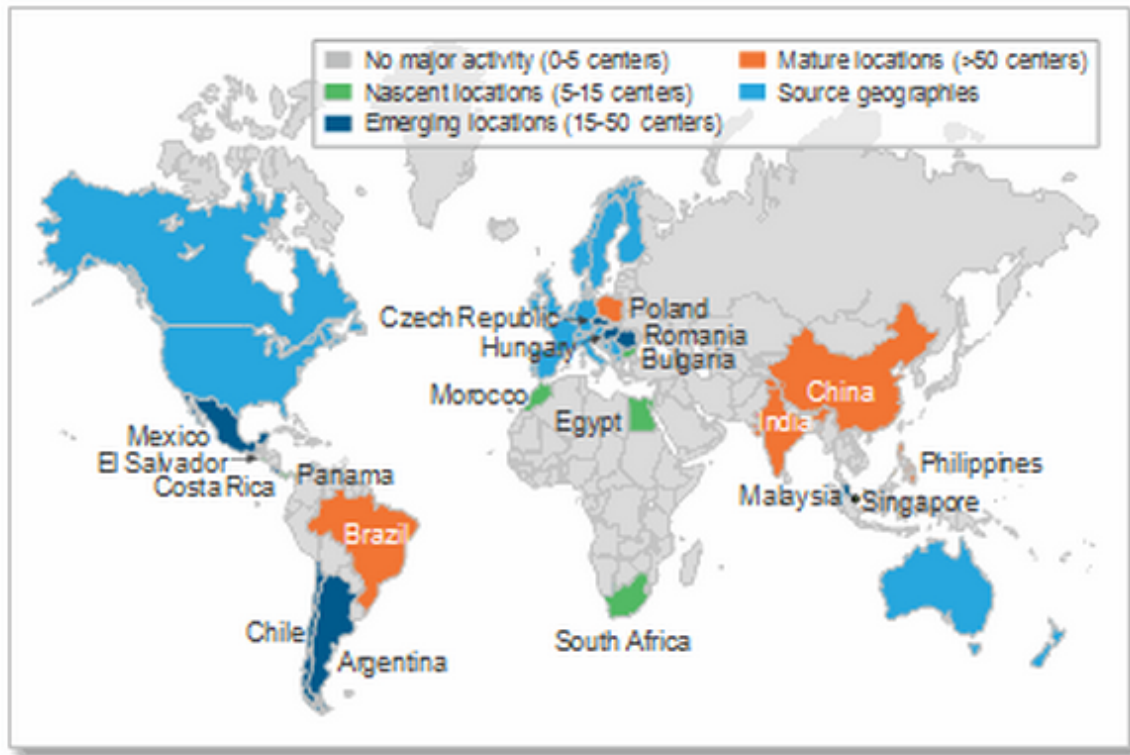
2.2. Global Distribution of Supply and Demand

Overall, the industry expanded based on low-cost, yet educated labor forces around the world. While India was the first country to become a significant supplier of offshore services, creating 2.8 million jobs by 2012 (NASSCOM, 2012a), other mature country providers have already emerged. These include the Philippines, a call center powerhouse, China, Brazil and Poland. Emerging locations, defined as containing 15–50 centers of offshore services, are mainly concentrated in Central and Eastern Europe and Latin America, as the map in Figure 3 illustrates. There are also nascent locations, with 5–15 centers of offshore services, emerging in Latin America, but growth of these locations is strongest in Africa where they are trying to compete on labor costs and English proficiency. Traditionally, the US, Canada, Western Europe and Australia were the largest buyers of offshore services (Datamonitor, 2009); however, nowadays several developing countries are

⁵ For a list of Indian offshore service vendors with presence in Latin America see the report The Offshore Services Industry: A New Opportunity for Latin America” <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35030707>.

demanding offshore services. The map below (Figure 3) illustrates the geographical distribution of supply in this industry.

Figure 3. Distribution of Leading Suppliers in the Offshore Services GVC



Source: (Everest Group, 2011).

2.3. Latin America in the Offshore Services GVC

With key offshoring locations such as Chile, Costa Rica, Mexico and Uruguay beginning to consolidate their positions in the chain, Latin America has a great potential to emerge as an important offshore services provider. The continent offers two distinct advantages over other low-cost locations: Time zone positioning and language skills. Bilingual employees with Spanish and English skills are essential for serving the growing Hispanic population in the US.

Latin America's location is also strategic for service providers. Operations can serve either as 'nearshoring' operations for the US market, leveraging a similar time zone (Abbot & Jones, 2002; Carmel & Prikladnicki, 2010), or as part of the Global Delivery Systems (GDS), the route generally favored by Indian operators. The GDS model consists of a global headquarters supported by delivery systems located around the world, and allows the firm to offer 24-hour uninterrupted service coverage (Fernandez-Stark et al., Forthcoming-a).

In addition, numerous Latin American governments have been actively developing policies to attract offshore services providers to use their countries for service-export platforms (Fernandez-Stark et al., Forthcoming-a). These combined forces have resulted in exponential industry growth on the continent. Despite having entered the industry almost a decade after Eastern Europe, Latin American offshore services exports in 2010 were valued at US\$8 billion—US\$3 billion higher than the export value of these services for Eastern Europe (Tucci, 2011). This expansion was driven mostly by foreign direct investment by service providers to serve the Spanish and North American markets (Gereffi et al., 2009). This has allowed countries in the region to begin to leverage their growing workforce and provides an opportunity for them to reduce their traditional dependence on natural resources and manufacturing-based economies and move into the knowledge economy.

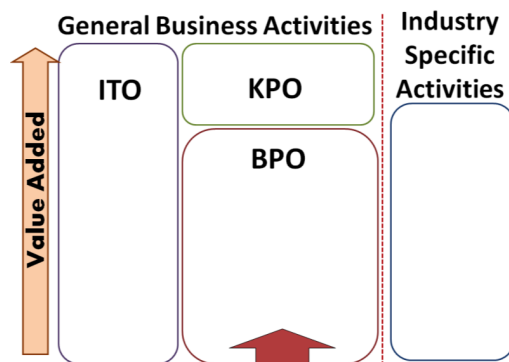
Most Latin American countries have attracted foreign operations principally due to educated and inexpensive labor force compared to developed countries. However, low sunk costs in the offshore services sector, particularly in lower value services, combined with the propensity of offshore services providers to engage in labor arbitrage, can make a host country vulnerable. This is because providers can easily move their operations to another country to take advantage of lower labor costs. This occurred in Chile, for example, at the end of the 2000s, when large call center operations began moving to Peru and Colombia, where the cost of labor was lower (Fernandez-Stark et al., 2010a).

While more populated nations can afford to compete on labor savings alone, to mitigate the risk of industry flight, and to continue to attract foreign investment, smaller countries with limited labor pools should entice firms with higher value propositions. For example, as Chile began to lose competitiveness in segments requiring a large number of workers with generalized educational backgrounds, the country shifted its focus to higher value activities that require specialized expertise—in this case, engineering services related to mining. These small countries that are finding more difficult to compete on the basis of low-cost labor need to compete on quality rather than quantity, identify niches and, in the long term, develop opportunities to collaborate instead of competing with countries in the region.

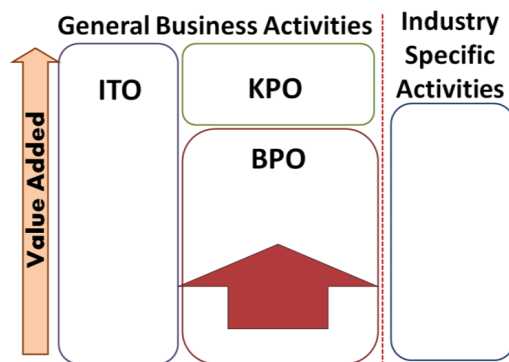
3. Upgrading in Offshore Services Value Chains

The concept of “upgrading” refers to the strategies used by firms, countries, regions and other economic stakeholders to maintain or improve their positions in the global economy. Economic upgrading is defined as economic actors moving to higher value activities in GVCs in order to increase the benefits (e.g. security, profits, value-added, capabilities) from participating in global production (Gereffi et al., 2005, p. 171). Five examples of distinct upgrading trajectories in the offshore services industry have been identified, and are detailed below (Fernandez-Stark et al., 2011b).⁶

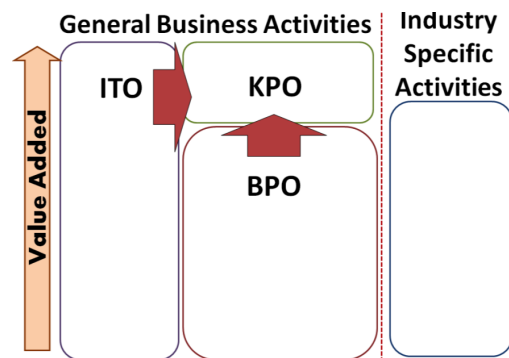
⁶ For more information about upgrading trajectories in the offshore services industry read: A) Fernandez-Stark, K., P. Bamber and G. Gereffi (2011). "The Offshore Services Value Chain: Upgrading Trajectories in Developing Countries." *International Journal of Technological Learning, Innovation and Development* 4(1): 206-234. B) Fernandez-Stark, K., P. Bamber and G.

Trajectory 1: Entry into the Value Chain

This has been achieved by developing countries principally through the provision of call centers services, a BPO activity. This segment draws on previously marginalized labor markets, in particular, youth and female labor pools, hiring a large number of young workers with high school diplomas and in some cases basic tertiary education. Hiring practices in the segment do not discriminate between educational or technical disciplines, facilitating access to a deeper labor pool in smaller labor markets. However, these operations rely on scale in order to drive profitability, suggesting that these are best suited for developing countries with large populations.

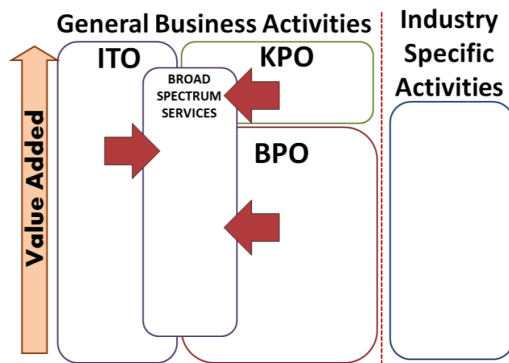
Trajectory 2: Upgrading within the BPO Segment

This encompasses the shift from basic services (call centers) to the provision of higher value-added services within BPO, a common trend for countries entering the GVC through the BPO segment. Higher value BPO activities rely on similar repetitive functions as with call centers, although as a whole, they draw on a slightly more educated labor force. Limited direct interaction between clients and agents facilitates growth of these functions as they do not depend on language fluency, in turn allowing access to a broad base of potential employees. Training in BPO functions is predominantly carried out by the private sector and on the job, with employees receiving training and support from a team leader.

Trajectory 3: Upgrading from ITO or BPO to KPO

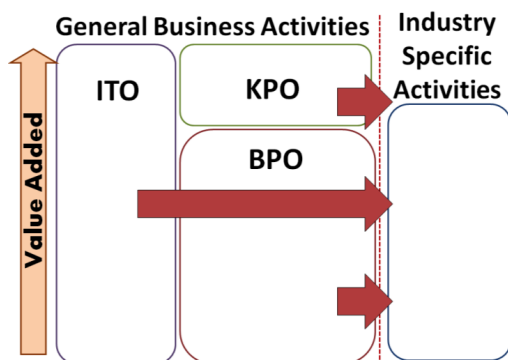
The shift of ITO and BPO providers into KPO activities is driven by a need to engage customers to find solutions for “unsolved business problems rather than incomplete programming tasks” (William F. Achtmeyer Center for Global Leadership, 2008). BPO and ITO firms seeking to offer more sophisticated solutions to their clients start adding data and market analysis in addition to other transactional activities.

Trajectory 4: Broad Spectrum Services



This trajectory describes functional upgrading to offer all services in the ITO, BPO and KPO segments. Maintaining the provision of low value services while at the same time providing high valued services requires a large but versatile low cost labor supply. In small countries, inflationary pressure on wages due to limited but skilled workforce encourages countries to upgrade into higher value services, or lose their competitiveness in the industry to other lower cost countries. On the other hand, a large country with a significant proportion of the population earning low salaries can successfully upgrade into higher value services and at the same time remain competitive in basic services.

Trajectory 5: Industry Specialization (Intersectoral Upgrading)



Companies offering some ITO, BPO and KPO services for a wide range of industries often specialize and focus on key industries in which to develop expertise. This trajectory is closely correlated with leading productive industries in the host country. Companies hire area experts to sustain their competitive advantage in specific niche areas, drawing on available pools of highly qualified human capital. Inflationary pressure, caused by the high demand for labor from a small workforce, quickly forces the country to change its offshoring approach to focus on niche higher value activities.

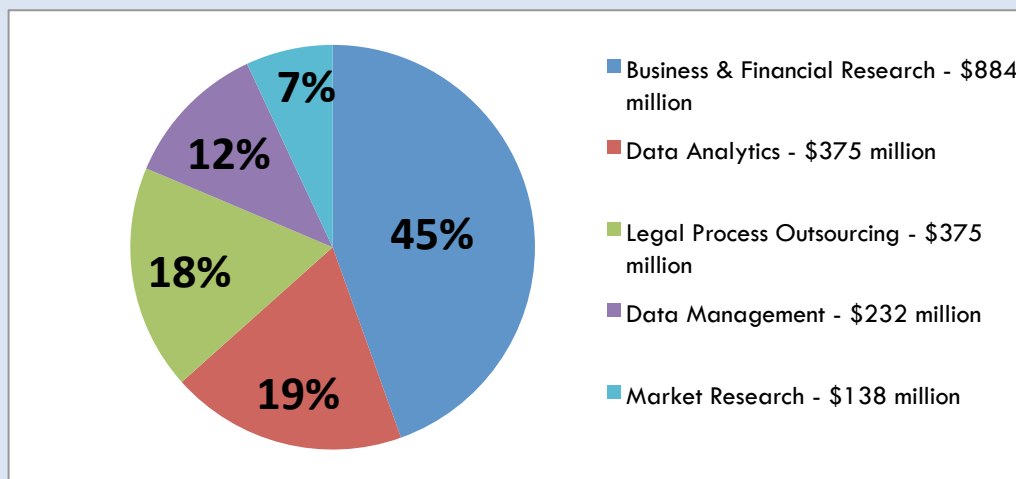
These upgrading trajectories show different country strategies to move into higher value-added activities. These trajectories are not mutually exclusive and several of them can happen at the same time. The first trajectory shows how countries have typically entered the value chain, in particular in Latin America, where a common strategy has been to begin offering call center services. The second trajectory refers to countries that are able to offer more sophisticated business operations beyond call and contact centers. In trajectory three, providers move into the provision of knowledge activities that require a considerable degree of analysis. These analytical services demand a more qualified labor force. The fourth upgrading trajectory usually occurs when large operations are set up in a country and are able to offer a large spectrum of services ranging from low value-added to high value services. These operations offer a 'one stop shop' for clients and reduce overall transaction costs, but depend on the availability and cost-competitiveness of a large number of workers to serve different stages of the chain. Finally, the industrial specialization upgrading trajectory shows the movement to

niche activities for specific industries. This expertise reduces vulnerability to competition from other low cost locations.

Box 1. Opportunities & Challenges of Moving to KPO Activities

In the past, activities carried out in the Knowledge Process Outsourcing (KPO) segment were considered core capabilities of the firm and were performed in-house and close to the firm's core operations. However, today this segment of the offshore services GVC is growing rapidly. In 2006, these activities were valued at US\$1.2 billion, rising to US\$2.9 billion in 2010, and the segment is expected to grow even more significantly to US\$7.9 billion by 2015. In India alone, these activities have already generated employment for 70,000 people in over 100 firms (NASSCOM, 2012b). Figure 4 below provides a breakdown of the Indian KPO market by service line in 2010. Business and financial research are leading the growth of this segment.

