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IDB

Trinidad and Tobago

Exploring Opportunities in the Global IT Services Market

May 2012

IDB

Inter-American Development Bank

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Abbreviations

Organizations

1.	UN	United Nations
2.	UNCTAD	United Nations Conference on Trade and Development
3.	UNESCO	United Nations Educational, Scientific, and Cultural Organization
4.	WB	World Bank
5.	IDB	Inter-American Development Bank
6.	WEF	World Economic Forum
7.	CORFO	Chilean Economic Development Agency
8.	IFC	International Finance Corp.
9.	UTT	University of Trinidad and Tobago
10.	COSTAATT	College of Science, Technology, & Applied Arts of Trinidad and Tobago
11.	ACTT	Accreditation Council of Trinidad and Tobago
12.	UWI	University of West Indies
13.	GCC	Gulf Cooperation Council
14.	TSTT	Telecommunications Services of Trinidad and Tobago
15.	eTeck	Evolving TecKnologies and Enterprise Development Company
16.	MTI	Ministry of Trade and Industry
17.	CARICOM	Caribbean Community
18.	YTEPP	Youth Training and Employment Partnership Program
19.	NASSCOM	National Association of Software and Services Companies
20.	NCST	National Council for Science and Technology
21.	OCNFB	Officers of the Organized Crime, Narcotics, and Firearms Bureau
22.	MDA	Media Development Authority

Programs

1.	GATE	Government Assistance for Tuition Expenses
2.	HELP	Higher Education Loan Program
3.	CSME	CARICOM Single Market and Economy
4.	CBI	Caribbean Basin Initiative
5.	KID	Knowledge, Innovation, and Development Program
6.	CISIS	China International Software & Information Service Fair
7.	KAMP	Kids Animation Motion Project

Industry Specific Terms

1.	CAC	Community Access Centres
2.	CAGR	Compound Annual Growth Rate
3.	CBD	Central Business District
4.	CNG	Compressed Natural Gas
5.	CSO	Creative Services Outsourcing
6.	F&A	Finance and Accounting
7.	FDI	Foreign Direct Investment
8.	FTA	Free Trade Agreement

9. GER Gross Enrollment Ratio
10. GDP Gross Domestic Product
11. HEI Higher Education Institutions
12. HRO Human Resources Outsourcing
13. ICT Information and Communications Technology
14. IP Intellectual Property
15. IT Information Technology
16. IT-BPO Information Technology – Business Process Outsourcing
17. ITeS Information Technology Enabled Services
18. ITO Information Technology Outsourcing
19. KPO Knowledge Process Outsourcing
20. MSME Micro, Small, and Medium Enterprises
21. NGN Next-Generation Network
22. NRI Networked Readiness Index
23. O&O Outsourcing and Offshoring
24. R&D Research and Development
25. SEZ Special Economic Zones
26. SWOT Strengths, Weaknesses, Opportunities, and Threats
27. WAN Wide Area Network

Companies

28. IBM International Business Machines
29. HP Hewlett-Packard
30. HSBC Hong Kong and Shanghai Banking Corp.

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Introduction

The services outsourcing market has continuously accelerated during the past two decades, with global revenues for the offshore services market totaling US$115 billion in 2011.[1] The sector has become been a vital contributor to many of the world's developing economies. In India, the industry contributes about US$60 billion to the country's GDP; in the Philippines, it contributes over US$10 billion to the GDP.[2] Both these countries are now globally renowned in the outsourcing landscape and local Information Technology-enabled Services (ITeS) industries remain on positive growth trajectories.

The success of the outsourcing industry does not only bring with it obvious economic benefits. The rapid growth of outsourcing in locations such as the Philippines, India, and Sri Lanka for example, has brought about other developmental aspects affecting the overall conditions of a country. In particular, a nation's technology infrastructure, business environment, and human capital capabilities are all said to improve when ITeS industries are allowed to develop in a location.

Technological advancement and increased adoption for instance, occur through the technology transfer brought upon by global service providers locating in a country. Further, and in order to establish outsourcing services in a location, a capable IT infrastructure has to be in place. Thus, for a location to attract an IT service provider, it must ensure that its technological infrastructure is in order, and as providers setup operations, employees increase the adoption of IT of the country, as technology becomes a requisite to process the outsourced services from that location. In most instances, locating providers also push locations to upgrade or enhance existing IT infrastructures. Without this capable infrastructure, services outsourcing would not be possible.

The outsourcing and offshoring (O&O) industry also provides abundant employment opportunities for the population. In particular, the fulfillment of Business Process Outsourcing (BPO) services requires large pools of employable talent. This scale-dependent aspect of BPO makes this particular service line, most appropriate for locations with larger populations, capable of providing a stable stream of talent. Knowledge Process Outsourcing (KPO) and Information Technology Outsourcing (ITO) segments on the other hand, are services comprised of more complex processes, requiring a higher degree of domain or industry-specific knowledge. These two sectors are often considered *more appropriate* for service delivery locations which have a highly technical talent pools, with a high tertiary graduate output ratio. However, these specific sectors are also often *not scale-dependent* – making KPO and ITO service lines, the more appropriate target sectors for many emerging delivery locations with smaller, scale-restricted populations.

Because of the cost arbitrage and larger labor pool advantages which developing countries typically offer to service buyer markets, such locations have been the primary destinations for the processing of outsourced services. Beyond these two characteristics, more successful individual locations have also been able to create *unique value propositions* to service providers and clients. The Philippines, for example, has been recognized as the voice-based English BPO capital of the world. India, the global leader in outsourcing, is known as a large-scale provider of

[1] NASSCOM, 2011
[2] NASSCOM, 2011

high-value services in the KPO and ITO segments. Recently, emerging economies from the Caribbean, Latin America, and Eastern European regions have come to the forefront of the global outsourcing landscape, with individual locations carving out their respective service delivery niches. Trinidad and Tobago is one such country joining the fray and finding its position on the regional and global IT services arena.

Trinidad and Tobago is known as one of the strongest economies in the Caribbean region. It currently has the highest GDP per capita among countries in the region at US$16,535. Its development status can be attributed to the country's abundant oil and natural gas resources with the energy sector currently accounting for 40% of GDP and 66% of exports.[3] This has been Trinidad and Tobago's primary fuel for economic growth.

Recently, Trinidad and Tobago has begun to implement measures to decrease its reliance on the energy sector and diversify opportunities in other growing industry sectors. The country's nascent IT-BPO industry has been identified as one of these targeted sectors. The recent focus into the IT-BPO industry has resulted into initiatives to identify strengths, capabilities and potential client markets.[4]

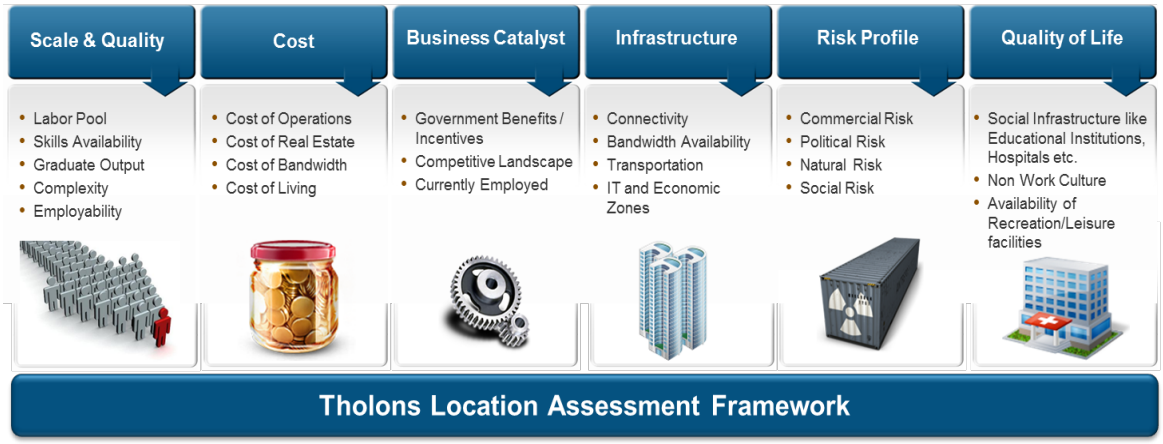
Tholons believes that Trinidad and Tobago has the potential to realize future benefits through its exploration into the services outsourcing industry. With this, Tholons presents its findings from a study commissioned by the Inter-American Development Bank (IDB) to investigate the potential of Trinidad and Tobago in establishing a service outsourcing industry that can become regionally, if not globally competitive. This study will also analyze the specific niche services which the country should explore, considering the scale limitations of the labor pool, and the current service delivery maturity of the local industry. Further, this study will provide recommendations for country and industry stakeholders to consider, that would allow for the better optimization of current resources, and identify niche sectors – such as the creative services outsourcing (CSO) sector - that the country can explore to better develop its current and future service delivery capabilities.

Methodology

In completing this report, Tholons leveraged on its proprietary and industry-leading methodologies and frameworks to provide analysis pertinent to Trinidad and Tobago's IT-BPO industry. In particular, Tholons utilized its Location Assessment Framework focusing on the following areas:

[3] Central Statistics Office, 2011
[4] eTeck, 2009

Figure 1: Tholons Location Assessment



In the course of applying the proprietary Location Assessment Framework, Tholons also used credible and industry-accepted data sources. This was composed of both secondary and primary sources. A detailed section of the data gathering methodology is mentioned below.

- **Primary Research**

  Tholons interviewed various stakeholders in Trinidad and Tobago. These interviews included representatives from service providers, associations, government, financial institutions, educational institutions and private sector companies in this space. Data gathering was also carried out to determine market and labor pool availability, quality, and scale, so as to validate the analyses.

- **Qualitative Analysis**

  Tholons thoroughly analyzed the collected data. Tholons conducted a comparative assessment of the parameters that determine the attractiveness of an outsourcing destination including:

  - Scale and Quality of Workforce
  - Demand and Supply Characteristics
  - Economic Conditions and Risk Profile
  - Cost of Operations
  - Government Incentives
  - Infrastructure

For each individual parameter, Trinidad and Tobago was compared with other Latin American and Caribbean countries actively involved in the O&O industry. This created a comparative benchmark across locations. Subsequently, based on the analysis, a set of recommendations were identified and developed.

Report Structure

Figure 2: Report Structure and Captions

Section 1	Background and Introduction
Section 2	Trinidad and Tobago's Value Proposition
Section 3	Current IT-BPO Industry
Section 4	SWOT Analysis
Section 5	Recommendations
Section 6	Industry Development Roadmap
Section 7	Conclusion

- **Section 1: Background and Introduction**

This section aims to provide a background on the objectives and the subject of the report. It also provides a brief description of the methodology, the key strategies, and the report structure employed in the course of analysis and report-writing.

- **Section 2: Trinidad and Tobago's Value Proposition**

This section aims to provide insight into Trinidad and Tobago's selling points, with respect to the available talent pool, cost of operations, business maturity, risk environment, government support, and other macro-economic indicators.

- **Section 3: Current IT-BPO Industry**

This section aims to investigate the current offerings of Trinidad and Tobago's IT-BPO industry and potential client markets. It will also provide insight into the talent requirements of the outsourcing industry and assess the current pool's capability to address the demand.

- **Section 4: SWOT Analysis**

This section focuses on the interplay of Trinidad and Tobago's internal strengths and external opportunities and its response to its weaknesses and external threats. This section also aims to identify current and future opportunities for Trinidad and Tobago in relation to the global demand for outsourcing.

- **Section 5: Recommendations**

The Recommendations section offers the fundamental strategies and points for improvement that Trinidad and Tobago must consider in order to fully harness its capabilities and address its weaknesses towards the development of the outsourcing industry in the country. It highlights Trinidad and Tobago's potential, as well as the need for continuous improvement and responsible implementation of developmental strategies to achieve this goal.

- **Section 6: Industry Development Roadmap**

Based on the detailed study and analysis undertaken, Tholons has outlined key recommendations and a 3-phase Roadmap for implementation of the strategies, recommendations and best practices that will assist Trinidad and Tobago to address the challenges toward becoming a viable outsourcing destination.

- **Section 7: Conclusions**

This section will provide summary analyses and insights of the study. This will also lead to important points to consider in building Trinidad and Tobago's IT-BPO industry.

Trinidad and Tobago's Value Proposition

Building towards Strengths for Outsourcing

The current global IT-BPO landscape has witnessed sustained growth and constant innovation from both technological and process delivery perspectives – allowing for an even wider range of processes to be *outsourced and offshored.* Across industry verticals, outsourcing is already being utilized to fulfill a myriad of processes: from Software Development to Healthcare Information Management and Game Development & Animation. This increased scope has also enabled emerging delivery locations – both small and large countries – to venture and succeed in the service outsourcing market. *The global market's encompassing demand for a multitude of services has allowed for many players to participate in the still expanding service delivery market.*

For merging country providers, a critical first step is to properly identify *which service sector and niche process they should first venture in to and which can they properly deliver?* The choice of service line from which to start relies on an outsourcing location's inherent delivery components namely Talent, Cost, Infrastructure, and Service Delivery Maturity. With regard to talent, a country's tertiary graduates and the predominant expertise available within the labor pool play a crucial factor as human capital is the fundamental consideration for the development of a services outsourcing industry. The ability to work *within* and optimize a location's talent capabilities will ultimately determine success for the location's outsourcing industry.

A country's infrastructure and cost components are also key considerations when developing a services outsourcing industry. Cost arbitrage has always served as a primary driver for companies using the outsourcing model. For service buyers and providers, considerations pertaining to mandated minimum wages, prevailing industry labor salaries, operational costs related to real estate, electricity & utilities, and applicable government taxes – are all cost components which directly contribute to the financial feasibility of a location as a service delivery destination. For a country to be considered competitive in the cost aspect, it must have the capability to provide *relatively* inexpensive costs, and in comparison to the service buyer market. If the cost to deliver a process is more expensive when outsourced or offshored, then there is no fiscal incentive for the service buyer to implement the outsourced model.

Infrastructure also comes into play as a robust infrastructure platform determines the operational efficiency of service providers. This will comprise a broad range of a country's core components such as Internet connectivity, availability of leased line providers, transportation facilities, as well as industry-specific physical infrastructure such as Special Economic Zones (SEZ) – which are aimed to provide a conducive and industry-specific operational environment. The quality of a country's infrastructure is the physical medium which allows service providers to run sustainable and reliable business operations. For instance, ease and availability of transportation will allow outsourcing employees to easily travel to and from a delivery center. While this is not directly related to an IT-BPO provider's core business, a functional transport and road network would have a profound impact on operations if a delivery center is inaccessible or cumbersome for employees to reach.

Government and institutional support is another facet which a country must consider when developing an outsourcing industry. From various case studies studied, and in emerging IT-BPO location such as Trinidad and Tobago, it is learned that national government is often considered as the most crucial player in creating a conducive IT-BPO business environment and can likewise serve as the primary catalyst to promote industry growth. Through a country's relevant government agencies, the potential of a location's service delivery capabilities can be further realized through industry development initiatives, promotions, and policy creation.

The following table shows industries and relevant service lines which a location's stakeholders may explore when developing their respective IT-BPO industry. These service and process sectors should all be considered *within* the mentioned Talent, Cost, Infrastructure, Service Delivery Maturity, and Government Support envelopes.

Table 1: Vertical Industry and Service Process Mapping

Industry	Service Processes/Lines
Entertainment	• Storyboarding • 2D Cel Animation • 3D CGI Animation • Multimedia Outsourcing • Game Development • Motion Capture Animation • Digital Compositing
Banking, Financial Services, and Insurance	• Insurance Claims Processing • Financial Analytics • Account Receivables • Telemarketing • Asset Management • Payroll Processing
Engineering	• Engineering Services • Plant Design • Embedded Software • Process Engineering • Plant Automation and Maintenance
Information Technology	• Application Development & Maintenance • Technical Support • Database Management • Network Management • Storage Management • Application Hosting

Source: Tholons Research 2012

In essence, the interplay of the mentioned components contributes to a country's success as an outsourcing location. Across distinct locations, these components are highly variable and each country must identify and leverage on its inherent strengths to capitalize on its respective opportunities. Some countries may for example, have inherent advantages related to labor pools size, skills, and labor costs, while other destinations may have a smaller, but more technically-skilled talent pool. In such cases, the larger, and lower cost country would be best served by exploring low-value, scale-reliant BPO opportunities, while the small, technically-skilled nation may opt for higher value, non-scale-dependent processes found in the KPO and ITO segments. This has been the targeted approach taken by large, established outsourcing destinations such as India and the Philippines, and smaller yet highly-skilled destinations such as Singapore, Chile and Cost Rica. Further, variations in inherent strengths should also allow stakeholders to adjust developmental strategies. Locations lacking in government support for example, must find ways to build a more collaborative environment among stakeholders. The creation of a lead IT-BPO organization may be required in some instances, before other component areas are addressed.

The Philippines for example, continues to be one of the world's leading outsourcing destinations with the country initially gaining attention from global service providers due to talent scalability and low-cost advantages. The country of 100 million people, today boasts of nearly 500,000 tertiary graduates annually. This provides a sustainable talent pool capable of delivering Contact Support services in a large scale.[5] Since its initial stages, the industry has grown leaps and bounds and has been identified by the Philippine government as a sunshine industry. Government and industry institutions have also provided timely support to the industry to sustain growth and development. Specific developmental support from government has included:

- Legislation of IT-BPO specific tax incentives
- Creation of SEZ's across Tier I and II cities
- Formation of dedicated government agencies tasked to address industry concerns
- Formation of linkages between private, public and academic sectors
- Funding of talent and skills development initiatives

Such initiatives not only show government proactiveness, but also give indication to the specific developmental implementations that emerging locations must consider to properly stimulate industry growth.

Another example is that of Chile. Chile is an emerging outsourcing destination in Latin America. Against its neighboring countries, it does not offer the same talent scalability (having only an estimated 100,000 annual tertiary graduates) and cost advantages, but this did not dissuade the country from further pursuing growth in the IT-BPO industry. Aggressive government support has been a primary catalyst for industry growth.[6] Chile's government agencies such as the Chilean Economic Development Agency (CORFO) continually push the country's investment opportunities in the IT-BPO sector touting its economic stability, high spending on research & development, wide network of double taxation agreements, and generous investment incentives. The government has also been proactive in addressing gaps in Chile's outsourcing industry. It

[5] Business Processing Association of the Philippines, 2011
[6] CORFO, 2009

had introduced English programs rolled out in major cities to increase bilingual workers.[7] Today, Chile has emerged as one of the more prominent KPO destinations in the region, hosting renowned IT providers such as TCS, IBM, Deloitte, Synapsis, Polaris and Evalueserve providing a host of high-value KPO and ITO services from Chile.

Start-Up Chile is another program implemented by CORFO which has acted as a catalyst for industry growth. The program aims to attract early-stage tech-oriented entrepreneurs to develop and launch their start-ups in the country by providing them with seed capital and mentorship tools. Through programs such as these, Chile aspires to be a hub for innovation in the IT sector.

Such initiatives will also enhance the country's ITeS talent pool, through the expected influx of innovation-minded entrepreneurs from all around that will push local talent to generate high-impact ideas for the IT sector. Since its inception in 2010, Start-Up Chile has already attracted more than a hundred start-ups and has garnered recognition from international bodies such as Forbes, the Economist, TechCrunch, among others for their innovative practices.[8]

The previous examples show how each component interacts with each other resulting into a more robust IT-BPO industry and while some locations might not have distinct advantages inherently, these can still be further improved and developed. Through the proper channeling of individual component strengths, the sum (and strengths) of each component will be greater than its parts – contributing to a more efficient creation of a country's industry developmental plan.

Overview of Trinidad and Tobago's Geography and Economy

Geographical Advantage

Trinidad and Tobago is a country within the Caribbean group of islands. The country sits just off the Northern coast of South America with Central America lying in its West, and the US situated to the North. Its geographical proximity makes the country a potential nearshore outsourcing destination to the US, and to Latin America's rapidly expanding IT-BPO markets.

Table 2: Time Difference of Trinidad and Tobago with Select Countries

Time Difference	2:00	1:00	0:00	-1:00	-2:00
Locations	Brazil – Rio de Janeiro	Argentina – Buenos Aires	**Trinidad and Tobago**	USA – Miami	USA - Houston
				USA – New York	USA - Chicago
	Brazil – Sao Paulo	Chile - Santiago	Dominican Republic	Colombia – Bogota	Mexico City - Mexico

Source: Tholons Research, 2012

[7] Nearshore Americas, 2010
[8] Start-up Chile, 2012

Table 2 shows that Trinidad and Tobago has a minimal time difference to major client markets in the US and Latin America. In terms of offshoring work, similar time zones can be treated as an advantage for clients who are seeking better oversight in their service provider relationships. Sharing relatively similar business hours also enables better collaboration between client and provider. For instance, Neoris, an IT-BPO service provider based in Mexico, has seen rapid gains with US clients, such as a retail chain, an auto parts manufacturer, among others. Due to its nearshore location, Neoris is just a *short flight away* from US clients and any urgent problems may be addressed immediately through a phone call as businesses operate in essentially the same time zone. Likewise, proximity often provides a greater degree of cultural affinity or adaptability between service provider and buyer - another *nearshore benefit* that Trinidad and Tobago should consider. This is especially evident in Caribbean countries with strong trade ties with the US, and countries in the region that have tourism industries catering to the US market.

As a top tourist destination in the Caribbean, non-stop flights to and from the US are also widely available in Trinidad and Tobago from the Piarco International Airport. Flights to important US business districts such as Houston, Miami, and New York are available at duration of 3.5 to 5 hours making Trinidad and Tobago a very accessible location. This further complements Trinidad and Tobago's nearshore advantage, especially and when compared to more distant offshore destinations where significant travel time is incurred by management personnel when travelling to the offshore delivery centers.

In recent years, clients in both North America and Western European markets have also become more aggressive in exploring the nearshore model and this has fueled growth of services outsourcing in nearshore delivery regions such as Latin America and Eastern Europe. The increased procurement of nearshore services is exhibited by the growth of Latin America as an outsourcing region particularly in countries such as Mexico, Colombia, Costa Rica and Chile. Growth is fueled by sustained demand from the North American market, which remains the largest services outsourcing client market, accounting for 43% of global spend on IT Services in 2010.[9]

This nearshore trend has also become apparent to the world's leading Indian IT Services providers, many who have established delivery centers in the Latin American region. Favorable delivery characteristics – such as scalability, employability, cost arbitrage and a rapid development in physical infrastructure – enhance the region's geographical advantage compared to India and the Philippines. The following case study presents some of the recent developments in Latin America, validating the region as a rising IT-BPO services destination.

[9] NASSCOM, 2011

Case Study 1: Growth of Nearshore Service Providers

Increasing Focus on the Nearshore

Growth of Latin America as an Outsourcing Region

The rapid development of Latin American countries as outsourcing destinations in recent years cannot be ignored. With Argentina, Brazil, Mexico, Chile, Colombia, and other countries exerting their presence in the global outsourcing landscape, the region's momentum continues to rise. In 2010, NASSCOM found that a total of 24 delivery centers were established in Latin America. This figure is comparable to the 26 delivery centers established in the Philippines during the same year indicating high activity in the region. Even India's "Big 3" (Infosys, Wipro, Tata) IT-BPO service providers are factoring in Latin America in their expansion strategies. For instance, TCS currently has 7 delivery centers in 5 countries while global providers such Accenture now has 14 centers scattered across 5 countries.

This development has come as North American clients have shown increasing preference for the nearshore outsourcing model - given inherent advantages in geographical proximity, time zone similarities, and ease of access. In addition, rising costs in established outsourcing destinations such as India, China and the Philippines have also contributed to the move to nearshore destinations. Undoubtedly, the trend for nearshore services has driven the growth of the Latin American IT-BPO industry and through continuous development in infrastructure, increased service delivery maturity, and a greater awareness of stakeholders on the economic benefits of outsourcing. Regional growth is thus expected to continue on a positive trajectory.

Source: NASSCOM, 2011

However, though the country has geographical proximity, uniquely positioning Trinidad and Tobago to take advantage of current trends in the global IT-BPO landscape, the nation must move quickly if it is to capitalize on existing opportunities. The nearshore advantage after all, is the same advantage that similarly located competitors in the region are offering to the North American market. In most cases, these competitors often have larger labor pools, more established IT-BP industries, and more diverse service delivery capabilities than Trinidad and Tobago.

Economic Performance

A country's economy and general business climate are prime considerations when establishing a local IT-BPO industry. Macroeconomic indicators reflect the state of the country's general business environment and often indicate the *readiness* and stability of a country to receive foreign investment.

Trinidad and Tobago's economy is regarded as one of the most stable in the Latin America and Caribbean region due to its established oil, energy and manufacturing industries. From 2002 to 2010, the country's GDP had doubled due to export revenues generated by these sectors. Its consistently positive economic performance has resulted in Trinidad and Tobago being categorized as a high income economy by the World Bank. Despite a setback in 2009 caused by volatility in global oil prices, Trinidad and Tobago's economy maintains a path of positive growth.