Figure 4. Breakdown of Indian KPO exports, by Percentage of Revenue 2010



Source: NASSCOM, 2010.

These higher value-added activities represent an important upgrading opportunity for Latin American countries. However, it has been extremely difficult to establish KPO operations in the region. Typically, KPO operations require employees with master's degrees and PhDs that are in high demand by other economic activities in the country, but in short supply in developing countries, making human capital availability a key factor for entry. Additionally, building a successful KPO operation depends to a great degree on credibility and reputation; it takes time for clients to gain confidence about a firm's ability to handle high value services. Good management and excellent human capital are essential for developing this trust. In Latin America, to date only a few countries such as Brazil and Chile have been able to achieve this upgrading on a meaningful scale. The region cannot compete indefinitely on cheap labor costs, particularly as other regions like Africa emerge that can offer cheaper labor and growth in Latin America increases economy-wide demand for skilled workers. In order to sustain its participation in this industry, Latin America must strategize about how to effectively upgrade in the offshore services global value chain.

Source: (NASSCOM, 2012b; Nearshore Americas, 2011).

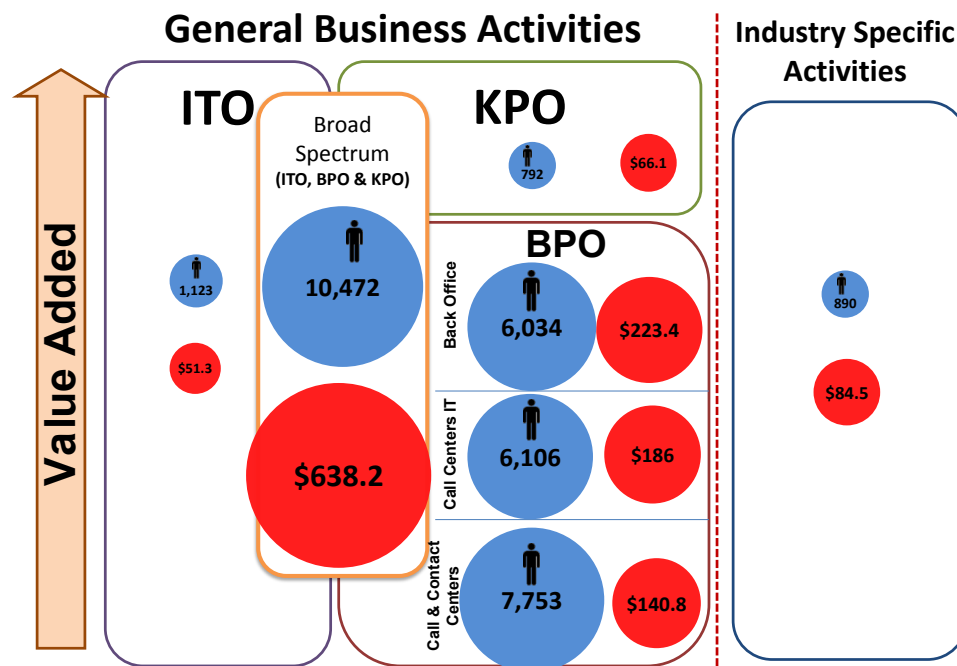
4. Mapping the Costa Rican Offshore Services Industry in the GVC

Costa Rica entered the industry ahead of other countries in Latin America. This strategy gave the country an important “first mover advantage,” allowing it to position itself as a key reference for offshore services in Latin America. Economic and political stability and a well-educated workforce made this small country an attractive destination for companies looking to establish operations in the region. Since its entry into the offshore GVCs in the late 1990s, Costa Rica has both expanded its participation and upgraded through the value chain, providing increasingly sophisticated services. By 2011, the offshore services industry employed 33,170 workers, exporting US\$ 1,390 million worth of services.⁷ After this strong initial growth, however, the sector has begun to show signs of human capital limitation.

4.1. Costa Rica’s Participation in the Offshore Services GVC

Figure 5 illustrates Costa Rica’s participation in the offshore services global value chain, based on both the number of firms and employees in each segment.

Figure 5. Offshore Services Industry in Costa Rica: US\$ Exports (Millions) and Number of Employees by Segment, 2011



Source: Duke CGGC based on 2011 data provided by CINDE.

Note: **Red Circles** illustrate exports in US\$ million; **Blue Circles** show number of employees. See Appendix 1 for the list of companies and their segment participation.

⁷ This information is from MNCs operating in the FTZ regime. According to CINDE, the Costa Rican Central Bank estimates that in 2011 the offshore services industry employed 37,049 and exported almost US\$1.6 billion.

Today, Costa Rican-based operations have a presence in all segments of the value chain with different degrees of participation; BPO activities account for the largest number of firms and approximately 80% of employment in the industry. This includes the employment in the BPO segment, but also the BPO employees in the Broad Spectrum segment.

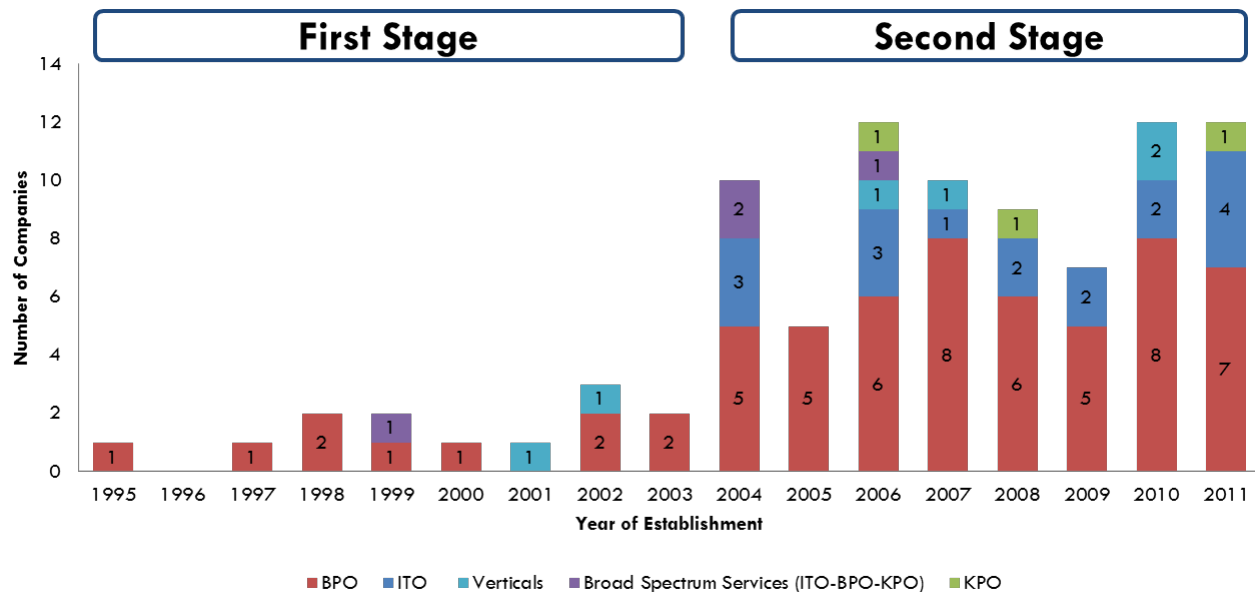
- The **BPO segment** alone employs almost 20,000 people and accounts for 60% of the total employment in the industry. The export value of this segment was estimated to be US\$550 million in 2011. The subareas of the BPO activities are classified in call and contact centers, IT call and contact centers and back office operations. Usually these back office operations are captive or shared services centers of foreign firms that have relocated in-house service provision to a foreign affiliate. These firms maintain full control of the provision of the services; thus, these activities are performed offshore but are not outsourced to a third party (Gereffi & Fernandez-Stark, 2010a, p. 11).
- The next largest offshore service value chain category in Costa Rica includes companies that perform ITO, BPO and KPO activities from the same center. This report refers to this category of firms as “**Broad Spectrum Services.**” The more sophisticated ITO activities and KPO operations tend to account for a small part of this category, with BPO service representing a larger portion of this segment. There are only four companies operating in this segment in Costa Rica, but they provide 33% of the total industry employment and exported US\$638 million in 2011, making up 46% of exports. Three of these companies are 100% captive centers, one operates a hybrid model in which they have captive operations, but also export services to external clients.
- The **ITO segment** employs 1,123 workers, representing just 3% of the total industry employment and exported US\$51.3 million in 2011. There are more than 10 companies in this category that mainly focus on software development.
- The **KPO segment** is composed of just two companies. One company has captive operations, while the other is a third party services provider. The KPO category accounts for 792 employees and exported US\$66.1 million in 2011.
- Finally, the **Industry-Specific Activities segment (Verticals)** is composed of six companies serving diverse end markets. Three firms are captive operations, while the other three are third party providers. The industries served are architecture, aeronautic and medical markets. The level of sophistication of services varies considerably among these companies; some of them provide transactional activities, while others provide high-end designs and technologies. In 2011, this segment accounted for 890 employees and exported US\$84.4 million.

4.2. Evolution of the Offshore Services Industry in Costa Rica

Costa Rica’s offshore services industry has evolved and grown rapidly since its inception. In the year 2005, this industry had around 10,000 employees and exported US\$ 387.2, while in 2011, exports increased to US\$1.39 billion and employed 33,170 people (CINDE, 2012b). Two major stages in the offshore services industry in Costa Rica can be identified based on the entry of new firms to the value chain segment:

- **First Stage, 1995–2003.** The industry began to develop when several foreign firms decided to open captive centers in the country to perform back office operations as part of a cost-reduction strategy. Costa Rica offered an excellent alternative for foreign companies due to the cultural affinity with the western world, political and economic stability, good government incentives, location within the Central Time Zone and an educated labor force. Firms entering at this time were mostly in the BPO segments, including one leading global call center provider, although entry was sporadic and inconsistent across the value chain segments.
- **Second Stage, 2004–2011.** This stage represents a period of strong sector growth. The majority of the offshore services operations that exist today in the country were established during this period. While more than 50% of these operations were concentrated in the BPO segment, the period was characterized by an influx of firms into most segments. Most ITO firms operating in the country were established during this period and several important global third party providers (see Table 1) and captives of large multinational firms entered Costa Rica at this time. In addition, today's largest employers in the offshore services industry in Costa Rica entered during this period; this growth indicates confidence in the country's strong offshore services potential.

Figure 6. Offshore Services Companies in Costa Rica by Year of Establishment and Segment of the Value Chain



Source: Duke CGGC based on CINDE data.

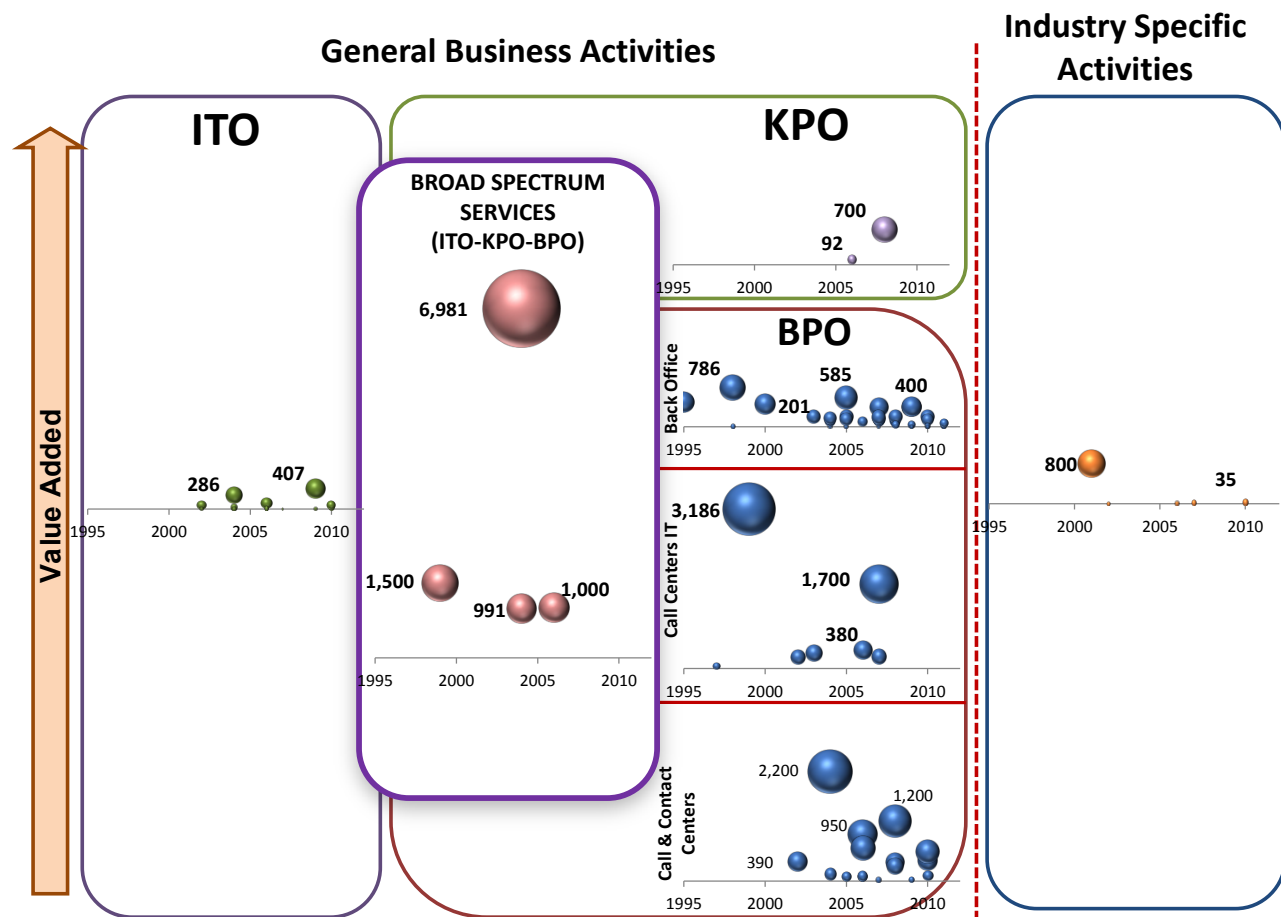
Note: Eight of the companies that established operations in 2011 were not included in the general analysis of this report because employment and revenue data were not yet available.

Figure 6 illustrates the evolution of the industry by the year in which the companies were established in the country and the type of activities the firm performs. As can be seen, the majority of the operations are concentrated in the BPO segment (represented by the red segments of the bar chart),

usually low value-added activities. The ITO segment (illustrated in blue) is small and developed during the 2000s, while KPO (green) and Industry Specific Activities (turquoise) are scattered, small operations.

Figure 7 also illustrates the year in which the companies were established in the country, and adds employment information. Each circle represents one company, and the size of the circle symbolizes the number of employees in 2011. Broad Spectrum Services show the largest bubbles, indicating that these operations employ the largest number of individuals.

Figure 7. Costa Rica's Participation in the Offshore Services GVC, by Entry Year and Employment



Source: Duke CGGC based on data provided by CINDE.

Note: Size of the circles represents the number of employees in 2011 by firm.