Table 3: Select Macroeconomic Indicators for Trinidad and Tobago

Year	GDP (US$ billion)	GDP growth	GDP per capita (US$)	FDI Inflows (US$ million)	Inflation Rate
2006	18.37	13.51%	13,912	883	-
2007	20.99	4.62%	15,769	830	7.92%
2008	25.93	2.29%	19,510	2,801	12.05%
2009	21.20	-0.87%	15,808	709	6.91%
2010	22.18	0.04%	16,535	549	-

Source: UNCTAD 2011, CSO 2011

The country's rich oil and natural gas resources are credited as the country's main driver for growth with fuels and mining products comprising 66.5% of its total exports in 2011.[10] Trinidad and Tobago currently stands as the leading producer of oil and gas in the Caribbean and counts North America and Spain as major export markets.[11] These two markets respectively comprise 46% and 8% of Trinidad and Tobago's overall exports.[12] The country's success in the energy sector continues to drive FDI, as shown in the high inflows in 2008, where Trinidad and Tobago experienced a 337% jump from the previous year's inflows.

High GDP per capita figures also indicate a thriving domestic economy. Trinidad and Tobago consistently ranks within the Top 50 global economies in terms of GDP per capita. Compared to other countries in the Latin America and Caribbean region, the country even has a higher GDP per capita than more established (and larger) outsourcing destinations Brazil, Chile, and Argentina. While high figures generally indicate good economic performance, this also implies that the population earns much higher salaries than the other outsourcing destinations such as India, the Philippines, and regional providers. This may present a problem for IT-BPO service providers looking for cost savings, which would necessitate Trinidad and Tobago establishing a broader value proposition for the industry as discussed later on.

While Trinidad and Tobago's economic performance has been positive overall, the volatility of 2008 also showed the *dependence* of the country in international. That year saw the price of crude oil per barrel plummet from a high of US$147 per barrel in the mid-year to less than US$40 by year end. The Council on Foreign Relations believes that the events played out in 2008 only prove the global oil market's highly *unpredictable nature*. While supply and demand dynamics play a large role in dictating the price of oil, a combination of political instability and price speculation from actors in the financial sector has made the issue of oil prices even more complex. Put simply, price speculation in this case means the purchasing of oil in anticipation of future returns when the global economy has recovered. It is believed that the continuous

[10] Central Statistics Office, 2011
[11] World Trade Organization, 2011
[12] Central Statistics Office, 2011

speculative buying of investors brought oil prices to its record highs in 2008, only to be brought down later in the year as oil inventories were discovered to be at a surplus.[13]

Such volatility has prompted the country to explore alternate avenues to reduce and mitigate its dependence on the energy sector - by diversifying into other industry sectors. As such, Trinidad and Tobago has begun explore opportunities in the services or knowledge-based sectors. InvesTT, the country's investment promotions agency, had initially named 12 sectors targeted for development. The four prioritized sectors are *Information and Communication Technology, Downstream from Energy, High Value Manufacturing,* and *Tourism.* The twelve identified *alternative sectors* are comprised of the following:

Table 4: Trinidad and Tobago Targeted Sectors for Development

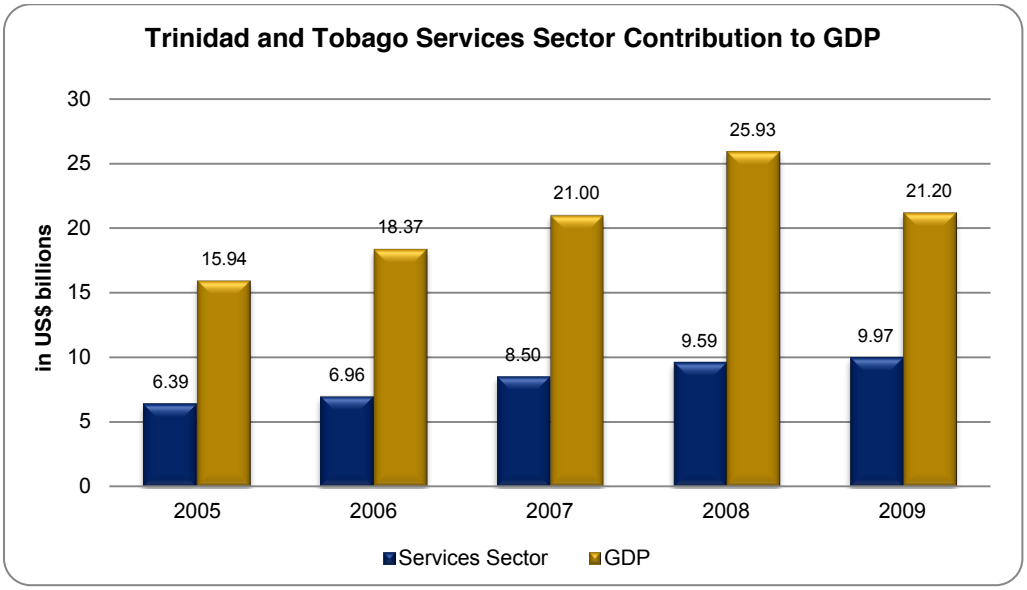
Sectors Identified for Development by InvestTT	
Information and Communications Technology	Services
Downstream from Energy	Merchant Marine (Transportation & Logistics)
High Value Manufacturing	Printing and Packaging
Tourism	Film
Fishing and Fish Processing	Music and Entertainment
Food and Beverage	Yachting

Source: InvesTT, 2011

While industrial sectors are still present in Trinidad and Tobago's diversification plans, the majority of the sectors represent a calculated shift towards services and a more knowledge-based economy. Historically, the country's services sector had been productive, but often went unnoticed because of the energy sector's success. In fact, since 2005, Trinidad and Tobago's services sector's contribution to the GDP has continually risen. This was true even in 2009 when overall GDP contracted. Today, Trinidad and Tobago has realized that there is indeed great potential in the services sector. The country's services sector as a whole contributed 40% of Trinidad and Tobago's GDP from the period 2001-2005 and currently employs an average of 80% of the labor force.[14]

[13] Council on Foreign Relations, 2011
[14] Trinidad and Tobago Coalition of Services Industries, 2011

Chart 1: Trinidad and Tobago Services Sector Contribution to GDP



Source: UNCTAD 2010

With recent efforts of Trinidad and Tobago's government to give greater focus on developing the services sector, it expected that sub-sectors such as IT Services will likewise be considered as a strategic growth area. This should allow for a more proactive and concise exploration of the country' still nascent IT-BPO industry.

Business Environment

Today's increasingly competitive global economy has brought forth the need for reputable institutional organizations to benchmark respective country performance across a myriad of macroeconomic conditions. This benchmarking allows investors to properly gauge the economic competitiveness and investment viability of individual economies and locations. Ecosystem components considered most often include macroeconomic, business environment, social, and demographic indicators among others. These rankings aim to validate country capabilities, and uncover ecosystem gaps which hinder business and economic performance.

The International Finance Corporation's (IFC) *Ease of Doing Business Report* ranks global economies according to their general business environments and the respective improvements being currently pursued. In its 2012 report, IFC ranked Trinidad and Tobago at an above average ranking of 68 out of 183 economies, rising 8 places from its position in 2011 - indicating an overall improvement in the country's business environment.

While Trinidad and Tobago rose in the overall rankings, the country still experienced slight decreases in rank in the categories of *Starting a Business, Dealing with Construction Permits, Registering Property, Getting Credit,* and *Protecting Investors*. These indicators primarily delve with the starting phase of establishing businesses. For instance, the report highlights Trinidad and Tobago's raising of fees for building permit approvals as an entry barrier which discourages

investments to the country. If Trinidad and Tobago is to attract IT service providers and investors in the country, it has to prioritize improvements in these aspects to facilitate a more fluid and efficient means to enter the local market.

Despite this, Trinidad and Tobago also experienced a significant rise in the rankings with regard to *Paying Taxes* and *Resolving Insolvency*. The Paying Taxes indicator experienced the biggest jump in rankings with a 32-position rise. This has been attributed to the reduced number of tax payments for businesses, which has also resulted in a reduction in the total tax rate. This is a positive development for potential service providers as they can be assured of decreased operating costs. Other indicators such as *Getting Electricity*, *Trading Across Borders*, and *Enforcing Contracts* have remained the same.

Table 5: Trinidad and Tobago's Ease of Doing Business Rankings 2012

Indicators	Rank (2012)	Rank (2011)	Movement
Starting a Business	74	69	↓ 5
Dealing with Construction Permits	93	88	↓ 5
Getting Electricity	24	24	-
Registering Property	175	171	↓ 4
Getting Credit	40	37	↓ 3
Protecting Investors	24	21	↓ 3
Paying Taxes	65	97	↑ 32
Trading Across Borders	52	52	-
Enforcing Contracts	169	169	-
Resolving Insolvency (Closing a Business)	133	139	↑ 6

Source: IFC, Ease of Doing Business Report 2012

Meanwhile, the World Economic Forum (WEF) also released its *Global Competitiveness Report 2011-2012* which evaluates country economic landscapes and the challenges they face. The WEF evaluates broad country conditions and assesses competitiveness through the rankings. Echoing the gradual improvements in the Trinidad and Tobago business landscape, the WEF ranks the country at 81st out of 142 countries - rising three places from the 2010 rankings. WEF's report similarly reflects the notion of the IFC's Ease of Doing Business Report that the country is implementing appropriate reforms to improve business fundamentals and to make the local economy a more diverse and attractive investments destination.

Table 6: Competitive Advantages and Disadvantages (from 142 countries)

Rank	Competitive Advantages	Rank	Competitive Disadvantages
20	Strength of Investor Protection	135	Business Costs of Crime & Violence
37	Quality of Educational System	94	Number of Procedures to Start a Business
33	Quality of Math and Science Education	118	Number of Days to Start a Business
33	Quality of Management Schools	63	Ease of Access to Loans
50	Business Impact of Rules on FDI	72	FDI and Technology Transfer

Source: World Economic Forum, Global Competitiveness Report 2011-2012

Table 6 above presents the comparative advantages and disadvantages of Trinidad and Tobago, as assessed by the WEF. The presentation of select parameters is similar to IFC's evaluation framework used to investigate the business environment of Trinidad and Tobago. WEF's assessment affirms IFC's findings that Trinidad and Tobago's business environment poses a challenge for the starting phase of opening a business with low rankings in the *Number of Procedures to Start a Business*, *Number of Days to Start a Business,* and *Ease of Access to Loans.* The *Extent and Effect of Taxation* in the country has also been a competitive advantage, which was likewise reflected in the progression in *Paying Taxes* indicator of IFC. In this indicator, Trinidad and Tobago garnered the 38th rank in the list. The strength of investor protection is also considered as a competitive advantage, translating to the rank that Trinidad and Tobago gained from *Protecting Investors* where the country ranked among the top 25 countries.

On the other hand, high rankings are seen in areas pertaining to the quality of the country's higher educational system. The country ranks 37th in *Quality of the Educational System,* indicating an educational platform that can produce a talented, albeit smaller, graduate pool. This will be an important consideration when developing an IT-BPO industry, which relies heavily on the quality and talent of a labor pool. Along with India and Japan, the country scores 4.4 out of 7 in this indicator, well above the global mean of 3.8. Further upholding the high quality of education, Trinidad and Tobago ranks 33rd in *Quality of Math & Science Education* ranking just below India (32) and China (31). Likewise, the *Quality of Management Schools* is competitive at a ranking of 33. Again, the country ranks just below India which ranks at 30th place. The combination of these positive indicators provide a competitive advantage for Trinidad and Tobago's IT-BPO industry, as a solid foundation built on quality tertiary graduates, will allow for a graduate pool that is *better equipped* to enter the IT services industry.

Included in the WEF's Global Competitiveness Report is a survey of the more problematic factors for doing business in a given country. Respondents in Trinidad and Tobago post the following responses with regard to such areas, as presented in Table 7.

Table 7: Most Problematic Factors for Starting a Business in Trinidad and Tobago

Factor	Responses
Crime and Theft	19.6%
Inefficient Government Bureaucracy	17.1%
Poor Work Ethic in National Labor Force	15.0%
Corruption	11.9%
Inadequate Supply of Infrastructure	6.6%

Source: World Economic Forum, Global Competitiveness Report 2011-2012

The survey shows that three out of five of the most problematic factors affecting business in the country stem from government namely *Inefficient Government Bureaucracy*, *Corruption*, and *Inadequate Supply of Infrastructure*. While Trinidad and Tobago has taken concrete steps to improve its business environment, critical issues remain. Bureaucratic red tape seems to be a prevalent issue across the country's government agencies. One of the most recent examples is the government's attempt to shift taxis and buses to use the cleaner Compressed Natural Gas (CNG) rather than petroleum. The initial stage of the transition required the building of CNG refueling and service stations thus the government promised to build seven of these by the end of 2011. As of January 2012, two of these service stations were still under construction and the rest of the 5 were still in the pre-construction phase. The manager of the CNG Task Force admitted that the inefficient government bureaucracies were to blame for the delays and that although the Cabinet had already approved of the construction, approvals from various agencies such as the Ministry of Works and Infrastructure took much longer.[15] Government bureaucracies could have a similar effect for potential IT-BPO locators, bringing start-up and operational delays, which would likely result in disruptions in service delivery capabilities. These will also require businesses to allocate more resources and personnel to manage bureaucracy – impacting provider bottom lines. The country can move forward by focusing on these problem areas and taking the necessary corrective measures to create a business-friendly environment that allows for business and legal transactions to take place in a more fluid and efficient manner. Once these measures have been implemented, marketing efforts must also be put in place to improve and enhance the image of the nation's business environment.