4.3. Trends and Highlights in the Costa Rica Offshore Services Value Chain

The evolution of the industry in Costa Rica has followed both global and country-specific trends. These trends include:

- Fewer captive operations globally, but large number of captives in Costa Rica.** Globally, companies are outsourcing more and more activities, relying increasingly on process-expert, third-party providers, and placing less emphasis on establishing offshore captive centers. However, Costa Rica has continued to attract a large number of captive operations. This type of business strategy is especially important for firms that prefer to maintain operations in house and have more control over their internal activities. Furthermore, while other captive centers around the world have been sold to different third-party providers, established Costa Rican captive centers are upgrading along the value chain into more sophisticated services, and they are outsourcing lower value services to third-party providers both in the country and in other low cost locations including Colombia, India, Panama and the Philippines. As can be seen in Table 3, around 88% of the Broad Spectrum Services are captive centers and 61% of the BPO back office operations are also captive centers. On the other hand, only 8% of the IT and 6% of the call centers operations are captive centers. It is worth noting that several manufacturing MNCs established in Costa Rica several years ago (Baxter, Intel and Bridgestone) and agri-businesses (Dole and Chiquita) have integrated new captive services centers into their operations in Costa Rica. For those American MNCs that still wish to retain control of their internal operations, Costa Rica offers an excellent value proposition due to its proximity to the United States, making travel easy and fast from the US headquarters to the captive operations in Costa Rica.

Table 3. Offshore Services Captive Operations by Value Chain Segment

Segment of the Value Chain	Captive Operations (percentage)
ITO	8%
BPO	42%
<i>Call & Contact Centers</i>	<i>6%</i>
<i>Call Centers IT</i>	<i>43%</i>
<i>Back Office</i>	<i>61%</i>
KPO	50%
Broad Spectrum Services (ITO-BPO-KPO)	88%
Verticals	50%

Source: Duke CGGC based in data provided by CINDE.

- More sophisticated activities.** Generally, the country is moving up in the value chain and performing increasingly complex activities. As mentioned above, certain transactional services

are being relocated to countries with lower cost labor pools in response to cost pressure. The majority of the companies interviewed mentioned that today, they are performing higher value-added activities than when they were established in the country, and they are planning to continue adding more sophisticated activities. For example, companies providing Broad Spectrum Services established operations in Costa Rica intending to perform a limited number of activities; yet additional service functions were added over time, and today these operations carry out not only low value-added functions, but also high value activities. This indicates that Costa Rica is improving its capabilities in the sector. It is nonetheless important to remember that decision-making regarding which activities are performed in different locations is carried out at the corporate headquarters located in developed countries (Field Research, 2012).

- **Difficulties establishing successful KPO centers and R&D centers.** Several companies interviewed expressed an interest in establishing more sophisticated operations in the country; however, these companies cited a lack of sufficiently qualified human capital as an obstacle in this regard, noting that they must compete with other companies for a limited talent pool. This is explained, in part, by the presence of just two preferred top universities in the country that teach the caliber of skills required to become an IT engineer: Universidad de Costa Rica and the Instituto Tecnológico de Costa Rica. Together, these universities graduate 200 people annually, and there are more than 400 companies competing to hire these engineers (Field Research, 2012). Several companies interviewed suggest that the country is facing a dilemma: Subsidiaries must demonstrate strong capabilities in order to upgrade into more sophisticated KPO and R&D segments; however, there is insufficient human capital to meet this need. Indeed, one of the two KPO companies indicated that it was experiencing difficulty in building a highly skilled team; while the company offers attractive employment conditions, it must compete with a plethora of local Costa Rican firms for a limited pool of business school graduates. To address this challenge, the company opted to “import” talent from abroad. This solution often presents challenges of its own because securing work visas for foreign staff can be a complicated process which, although it has been improved with a “fast track” regulation, may still last weeks or months, depending on a worker’s country of origin (Field Research, 2012).
- **Expansion to serve new end makers.** Several companies informed Duke CGGC’s researchers that they are exploring the possibility of expanding service offerings to the Spanish speaking market to drive growth. One of the major challenges in the country at present is the limited availability of bilingual personnel for Costa Rica’s primary English-speaking US market; for that reason, several companies are interested in expanding their operations to support the Spanish-speaking market, Latin America in particular. This shift toward the regional market to ensure continued growth is particularly important for third-party providers, many of which are revenue-generating offices. This growth is expected to be significant: one company alone is planning to add 1,000 workers in the near future for the Spanish market (Field Research, 2012).
- **Centralization of operations in the Greater Metropolitan Area (GMA).** Globally and in Latin America in general, the offshore services industry is decentralizing. In Costa Rica, however, the trend has been just the opposite, with the country’s offshore services sector continuing to centralize in the Central Valley. Costa Rica is a small country and San Jose is its only major city,

with 70% of the country's labor force located in the GMA region that surrounds the city (National Institute for Census and Statistics- Costa Rica, 2012). Additionally, there are limited educational institutions in the country's smaller cities to feed the talent pipeline for new operations. In other key offshoring centers—such as Bangalore in India, Manila in the Philippines, and Santiago in Chile—cost pressure has given rise to the development of Tier II cities.⁸ By virtue of its location in a transitioning area, a Tier II two city is typically able to leverage lower labor costs, and therefore tends to funnel low cost labor into an industry. Tier II cities have yet to develop in Costa Rica.

- **No significant specialization in niche services, especially in the Industry-Specific Activities/Verticals segment.** The offshore services industry in Costa Rica is focused principally on horizontal services illustrated in the industry global value chain diagram that can serve a wide range of markets. There does not appear to be a significant amount of specialization of services by industry. In other words, participation in the Vertical Services sector has been minimal. At the same time, general business services are becoming increasingly more transactional and cost-based as third-party providers improve their processes and efficiency. In general, niche sector services are less vulnerable to relocation as they depend on accumulated industry specific knowledge.

⁸ Tier II cities are loosely defined as spatially distinct areas, typically quasi-urban or transitioning, that offer a specialized set of economic opportunities, which in turn boost employment and population growth (1999)

Box 2. Development of Tier II Cities: Lessons from India

In India, Tier II cities now outpace economic powerhouses like Mumbai and New Delhi in terms of GDP growth (UK Trade & Investment, 2011, p. 5). An advantage of such cities is that they provide similar talent pools to those found in larger cities, but at a lower cost. Tier II cities may also provide a less ambitious and competitive—but equally qualified—labor pool, due to differences in work culture and priorities that may be associated with the choice to select an employer closer to home (8). Poor infrastructure remains a key obstacle to development of Tier II cities. The Indian government is allocating “huge amounts of investment” to address infrastructure concerns in its emerging cities, with particular focus on road construction and greenfield airports (8) and ensuring an uninterrupted power supply, another key challenge for emerging cities.

A 2011 UK Trade & Investment report analyzes a number of Tier II cities in India in terms of their attractiveness as foreign investment destinations. The report describes a number of Tier II cities, including Bangalore, Chennai, Hyderabad, and Calcutta, as “ideal destinations for pioneering in emerging sectors” (5). These cities were selected by virtue of their growth potential, relatively strong infrastructure, and good visibility (5). Qualities that attract investment in IT and ITeS (i.e. offshore services) to Tier II cities in India are quality infrastructure—including roads, railways and other mass transit, ports, international airports and communications infrastructure—well-ranked universities, particularly those that provide technical and professional training, special export zones (SEZs) and industrial clusters and a high level of literacy and English language skills.

In India, expanding companies have begun to look beyond Tier II cities, increasingly viewing Tier III cities as promising locations for new operations. IBM, for example, announced at the end of 2010 that it intended to expand its operations to 45 new cities in India by 2013, with new offices planned mainly in smaller cities such as Ranchi, Raipur, Guwahati, Vizag, Allahabad, Indore, Udaipur, Nagpur, and Jharsuguda (Hindu Business Line, 2010).

Source: (Hindu Business Line, 2010; Sankhe et al., 2012; UK Trade & Investment, 2011).

4.4. Governance in Costa Rica’s Offshore Services Value Chain

There are close to 100 foreign offshore services firms of differing size and a small number of domestic firms participating in the Costa Rican offshore services sector. 80% of the offshore services MNCs operate under the country’s free trade regime (FTZ) (CINDE, 2012f),⁹ a legal structure which provides duty free imports, a 100% exemption on income and withholding taxes, and certain tax holidays. Almost all domestic firms operate outside the FTZ, although they are legally permitted if they export more than 50% of their total revenues. There are no export duties in Costa Rica, regardless of whether a firm operates inside or outside of the FTZ. This analysis defines the types of firms operating in Costa Rica’s offshore services sector according to size and influence, and classifies them into three main categories:

- **Large MNCs.** These firms have access to the best, most highly skilled labor force available in the country as a result of the prestige conveyed by their brand names, more competitive salaries, excellent benefits and global career opportunities. These firms create a large number of jobs and

⁹ Gensler, SmartWorks, and Holland Roofing are a few examples of MNCs that have chosen not to operate under the FTZ.

employ a relatively large number of workers. They exert the greatest degree of influence over public and private institutions in the country.

- **Small & Medium MNCs.** These companies can usually obtain qualified labor, but in smaller numbers than large MNCs. They have less recruiting power than the large MNCs, but they can still compete for labor based on benefits and career development options for their employees.
- **Domestic Companies.** Local companies usually focus on information technology (IT) services, they tend to be small with 15 employees on average and around 10% of them export services. Usually these domestic firms compete with the MNCs to obtain labor; however, since they generally cannot offer the salaries and other benefits provided by MNCs, they tend to recruit employees with lower educational attainment or less work experience. They exert the least degree of influence over institutions. CAMTIC, the industry association for this group, aims to increase opportunities for these firms in terms of worker education, access to market and linkages with MNCs. The government views both local and MNCs as equal suppliers of offshore services (Field Research, 2012).

The disparity in firm recruitment and retention power between these different categories of firms—a reflection of their differing abilities to offer more or less competitive compensation in the short term and career opportunities in the long term—has given rise to fiercely competitive recruitment strategies within the offshore services sector. The best labor force in the country graduates from public universities, especially from Instituto Tecnológico de Costa Rica, Universidad de Costa Rica, and Universidad Nacional. MNCs have access to graduates from these universities; however, domestic companies often lack the resources to compete for these more desirable workers. Instead, labor for domestic companies is drawn mainly from private universities, which generally graduate workers with a lower level of competencies than public universities (Claudio Pinto, 2010; Field Research, 2012; Trejos et al., 2012). This situation has placed domestic companies at a disadvantage, especially in the offshore services sector, where a core component of the industry is human capital.

Some highlights and challenges related to industry governance in Costa Rica, drawn from Duke CGGC's interviews with MNCs operating in the country, include:

- **MNCs' headquarters are the decision makers.**¹⁰ Since the operations in Costa Rica are subsidiaries, the headquarters—usually located in developed countries—determine which services will be performed in Costa Rica. General Managers in Costa Rican subsidiaries play an important marketing role in terms of channeling the headquarters' attention toward areas of interest to the subsidiary. Successful marketing is determined, in part, by the local subsidiary's performance. Ultimately, however, it is the headquarters that make decisions regarding when and what services are sent to subsidiaries and what new or more sophisticated services will be provided from Costa Rica.

¹⁰ It is advisable to have a diversity of firms in an industry. Local firms should be encouraged to participate in the industry since they are driven a main impetus for industry upgrading and they are the decisions makers (Zografos et al., 2012).

- **Few Indian offshore services firms located in Costa Rica.** Indian offshore services play a key role in the global industry and many of them are establishing operations in Latin America, especially to serve the regional market and North America.¹¹ However, Infosys—the third largest India offshore services firm—has announced it will be opening a center in Costa Rica in 2013 (CINDE, 2012f).
- **Limited linkages between offshore services MNCs and domestic firms.** Relationships between MNCs and domestic firms are generally in infant stages, and a strong institutional framework to stimulate these connections is lacking.¹² For example, recruitment policies generally do not actively encourage joint ventures or purchasing of local companies by foreign firms. The result is that MNCs operating in Costa Rica appear to be relatively isolated from domestic firms. Although the researchers do not find evidence that this general trend is changing, they did interview one large MNC that recently decided to outsource its software development to Costa Rica, and will be collaborating with domestic firms. This company put three domestic companies in charge of managing five projects valued at a total of US\$2.2 million (Field Research, 2012). Additionally, the program *Costa Rica Provee*, in charge of linking domestic companies with MNCs, has recently included this industry to promote these linkages.
- **Labor mobility, but limited spinoff creation.** The presence of established offshore services MNCs in Costa Rica facilitates considerable knowledge transfer to the country. A 2010 assessment of Costa Rica's information and communications technology (ICT) sector found that out of 809 domestic ICT firm employees¹³ interviewed, 11% percent had previously worked for MNCs (Monge-González & Hewitt, 2012). For managers, this percentage was 26.2%; engineers, 8.6%; and programmers, 4.7%. Furthermore, recent econometric modeling provides evidence that local firms that hired former employees of MNCs in Costa Rica performed better in terms of employment and sales growth than those local firms not hiring MNCs' former employees (Monge-González et al., 2012). Thus, there is robust evidence that not only is labor mobility occurring in Costa Rica's services sector, but that this mobility improves the quality of domestic companies. However, it seems that this knowledge has not been capitalized upon through the creation of new companies. Employees that have been working for many years in offshore services MNCs often prefer to stay in their current jobs or move to other companies where they can be reasonably assured of a secure salary, than to assume the risks associated with embarking on a new business venture. Several interviews highlight adversity to risk and a general lack of entrepreneurship in the country, combined with a challenging business environment and poor access to finance for startup initiatives, as possible explanations for the negligible effect that MNCs appear to have had in terms of stimulating spinoff ventures. The World Bank *Doing Business* report, which in 2013 ranked Costa Rica 110 out of 185 economies in terms of ease of doing business, provides evidence of a challenging environment for creating new businesses in

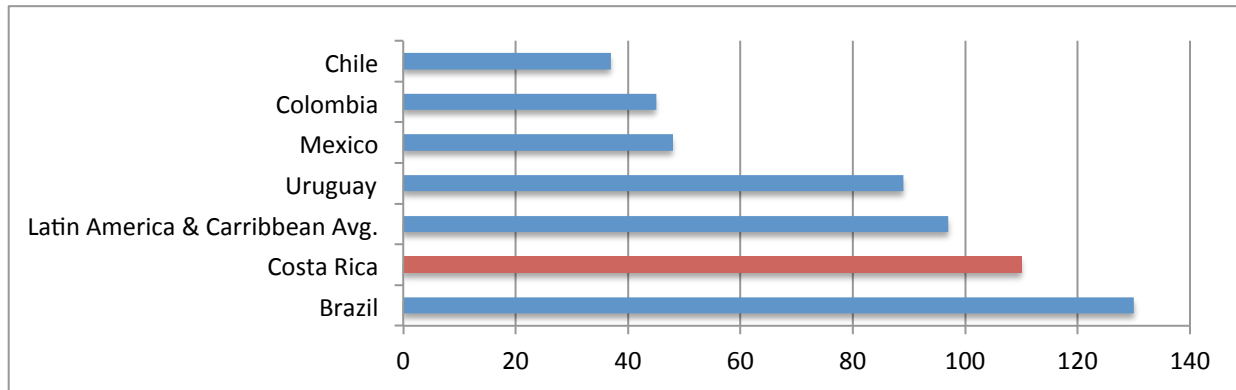
¹¹ For a list of Indian offshore service vendors with presence in Latin America see the report: The Offshore Services Industry: A New Opportunity for Latin America" <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35030707>

¹² The Foreign Trade Corporation of Costa Rica, PROCOMER, promotes trade and investment in Costa Rica. Although there is a unit of PROCOMER charged with linkages creation, this institution was not cited by any of the MNCs interviewed as having influenced decisions regarding whether to engage with local firms.