Topping the list of concerns of business respondents in the survey is Crime and Theft in Trinidad and Tobago. This reflects the country's low ranking in the *Business Costs of Crime & Violence* indicator. This indicator is Trinidad and Tobago's highest ranked business hindrance in the WEF's report. The high percentage of respondents answering Crime and Theft as the most problematic factor for starting a business shows the detrimental nature of criminal activities to the country's business environment, and as crime induces a *state of unpredictability* for businesses. Instinctively, people will be hesitant to start businesses if crime is commonplace, fearing that their establishments and employees will become targets for criminal activities. As one of the main

[15] Guardian Media, *Bureaucracy Delaying Government's Roll-out of New CNG Stations*. January 5, 2012

concerns of business respondents, Trinidad and Tobago should employ risk reduction measures to decrease current high crime rates in the country deterring business activities.

One possible solution to address the mentioned security problems in the business environment may be realized through the establishment and utilization of Special Economic Zones (SEZ). SEZs are primarily developed to attract businesses and investors to establish in a specific location or zone. These zones offer a progressive and adaptable business ecosystem wherein direct government assistance is often provided to maintain operational stability for tenants of the zone. Assistance in the forms of streamlining business and regulatory permits, and provision of tax incentives, are some of the invaluable implementations such zones typically offer to locators. Further, infrastructure platforms, such as Internet access, and road and transport systems, are often more robust in these zones. In addition, an SEZ will often be situated away from city centers where crime rates are typically higher. Thus, establishing SEZs in the country may offer potential investors and businesses a more secure and stable zone to do business in – *a safe haven* – where the controlled environment would allow for a safe and more predictable operating environment. This will greatly minimize potential threats and risks to businesses, including those in the IT Services sector, as the security of their facilities and employees are better ensured.

In terms of FDI attractiveness, *FDI Intelligence*, a Financial Times initiative, provided rankings for Caribbean countries in its *2011-2012 FDI Caribbean & Central American Countries of the Future Report*. The report evaluates 31 countries in the region, ranking the Top 10 according to identified categories. IT Services is a globalized industry wherein major players invest in multiple countries, either by establishing offices or delivery centers. Before making such investments, service providers must first evaluate a country's overall capability to nurture these investments. In the FDI Intelligence report, this is shown through indicators such as *Best Economic Potential, Best Business Friendliness, and Best FDI Strategy*. Trinidad and Tobago placed 3rd overall in the rankings with Costa Rica and Dominican Republic taking 1st and 2nd places. Trinidad and Tobago also consistently placed in the Top 10 for most of the FDI categories.

Table 8: FDI Intelligence Rankings of 31 Caribbean Countries (select countries)

Indicator	Trinidad and Tobago	Jamaica	Dominican Republic
Overall Ranking	3	10	2
Best Economic Potential	5	-	9
Best Infrastructure	10	5	4
Best Business Friendliness	-	-	8
Best for Quality of Life	7	-	-
Best FDI Strategy	7	4	1
Best Cost Effectiveness	2	-	4
Best Human Resources	-	10	5

Source: FDI Intelligence. 2011-2012 FDI Caribbean & Central American Countries of the Future Report.

The high ranking of Trinidad and Tobago is attributed to its strong Economic Potential and Cost Effectiveness. The country is perceived to have established the precursors for a solid economic foundation due to its established energy sector. High rankings in the *Best Cost Effectiveness* indicator, on the other hand, looked primarily at costs related to business activities highlighting Trinidad and Tobago's favorable total tax rate of 29.1%. This affirms the IFC Doing Business Report's *Paying Taxes* ranking of Trinidad and Tobago which jumped up 32 places.

One category where the country did not place in the Top 10 was in *Best Human Resources* which considers indicators such as labor force, literacy rate, tertiary enrolment rate, and education expenditure, among others. This may indicate that the Trinidad and Tobago does not offer the same scalability and employability in relation to the rest of the countries in the study. Human resources, both in scale and quality, are a crucial component for potential business locators. It determines whether a business will be able to hire the required amount of skilled employees. This is a critical consideration for prospective IT-BPO providers.

Trinidad and Tobago could learn from the example of Costa Rica in developing a roster of employable human resources. Costa Rica has mitigated inherent scale limitations by increasing the employability of its labor pool. With a mere 4.7 million inhabitants, Costa Rica churns out nearly 35,000 university graduates annually, with 2,400 Engineering graduates in 2010 alone. In fact, the country recorded a 5.5% CAGR in the number of its Engineering professionals from 2001 to 2010. Aside from this distinct technical orientation, multilingual capabilities are also evident in most of the labor pool. The country's aggressive pursuit to improve its labor pool and business climate is driven by the talent demands from global IT providers such as Intel, IBM, HP, and Fujitsu – who are all well placed in Coast Rica's highly progressive IT landscape.

These findings from the various international rankings combined with the recent prioritization of Trinidad and Tobago's Services sector signify that the country is on a positive track in establishing a sound foundation and business environment for an IT-BPO industry. There remain fundamental issues that need to be addressed, particularly in the initial stages of establishing businesses. Excessive bureaucracy can dampen business momentum while criminal activities may further discourage business activities in the country. Despite this, Trinidad and Tobago has achieved strides in making it easier to pay taxes, improving infrastructure, and providing high quality education – definitive first steps for establishing a more progressive business environment for potential IT-BPO investors.

Population and Workforce

Trinidad and Tobago is a relatively small nation in terms of population. As of 2010, Trinidad and Tobago's overall population was 1.32 million and its CAGR for the period 2005-2010 showed only a 0.35% growth rate. In addition, the country's unemployment rate has been on a consistent downward trend except for a slight setback in 2009, possibly due to the volatility in the energy industry during that year.

Table 9: Trinidad and Tobago Population Indicators

Year	Population (in millions)	Unemployment Rate
2005	1.294	8.00%
2006	1.297	6.20%
2007	1.303	5.50%
2008	1.309	4.60%
2009	1.310	5.30%
2010	1.318	5.10%*

*2010 Unemployment Rate reflects 1st Quarter figures
Source: Trinidad and Tobago Central Statistics Office, 2011

The figures on Table 9 show that in terms of scalability, Trinidad and Tobago has some scale limitations that may limit its capacities to deliver outsourced services. The fact that it has a relatively small population and growth rate leaves it wanting when compared to larger competitors in the region. These limitations may limit its market reach to smaller clients and outsourcing contracts. However, *this limitation could also be seen as a positive, as it could push the country to better focus on the most appropriate services outsourcing engagements*. Because it would have difficulties competing against larger competitors, the country can (and should) better concentrate on winnable targets.

Table 10: Country Comparison of Population Indicators

Country	Population (in millions)	Labor Force (in millions)
Trinidad and Tobago	1.32	0.70
Costa Rica	4.66	2.15
Chile	17.11	7.52
Mexico	113.42	48.49
Philippines	93.26	37.56
India	1,170.94	459.37

Source: World Bank, 2010

From the selected countries in the table above, Trinidad and Tobago comes closest to Costa Rica as an emerging outsourcing destination with similar values in the indicators of labor pool. As with Trinidad and Tobago, Costa Rica also experiences scalability issues in its relatively small labor pool of 2.15 million people. Despite this, the country has succeeded in establishing itself as a

competitive outsourcing destination with global service providers Intel, IBM, HP, and Fujitsu establishing delivery centers in Costa Rica. Its success has largely been attributed to wide-scale restructuring in two fronts. First, the country undertook significant efforts to make its business environment favorable to global businesses. Second, Costa Rica strongly utilized its limited labor pool by aligning education to the needs of the IT-BPO industry. IT skills and bilingualism are prioritized in the early years of education. Furthermore, technical certificate courses in IT are offered at one-year durations ensuring a quick turnover of graduates.[16] Costa Rica's educational system is recognized by the WEF's Global Competitiveness Report as the highest ranking in the Latin America and Caribbean region.

While labor pool scalability is always a prime element to success as an IT-BPO outsourcing destination, the presence of a high level of skills can mitigate the perceived disadvantage. Trinidad and Tobago, being a nascent outsourcing destination, can learn from experience of Costa Rica succeeding despite scale limitations.

One advantage of Trinidad and Tobago population and workforce is that it is highly literate. The United Nations (UN) measures functional literacy as a person who can both read and write with understanding. The country boasts one of the highest adult literacy rates in the Latin America and Caribbean region at 99%. In addition, the government also provides free and compulsory primary and secondary education to its population. The Gross Enrollment Ratios (GER's) for both primary and secondary levels of education are relatively high with primary education covering all individuals in the 5-10 year age bracket and secondary education covering 90% of those in the 11-18 year age bracket.

Table 11: Country Comparison of Adult Literacy Rates

Country	Adult Literacy Rate	Primary Level GER	Secondary Level GER
Trinidad and Tobago	99%	104%	90%
Latin America and Caribbean Average	91%	117%	90%
Philippines	95%	106%	85%
Chile	99%	106%	88%
Costa Rica	96%	110%	100%
Argentina	98%	117%	86%
Jamaica	86%	89%	87%

Source: World Bank, 2009, UNESCO, 2010

From Table 11 above, Trinidad and Tobago has secured the functional literacy of its labor pool. While this does not directly correlate to a labor force geared towards IT-BPO services, high

[16] Nearshore Americas, 2010

functional literacy rates may act as a stable foundation on which to build on more sophisticated skill sets needed in the industry.

GER for primary level is high due to the government's efforts to provide universal access. Most recently, the Ministry of Education has undertaken a restructuring of its early education platform – making it more inclusive, even covering children with special education needs. The accommodation of these students has led to higher primary GER rates in recent years.

These initiatives call for greater effectiveness in providing high quality education, in addition to expanding the base of employable individuals. With such initiatives, Trinidad and Tobago can develop *best practices* in implementing nationwide educational projects that can be replicated across the other levels of education. Such a push for greater access in primary level of education in the country should become a starting point in appropriating existing training programs. A more extensive analysis on this aspect will be detailed in the succeeding sections.

Traditionally, the most basic components for a successful outsourcing destination will be the country's labor force coupled with low costs. These two primarily determine success in the IT-BPO landscape as experienced by India and the Philippines. The relatively large and cheap labor force of these countries compounded with the high skills capabilities proved to be advantageous in providing IT and ITeS work - such as contact support, back-office processes, and software development - as large-scale contracts by multinational companies required such a workforce.

Trinidad and Tobago does not share this advantage with established outsourcing destinations, as it has a smaller population and labor force. If the country wants to succeed in the global IT-BPO landscape, it has to first evaluate its inherent delivery characteristics and look at the most appropriate outsourcing sectors it can feasibly target.

Table 12 below presents a comparative segmentation of graduates within the respective populations of select outsourcing destinations. Although in absolute scale, Trinidad and Tobago only churns out about 7,000 annual tertiary graduates from 81 higher education institutions (HEI's), the country has higher concentration of graduates, accounting to 531 graduates per 100,000 people. Compared to mature outsourcing destination like India, Trinidad and Tobago has nearly 100% greater concentration of graduates. This value is likewise near to the recorded concentration of Chile, which is South America's powerhouse for technically oriented graduates. Chile's tertiary graduate concentration is *only* 25% higher than that of Trinidad and Tobago.

Table 12: Country Comparison of Higher Education Institutions per 100,000 people

Country	Population (in millions)	HEI's	HEI Graduates (in thousands)	HEI Graduates per 100,000 people
Trinidad and Tobago	1.317	81	7	531
India	1,170.94	2,350	3,300	281
Philippines	93.26	2,180	450	482
Mexico	113.42	186	450	397
Chile	17.11	74	120	701
Panama	9.93	52	21	211

Source: UNESCO, World Bank, Accreditation Council of Trinidad and Tobago, Tholons Research and Estimates, 2012

Despite this high level of concentration, it is imperative for Trinidad and Tobago to maintain these highly competitive tertiary education rates, as the number of tertiary graduates in the country will be a determinant to the success of its long term IT Service strategy. Appropriating measures to strengthen the base and quality of tertiary graduates enables a country to support the need of businesses, especially current IT-BPO service providers, as these pursue ramp-up initiatives. In addition, Trinidad and Tobago should also ensure that the HEI's are a capable medium of learning for the students. This two-fold approach may not necessarily enable Trinidad and Tobago to catch up with the current tertiary profile of other countries, but such a strategy promotes better security for its *current* roster of employable talent. *The country has a limited labor pool – it must make sure that it is able to maintain the quality of this limited resource*.