¹³ This includes employees working in the components sub-sector.

the country. As can be seen in the Figure 8, the country is performing worse than the Latin America average. However, it has improved enormously. In only one year, Costa Rica moved from the place 122 to 110, being one of the 10 economies improving the most across 3 or more areas measured by *Doing Business* in 2013 (World Bank, 2012a)

Figure 8. Ease of Doing Business Rank in Selected Latin American Countries, 2013

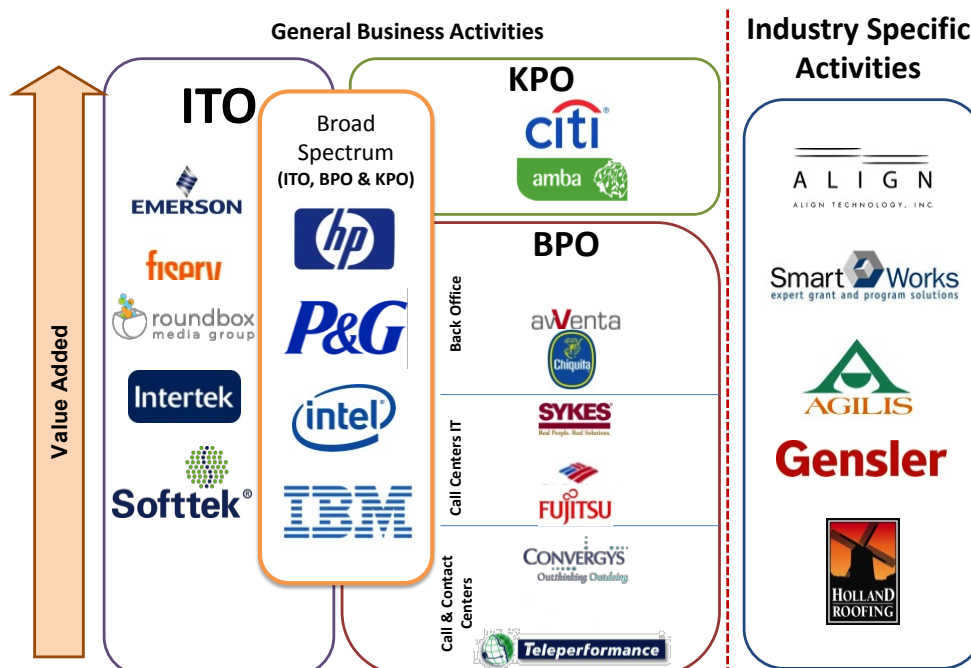


Source: (World Bank, 2012a).

Note: Countries are ranked from 1 to 185 based on how conducive the regulatory environment is to the starting and operation of a local firm. The index averages each country's percentile rankings on 10 topics, made up of a variety of indicators, giving equal weight to each topic.

Figure 9 provides an overview of the leading MNCs by segment of the value chain in Costa Rica.

Figure 9. Lead Offshore Services Companies in Costa Rica, by Value Chain Segment 2011



Source: Duke CGGC.

Box 3. Offshore Services in Uruguay: The Role of Local ITO Firms

Offshore services, and the ITO services industry in particular, represent key economic sectors in Uruguay. Global services exports accounted for US\$786 million worth of revenues in Uruguay in 2010. The sector employed an estimated 20,000 people; of these, approximately 11,500 were employed in the ITO services sector, 80% of whom were highly qualified engineers, analysts, programmers, ITO technicians, and other professionals (Couto & Capobianco, 2012).

Uruguay's software industry began to develop in the 1980s, and now includes more than 320 IT companies. In 2012, exports from this industry totaled US\$225 million (Couto & Capobianco, 2012). Uruguay's ITO sector includes a growing number of strong domestic companies, such as De Larrobla, Top Systems, Solur, Memory, Artech, Quanam, Infocorp and Conex (Couto & Capobianco, 2012). The industry is recognized for its quality and professionalism, and is increasingly well-regarded internationally. A strength of the Uruguayan software industry is that domestic firms are encouraged to have a global vision, allowing domestic ITO services firms like De Larrobla, Top Systems, Memory and Artech to play leading roles in the industry (Couto & Capobianco, 2012). The arrival of Tata Consultancy Services (TCS)—the leading Indian offshore services company—in 2002 introduced new competition, forcing domestic firms to become more competitive. Thus, not only did Uruguay's position in the global ITO sector play a role in attracting TCS, but the domestic firms were also able to leverage the opportunities created by the presence of this major international player. In this way, the entry of TCS ultimately reinforced the competitiveness of the local industry and its ability to provide high-end services.

Uruguay XXI, the country's investment and export promotion agency, has been active in promoting the development of domestic offshore services companies, including ITO services companies. For example, its Global Services Program, co-sponsored by the Inter-American Development Bank (IDB), contributes to the development of a market for export global services in Uruguay through “investment and export promotion, building of capacities, modernization of the regulatory framework and support to specific sectors for the industry growth” (Couto & Capobianco, 2012, p. 4). The participation of domestic companies under this program is expected to grow over the next several years, with the BPO, ITO, pharmaceutical outsourcing and logistic services sectors being given top priority (Couto & Capobianco, 2012). The program is projected to not only increase the volume of global service exports, but also increase access for domestic firms and improve the level of existing capacities at the individual and business level. This translates into improved human capital, which will enhance the competitiveness of domestic firms (Couto & Capobianco, 2012).

INGENIO is another program that has helped Uruguay's domestic ITO firms to grow and internationalize. This joint venture of the Laboratorio Tecnológico del Uruguay (LATO) and the Universidad ORT Uruguay, funded by IDB, the Multilateral Investment Fund and the ANII, promotes domestic entrepreneurship. INGENIO funds supports innovation and new enterprises, with the specific goal of facilitating their access to international markets.

Source: (Couto & Capobianco, 2012)

4.5. Comparing Costa Rica Offshore Service Industry with Other Industry Players

As illustrated by discussions earlier in the paper, Costa Rica must compete on both a global and regional level. On a global level, the country competes with other locations including India, the

Philippines, Eastern Europe and South Africa, to name a few, for work that is not geographically sensitive. On a regional level, perhaps more importantly, the country must compete with neighbors for offshore services that depend on specific skills and a strategic time zone position (see Section 3 for a discussion on the role of Latin American in ‘nearshoring’ and GDS networks). To fully understand the country’s position and potential, it is important to compare the country to both global and regional competitors. This section therefore draws comparisons between Costa Rica and other countries competing in the offshore services industry, using a variety of general economic and industry specific indicators (see Table 4). Labor costs within the region are then examined, and finally the value added of the Costa Rica industry in 2010 and 2011 is contrasted with the Chilean industry in 2008¹⁴ using the global value chain industry categorization: ITO, BPO, KPO, Broad Spectrum Services and Vertical Services.

Table 4. Economic & Industry Country Indicators for the Offshore Services Industry, 2008

	India	Philippines	Chile	Costa Rica	Dominican Republic	Uruguay	Mexico
Gross Domestic Product (GDP) (US\$ billions)	1,260	167	170	41.3 ^d	46	30.4	1,094
GDP per capita (at PPP)	3,011	3,306	14,579	14,044 ^d	8,446	14,031 ^c	14,490
Offshore services revenue (US\$ billions)	47 ^c	6	0.86	1.39 ^d	NA	0.786 ^c	5
Offshore services % of GDP	4	3.6	0.5	4.6	NA	2.6	0.45
Total labor force (millions)	475.6	38.8	7.1	2.1	4.4	1.6	49.1
Labor force in offshore services	2,236,614	475,000 ^b	20,000	33,170 ^d	22,000	20,000 ^c	na
Offshore services labor force as a % of total labor force	0.47%	1.22%	0.28%	1.30%	0.50%	1.25%	na
Entry Year	Mid1990s	Early 2000s	2000-2002	Late 1990- Early 2000	2000-2002	Early 2000s	Late 1990- Early 2000
Entry Point	Low value IT	Call Center	IT & Call Center	BPO	Call Center	IT	IT and BPO
Highest Value Activity	High IT, KPO, R&D	BPO & F&A	High IT, KPO R&D	KPO & R&D	BPO & F&A	KPO	KPO
Enrolment in higher education (millions)	20.7 ^c	2.62 ^b	0.98 ^c	0.18 ^d	0.42	0.16	2.8

Sources: (BPAP 2007; The Economist Intelligence Unit 2008; IDC Latin America 2009; Ministerio de Educación 2009; NASSCOM 2009; UNESCO Institute for Statistics 2010; CINDE 2012; Nearshore Americas, 2012).

Notes: a: 2005–2006; b 2009; c: 2010; d: 2011; e: estimates 2009. PPP is Purchasing Power Parity.

As can be seen in Table 4, the offshore services industry in Costa Rica is an important economic sector for the country, representing 4.6% of the GDP. This figure is higher compared to leading

¹⁴ Due to data limitations in the offshore services industry, we use the latest Chilean available data from 2008 and compare it with the latest industry available data from Costa Rica in 2010 and 2011.

countries in the sector, such are India and the Philippines, in which this industry represents 4% of the GDP in India and 3.6% in the Philippines. The large labor forces of these two mature industry players—India and the Philippines—allow them to host big operations and to easily reduce costs for more transactional activities by developing Tier II and even Tier III cities to host offshore services operations. The small labor force in Costa Rica and tightness of the labor market is highlighted by the large proportion of workers already participating in the offshore services sector. In Costa Rica, 1.3% of the total labor force participates in this services sector compared to 1.22% in the Philippines and 0.47% in India. The availability of labor force in countries such as India has also helped them to offer services in more sophisticated activities such as KPO and R&D while maintaining a strong presence in low cost operations.

From a regional perspective, Costa Rica has gained worldwide industry recognition as an important Latin American destination for offshore services. Unlike other countries in the region that entered the sector with call center operations, Costa Rica entered in the offshore services global value chain by providing slightly higher value, back office services via captive centers.

In sum, Costa Rica's offshore services industry has distinguished itself globally and regionally through provision of quality, higher value-added services. This sector is an important contributor of the country's GDP. To maintain its position regionally and remain competitive in the global market, the country will need to strategically address new challenges to its old expansion model.

Labor Costs in Selected Countries in Latin America

This section compares the labor costs for managers, call centers and the IT segment in different Latin American countries based on a PricewaterhouseCoopers (PwC) study, PaySalary.com data and interview responses. In general, Costa Rica is in the mid-range of labor costs, similar to Mexico and Colombia, less expensive than Chile and Brazil and more expensive than Argentina.

Table 5 shows that Costa Rica is in the middle range of managerial salaries, with figures similar to Colombia and Peru, making Costa Rica a very attractive country to locate offshore services. In the upper range are countries like Chile and Brazil, while in the low end of the scale are countries such as Argentina and Uruguay.

Table 5. Net, Liquid Monthly Manager Salaries in Selected Latin American Countries, 2010–2011

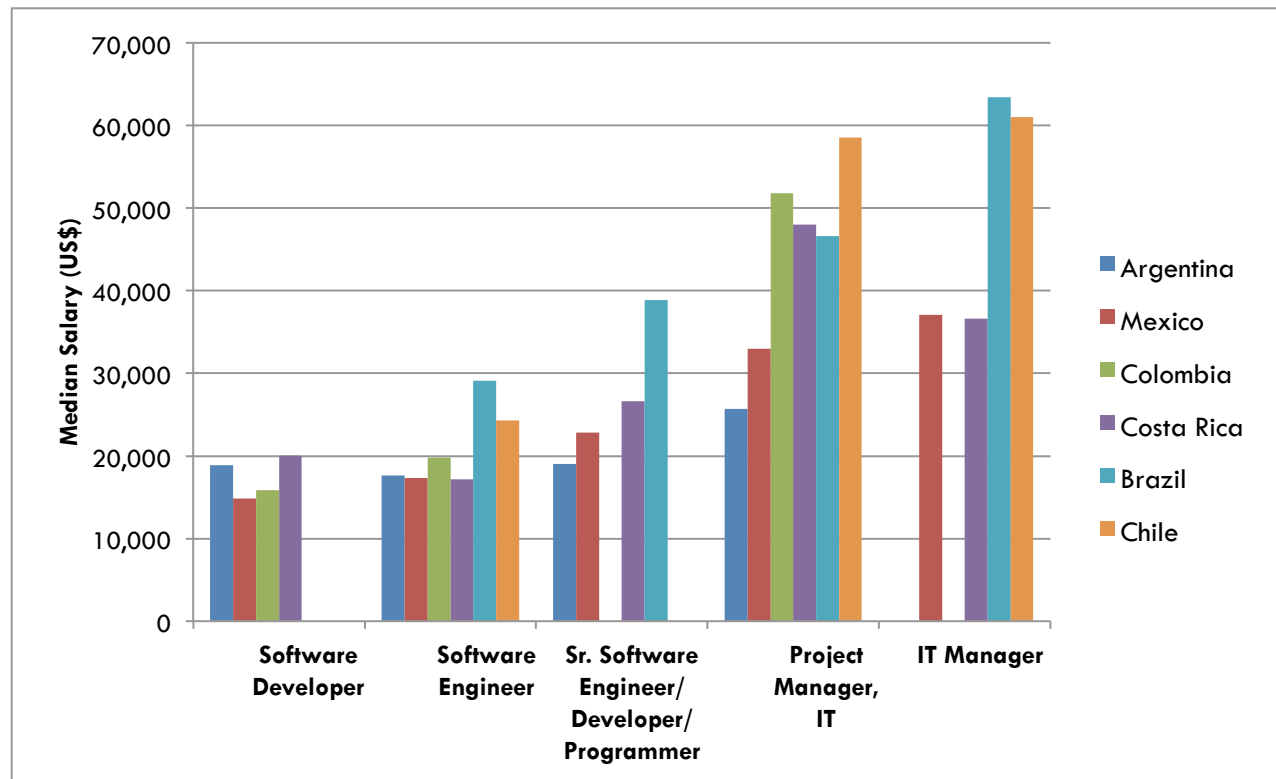
	General Manager	Manager of Finance and Administration	Production Manager	Business Manager	Systems Manager	Human Resources Manager	Manager Salaries Average
Brasil†	30,062	13,068	13,323	14,614	na	13,551	16,924
Chile	18,505	6,690	6,498	7,292	6,654	7,122	8,794
Perú	19,435	6,250	6,000	6,828	5,140	5,312	8,161
Colombia	17,870	6,821	7,035	6,430	5,218	5,347	8,120
Costa Rica	15,218	7,560	7,291	6,266	5,995	5,916	8,041
Argentina	15,679	5,980	5,554	6,573	5,313	5,039	7,356
Uruguay	8,833	4,874	4,741	5,173	3,844	6,957	5,737
Paraguay	6,465	3,860	2,722	4,082	2,947	3,117	3,866

† Data are from 2009.

Source: (PwC, 2012).

- In the call center segment, the Costa Rican labor force is less expensive than that of Brazil or Chile, and more expensive than that of Mexico, Dominican Republic, Colombia or El Salvador. It is important to explain that several countries in Latin America such as Mexico, Colombia and Argentina have been able to reduce the labor costs by sending call center operations to Tier II cities. Costa Rica's call centers are still located in the Greater Metropolitan Area (GMA). Labor costs are not the only factor in the selection of offshore locations, however, and Costa Rica surpasses other economies in terms of quality. The country is considered to be one of the best performers. The key reasons cited include the generally courteous Costa Rican culture, which is a key characteristic for successful call center operations. Several clients noted that they prefer to pay a premium to have a labor force with these important skills (Field Research, 2012).
- IT labor costs in Costa Rica are competitive regionally, being comparable to Colombian salaries, ranging in the middle spectrum (see Figure 10). Countries with slightly lower IT salaries are Mexico and Argentina, especially for senior program engineers and IT project managers. In certain job categories such as software development and software engineers Costa Rica, Argentina, Colombia and Mexico have similar figures (PayScale, 2012). The majority of interviewees noted that engineers and management talent with the ability to direct large IT projects were difficult to find in the country. Although there is evidence that the IT labor force has in the past been attracted to the better paying online gaming industry,¹⁵ this dynamic may be changing after the industry's partial departure from Costa Rica in recent years (Field Research, 2012).

¹⁵ It is estimated that there are more than 200 online gaming companies in Costa Rica. However, recently many of them are leaving the country http://www.cbsnews.com/2100-18563_162-1481934.html.

Figure 10. Median Salaries (US\$) by Job Category in Selected Latin American Countries, 2012

Source: (PayScale, 2012)

Note: PayScale has collected salary and career data from more than 35 million people, covering 12,000 job titles and 1,100 distinct industries in 150 countries.

Costa Rica has important advantages that it can leverage to capture more specialized call and contact centers. For example, Costa Rica's familiarity with US and European cultures, proven adeptness in working with other cultures, professionalism, excellent customer service and good education create a profile that is well-suited to offering boutique services, which appeal to a sophisticated, specialized client base. Several interviews indicated that a number of companies are willing to accept higher costs in return for better quality. Because Costa Rica has higher customer satisfaction and better IT customer support than many of its competitors, it is well-positioned to compete in boutique IT (Field Research, 2012).

Comparison of Offshore Services Industries in Chile 2008 and Costa Rica 2010–2011

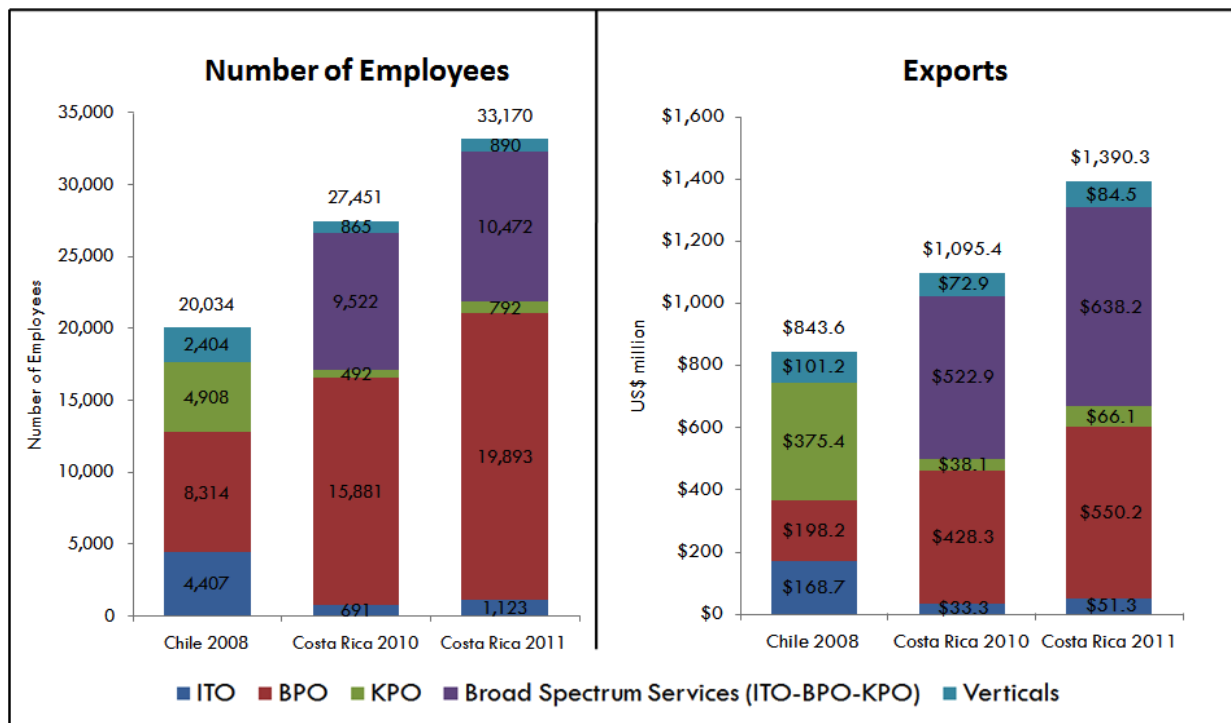
This section contrasts the Chilean and Costa Rican offshore services sectors, using data from 2008 and 2010–2011 respectively. While comparing these two countries in different years is not optimal, there are limited detailed statistics available for the sector, as offshore services data typically is not captured by official trade statistics and generally, information must be obtained from special surveys. The Chilean data is based on a study commissioned by the Chilean Economic Development Agency (CORFO) to International Data Corporation (IDC) in 2009. These are the most recent statistics

available on the Chilean offshore services industry. The Costa Rican data was provided by CINDE based on the MNCs that are operating under the FTZ regime.¹⁶

Chile was selected for this comparison for two key reasons. First, its location in Latin America means that it shares some key characteristics with Costa Rica that are relevant to these countries' effectiveness and competitiveness in the offshore services industry. These included a shared language and a common location within the Western Hemisphere, the latter of which is viewed as an asset by companies in search of a shared time zone with the United States. Second, although the two countries have at times followed different paths in the development of their offshore services sectors, their successes in developing these industries have led them both to be considered top locations for offshore services in recent years (Gartner, 2012). The character of this success is somewhat different between the two countries, however, and this section examines some of these differences. It is worth noting the importance of this industry for the national economy of these two countries: In Chile, the offshore services sector represents 0.5% of GDP, while in Costa Rica it represents 4.6% of GDP.

Comparisons between Chile and Costa Rica are based on two key indicators: Number of workers and industry exports. These indicators were selected to facilitate understanding of the value of these activities using the global value chain industry categorization: ITO, BPO, KPO, Broad Spectrum Services and Vertical Services. It should be noted that the Chilean data does not include the Broad Spectrum Services Category used in the Costa Rica sector analysis to classify large operations that include ITO, BPO and KPO activities. Figure 11 below shows the number of employees and exports according to the global value chain categorization.

¹⁶ According to CINDE, the MNCs operating under the FTZ regime count for approximately 80% of the total revenue.

Figure 11. Offshore Services Industry Number of Employees and Exports: Costa Rica (2010–2011) and Chile (2008)

Source: Duke CGGC based on IDC data 2008 and CINDE data 2011

Overall exports in the two countries have evolved in a similar manner. In 2008, Chile exported US\$843 million,¹⁷ while Costa Rica exported US\$1,095 million in 2010 and US\$1,390 million in 2011. Similarly, the number of industry employees in 2008 in Chile was 20,034, while in Costa Rica this figure was 27,451 in 2010 and 33,170 in 2011 (CINDE, 2012f; IDC Latin America, 2009). It is estimated that 24,000 Chilean employees worked in this sector in 2010, and that the sector exported US\$1,000 million that year (Srivastava, 2010).

However, there are more notable differences in the particular services performed in each country:

- In both countries the majority of the workers were employed in BPO operations. However, this proportion was higher in Costa Rica. (BPO functions account for approximately 20% of employment in the Broad Spectrum Services category).
- While both countries entered the industry at a similar time, by 2008 Chile had a considerably higher number of workers in KPO operations (over 4,900 jobs) than Costa Rica had in 2011 (800 jobs).
- Chile's 2008 exports were concentrated in the KPO segment, totaling US\$375 million. In Costa Rica the exports are mainly in Broad Spectrum Services and in BPO activities.

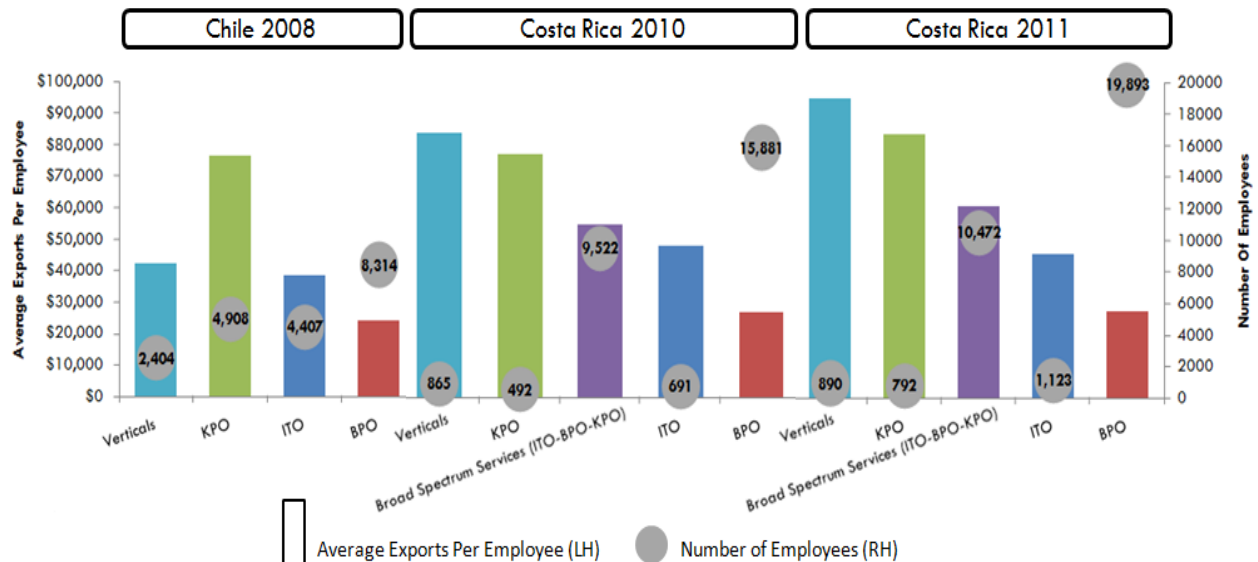
¹⁷ In 2008, Costa Rica exported US\$899 million and employed 23,830 people according to the Central Bank of Costa Rica.

Previous work by Fernandez-Stark et al. (2011b) provides evidence that higher average exports per employee are a reliable indicator of greater value-added. This analysis thus uses average export revenue per employee to compare the value of the countries' offshore services exports.¹⁸

- By 2010, Costa Rica had achieved a similar overall level of value proposition as Chile. In Chile, the average export revenue per employee in the offshore services industry was approximately US\$42,000; In Costa Rica in 2010 this was US\$40,000, while in 2011 the average was \$41,914 (CINDE, 2012f; IDC Latin America, 2009). This means that both countries are offering similar overall value proposition in the years compared. However, in all segments Costa Rica shows higher revenue per employee. The analysis suggests that the Costa Rica's average is reduced by the large number of workers in the BPO segments, which yield the lowest average export per employee.
- The Chilean **KPO segment** employed almost 5,000 workers in 2008 and the average export per employee that year was US\$76,483. In the same segment, Costa Rica had just 792 workers, but the export average per employee was higher than Chile at US\$83,522. This suggests that Chile has been able to achieve scale in higher value-added segments.
- In the **Vertical Services segment** of the value chain, Chile had 2,404 workers in 2008 and the average revenue per employee was US\$42,108. In Costa Rica, there were only 890 employees in 2011, but the average export per employee was much higher at US\$94,907. Costa Rica was able to attract one company in the medical field that employs 800 people and has the highest average export revenue per employee in the entire offshore services industry, US\$100,625.
- The **Broad Spectrum Services** category (not included in the Chilean data) employed 10,472 workers in Costa Rica, representing one third of the industry employees, and the average export per employee is US\$60,943. This combined figure includes some low value-added activities such as transactional BPO, but also small, yet very sophisticated activities such as R&D centers.
- The **ITO segment** in Chile employed 4,407 people with an average revenue per employee of US\$38,280. In Costa Rica, ITO jobs accounted for just 25% of this employment (1,123); however, this average export per worker is higher compared to Chile's, which stands at US\$45,671.
- The **BPO segment** in Chile employed 8,314 people in 2008, representing 40% of the total industry employment and contributing an average export value per employee of US\$23,845. In Costa Rica, the BPO segment employed 19,893 people in 2011, representing 60% of the industry workers (not including the Broad Spectrum Services category workers that also include BPO activities.) The average export per employee is US\$27,658.

This data is displayed in Figure 12 below.

¹⁸ The average revenue per employee is calculated by dividing the total value of exports per segment by the number of workers in that segment.

Figure 12. Average Exports per Employee in the Offshore Services Value Chain in Chile, 2008 and Costa Rica 2010-2011

Source: Duke CGGC based on (CINDE, 2012f; IDC Latin America, 2009).

Overall, the data provided in this section demonstrates that Costa Rica is an important player in offshore services in the region in terms of number of employees, size of the industry and value of its exports. Even though Costa Rica is a small country, it has been able to achieve high levels of development in the industry with excellent average exports per employee. The future challenge will be to maintain and enhance this growth with limited human capital and salary inflation. This is a particular challenge for Costa Rica, which has more than 80% of the industry employees clustered in BPO activities. The country needs to concentrate its efforts on upgrading quality of services, rather than quantity, focusing on less vulnerable, higher value services.

4.1. Industry Institutional Context

In addition to the international conditions and policies covered in earlier sections, local and national context shape the globalization in each stage of the value chain (Gereffi, 2005). GVCs are embedded within local economic, social, and institutional dynamics, and entry into the value chain depends considerably on these conditions (Gereffi & Fernandez-Stark, 2011). Key stakeholders are responsible for improving these factors for growth. Table 6 highlights the main industry stakeholders in Costa Rica and describes the role each plays in shaping the industry dynamics at the local level.

It is important to highlight several points regarding the local context in which offshore services firms in Costa Rica operate. First, there is limited industry institutionalization; that is, it requires more interaction between the different stakeholders in the industry. The country has yet to develop an

overall strategic plan to grow the industry by drawing on the coordination and collaboration of the most important stakeholders. For example, although there are two associations representing the interests of this industry (CAMTIC & CAMSCAT), there appears to be little collaboration between them. There also appears to be limited linkages between the MNCs and domestic firms, as previously mentioned.

Box 4. Leveraging Success in Chilean Mining for Offshore Services in Engineering

Chile has long been a center of mining operations and by 2010, the country had also emerged as one of the leading centers of engineering focused on the mining industry (Fernandez-Stark et al., 2010b). As the international mining companies moved into Chile to tap into the country's tremendous mineral wealth, their large engineering partners began to set up operations in the country (Arze, 2009; Sanchez & Boolan, 2009). These firms, including Hatch, Fluor, SNC-Lavalin, Bechtel, SKM-Minmetals and Ara Worley Parsons, established a significant presence in Chile in the 2000s (Arze, 2009). Having started providing lower value design drawings in Chile, by the end of the decade, five of these firms had established global Centers for Excellence for the copper industry based in Chile. These Centers served as the lead offices in the development of all copper projects around the globe. Together, the firms employed over 3,500 engineers and in 2008, at the height of the copper boom in 2008 (Fernandez-Stark et al., 2010b), engineering services related to mining alone exported an estimated US\$275.3 million, making it the largest offshore services export in the country at that time (IDC Latin America, 2009b). The annual revenue per employee for service exports was thus almost \$80,000, making it four times that of call centers.

Chile emerged as a leader in this field, but the country continued to face several challenges, specifically in terms of costs, to remain competitive versus others countries, such as Colombia and South Africa that had growing competencies in this field (Fernandez-Stark et al., 2010b; Julio, 2009; Merino, 2009; Sanchez & Boolan, 2009). The government placed significant emphasis on supporting the export of Chilean engineering services and sponsored a variety of projects in this area. Milestone events such as the magnitude 8.8 earthquake in which just ten buildings were severely damaged and the rescue of 33 miners that were trapped 700 meters below the surface were also leveraged by the government to promote and portray the quality of local engineers (InvestChile CORFO, 2011a). Additionally, the government invested close to US\$1 million on a branding and promotional project for Chilean engineering services in Canada (Au, 2011).

Source: (Fernandez-Stark et al., Forthcoming-a)

To fill this gap, CINDE has been a key driver of the industry in Costa Rica. Its primary mission is to promote investment in Costa Rica, and the organization has been particularly effective in promoting the establishment of foreign firms in the country. The organization not only actively recruits new firms to invest in Costa Rica, but also provides a number of pre- and post-investment supports to MNCs working in the offshore services arena. Educational institutions are becoming more attuned to the needs of the industry as a result of CINDE's efforts to improve communication channels between firms in the sector, universities and the Ministry of Public Education. The industry stakeholders formed a Human Capital Working Group that meet frequently to discuss and advance in issues related to workforce development. Due to the considerable importance of human capital to the offshore services industry upgrading (Fernandez-Stark et al., 2010c), the following section addresses the implications of this limited availability of qualified labor in detail. Since CINDE is the Costa

Rican Investment Promotion Agency, the main bulk of their work is related to MNCs and domestic firms are usually not involved in their projects.