Given the importance of tertiary graduates, Trinidad and Tobago has already taken steps in enhancing access to higher education through implementing financial assistance among eligible students. One of these is the Government Assistance for Tuition Expenses (GATE) program. This is a government subsidy offered to all citizens of Trinidad and Tobago pursuing tertiary education upon registration at approved HEI's, entitling students to funding for 100% of their tuition fees. Post-graduate program students on the other hand, are offered 50% subsidies on tuition fees. In addition to subsidizing tuition fees through the GATE program, loans for other school expenses such as accommodation, books, and living costs are also provided assistance through the Higher Education Loan Program (HELP). This allows students to obtain a loan of US$ 3,900 per academic year, the interest of which will be paid for by the government. Programs such as these have helped bolster the participation rates in tertiary education, bringing Trinidad and Tobago closer to achieving its goal of a 60% tertiary education participation rate by 2015.

A closer examination of Trinidad and Tobago's HEI indicates that the country has been offering high quality technical and business courses to the students through three highly-regarded universities. The regionally-established University of West Indies has a campus in the country which graduates about 2,500 students annually. The publicly-owned University of Trinidad and Tobago (UTT) is also one of the country's premiere HEI's which churns about 2,250 graduates on

a yearly basis.[17] Lastly, the College of Science, Technology, & Applied Arts of Trinidad and Tobago (COSTAATT) graduates 1,000 students annually.[18] These three universities are at the forefront of Trinidad and Tobago's tertiary education sector accounting for 44% of total enrollees. They are also the first universities to be accredited by the Accreditation Council of Trinidad and Tobago (ACTT). Accreditation is met once universities meet minimum international quality standards in terms of facilities, resources, and quality management systems. Further, there are 8 more universities which are candidates for certification.

The high quality of education in Trinidad and Tobago has contributed to the employability of the country's population as a technically-skilled workforce. With regard to IT-BPO services, it will be vital to *identify and align* the various academic disciplines to the most relevant IT-BPO service lines which the country can explore in developing its local IT Services industry.

Table 13: Academic Disciplines and Outsourcing Service Lines

Discipline	Segment	IT-BPO Service Lines
Health • Nursing • Medical technology • Pharmacy • Midwifery • Biology	BPO	Medical Transcription • Encoding • Billing
	KPO	Health Information Management • Patient Information Management • Physician Information Services • Laboratory Information Services
Information Technology • Information Technology • Computer Science • Computer Engineering	BPO	Contact Center Services • Technical Support
	ITO	Infrastructure Management Services • Database Management • Network Management • Storage Management • Application Hosting
Engineering and Architecture • Architecture • Mechanical Engineering • Civil Engineering • Chemical Engineering	KPO	Engineering Services • Product and Component Development Maintenance • Embedded Software • Semi-conductors and Computing Systems

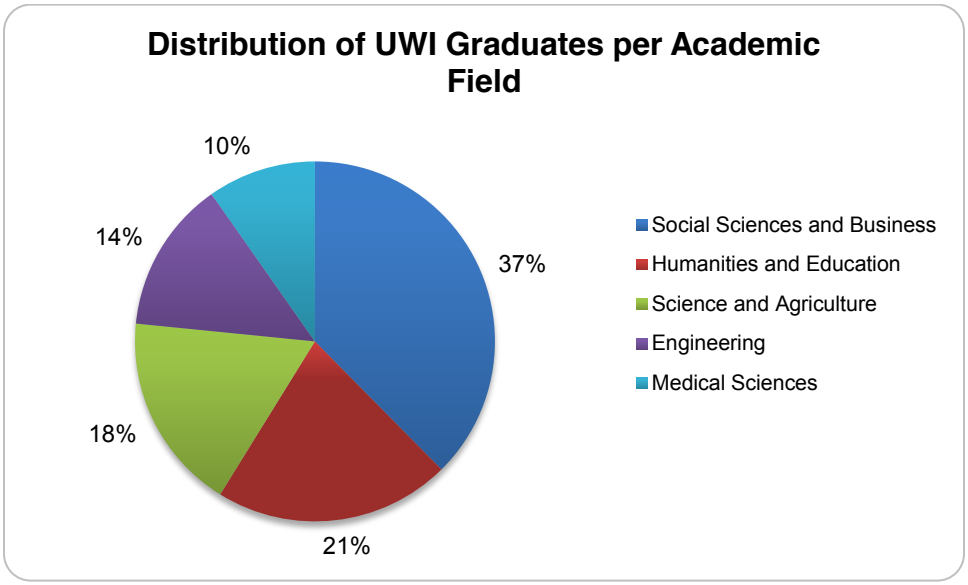
[17] Guardian Media, *745 UTT Graduates to Join Teaching Profession*. January 23, 2011
[18] COSTAATT, 2011

• Electronics and Communications Engineering		• Plant Design and Process Engineering • Plant Automation and Maintenance
Business • Business Management • Accountancy • Hotel and Restaurant Management • Economics • Commerce	BPO	Contact Center Services • Customer Support • Telemarketing • Credit and Debit Card Services
	KPO	Market Research Finance and Accounting Services • Accounting • Asset Management • Payroll Processing
Social Sciences and Education • Education (Elementary and Secondary) • Tourism • Sociology • Psychology	BPO	Contact Center Services • Customer Support
	KPO	Human Resources Administration Education and Training • e-Training • Curriculum and Test Designs • Content Development
Fine and Applied Arts • Fine Arts • Graphic Design	KPO	Creative Process • Animation • Multimedia Outsourcing • Game Development

Source: Tholons Research, 2012

These academic disciplines provide a map of possible outsourcing opportunities for the country. Given this, the current academic profile of Trinidad and Tobago's graduates can be assessed so as to provide crucial information on specific outsourcing service lines which can be possibly sustained by the labor pool. The University of the West Indies (UWI) is one of the largest universities in Trinidad and Tobago. While it does not represent the graduate profile of the country as a whole, it provides a benchmark for service providers assessing labor pool sustainability. The following data shows the distribution of UWI's 3,162 bachelor's degree graduates for the year 2009-2010.

Figure 3: Distribution of University of the West Indies' Graduates 2009-2010



Source: University of the West Indies, 2011

Social Sciences and Business graduates take up the largest share of UWI's total graduates. Humanities and Education graduates come second at 21% while the bottom three academic fields, Science & Agriculture, Engineering, and Medical Sciences, have the least number of graduates in UWI composed of 1,301 graduates divided among the three. Contact Support, F&A, and HRO service providers might be enticed by the high percentage of Social Sciences and Business graduates as this is the most appropriate educational profile for their service line. *Smaller providers in these service groups, who would have moderate scale requirements, could potentially explore this particular tertiary segment*.

The Humanities & Education discipline shows marked opportunity, having the second largest number of graduates, nearly 680 in 2010. If these graduation rates can be maintained or increased in succeeding years, this pool may become a source for talent that can be transitioned into the Creative Service Outsourcing (CSO) segment. CSO involves the outsourcing of processes such as animation, multimedia, digital content creation, and game development. These are high-margin service lines which typically do not require the same scale requirements of BPO segments such as Contact Support and FAO.

UWI's number of enrollees for 2010-2011 can also indicate future labor pool trends in Trinidad and Tobago. The following data affirms previous findings that CSO can be sustained through potential graduates in Humanities as it has the third largest number of enrollees.

Table 14: University of the West Indies Enrollees for 2010-2011

Broad Field of Education	No. of Enrollees
Sciences	2,525
Health	1,701
Humanities	1,529
Social Sciences and Education	1,632
Engineering	1,326
Business	1,144
Agriculture	518
Information Technology	300
Law	119

Source: University of the West Indies, 2011

Some universities have employed a more targeted approach to providing adequate labor supply for IT-BPO industries by directly creating course curricula with specific service lines in mind. The UTT had designed short-term courses to help foster the growth the country's IT-enabled Services such as Animation and Music Production. Cooperating with local players, it has developed both certificate and diploma courses on Digital Media Studies particularly in Music Technology and Animation. Focused courses such as these increase he employability of tertiary graduates, and allows for a more fluid integration into the IT-BPO workforce.

Offering focused short-term courses such as these has been an effective strategy in curbing labor pool inadequacies for many emerging IT-BPO locations. Termed as *Finishing Schools or Finishing Courses* - established outsourcing destinations such as the Philippines and India have utilized programs such as the Finishing Courses for Call Center Agents to address talent saturation threats. Initiating similar programs at the early onset of Trinidad and Tobago's IT-BPO industry could be a means for the country to better optimize its small labor pool and mitigate long term scale issues.

Although the current scalability of Trinidad and Tobago's population remains a concern, the country is proactively addressing the apparent constriction by developing its talent base. Government's educational efforts are also directed to raise participation in tertiary education, replicating the initiatives conducted for those in the primary and secondary levels. Such aggressive tertiary education initiatives will be a definite advantage for Trinidad and Tobago as it transitions towards becoming a more knowledge-based economy.

This is being pursued through government subsidies for accredited tertiary education courses and state university programs specifically aligned to IT-BPO service lines, like the GATE and HELP programs. Additionally, Finishing Course initiatives currently being pursued will help develop a stable supply of skilled employees for specific service lines and processes. A detailed exploration of these short-course certificate programs is discussed in the Government Support and Current

IT-BPO Industry section of this study. These efforts, which are, are expected to increase both scalability and employability of Trinidad and Tobago's workforce in the near-term.

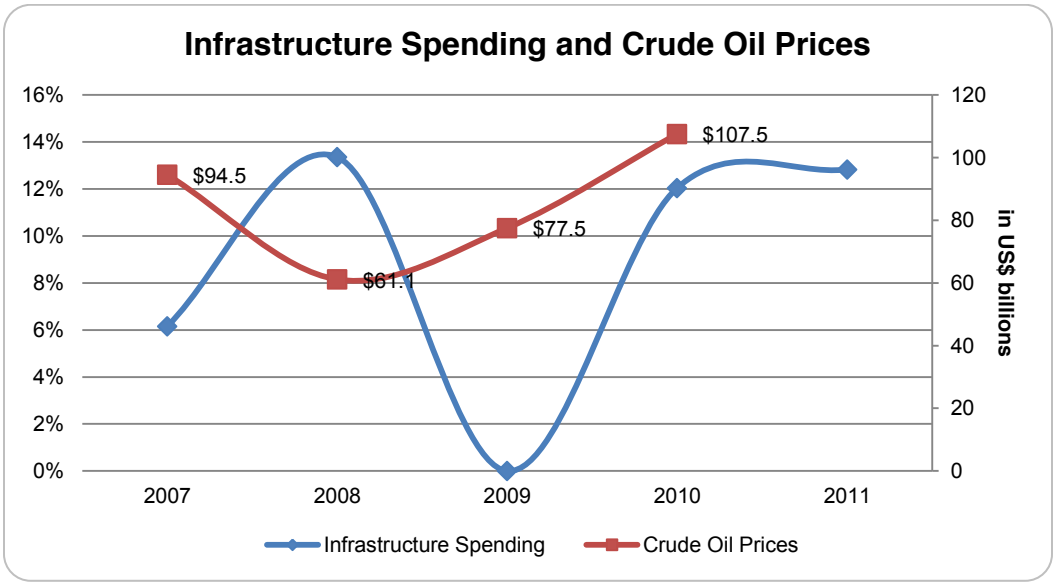
Infrastructure

A necessary complement to a competitive labor pool is a country's physical and IT infrastructure as this will determine the effectiveness of which outsourced services can be delivered. This refers to the availability of telecommunications platforms such as leased line across service delivery locations and access redundancy which can ensure operational continuity. In terms of physical infrastructure, transportation facilities such as airports, roads, and public transportation are likewise important as these provide mobility to the labor pool, which then allows for delivery centers to expand its talent bases. Physical infrastructure also includes the availability of dedicated locations that can support outsourcing activities, like SEZ's and technological parks.

Further, having a developed and sophisticated infrastructure across the country is another advantage for prospective outsourcing destinations. This assures potential locators that continuity and redundancies are in place for business to be uninterrupted. A sound infrastructure also encourages expansion activities once a service provider experiences success in a location.

Trinidad and Tobago's thriving and profitable Energy sector has also driven government to develop its core infrastructure. The graph below shows the infrastructure expenditure of Trinidad and Tobago as a percentage of the national budget as compared to annual price of crude oil per barrel in US dollars. It can be noted that the nation's infrastructure budget would be directly correlated on previous year's crude oil prices.