Table 6. Key Industry Stakeholders

Organization	Description	Role
COMEX	Created in 1986 through budgetary law, the Ministry of Trade (COMEX) was formally instituted in 1996 as the government agency for trade and FDI policy. It is responsible for defining the country's FDI policy, overseeing the FTZ regime and coordinating FDI-related strategies and plans.	Trade management and facilitation, FDI policy and promotion and FTZ regime regulation.
CINDE	The Costa Rican Investment Promotion Agency (CINDE) is a private, nonprofit, and non-political organization founded 30 years ago.	Investment promotion, FDI attraction, provision of assistance in operation set up and specialized support.
PROCOMER	The Division of Local Linkages at the Foreign Trade Corporation of Costa Rica (PROCOMER) is primarily responsible for promoting Costa Rican exports.	FTZ regime administration, promotion of linkages between MNCs and domestic companies and export promotion.
Offshore Services Companies	Companies in this industry vary considerably, ranging from large MNCs that together employ almost 7,000 people, to medium- and small-size MNCs, and also include small domestic firms.	Increasing revenues, reducing costs, and enhancing industry competitiveness based on talent/knowledge.
CAMSCAT	Cámara de Servicios Corporativos de Alta Tecnología (CAMSCAT) is the high tech, shared services industry association created in 2007 and is comprised of 40 companies. All companies interviewed mentioned that this organization emerged in response to a labor-poaching problem (Field Research, 2012). It is still in the process of consolidation and does not have yet a working strategy for the sector. CAMSCAT only includes MNCs operating in Costa Rica and does not include domestic firms.	Representing the industry as an emerging industry association for MNCs.
CAMTIC	Cámara de Tecnologías de Información y Comunicación (CAMTIC) is the IT industry association created in 1998. It has 260 members. This organization is actively working to integrate the sector and drive upgrading. The organization's strategic plan, "Costa Rica Green and Intelligent," was released in 2011. All digital technology companies in Costa Rica are eligible to join. 80% of members are domestic firms and 20% are of foreign origin.	Representing the industry and development of the digital technology industry.
Educational Institutions	Educational institutions are important actors in this industry. The most important educational institutions are technical high schools and universities (public and private).	Providing qualified human capital to support industry growth.

Source: (CAMSCAT, 2012; CAMTIC, 2012; CINDE, 2012a; COMEX, 2012; Field Research, 2012).

5. Human Capital in the Offshore Services Industry

Human capital has been found to be a key determinant of value creation, competitiveness and success in service exports from developing countries (Chadee et al., 2011; Graf & Mudambi, 2005; Nyahoho, 2010; Saez & Grover Goswami, 2010).¹⁹ For that reason, one of the most important factors MNCs

¹⁹ Saez (2010) finds positive and significant correlation between human capital and service exports after controlling for institutional variables and electronic infrastructure. In addition, research by Nyahoho (2010) on the importance of factor intensity as a determinant of trade also finds that human capital is clearly related to exports of information services, while Shingal (2010)

take into consideration when relocating services operations is the availability of cost-competitive, qualified workers. To date, Costa Rica has been able to offer a sufficient supply of qualified workers to sustain this industry; however, an increasing dearth of human capital has resulted in unsustainable recruitment and retention strategies and salary inflation (Field Research, 2012).

5.1. Labor Demand

In 2011, the offshore services industry employed 33,170 workers, 1.3% of Costa Rica's total labor force.²⁰ Thus, a high percentage of the country's employees are already working in this sector.²¹ Costa Rica's employees are concentrated in the BPO segment, which accounts for 60% of employment within the industry (19,893 employees), compared to 3% (1,123 employees) in ITO, 2% in KPO (792 employees), 32% in Broad Spectrum firms offering BPO, ITO and KPO services and 3% in Industry Specific services (890 employees).

Offshore services MNCs are satisfied with the quality of workers in Costa Rica. The vast majority of the companies interviewed noted that labor in Costa Rica demonstrates a willingness to learn, professionalism, adaptability to new processes and protocols and proactivity in seeking ongoing professional development opportunities (Field Research, 2012). Management talent, a key challenge for upgrading in GVCs (Gereffi et al., 2011), is limited but of high caliber, fluent in English and, importantly, has a global perspective.²² Companies operating in Costa Rica's offshore services sector place a high value on graduation from one of the country's technical high schools. As a result, students who graduate from such schools are in high demand; for example, 70% of the workforce of one of the larger service operations is composed of technical high school graduates. Competition for these graduates is tense, with recruitment teams offering contracts to grade 10 students, who still have three years of school remaining before graduation (Field Research, 2012). Table 7 outlines the educational and experience requirements for different stages of the value chain.²³

finds that human capital is one of three key variables that have the biggest impact on bilateral service trade. Chadee et al., (2011) found that human capital is considered to be the most critical source of competitiveness by management of offshore service providers.


²⁰ This information is from MNCs operating in FTZ regime. According to CINDE, the Costa Rican Central Bank estimates that in 2011 the offshore services industry employed 37,049 and exported almost US\$1.6 billion.

²¹ See Section 5 for an overview of other country competitors.

²² By comparison, in a study on the Chilean offshore services workforce, English and the lack of a global perspective were highlighted as two principal challenges for growth (Fernandez-Stark et al., 2010d).

²³ Additional information regarding skills for each level of the value chain is available in Appendix 3.

Table 7. Educational Requirements by Offshore Services Value Chain Segment

	ITO		BPO		KPO	
	Project manager software development	Master's degree + certifications + interpersonal skills			Business/account manager (representing client)	MBA+ interpersonal skills+ experience
	Team leader	Bachelor's degree + certification + interpersonal skills	Team Leader	Bachelor's degree + company certification skills + interpersonal skills	Consultant	MBA+ interpersonal skills+ experience
	Software engineer/ Developer/Programmer	Bachelor's degree + certifications	Project manager	Bachelor's degree + company certification skills + interpersonal skills	Senior or lead Business Analyst	MBA + interpersonal skills
	Test software	Associate's degree plus certifications	Supervisor	Associate degree + interpersonal skills	Business Analyst	MBA
	Technical writing	High school diploma/Associate's degree	Trainee	High school diploma/ Associate degree	Junior business analyst	Bachelor's degree
	Position	Education/Skills	Position	Education/Skills	Position	Education/Skills
	Software Development		Call Center Agent		Business Analyst	

Note: Interpersonal skills include those important soft skills that are required in all human interactions. These include personal qualities such as emotional intelligence, perseverance, motivation, self-discipline, assertiveness and creativity, and social skills such as teamwork, empathy, effective communication, conflict management and leadership (Jordan, 2009).

Source: (Fernandez-Stark et al., 2011a).

Since the industry's launch in Costa Rica in the late 1990s, MNCs have served as critical conduits of knowledge within the service sector (see Box 5). All companies interviewed have their own internal training programs and also incentivize employees to continue with their careers. These firms place a premium on training and development, and in addition to developing significant on-the-job training, they have developed close relationships with universities, technical high schools and the national training institute, Instituto Nacional de Aprendizaje, among others. However, spillovers for the local economy as a result of this knowledge transfer appear to be limited. For one, as was noted earlier, Costa Rica's participation in this sector has not spurred significant spin-off creation. This phenomenon can be attributed in part to a culture of risk aversion and limited incentives for small and medium enterprises (SME) creation. It can also be argued that the underdevelopment of linkages between MNCs and domestic firms limits the incentive for spin-off creation because the domestic market is small and does not offer as many opportunities for firms to develop.

Box 5. Offshore Services MNCs in Costa Rica: Workforce Development

MNCs in Costa Rica are investing in improving employees' skills. All companies interviewed mentioned that they have **internal training programs** focused on technical skills, interpersonal abilities and languages. For entry-level positions, firms prefer to hire motivated young adults directly from technical high schools and provide them with in-house training. This is a common trend in the sector at a global level. In general, offshore services firms look for generic profiles, but target individuals who are motivated to learn and then teach them the required technical skills internally. In India, some companies, such as WIPRO and Infosys, have even created their own universities in which the instructors are senior employees. Having their internal educational institutions has allowed these firms to respond rapidly to the skills needed to compete in the global market.

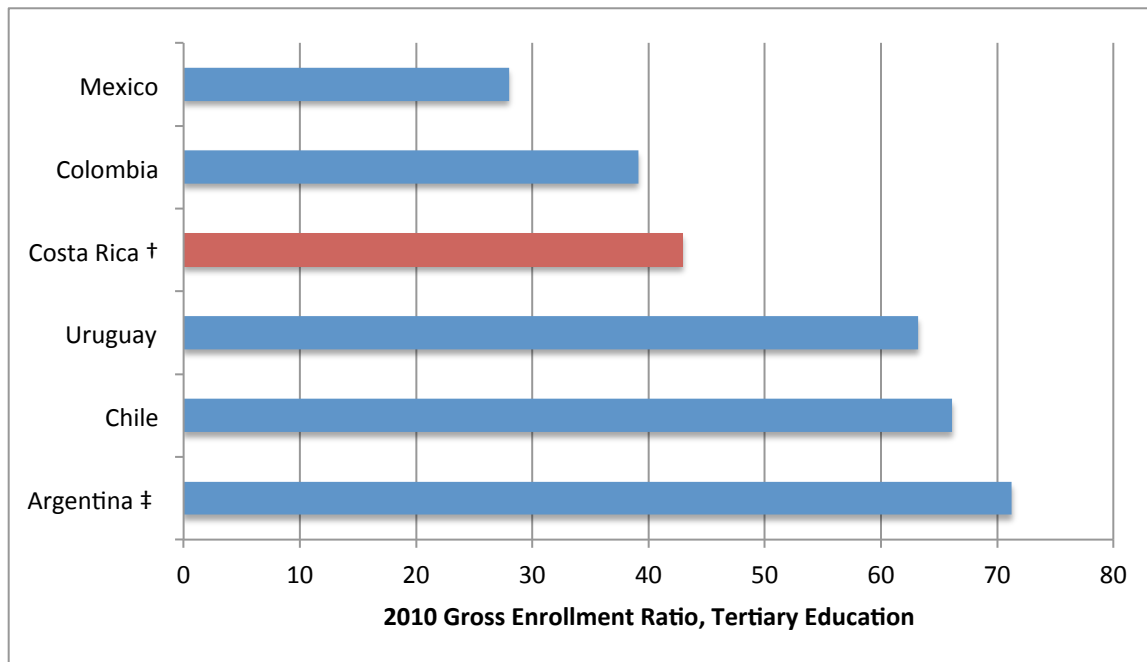
In addition, MNCs in Costa Rica have encouraged employees to continue with their professional development by facilitating and partially financing **university studies**. Firms, especially in the BPO sector, mentioned that around 70% to 75% of their employees are studying to obtain a university degree and some companies reimburse up to 50% of the tuition costs. Unlike other countries participating in the offshore services industry, in Costa Rica, firms also pay for workers' certifications in certain technologies, usually a cost assumed by the individual.

Due to the limited availability of industry labor, the vast majority of companies have also created strong **internal career development programs** to retain workers. These programs are focused on those workers who would like to advance professionally in the same company and have a desire to become supervisors or managers. Usually these workers have to take special training classes. Hewlett Packard recently announced the opening of its own educational institution in Costa Rica.

Source: (Field Research, 2012).

5.2. Labor Supply

Costa Rica's key challenge in labor supply lies in quantity rather than quality. The vast majority of Interviews with MNCs suggest that Costa Rica's education is considered to be good in terms of quality, since public universities provide graduates with the skills needed by the private sector. This is also corroborated by several studies that have examined human capital issues for this sector (Alberto Trejos, 2012; Claudio Pinto, 2010). However, the great concern of these companies is the quantity of graduates from technical and tertiary education. The gross enrollment rate in higher education in Costa Rica (43%) ranges in the middle when compared to other countries in the region. Figure 13 shows Costa Rica performing well when compared to other countries in Latin America and the Caribbean, such as Mexico, and not as favorably when compared with countries such as Uruguay, Chile and Argentina, in which gross enrollment ratios are greater than 60% (UNESCO, 2012).

Figure 13. 2010 Gross Enrollment Ratios, Tertiary Education, Selected Latin American Countries

† Data are from 2011.

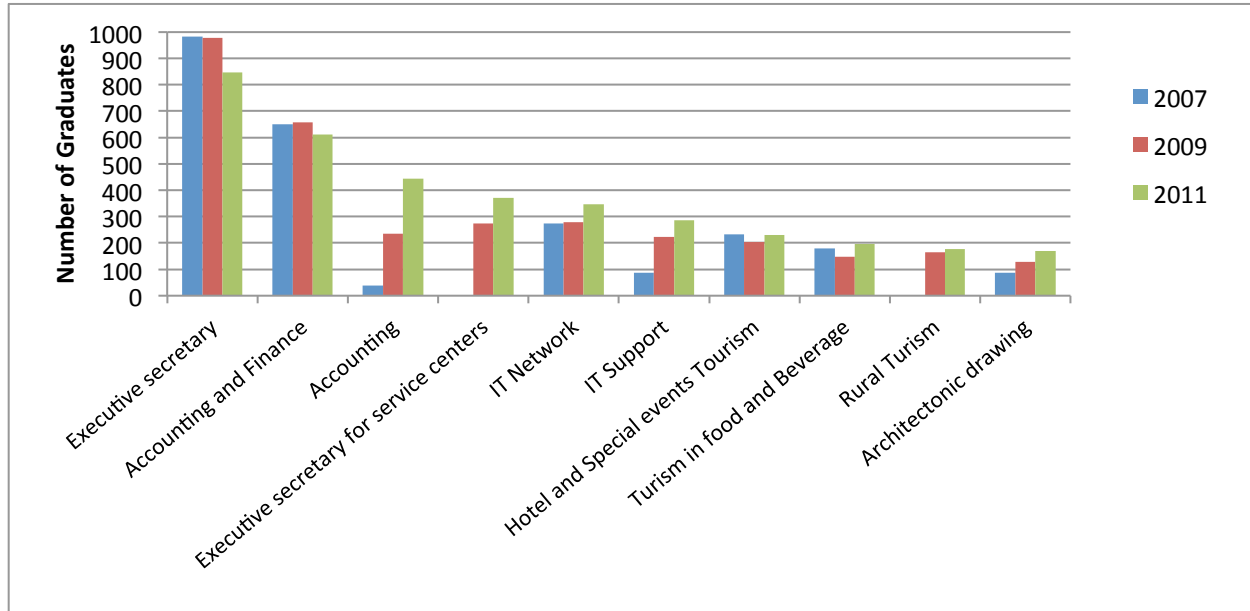
‡ Data are from 2009.

Source: Duke CGGC based on (CINDE, 2012c; UNESCO, 2012).

Regarding the number of graduates in tertiary education, large countries in Latin America, such as Brazil, may graduate more than 1 million people, while Mexico graduates around 465,000. Colombia graduated 235,000 in 2011, while Chile graduated 120,000 in 2010. Examining smaller countries reveals that Costa Rica graduated 38,163 in 2010, El Salvador 17,089 and Honduras 15,412 (UNESCO, 2012).²⁴

Another important issue regarding the number of graduates in tertiary education in Costa Rica is the area of graduation. Students are highly concentrated in education and social science disciplines. The most popular degrees are law and basic education, while the least popular are engineering and sciences. One effect of low graduation rates in engineering and the sciences is that Costa Rica runs the risk of falling into a kind of skills trap. This so-called trap refers to a pattern that is all too familiar in a number of other developing countries, and simply means that a country is not graduating enough people with the technical skills critical for GVCs upgrading (Fernandez-Stark et al., Forthcoming-b). The result is that an industry becomes effectively trapped at a mid-level of the value chain. However, as can be seen in Figure 14, the offshore services-related technical careers, such as executive secretary for services centers, IT networks and IT support, were growing in 2011.

²⁴ Educational data for Costa Rica are difficult to obtain and usually these figures are not available publicly, either for the domestic audience or in international databases. For example, when the researcher requested the number of graduates from certain programs, some universities in Costa Rica stated that this information is confidential.

Figure 14. Top 10 Technical Careers in Costa Rica with the Most Graduates, 2007–2011

Source: Duke CGGC based on (CINDE, 2012c).

The ratio between universities and graduates with technical degrees has remained the same in Costa Rica for the past five years: For every ten university graduates, there are 1.7 technical graduates (CINDE, 2012c). Until 2010, only 25 technical schools had digital/IT technical programs (Field Research, 2012). Moreover, only 11% of high schools in the country offer a technical track²⁵ (Trejos et al., 2012). The country is making important efforts to increase the numbers of graduates from technical higher education. Because salaries of technicians are strong and highly competitive (Field Research, 2012), the low number of technical graduates is therefore likely attributable to other factors, including limited resource allocation to technical schools and a poor social recognition of technicians in the local society.

5.3. Insufficient Human Capital in Costa Rica's Offshore Services

Costa Rica is showing a rapid expansion of the offshore services industry. These excellent results have created new challenges in the human capital field. Due to the high demand and limited supply described above, the offshore services industry in Costa Rica is beginning to show signs of saturation and a limited supply of human capital to support the influx of multinational corporations. There are two main indicators that point to this approaching shortage of labor: High attrition rates and salary inflation. According to CAMTIC, there is currently a shortage of as many as 7,000 employees in Costa Rica's offshore services sector (Field Research, 2012). A CAMTIC and FLACSO study

²⁵ High school students in Costa Rica can choose to pursue either an academic or technical track at the end of their 8th year of schooling. In the academic track, students graduate in 11 years (primary and secondary education). In the technical track, one extra year is added in secondary education with a strong focus on technical skills, and the students complete primary and secondary education in 12 years.

estimated a deficit of 2,299 IT employees for 2007 (Claudio Pinto, 2010; Mata et al., 2012). Some examples of this labor shortage are listed below:

- **IT professionals.** Several companies interviewed are interested in expanding their IT operations, and a few firms expressed their willingness to add over 1,000 new IT jobs in coming years. These firms plan to recruit these workers from other MNCs in the country. One company interviewed is trying to hire a large number of high quality electronics and computers engineers; however, in Costa Rica, the number of graduates in this area is low and competition for these limited resources is intense. This company had to raise salaries offered in order to attract engineers already employed with other companies (Field Research, 2012). This presents a challenge, and the country is already working trying to augment the number of engineers with programs that expand the degree in public universities.

Box 6. CENFOTEC (Centro de Formación en Tecnologías de la Información y Comunicación)

Due to a shortage of technical IT skills, in 2000, a group of domestic software development companies and independent investors created CENFOTEC (*Centro de Formación en Tecnologías de la Información y Comunicación*) to train future employee aligned with private sector needs. CENFOTEC is highly regarded amongst firms in the sector and its graduates are in high demand; 100% of the students find a job before graduation or within three months after graduation.

Up until 2010, this institution was not an accredited university. Although lack of accreditation likely limited the audience to which its courses appealed, it also gave the school flexibility in modifying its curricula and adapting the content of its classes according to the labor market's needs. Once it obtained official recognition as a university from CONESUP, however, the process of adapting curricula became more burdensome. Now, curricula changes must be approved by CONESUP, and this process is significantly more time consuming than that from which CENFOTEC, and the labor market, had benefitted in the past.

Source: (CENFOTEC, 2012; Field Research, 2012).

- **Managers.** The majority of Interviewees noted that supervisors and managers are excellent in quality but difficult to find in the country. They require a mix of education and experience; however, Costa Rica has a limited number of programs for management skill formation, particularly in the middle management segment. For that reason, the two most common ways to obtain managers are to promote the best workers as managers and to poach managers from the other MNCs.
- **English and languages skills.** English language skills are considered to be a key limitation for the country's growth. The country has implemented excellent programs such as *Costa Rica Multilingue*; however, the results are long-term and the need for bilingual workers is immediate. Several companies thus are trying to expand into the Spanish market in Latin America and Spain.

Box 7. Government Actions to Upgrade and Grow Cost Rican Human Capital

In recent years, the government of Costa Rica has actively sought to improve and expand its human capital supply in order to continue to provide high quality offshore services. Recognizing that the country's skills supply needed to be more closely aligned with industry requirements, the Ministry of Foreign Trade (COMEX) and the Ministry of Science and Technology (MICIT) came together in 2011 to create a working group tasked with collectively addressing human capital challenges. The members of the Human Resources Working Group come from a range of government bodies, including the Ministry of Education (MEP), the National Institute of Learning (INA), the Costa Rica's National Council of Rectors (CONARE), the President's Council on Competitiveness and Innovation, the Ministry of Labor and Social Security (MTSS), the Competitiveness Promotion Council of Costa Rica, the Costa Rica Multilingual Foundation (CRML), the Costa Rica Institute of Technology (ITCR), COMEX, MICIT, and CINDE. The group meets regularly to report on members' efforts to bridge the gap between labor supply and demand, and to propose new targets and courses of action (CINDE, 2012g).

To promote the development of skills that support employment in offshore services and other desirable sectors, Costa Rica's government has been active in supporting technical education and language skill development at all levels. For example, the government has been supportive of a train the trainer initiative in which over 75 professors participated in 2012. This program has immersed over 200 professors in two-week trainings at companies including Sykes, HP, IBM, Boston Scientific, WNS, Moog, Teletex, and C&K Coactive over the past three years, and will continue into the next year (CINDE, 2012d).

Another program, the Achieve More: Foundations for Analytical Thinking program, gave 60 students studying Business Administration, Economics, and Finance at Latin University of Costa Rica and the University of Costa Rica the opportunity to participate in a specialized course developed by Amba Research. At the end of the course, companies including Amba Research, Citi, Western Union, and HP validated the students' outputs and hired students for positions within their companies. Next year, the program will be expanded and offered to students entering other career fields, such as IT and Engineering (CINDE, 2012d). At the technical high school level, the Tools for Success scholarship fund has provided English language training for more than 1,100 students over the first four generations of the program. In 2012, 272 students were certified and given the opportunity to begin internships with one of 20 participating companies (CINDE, 2012d).

In addition to all of these efforts, the government has sought out other new programs and partnerships to improve the quality and quantity of its skilled labor force. These focus on high-priority skills development through improved access to higher education, targeted career advice and training, and increased collaboration between MNCs and local companies. Examples of these initiatives include:

- The government recently introduced a new program to advise young people on career choices, called the "Young Talent" program.
- A recent World Bank loan is channeling investment toward efforts to update training courses in public and private universities. As a result of this US\$200 million loan, 95,000 Costa Rican students will benefit from innovative and better university education, made possible by strengthened scientific, technological, and academic capacities of the four public universities that comprise CONARE (World Bank, 2012b).
- The Inter-American Development Bank (IDB) has launched a program with MICIT to "develop and align the country's human capital with production development needs" (OECD, 2012). The Innovation and Human Capital for Competitiveness Program will provide financing to improve training in key areas of expertise, and also assist with re-training technical professionals currently specializing in low-priority areas. Projected outputs include 100 enterprises supported in developing entrepreneurial capacities, 161 individuals financed through postgraduate scholarships, 40 international experts recruited to enterprises, and 300 professionals retrained (IDB, 2012a).
- To foster greater linkages and knowledge transfers between MNCs and domestic companies, the government formally established a Division of Local Linkages at the Foreign Trade Corporation of Costa Rica (PROCOTER).
- In partnership with local MNCs, the government has made grants available for technical and university studies.

These actions and others demonstrate that the government is responsive to Costa Rica's changing human capital needs, and is taking important steps to prepare its workforce for the future demands of the offshore services industry.

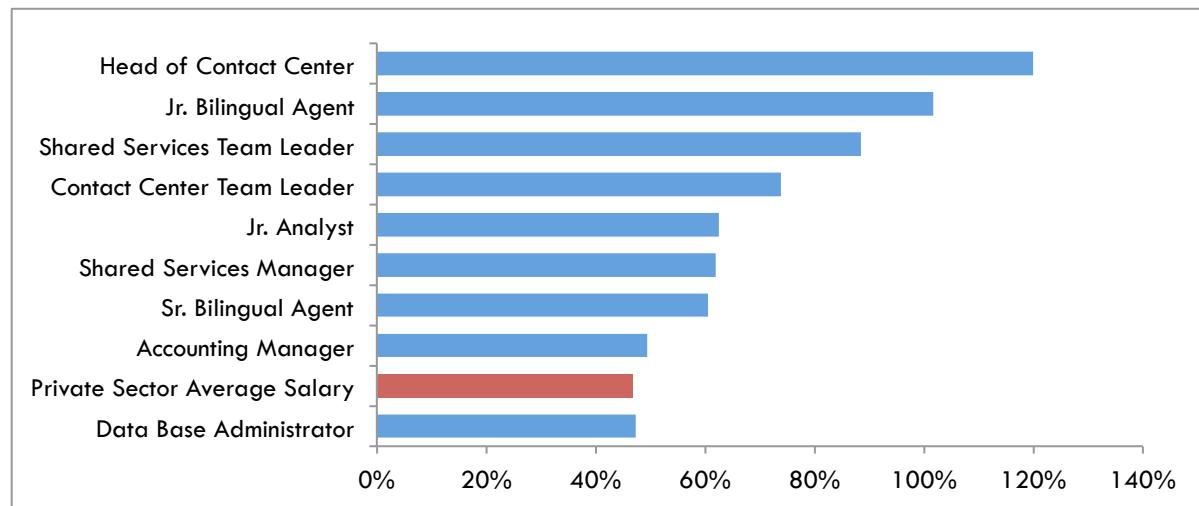
Sources: (CINDE, 2012d, 2012g; IDB, 2012a; OECD, 2012; World Bank, 2012b)

Attrition Rates and Salary Inflation

Due to the impressive growth of the offshore services industry in Costa Rica, attrition rates in the sector are growing, reflecting the limited availability of labor. According to confidential data, the turnover rates for different sectors of the value chain in Costa Rica are indeed higher than in other countries.²⁶ Firms are adopting increasingly better recruitment and retention policies, including fast-track career development, extended vacations, bonuses and perks like gym facilities and discounts in retail stores. All companies interviewed mentioned that labor poaching is becoming a common practice. Several firms incentivize poaching with monetary rewards; for example, giving employees a bonus of one month's salary if they can recruit co-workers from their previous jobs. Indeed, this is a quasi-institutionalized practice that is discussed openly in industry circles (Field Research, 2012). Due to the frequency with which workers had been changing jobs, a group of MNCs has come to an informal anti-poaching agreement.

The limited supply of labor has also contributed to salary inflation, which began to emerge in the late 2000s. This trend becomes especially pronounced when large operations are established in the country because new firms entering the market offer, on average, better salaries than current market rates to capture the necessary labor force. In response, incumbent firms must raise their salaries to retain workers, and as a result, industry salaries continue to rise. The dearth of human capital in the offshore services sector is affecting the local economy. Figure 15 illustrates the typical salaries for various offshore services positions compared to the average private sector salary inflation.

Figure 15. Nominal Salary Variations in the Private Sector Average Salary and Selected Offshore Services Positions, 2006-2010



Source: Duke CGGC based on (CINDE, 2012f, 2012h).

²⁶ CINDE provided confidential data prepared by Deloitte in December 2011, "Encuesta de Indicadores de Capital Humano: Sector Servicios."

One key problem in generating sufficient labor supply is the lack of official labor market information to which students have access. Without this information, career development officers in high schools will not be able to accurately and appropriately advise their students. The majority of students prefer to study social sciences such as law and education degrees, both degrees popular in the Costa Rican national culture. However, these are sectors with poor job opportunities due to fairly saturated job markets. Without information about the most demanded jobs, typical salaries, the number of graduates by industry, new economic sectors and other factors relevant to job choice, young people are generally left to select their degrees based on personal or family preferences. This represents a missed opportunity to channel new talent into areas of the economy where labor is particularly needed.

6. Main Challenges and Opportunities for Costa Rica's Offshore Services Industry (SWOT Analysis)

The offshore services industry in Costa Rica has grown rapidly over the past 20 years; however, this also presents human capital challenges. The existing expansion model should be revised in the face of high competition, especially from those countries with larger workforces. Nevertheless, the country has several important opportunities to specialize in higher value-added services. The country needs to develop a strong future strategic plan with clear objectives in which all stakeholders are invited to participate, and in which specific roles are assigned to different actors in order to develop the industry. A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of the industry in Costa Rica is found below.

Strengths

- Worldwide recognition as an offshore services location
- Cultural affinity with the Western world
- Political stability
- Geographical proximity to the United States (2.5 hours non-stop flight to Miami and 5 hours five New York City)
- Convenient time zone
- CINDE and government support
- Quality education
- Professional ethics of the labor force and desire to learn among the local workforce
- Free Trade Zone regime to attract foreign offshore services firms
- Free Trade Agreements networks (access to 1/3 of the world population and 2/3 of global GDP)

Weaknesses

- Lack of industry strategic plan and stakeholders organization

- Small labor force
- Insufficient number of English speakers
- Limited availability of project management and leadership skills
- High levels of bureaucracy, causing underperformance in the *Doing Business* rankings
- Limited support to local companies
- Lack of a united industry association like NASSCOM for lobbying, data collection, joint promotion strategies, etc.
- Weak global talent attraction programs and complex immigration processes

Opportunities

- New offshore service segments emerging at global level, including environmental services
- Generate jobs in innovation in Verticals
- Restrictive immigration policies in the United States creates available, qualified personnel
- Potential linkages of domestic companies to offshore services MNCs
- Creation of spinoffs based on transfer of knowledge from MNCs

Threats

- MNCs leaving the country because lack of consistency in the FTZ regulations
- Necessary human capital to maintain lower cost operations in the country is lacking
- Increased salary inflation due to the high demand of human capital from MNCs and the influx of new large operations to the country
- Emerging destinations in Latin America with lower cost labor

Some of the major challenges and requests mentioned by offshore services companies to the government are mentioned below:

- **Immigration issues.** The majority of the companies interviewed mentioned the problem of immigration bureaucracy. The immigration process is faster than before with the “fast track” regulation implemented recently. However, it takes a long time to bring specialized workers from certain countries. For example, to bring a worker from India take between four and six months. This will limit the possibility to expand the quality labor force, especially for companies that want to start more sophisticated operations in the country and need specialized skills from abroad. The offshore services industry has a very low number of expatriates compare to the industry in other countries in Latin America.
- **Consistency on FTZ regulations.** All companies interviewed expressed concern regarding the lack of uniformity on FTZ regulations. Changes in the legislation impact the country’s credibility among foreign investors.
- **High level of bureaucracy.** The majority of the companies interviewed mentioned that some basic business permits require long procedures and a lawyer’s involvement. To illustrate the

country's red tapes for businesses, Costa Rica ranks 110 out of 181 economies in the *Doing Business* report. Offshore services MNCs usually contact CINDE's Aftercare Services department to speed local business processes and avoid the long procedures to start and run a business in the country.

- **More human capital to sustain the industry.** All the companies interviewed mentioned that labor costs are going up, making the sector less competitive. Several companies mentioned they are not sure that the government realizes the great challenge down the road for MNCs.
- **Access to finance.** Local companies that are facing difficulties have specially requested greater access to financial products. The current financial system is based on real guarantees (buildings, equipment, etc.) and Intellectual Property (IP), and contracts are not sufficient to obtain guarantees for a loan. Sensitizing banks to the new knowledge economy will be important in increasing their willingness to issue loans for new offshore services enterprises. In a promising development, Banco Costa Rica now recognizes IP assets. This IP has to be registered in Costa Rica's IP system and certified in terms of value; however, there are limited numbers of public accountants who have experience in valuing IP.