Chart 2: Infrastructure Spending Correlated to Crude Oil Prices



Source: Ministry of Finance, 2008-2012, OPEC, 2012

Despite a huge setback in 2010, optimistic movements in crude oil prices have brought back stability in Trinidad and Tobago's expenditures. From 2011, the country resumed spending on infrastructure development. Such relationship implies that the Energy sector, in particular oil production, continues to determine infrastructure-related spending in the country. This also implies that if the country is to explore other growth sectors, specifically the knowledge-based sectors such as IT-BPO, that is must be careful that such exploration and development is not entirely hinged on the spending of the Energy sector. Developing and IT-BPO industry for example, may require a greater focus on technology spending as opposed to infrastructure spending for the Energy sector. Thus, specific funding should be provided for the particular requirements of the IT-BPO sector.

However, this does not discount the fact that infrastructure developed for the Energy sector cannot be utilized and benefit the IT-BPO industry as well. Road and transport networks can be leveraged on by all verticals for example. The case study below expounds on the intricate relationships found in oil producing nations, between oil exports and infrastructure and public sector spending. In many similar instances, infrastructure spending seems to go where oil prices go. This should be a point of consideration for IT-BPO stakeholders in Trinidad and Tobago.

Case Study 2: Financing Infrastructure Projects in UAE

Oil Production and Infrastructure Development

Sourcing Funds for Public Sector Spending

World economies rely on income from different industries to sustain public sector spending. While most countries have to rely on a diversified set of industries for income, oil-dependent economies' public sector spending almost solely relies on its energy sector. So much so that a slight increase or decrease in the price of crude oil per barrel can literally mean millions of dollars in income gained or lost for high-volume oil producing countries.

The United Arab Emirates is an example of an oil-producing country dependent on the income from the energy sector for public sector spending. The country produces about 2.2 million barrels of crude oil per day, accounting for about US$187 million in income at a price of $85 per barrel. Because of such a high production capacity, a rise of US$1 in the price of oil would result in an extra US$2.2 million in income for the UAE. *The Dubai Chamber of Commerce and Industry stated that higher prices would translate into more investments in infrastructure and government services*.

But it is also important to note that global energy prices have experienced some volatility in 2008 and 2009 with the price of crude oil peaking at US$147 per barrel only to drop a few months after to US$32. Such volatility remains a concern for economies like the UAE as extreme drops in prices cripple public spending while an extreme rise will translate to a rise in inflation. Currently, the Organisation of Petroleum Exporting Countries has been enacting measures to combat price volatility by regulating the oil production of countries. The UAE considers a price range of US$70-90 as an acceptable range to sustain economic activity.

Source: Gulfbase, 2010

Given the importance of a foundational infrastructure base in Trinidad and Tobago, it is imperative to survey other forms of infrastructure required to support continuous IT-BPO

operations in the country. The following section delves on the current state of Trinidad and Tobago's infrastructure comprising its telecommunications network and technological parks.

Telecommunications Network

An outsourcing location's telecommunications network is paramount to the development of an IT-BPO industry. For the outsourcing industry, this primarily refers to the availability, reliability, and capacity of a local telecommunications infrastructure, providing high speed leased line services. The telecommunications infrastructure acts as the medium from which outsourced processes are facilitated between global clients and an offshore services provider. For this reason, it is of vital importance that bandwidth is affordable and reliable, and at the capacity which service providers require to ensure the seamless flow of operations.

The World Economic Forum recently released *The Global Information Technology Report 2010-2011: Transformations 2.0* which aimed to follow the evolution of Information and Communication Technologies in different countries. It had developed the Networked Readiness Index (NRI) to rank each country's ICT capabilities by measuring 71 variables, segmented into three sub-indices: *Environment, Readiness, and Usage*. The index evaluates a country's capability to leverage ICT across various developmental strategies. Overall, Trinidad and Tobago ranks at 63rd place out of 138 countries surveyed by the World Economic Forum.

Table 15: WEF Global Information Technology Report 2010-2011 Rankings

Rank	Country	Score (out of 7)
38	Barbados	4.32
39	Chile	4.28
48	India	4.03
63	Trinidad and Tobago	3.83
73	Jamaica	3.78
78	Mexico	3.69
86	Philippines	3.57
96	Argentina	3.47

Source: WEF. The Global Information Technology Report 2010-2011: Transformations 2.0

The rankings show that Trinidad and Tobago performs reasonably well in terms of its overall *Networked Readiness* surpassing the majority of the Caribbean countries and most Latin American countries. It is also important to note that it ranks above the Philippines in Networked Readiness signifying that Trinidad is in an advantageous position to leverage on its robust ICT infrastructure to deliver IT-BPO services.

The WEF's Global Technology Report also highlights that Trinidad and Tobago showed wide-scale advantages across the Networked Readiness Index - experiencing a progressive year-on year rise across various components of the Index. This has made Trinidad and Tobago one of the most improved countries in the entire Index. Most striking was the country's progression in ICT usage in both and individual capacity and national government posting a 19-place progression in the rankings from the previous year's Index.

The following tables show chosen aspects of Trinidad and Tobago's Networked Readiness ranking with regard to the country's Infrastructure Environment, Business Readiness, and Business Usage.

Table 16: Trinidad and Tobago's ICT Infrastructure Environment

ICT Infrastructure Environment			
Network Readiness Index (NRI) Component	**Score**	**Ranking 2011**	**Movement**
Phone Lines per 100 Population	22.7	58	↓ 2
Secure Internet Servers per Million Population	46.3	50	-
Mobile Network Coverage, % of Population Covered	100	1	New
International Internet Bandwidth, Mbps per 10,000 population	79.2	32	↑ 40
Electricity Production, kWh per Capita	5,768.6	37	↑ 6
Tertiary Education Enrollment Rate, %	11.6	104	↓ 3
Quality of Scientific Research Institutions	3.6	69	↓ 8
Availability of Scientists & Engineers	4.1	65	↓ 20
Availability of Research & Training Services	4.2	59	New
Accessibility of Digital Content	5.1	54	↑ 12

Source: WEF. The Global Information Technology Report 2010-2011: Transformations 2.0

Three out of ten indicators regarding Trinidad and Tobago's ICT infrastructure environment rose in the rankings from 2010. Most of these developments were attributed to the national government's aggressive drive to promote the usage of ICT including improvements made in basic ICT infrastructure and marketing programs. The results are clearly seen in the mobile network coverage of 100% of the population as well as the 40-position jump in rankings of International Internet Bandwidth. In comparison to Chile, the highest ranking country in the Latin America and Caribbean region, Trinidad and Tobago ranks higher in its bandwidth capacity with higher rankings in *Secure Internet Servers* and *International Internet Bandwidth*. The general trend of rising indicators indicates the significant uptake of ICT adoption across the nation.

Indicators which experienced a drop in rankings were mostly human capital oriented. Its lowest ranking indicator was found in *Tertiary Education Enrollment* and the *Availability of Scientists and Engineers* - experiencing a 20-place drop in the rankings. This further affirms the state of Trinidad and Tobago as a country which struggles with labor force scalability and employability and highlights the need to explore alternative talent development initiatives such as Finishing Schools.

The Global Information Technology Report also explores country business readiness and business usage of ICT. The corresponding results are shown in Table 17 below.

Table 17: Networked Readiness Index: Select Indicators of Business Readiness and Business Usage

NRI Indicator	Score	Ranking 2011	Movement
Business Readiness			
Extent of Staff Training	4.2	50	↑ 5
Quality of Management Schools	4.9	34	↓ 1
Company Spending on R&D	2.6	113	↓ 15
University-industry Collaboration in R&D	3.5	67	↓ 2
Business Phone Installation (PPP $)	51.6	31	↓ 8
Business Monthly Phone Subscription (PPP $)	64.5	136	↓ 16
Local Supplier Quality	4.6	63	↑ 8
Computer, communications, & other services imports, % services imports	22.1	89	↑ 5
Business Usage			
Firm-level technology absorption	4.6	79	↓ 1
Capacity for Innovation	2.0	137	↓ 6
Extent of Business Internet Use	4.7	73	↑ 21

Source: WEF. The Global Information Technology Report 2010-2011: Transformations 2.0

Most indicators in the NRI regarding Business Readiness and Usage of ICT in Trinidad and Tobago showed significant drops in the rankings. Business Readiness reflects the degree to which businesses are inclined to incorporate ICT into their activities. The Business Usage pillar, on the other hand, takes it one step further by reflecting the capacity of businesses to apply ICT in everyday operations as well as generate innovation by applying ICT practices.

In the Business Readiness pillar, the most prominent indicators which dropped are *Business Phone Installation* and *Business Monthly Phone Subscription* - citing high prices as the main reason for its drop in the rankings. *Company Spending in Research & Development (R&D)* also scored low, dropping 15 places in the indicator rankings. This indicates that businesses in

Trinidad and Tobago, while capable of using ICT, typically have a lower capacity to generate knowledge expansion and innovation through ICT usage. These indicators which dropped significantly in the Business Readiness pillar mostly deal with the costs and utilization of ICT.

Despite this, increases in the indicators *Computer, Communications, and Other Services Imports*, *Extent of Staff Training,* and *Local Supplier Quality* show the country's capabilities in adopting international ICT standards to provide ICT goods and services to local businesses. Also, existing staff are becoming increasingly comfortable with ICT usage, inducing a rise in the rankings.

The *Extent of Internet Business Use* indicator under the Business Usage pillar also reflects this sentiment as it made the most improvement jumping 21 places up in the rankings. Ultimately, this is a good sign for a potential IT-BPO industry in Trinidad and Tobago. IT infrastructure has already developed to a point that it has permeated much of the nation's businesses. This can only happen if existing infrastructure is already fundamentally sound, reliable, and secure. On the other hand, relatively high telecommunications installation and subscription costs may pose a problem for service providers.

Current market dynamics in the telecommunications space of Trinidad and Tobago also show the stability of the country's telecommunications infrastructure. The Telecommunications Services of Trinidad and Tobago (TSTT) remains the largest telephone and Internet service provider in the country, jointly owned by the national government and Cable & Wireless, an established telecommunications company from the UK. It is the main provider of phone and Internet services including leased lines. Besides TSTT, there are 13 other Internet service providers in the country including Open Telecom and Columbus Business Solutions. According to local businesses, there are only very *minimal interruptions* in connectivity. Due to heightened capabilities, Trinidad and Tobago had recently experienced a 13% growth in its broadband subscriber base affirming the country's increased usage of ICT services.[19]

With this, it can be said that the quality of Trinidad and Tobago's telecommunications infrastructure has capabilities in addressing IT-BPO service provider's needs. The quality of TSTT as a telecommunications service provider serves as the foundation for service provider's telecommunication needs. Further attesting to Trinidad and Tobago's IT infrastructure preparedness for IT-BPO service providers are the international rankings affirming the country's intensive development of IT infrastructure and increased adoption by businesses.

Tamana InTech Park

The establishment of SEZ's is has become an increasingly prevalent and efficient developmental strategy for countries looking to drive growth of respective IT-BPO industries. SEZ's, in definition, are physical or geographical zones wherein business activities are fostered through tax incentives, special infrastructure, and other operating incentives usually not available more *traditional* business districts or sectors. The main objective is to attract foreign investors to establish their companies and businesses in the SEZ due to the highly business-friendly environment. In the global IT-BPO landscape, SEZ's have been successfully used by established

[19] Guardian Media, *TSTT to Announce Slowdown in Profits*. June 3, 2011

outsourcing destinations such as India, China, and the Philippines to attract global service providers to locate in the country.

The Tamana InTech Park represents Trinidad and Tobago's first and only Science and Technology Park designed to support knowledge-based businesses. It is built on a 1,100 acre lot that was formerly an US Air Force base. The park is headed by Trinidad and Tobago's Evolving TecKnologies and Enterprise Development Company (eTeck) - an agency under the Ministry of Trade & Industry (MTI) - tasked to develop and support emerging non-energy industries. The agency has proven experience in developing Industrial Parks in Trinidad and Tobago, with 17 parks already established around the country with a tenant base of over 500. The aim of the Tamana InTech Park is to be a home to major technology players wherein a cluster environment will be fostered amongst various businesses to synergize and to promote innovative business practices. As to this, the park is divided into four main areas namely:

- ICT & Knowledge Based Industries
- High Value Manufacturing
- Agro Industrial
- Mixed Use

As such, the park is not designed to be exclusively used by IT-BPO service providers. It is actually a hybrid park wherein IT-BPO, manufacturing, and light industrial activities will be taking place but with facilities and infrastructure that are specifically inclined to the IT-BPO sector. Sophisticated telecommunications and dedicated electricity substations are some of the IT-BPO specific implementations found in the park. Exclusive telecommunications services such as networking solutions based on Next-Generation Network (NGN) architecture will be provided to service providers locating in the park. This will enable locators to have access to fully redundant and highly reliable leased line services. An airport is also conveniently located nearby, allowing for more convenient access for international clients.

The UTT is also one of the Tamana InTech Park's largest tenants providing skilled manpower to the park's businesses. UTT offers courses in various technical courses in ICT such as Computer Engineering, Communications Engineering, Visual Communications Design, as well as graduate study programs. In addition, Digital Media Studies programs are also being offered such as Animation and Music Technology. *UTT's presence in the Tamana InTech Park can ensure businesses a steady supply of technically capable employees*. The commencement of UTT's first school year the Tamana InTech Park was scheduled for September 2011 but as of the start of 2012, construction was still ongoing.

The inclusion of academic institutions within a SEZ complex is increasingly becoming an IT-BPO industry best practice, being implemented by more mature outsourcing destinations. As in the case of Tamana InTech Park, such trends occur because industry service providers need to better secure a stable flow of employable labor to sustain operations. The case study below iterates this movement in large scale destinations like India and the Philippines, as well as in a regional competitor, Jamaica.

Case Study 3: Academic Institutions and Special Economic Zones

Funneling Employable Labor for IT-BPO Industry

Examples from the Philippines, India, and Jamaica

IT-BPO Service Providers choose to locate in an SEZ not only due to the infrastructure and investment incentives it provides but also because of the presence of academic institutions ensuring a steady supply of labor. In fact, there has been an increasing trend to establish universities and colleges in SEZ's for this very purpose, and as evidenced in the following countries.

The Philippines: In Manila NCR, the UP-Ayala Land Technohub was established out of a partnership between the state-owned University of the Philippines and real estate developer Ayala Land. It is now home to various IT-BPO service providers such as IBM, Convergys, and HSBC. With two universities located just a few minutes away, a constant supply of graduates is always nearby. In addition, students in these universities are being tapped for IT-oriented business incubation.

India: Much of IT-BPO service providers in Bangalore call home to the city's Electronics City IT Park. Within this IT Park are located two educational institutions namely the Nettur Technical Training Foundation and the International Institute for Information Technology. Together, these institutions churn 40,000 technical and 60,000 non-technical graduates annually for the park's IT-BPO service providers.

Jamaica: The Montego Bay Free Zone is Jamaica's heart for offshore call center operations. It is home to service providers such as ACS and Global Gateway Solutions. To assure these service providers of graduates, educational institutions and talent development agencies are available within the area. Close linkages with the HEART National Training Agency also provides basic training to IT-BPO workers.

Combining IT-BPO oriented tech parks with university facilities is an effective way to help meet the talent requirements of service providers. On-site educational institutions act as an effective funnel for talent to be directed into nearby IT-BPO service providers. Various countries globally have utilized this combination to further attract service providers to locate in their respective tech parks, and as sustaining labor demand remains an utmost concerns for industry stakeholder.

Source: Tholons Research 2012

In addition to providing tertiary education programs, the UTT may also consider developing a Finishing Schools platform from within the Tamana InTech Park. This can be done by establishing partnerships with IT-BPO service providers as well as the Trinidad and Tobago Coalition of Services Industries (TTCSI) to provide short-term technical courses specifically aligned to IT-BPO service lines. With all stakeholders from the academe, government, and the private sector represented *within* the park, a Finishing School program targeting the specific needs of locating IT-BPO companies, may be a near-term possibility for stakeholders of the park to consider.

A concentrated delivery location, as envisioned by the InTech Park would significantly benefit from a secured flow of university and Finishing School graduates. In addition, proximity would aid in more efficient communications and better collaboration across industry players, the academe, and government.

Beyond the provision of best in class infrastructure, investment and fiscal incentives are also offered to firms locating in the park. Tax incentives include a 100% corporate tax exemption, import duty concessions, and unrestricted repatriation of profits. Industry-specific tax incentives are also available on a case-to-case basis for investors. These tax incentives are competitive with other mature delivery locations such as the Philippines and India.

The combination of state-of-the-art infrastructure, a dedicated and supportive government agency, investment incentives, and a stable labor pool supply could allow the Tamana InTech Park to become a self-sustaining ecosystem for potential IT-BPO providers. If executed correctly, the park could also become an attractive investments destination for potential investors, including multinational companies as well smaller sized investors from the Trinidad and Tobago diaspora, who may be more convinced to invest within a more controlled environment such as found in the Taman InTech Park. Prospective investments, particularly from the diaspora, will be valuable to the country not only in financial terms but also for increasing the opportunities for knowledge and technology transfer.

Currently, the construction of a large part of the Tamana InTech Park is still ongoing. Phase I of the Tamana InTech Park is already available for tenancy with land lots available to locators looking to construct their own facilities. In addition, the eTeck Flagship Building will soon be open to tenants, offering spaces for small, mid-sized companies, and large multinationals. These two phases represent just a small portion of the entire park. Construction of the park started in 2006 but has experienced delays. The Tamana InTech Park is a step in the right direction for the country in building a capable ecosystem for prospecting IT-BPO service providers. However, stakeholders must be aware that regional and global competition is increasing, and they must move more quickly and decisively if they wish to capitalize on existing market opportunities.

Cost of Operations

While the focus on cost arbitrage in recent years has gone down in favor of scalability and employability in a location's the talent pool, it has nonetheless remained a compelling point of consideration in locating in a particular country. Employee salaries are the primary operational cost consideration, combined with electricity and rental costs, and country tax rates. Ultimately, costs associated with establishing a delivery center must make profitable financial sense for a service provider is to invest in a delivery location. The skills and talent may be in a location, but if the operational cost envelope delivers unprofitable returns, then there is little incentive for the provider to situate itself in that location.

Cost Comparison

Table 18 shows outsourcing-associated costs of Trinidad and Tobago compared to best-in-class outsourcing destinations such as India and the Philippines, as well as peer countries in the Latin America and the Caribbean region. While, Trinidad and Tobago offers competitive overall costs in comparison to its neighboring competitors, the country is still far from offering the cost arbitrage of mature outsourcing destinations.

Table 18: Cost Comparison of Established and Peer Outsourcing Destinations

Country	Entry Level BPO Salary (in US$)	Entry Level ITO Salary (in US$)	Electricity Costs (US$/kWh)	Rental Costs (CBD Class A, US$/Sq.ft./yr.)	Social Security Contribution
Trinidad and Tobago	600-640	1,100-1,200	0.05	38-40	5%
India	280-320	320-390	0.06	25-28	12%
Philippines	235-430	310-679	0.30	20-22	7%
Jamaica	600-700	1,000-1,100	0.32	6-7	2.5%
Colombia	450-500	800-900	0.13	33-35	20%
Argentina	520-650	1,100-1,200	0.05	28-29	16%
Chile	600-700	1,450-1,550	0.15	20-22	0%

Source: EIA, Cushman and Wakefield, World Bank, Tholons Estimates 2012

With regard to salary rates, Trinidad and Tobago's entry level salaries are more than double the entry level BPO and ITO salaries in both India and the Philippines. Within its peer group in Latin America and the Caribbean, Trinidad and Tobago's salaries are more competitive although it is on the higher end of the spectrum, equal to that of Jamaica and Chile. These high salary rates indicate that Trinidad and Tobago might not be suited for headcount-dependent outsourcing activities such as Contact Support and back-office services as these service groups require larger talent pools. Likewise, these segments require relatively low salary wages for service providers to be profitable. If Trinidad and Tobago were to focus its IT-BPO industry on these volume-dependent services, it would experience difficulties in meeting larger client requirements due to its low labor poor scalability.

A possible solution to address and mitigate scale concerns is to increase the employability of the country's existing labor pool. This can be done by intensifying the drive for increases in tertiary education participation as well as establishing Finishing Schools to *re-skill and up-skill* the labor force. Increasing the capabilities of the talent pool would also make the job market more competitive thus driving salary costs lower. Another possible option would be for the country to explore and establish itself as a high-value outsourcing destination. Ideally, an industry development strategy combining both approaches may be utilized to address high salary costs on both the supply and demand sides.

Globally, Trinidad and Tobago has one of the lowest electricity rates. This is one of the strengths of the country with electricity priced at only US$0.050 per kWh. Office rental costs, on the other hand, are higher in Trinidad and Tobago than in other Latin American and Caribbean countries by an average of 30% to 40%.

In addition to the costs mentioned, corporate income tax rates are also a vital consideration for service providers in choosing an outsourcing location. Although various tax and investment incentives are granted to service exporters, it is still important to analyze general corporate tax

rates as this indirectly affects service provider costs, especially when transacting with local suppliers of goods and services, the latter group being subject to national tax rates.

Table 19: Comparison of Corporate Tax Rates

Country	Corporate Tax Rate
Trinidad and Tobago	25%
India	30%
Philippines	30%
Jamaica	33.3%
Argentina	35%
Dominican Republic	25%
Chile	17%

Source: IFC Doing Business, 2011

As shown in Table 19, Trinidad and Tobago posts a slightly lower corporate tax rate than most of the selected countries. The Dominican Republic equals the corporate tax rate of Trinidad and Tobago while Chile's is lower at 17%. This may give the country a slight advantage in promoting itself as a financially-sensible destination for service providers.

Given these analyses of Trinidad and Tobago's cost of operations, it would be best for the country not to depend on cost benefits to promote itself to IT-BPO service providers. *While the country does offer some cost savings in some aspects, overall, the difference with other nascent outsourcing destinations is minimal*. This predicament can be offset through the proper identification of the niche service that best fits Trinidad and Tobago's current state. Expertise in specialized services inherently demands for higher rates, as skillsets are not easily replicated across other service processes. In the *Recommendations* section, thorough discussion on a possible service niche will be provided.

Trade Relations and International Linkages

Trinidad and Tobago has historically been a commodity-based, export-oriented economy due to its Energy and Manufacturing industries - exporting to regions such as North America, Western Europe, and its nearby Latin America and Caribbean neighbors. Through the course of these export activities, various agreements and linkages have been made with different countries to strengthen economic and commercial ties. In the IT-BPO industry, these existing trade relations and international linkages can serve as a foundation for developing market pipelines and capacity building initiatives.

Caribbean Community

The Caribbean Community (CARICOM) has acted as a primary facilitator for trade and investment activities across the Caribbean region. The CARICOM was established in 1972 aimed at transforming the then existing Caribbean Free Trade Association into a *Common Market* enabling not only Free Trade among Caribbean countries, but also free movement of labor and capital and coordination in agricultural, industrial, and foreign policies. Therefore, the CARICOM aims to establish Caribbean countries to act as a large unified market, instead of multiple fragmented ones. The member countries include the following:

Table 20: CARICOM Member Countries

CARICOM Member Countries		
Antigua and Barbuda	Grenada	Saint Lucia
The Bahamas	Guyana	Saint Kitts and Nevis
Barbados	Haiti	Saint Vincent and the Grenadines
Belize	Jamaica	Suriname
Dominica	Montserrat	Trinidad and Tobago

Source: CARICOM, 2012

The regional economic integration of these countries is reflected in continued efforts to establish the CARICOM Single Market and Economy (CSME) which identifies productive sectors and enacts a regional strategy comprised of a unified pricing system, relevant policies, and action plans. For the services sector, seven priority sectors were identified in 2010 under the Draft Strategic Plan namely Financial Services, *ICT*, Education, Tourism, Health & Wellness, Professional Services, and Entertainment, Cultural, & Sporting Services. Currently in its early stages, an inventory of each member country's services sector policies, plans, and strategies was made in order to craft a regional plan. An assessment of CARICOM countries' National Services Coalitions was also pursued in 2010 to unify programs and initiatives. CARICOM realizes that the economic significance of the services sector and that it has to be central component for the regional integration efforts in the Caribbean. Although the CARICOM still has much to do in establishing one unified, Caribbean market, this is a significant development for Trinidad and Tobago's IT-BPO industry as regional integration will provide advantages such as free transfer of labor and capital. This can also temper Trinidad and Tobago's scalability concerns as regional service provider partnerships can help increase access to labor and capital as well as increase delivery capabilities.

The CARICOM has also been used to leverage the region for Free Trade Agreements (FTA) with other countries. At present, CARICOM has existing trade agreements with the Dominican Republic, Cuba, Venezuela, and Colombia. As part of CARICOM, Trinidad and Tobago is allowed for duty-free trade of goods and services to these countries. It also makes economic

collaboration among these countries attractive through the facilitation of regional joint ventures. For instance, an anecdote from industry service provider in the country stated that several animation co-productions have been made through partnerships between Cuba and Trinidad and Tobago.

North American Trade Relations

North America, as the world's leading IT-BPO market, is a key target market for any country that is looking to venture into IT-BPO services. Existing trade relationships will be beneficial as these can serve as a stepping stone towards further trade in the IT Services sector. Trinidad and Tobago, with its established trade relationship as an exporter of energy products to North America, can definitely enhance current trade agreements to better identify the IT-BPO sector.

Trinidad and Tobago maintains trade relations with the United States through the Caribbean Basin Initiative (CBI). It was initially introduced in 1983 as the Caribbean Basin Economic Recovery Act, which aimed to assist Caribbean countries in stimulating their economies. Most recently, this was expanded through the Trade Act of 2002. The trade agreement allows 17 countries from Central America and the Caribbean duty-free access to US markets.