7. Potential Upgrading Trajectories in the Costa Rica's Offshore Services Industry

The analysis presented earlier in the paper shows that Costa Rica currently participates in all segments of the value chain, having a strong presence in the BPO segments and a smaller participation in ITO, KPO and Industry Specific Activities. Until now, first mover advantage, strong bilingual skills and a stable economic and political environment have combined to give the country a competitive edge in the offshore services industry. However, Costa Rica may see its competitiveness in this sector decline in the next few years as more Latin American and Caribbean destinations consolidate their offshore services sectors. Internally, the limited availability of human capital will continue to erode comparative advantages in segments requiring large numbers of workers. For these reasons, the main upgrading approach recommended is tapering off support for the establishment of low value-added services within the country, concentrating instead on consolidating into more sophisticated activities in each segment of the chain. This report recommends a four-pronged upgrading strategy for Costa Rica's offshore services sector:

1. **Upgrade within the ITO segment to high value niche segments.** Leverage local companies that can also focus on higher value IT activities. Expand technical education programs to increase the pool of qualified labor. This will allow the country to absorb new technologies and Centers of Excellence (such as HP) without creating labor shortages. Low numbers of IT professionals limit the potential for large ITO operations offering more generic services.
2. **Product upgrade within the BPO segment.** Many countries in the region offer the same low value BPO services as Costa Rica, but at a lower cost and with lower attrition rates. Within the BPO segment, Costa Rica should focus on offering superior services for clients that value quality rather than costs and are prepared to pay a premium for this.

3. **Enter in the KPO segment.** Functional upgrading requires completely new skills to be sourced from the labor market. These people must have acquired the necessary skills from the formal educational sector or previous experience (Gereffi et al., 2011). This has proven difficult for KPO firms in Latin America as there is limited qualified labor available in the workforce. There are a number of KPO firms, however, looking to set up operations in the region to take advantage of the time zone. Where local staff is not available, location selection depends heavily on smooth immigration policies and an attractive place to live (Srivastava & Ortiz, 2009). Costa Rica can leverage its reputation as a great place to live to attract experienced expatriates to fill the gap in the short- to medium-term as local human capital is developed. Additionally, Costa Rica may enter in the Legal Process Outsourcing (LPO) segment, since boasts has a large number of domestic lawyers and the LPO global market is growing fast.
4. **Move to niche activities.** Market niches leverage key areas of expertise; these entry barriers provide a degree of insulation from competitive pressures over the long term (Humphrey & Schmitz, 2002, p. 1018). They thus offer more sustainable upgrading trajectories for small developing countries with limited labor pools that would otherwise be unable to compete with large countries. Costa Rican policy makers should explore areas in which the country has already developed both expertise and a brand. For example, Costa Rica is known worldwide for being a leader in conservation and environmental services. This expertise can be leveraged and exported.

Appendix 1. List of MNCs Offshore Services Companies by Value Chain Segment, 2011

Company	Captive	Year of Establishment	Global Value Chain Category	Sub-Category
4 Thought Marketing		2009	ITO	
Avionyx		2004	ITO	
Fiserv		2004	ITO	
Global Insurance Technology		2007	ITO	
Informatech		2010	ITO	
Intertec		2002	ITO	
JD Soft de CR		2002	ITO	
Ridge Run		2006	ITO	
Round Box Media		2006	ITO	
Slim Soft		2006	ITO	
Softtek		2010	ITO	
Via Information Tools		2004	ITO	
Emerson	X	2009	ITO	
ACE		2008	BPO	Call & Contact Centers
Aegis Communication		2006	BPO	Call & Contact Centers
Concentrix		2008	BPO	Call & Contact Centers
Convergys		2004	BPO	Call & Contact Centers
Credixs World		2009	BPO	Call & Contact Centers
First Data		2007	BPO	Call & Contact Centers
Language Line		2002	BPO	Call & Contact Centers
Motif		2010	BPO	Call & Contact Centers
Office Gurus			BPO	Call & Contact Centers
Pacific Interpreters		2006	BPO	Call & Contact Centers
Startek		2010	BPO	Call & Contact Centers
Teleperformance		2010	BPO	Call & Contact Centers
Teletech		2006	BPO	Call & Contact Centers
United Collections Bureau		2006	BPO	Call & Contact Centers
UPS Supply Chain		2004	BPO	Call & Contact Centers
Van Ru		2005	BPO	Call & Contact Centers
Amazon	X	2008	BPO	Call & Contact Centers
Fujitsu		2006	BPO	Call Centers IT
SYKES		1999	BPO	Call Centers IT
Tech Data		2007	BPO	Call Centers IT
Amadeus	X	1997	BPO	Call Centers IT
BA Continuum	X	2007	BPO	Call Centers IT
Dell	X	2002	BPO	Call Centers IT
Qualfon		2003	BPO	Call Centers IT
Access Personnel		2004	BPO	Back Office
Arcus		2009	BPO	Back Office
BPO International		2005	BPO	Back Office
McKinsey & Co. Support Services		2010	BPO	Back Office
Pacific West		2000	BPO	Back Office
Project Resources Group CR		2008	BPO	Back Office
Trax Technologies		2004	BPO	Back Office

Company	Captive	Year establishment	Service category	Detailed Service category
Experian Marketing Services	X	2008	BPO	Back Office
Lightstorm	X	2007	BPO	Back Office
LL Bean	X	1998	BPO	Back Office
Aliaxis	X	2011	BPO	Back Office
Amway	X	2010	BPO	Back Office
APL	X	2005	BPO	Back Office
Auxis	X	2010	BPO	Back Office
Baxter Americas	X	2004	BPO	Back Office
British American Tobacco	X	2006	BPO	Back Office
Chiquita Brands	X	2003	BPO	Back Office
Curtiss Wright	X	2011	BPO	Back Office
DHL	X	2007	BPO	Back Office
Dole SS	X	2005	BPO	Back Office
Hellmann Logistic	X	2007	BPO	Back Office
Lion Resources	X	2007	BPO	Back Office
National Instruments	X	2011	BPO	Back Office
Oracle	X	2007	BPO	Back Office
Emerson	X	2009	BPO	Back Office
Equifax	X	1995	BPO	Back Office
Western Union Global Service Center (GSC)	X	1998	BPO	Back Office
AvVenta		2005	BPO	Back Office
CR Production Services		2009	BPO	Back Office
Pop Digital		2010	BPO	Back Office
The Hangar Interactive (Critical Mass)		2008	BPO	Back Office
Amba Research		2006	KPO	
Citi Business Services	X	2008	KPO	
AEC		2010	Verticals	
Agilis Engineering		2006	Verticals	
Align Technologies		2001	Verticals	
Gensler	X	2007	Verticals	
Holland Roofing	X	2002	Verticals	
Smartworks	X	2010	Verticals	
Hewlett Packard		2004	Broad Spectrum Services	
Procter & Gamble GBS	X	1999	Broad Spectrum Services	
Intel	X	2006	Broad Spectrum Services	
IBM (NYSE: IBM)	X	2004	Broad Spectrum Services	

Appendix 2. Research Trip Agenda and Interview Notes

FINAL AGENDA

INSTITUTION: Duke University – Global Value Chain Study: Offshore Services
VISITORS: Karina Stark and Penny Bamber
DATE: July 16th – 20th, 2012
EXECUTIVES: Francella Vargas – CINDE Aftercare Executive

Monday, July 16th, 2012

11:00 a.m. – 12:15 p.m. **IBM (Back Office: HR/IT)**
Contacts: Alberto Mainieri, Leader of Operations – Costa Rica
Andrea Meléndez, Human Resource Manager
Location: Global Park, Heredia
Objective: Company operation and experience in Costa Rica

01:30 a.m. – 02:45 p.m. **Ministerio de Educación Pública (MEP)**
Contacts: Fernando Bogantes, Technical Education Director
Location: San Francisco de Goicoechea, San José
Objective: Programs and relationship with the private sector

04:00 p.m. – 05:00 p.m. **COSTA RICAN INVESTEMENT PROMOTION AGENCY (CINDE)**
Contacts: Irving Soto, Promotion Investment Director
Sandro Zolezzi, Research Department Director
Francella Vargas, Aftercare Executive
Telephone: (506) 2201-2800
Location: Plaza Roble, Building Los Balcones, 4th Floor, Escazú
Objective: Country presentation

Tuesday, July 17th, 2012

08:00 a.m. – 09:00 a.m. **CAMTIC**
Contacts: Alexander Mora, President
Location: Barrio Escalante
Objective: Interview

9:30 a.m. – 10:45 a.m. **Instituto Nacional de Aprendizaje (INA)**
Contacts: Karol Padilla, Área Técnica
Luis Antonio Arias, Núcleo Eléctrico
Cynthia Mora, Formación - Capacitaciones

	Elenieta Alfaro, Núcleo de Mecánica de Vehículos Francisco Alfaro, Núcleo de Mecánica de Vehículos Marielos Fonseca, Diseño Gráfico
Location:	Uruca
Objective:	Programs and relationship with the private sector
01:00 a.m. – 02:15 p.m.	Softtek (Software Company)
Contacts:	Yamileth Hernández, Sourcing Leader
Location:	Locals 21, 22 and 23, Paseo de las Flores, Heredia
Objective:	Company operation and experience in Costa Rica
02:30 p.m. – 03:45 p.m.	avVENTA (Interactive Agency)
Contacts:	Alejandra León, HR Manager Andrea Tanzi, Recruiting Manager
Location:	Plaza Bratsi, Heredia
Objective:	Company operation and experience in Costa Rica

Wednesday, July 18th, 2012

09:00 a.m. – 10:15 a.m.	Western Union (Shared Services Company)
Contacts:	Erick van der Laat, CFO Accounting Director
Location:	Forum II, Santa Ana
Objective:	Company operation and experience in Costa Rica
11:00 a.m. – 12:15 a. m.	Teleperformance (Contact Center)
Contacts:	Eduardo Lugo, Site Leader Ana Salazar, Human Development Manager David Castro, Talent Acquisition Director
Location:	Forum I, Santa Ana
Objective:	Company operation and experience in Costa Rica
02:00 p.m. – 03:15 p. m.	P&G (Shared Services Company)
Contacts:	Alejandra Cobb, Corporate Affairs Manager
Location:	Forum I, Santa Ana
Objective:	Company operation and experience in Costa Rica
05:00 p.m. – 05:45 p.m.	Ministry of Foreign Trade (COMEX)
Contacts:	Francisco Monge
Location:	Paseo Colon
Objective:	Policies to improve the attraction of FDI on services activities
06:30 p.m. – 08:30 p. m.	CENFOTEC
Contacts:	Ignacio Trejos, Rector
Location:	San Pedro
Objective:	Programs and relationship with the private sector

Thursday, July 19th, 2012

- 09:00 a.m. – 10:15 a.m. Equifax (Back Office)**
Contacts: Jairo Quirós, Senior Site Director – Costa Rica
Alejandro Roca, Human Resources Director
Location: Building 1F, Metropolitan Free Zone, Barreal, Heredia
Objective: Company operation and experience in Costa Rica
- 10:30 a.m. – 11:00 a.m. Fiserv (Software Company)**
Contacts: Francisco Alba, Country Director
Location: Metropolitan Free Zone, Barreal, Heredia
Objective: Company operation and experience in Costa Rica
- 11:00 a.m. – 12:00 m.d. CAMSCAT**
Contacts: Francisco Alba, President
Location: Metropolitan Free Zone, Barreal, Heredia
Objective: Interview
- 02:00 p.m. – 03:15 p.m. Amba Research (Back Office)**
Contacts: Miriam Manrique, General Manager
Álvaro Ulloa, Human Resources Manager
Luis Aguilar, Head of Strategic Initiatives
Location: 3rd floor, Eurocenter, Heredia
Objective: Company operation and experience in Costa Rica
- 04:00 p.m. – 05:15 p.m. Universidad Latina**
Contacts: Edna Camacho, Dean of Postgraduate Programs
Ariel Sánchez, Director de Vida Universitaria
Location: Torre Mercedes, 10th floor
Objective: Programs and relationship with the private sector

Friday, July 20th, 2012













- 08:30 a.m. – 09:45 a.m. SYKES (Contac Center)**
Contacts: Arturo Barboza, Public Affairs Director
Orlando Uriza, Human Resources Manager
Location: Moravia, San José
Objective: Company operation and experience in Costa Rica
- 11:00 a.m. – 12:15 a.m. Hewlett Packard (Back Office: BPO, Contact Center: ITO)**
Contacts: Evan Owen Schmitz, Director BPO
Gisella Bolarte, Site Operations Manager
Adriana Méndez, Government Affairs Manager
Location: America Free Zone, Heredia
Objective: Company operation and experience in Costa Rica

Topic: Environmental services. Interviews with:






Interview: Carlos Manuel Rodriguez: August 22, 2012 former Minister of Environment and Energy in Costa Rica

Interview: Olivier Chassot: Nov 2, 2012 Executive Director of the Centro Científico Tropical in Costa Rica

Appendix 3. Job Profiles in the Offshore Services Global Value Chain

Position	Job Description	Formal Education Requirements	Training/ Experience	Skill Level
ITO				
IT Technician	Maintains equipment and network devices, provides software support for updates.	Technical diploma/degree	Specific technical courses, on-the-job training, and experience	
IT Software Programmer	Programs software applications for general or customized use.	Technical diploma/degree	Software programming courses and certifications	
IT Consultant	Provides advice to help firms align IT strategy with their business objectives (may include information risk management, IT infrastructure, strategy, data management).	Bachelor's degree in IT/ Master's degree in engineering	Consulting/ management experience	
Software R&D Engineer	Designs, develops, and programs innovative software packages and functions.	Bachelor's /Master's/ Doctoral degree in industrial engineering/computer science/informatics	Software programming courses and certifications	
BPO				
Call Center Operator	Answers in-bound calls regarding specific products and provides general customer services.	High school/ Bachelor's degree	Two – three week of training and on-the-job training	
Finance and Accounting Analyst	Provides accounts receivables and accounts payable processing, reconciliations, ledger keeping, and income and cash statement preparations.	High school/ technical institute diploma in accounting	Technical training and on-the-job training	
Marketing and Sales Representative	Supports inbound and outbound sales, sales order processes, and customer monitoring.	Technical/Bachelor's degree	Short training and on-the-job training	
BPO Quality Assurance and Team Managers	Ensure BPO agents meet specified client service standards and monitor agent performance.	Technical and university-level professionals	Technical training and on-the-job training	
KPO				
Finance Analyst	Provide guidance to businesses and individuals making investment decisions; assess the performance of stocks, bonds, commodities, and other types of investments.	Bachelor's degree in business administration	Chartered Financial Analyst (CFA) certification	
Business Analyst	Provides business services, such as market research, business opportunity assessment, strategy development, and business optimization.	Bachelor's/Master's degree in business administration	Experience	
Legal Analyst	Reviews and manages contracts, leases/ licenses. May provide litigation support services or intellectual property services.	Law degree	Experience and training in specific country legal systems	
R&D				
Researcher	Undertakes projects to increase the stock of knowledge; develops new products based on research findings.	Master's/doctoral degree	Experience/industry specialization	

Source: Duke CGGC, based on Fundación Chile, 2009; Fernandez-Stark et al., 2010b; Wadhwa, 2008.

Skill Level	Low	Low-Medium	Medium	Medium-High	High
	 No formal education/ experience	 Literacy and numeracy skills; experience	 Technical education/ certification	 Technical education/ undergraduate degree	 University degree and higher

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