This remains one of the most lucrative agreements for Trinidad and Tobago as the country has become the leading source of US imports among all CBI member nations. In 2010, the US imported from Trinidad and Tobago a total of US$2.2 billion worth of goods, an increase of 43.8% from 2009.[20] These were mostly composed of petroleum and methanol imports.

Another promising development is Canada's indication of interest to establish a Free Trade Agreement with CARICOM. Canada and Caribbean countries have historically had good trade and investment relations with constant import and export activities between the two. In fact, the year 2010 saw merchandise trade between Canada and CARICOM reaching US$2.4 billion. Canada also has stock of direct investment into the CARICOM market valued at US$73 billion.[21] In 2008, preliminary discussions were closed and negotiations have been underway since November 2009. Canada sees that a bi-lateral free trade agreement with CARICOM would be beneficial across participating industries, especially those involved in the production and exports of industrial goods.

Trade Relations for IT-BPO Development

For Trinidad and Tobago, its focus on external trade, particularly the oil industry, is critical to maintain the national economy, and as the domestic market offers a relatively small revenue base. Thus, in establishing trade activities across other industry sectors in the country – such as IT-BPO - it is important to identify the significance and implications of such trade relations.

These existing trade relations prepare Trinidad and Tobago to venture into the IT-BPO industry in two distinct ways. First, trade relations can identify the possible target client markets for the country, while free and preferential trade agreements contain the fiscal incentives that the client

[20] Office of the United States Trade Representative, 2011
[21] Foreign Affairs and International Trade Canada, 2010

markets can avail from Trinidad and Tobago. In addition, this enables Trinidad and Tobago to identify which countries they can *preferentially* export IT-BPO services.

For instance, the existing trade relations with the US will be advantageous to Trinidad and Tobago's IT-BPO industry. The US, particularly, still remains as the leading market for IT-BPO services and can be a key client for services outsourcing. Trinidad and Tobago can capitalize on existing trade relations with the US, and expand this relationship to include IT-BPO services in the mid-term. *The US is already the largest importer of oil for the country, why not expand the country's export portfolio to include IT Services?*

Another example is the possible trade relations with Canada. This can open up the country to Canadian investments as the FTA should allow for a more fluid platform for investments. This will also possibly allow Trinidad and Tobago to export both goods and services to Canada with zero trade tariffs. The CARICOM should be able to prioritize the pursuance of this agreement as this can potentially be a key opportunity for economic development, even trickling down to specific service process groups in the country's IT-BPO industry, including Animation services. As will be discussed in the next section, Trinidad and Tobago's long standing relationship with a large animation studio in Canada can be further enhanced as this trade agreement pushes through.

Second, trade relations *within the regional market* prepare Trinidad and Tobago to better collaborate with the peer countries. This will enable Trinidad and Tobago to acquire developmental best practices in IT-BPO industry development. Moreover, these Caribbean markets can create a larger and more capable market as the CARICOM agreements allows free mobility of labor resources. *Scale-restricted capacities of individual countries may be less appealing to service providers, compared to more robust service delivery capabilities as would be found in a large, regional service delivery cluster*.

The key in utilizing these trade relationships for IT-BPO is to figure out how countries can replicate and re-calibrate successful export models into the IT-BPO sector. Identifying best practices and successful implementation models in other export sectors should be viewed as preparatory first steps in expanding the exports roster of CARICOM countries. Exporting IT services after all, is very much different from exporting a tangible good or commodity such as oil or a manufactured good.

Utilizing trade agreements and linkages such as these will help fast-track growth of the IT-BPO industry. A common market such as the CARICOM will enable service providers to freely move capital and labor amongst countries. This will help build each country's IT-BPO capacity in terms of labor as service providers can either employ people from member countries or utilize a regional service delivery model to increase capabilities. Existing trade agreements will also be beneficial as these can become a gateway towards the exportation of IT-BPO services, most notably, to the leading IT-BPO services consumers in the North American region.

Risks

Another crucial factor that determines the attractiveness of a location to a service provider is the prevalence of risks which could affect business activities. These include aspects such as political

instability, prevalence of criminal activities, natural calamities, and commercial risks. Evaluating the risk component is important to service providers as these have the capacity to disrupt service delivery operations. For instance, in Bangkok, a recent flash flood brought upon by heavy rains, the nation's worst in 50 years, brought offices in major metropolitan areas to an indefinite close. Not limited to just offices, the floods also affected mass transit facilities and made roads impassable. It took approximately 5 months for the city to regain normalcy. Instances such as these - whether driven by politics, natural calamities, or crime - result in massive losses in revenue and endangers employees, both significant considerations for service providers.

Crime

One persistent risk hindering Trinidad and Tobago in becoming a more viable business outsourcing destination is the lingering criminality which continues to plague the nation. The period 2007-2008 was a particularly rough period for Trinidad and Tobago as it experienced its highest number of murders and kidnappings. Positive decreases in all criminal activities in 2010 were a welcome development for the country, affirming the efforts of the national government to curb criminality.

However, crime rates were again rising by mid-2011 and more aggressive initiatives have now been sought and the government has enacted a limited State of Emergency in 19 crime hotspots. This allows police forces to search and arrest citizens without a warrant. A curfew was also upheld in Port of Spain and its perimeter areas in August 2011, preventing people from being outdoors from 11 PM to 5 AM. The curfew has since been lifted, though this has contributed to the perception and image of *uncertainty* of the country's general security conditions.

The United Nations Office on Drugs and Crime recently released its 2011 Global Study on Homicide which provides data on intentional homicide covering 207 countries. In the report, intentional homicide is defined as "unlawful death purposefully inflicted on a person by another person." Comparing nascent outsourcing destinations in the Latin America and the Caribbean region, Trinidad and Tobago posts one of the highest intentional homicide rates with 35.2 per 100,000, second only to Jamaica in the region. This further validates that crime is definitely a critical problem in Trinidad and Tobago and may have negative effects not only in the IT-BPO industry, but in the overall business environment.

The prevalence of crime at such a high rate has multiple effects for the country's IT-BPO industry. Foreign investors will definitely become discouraged with such alarming levels of crime. In addition, the fact that some of these crimes targeted foreigners will further impede business trips to the country, hindering potential opportunities for growth. Absenteeism may also become an issue for established service providers, as employees may refrain from venturing outside their homes in fear for personal safety. This will adversely affect productivity in delivery centers.

The issue of high crime rates in Trinidad and Tobago is a complex aspect that will not be quickly addressed. Ultimately, crime must be reduced in an encompassing scale if the country is to improve external perceptions and convey a more secure business environment.

Institutional Support

The success of any industry depends on the institutions which support it. Supporting institutions are the primary drivers for industry growth and most often spearhead development initiatives. For IT-BPO industry development, institutional support can stem from various stakeholders from both the private and public sectors. This comprises institutions such as investment promotion agencies, universities, industry associations, and service providers. *Each of these institutions directly benefits from industry growth*. For instance, investment promotions agencies will naturally pursue IT-BPO oriented investments in a location to improve economic development. Similarly, industry associations will represent a unified agenda for service providers and also serve as an active link between members promoting overall collaboration. These institutions are also often tasked to push for initiatives covering diverse aspects of the industry such as integration, investment promotion, and talent pool development among others. Ultimately, these institutions are the industry's primary actors, catalyzing far-ranging IT-BPO industry development.

Government Support

The outsourcing industry of Trinidad and Tobago recently acquired support from the government identifying it as a key sector for development in the country's shift towards a more a knowledge-based economy.[22] Government backing will be crucial for the budding outsourcing sector as it can provide foundational support, through legislation and policies, and help in devising and implementing developmental plans for the industry.

The country's investment promotions agency, InvesTT, acts as the primary organization pushing for the strategic initiatives of the IT-BPO sector. It is the first point of contact for most foreign investors seeking to establish business activities in Trinidad and Tobago. InvesTT plays an increasingly important role as the gateway to the country, for all things under the IT-BPO spectrum. InvesTT is also tasked to build Trinidad and Tobago's image as an investment destination, identifying distinct advantages inherent to the nation such as geographic location, sophisticated IT infrastructure, stable economy, and low energy costs. It also lays out specific investment opportunities which Trinidad and Tobago provides to potential investors. Within the IT-BPO sector, InvesTT advocates the following segments:

[22] InvesTT, 2011

Table 21: Trinidad and Tobago IT-BPO Target Segments

Segment	Service Lines
Data Processing	• Data Digitization • Graphics Editing • Data Mining • Web Content Production
Hosting	• Application Services • Application Hosting • Optical Scanning • Computer Time-Sharing
Disaster Recovery	• Online Data Back-up • E-mail/Mobile/Data Recovery • Emergency Transport Management
Systems Design	• Enterprise Software Solutions • Information Management and Business Intelligence Solutions • Communications and Media Solutions
Animation	• Pre-production • Production

Source: InvesTT 2011

With Trinidad and Tobago's nascent outsourcing industry, government direction is necessary to align stakeholders to common, strategic plans. With government support, the country's IT-BPO industry is slowly beginning to stand on solid ground but more specific initiatives such as sector-specific tax incentives, focused lead organization policies, and talent development initiatives such as Finishing Schools, must be put in place to sustain positive IT-BPO industry movement.

National ICT Agenda

The National government also recognizes that for its IT-BPO industry to prosper, its people have to be educated and well-versed in ICT usage. With this in mind, the government launched its *fastforward* initiative, a national agenda aiming to permeate ICT usage throughout the country by providing multiple venues for participation to four major groups: Communities, Youth, Business, and Government. Given this, the program hopes to ultimately guide people towards the country's transition into a knowledge-based economy through computer literacy.

To start off, government wanted to establish better collaboration across its various agencies through connectivity. This was done through the Government Communications Backbone Project or GovNeTT which establishes linkages among government agencies through a single Wide Area Network (WAN), a networking technology utilized for efficient transmission of data over long distances. This WAN acts as a backbone through which government agencies are able to communicate using e-mail, messaging, and scheduling platforms. To date, GovNeTT has 20

ministries, 230 divisions, and approximately 10,000 users connected.[23] Agencies were also mandated to establish online presence, and respective agency sites were consolidated in a singular e-Government portal acting as a one-stop shop for government information and services.

This goes hand in hand with the program's plans for the communities segment. The *fastforward* initiative provided Community Access Centres (CAC's) in all major areas of the country. These CAC's provide communities with affordable Internet access wherein they can access the aforementioned e-Government portal with info on taxes, job availability, health, and education and access to 400 government services.

Similarly, with regard to the business sector, the *fastforward* initiative introduced online IT solutions for government services through a Single Electronic Window system known as the TTBizLink. The online tool aims to streamline the process of acquiring various government requirements and licenses in a single location including business registrations, import and export licenses, import duty concessions, and application for fiscal incentives. In addition, the Trinidad and Tobago government also provided micro, small, and medium enterprises (MSME) with an online platform to do business with each other. This is known as the T&T Trade Portal and currently has a total of 3,418 businesses accessible online. [24]

Government services made available online such as tax payments, passport applications, emergency services, and business registrations, all combine in enticing the citizenry to educate themselves on computer usage, thereby increasing ICT adoption and literacy. Alternately, the *T&T Trade Portal* also helps Trinidad and Tobago's businesses gain exposure to potential clients and investors.

Further, a long term objective of the *fastforward* initiative aims to inject pertinent ICT tools into the educational curriculum. One of the programs under this is the Knowledge, Innovation, and Development (KID) Program. The KID program concentrates on providing the necessary resources, tools, and skills for computer literacy at an early age. Teachers were also up-skilled with basic computer literacy skill through formal skills training programs. As of 2009, a total of 350 primary and special schools were provided with computer laboratories and 315 schools were provided with Internet connections. In addition, 600 primary school teachers were also educated in computer usage and ICT education and 1,310 primary and secondary school teachers were educated in basic network administration.[25]

As a nation looking into IT-BPO services as a priority industry, the national ICT agenda *fastforward* definitely brings a holistic approach towards laying an enabling ICT foundation that will benefit the IT-BPO ecosystem.

Youth Training and Employment Partnership Program (YTEPP)

The Trinidad and Tobago government has embarked on technical and vocational education activities through the YTEPP organization which falls under the Ministry of Science Technology and Tertiary Education. YTEPP was started in 1988 to address youth unemployment in the country. The UWI assisted YTEPP in creating a model for short-term technical and vocational education programs targeting persons aged 18-25 years old in the organization's nine established

[23] Ministry of Public Administration, 2010
[24] T&T Trade Portal, 2012
[25] Ministry of Public Administration, 2010

centers across Trinidad and Tobago. In 1990, YTEPP was duly registered as a state corporation and has since streamlined operations by providing more industry-responsive and holistic training programs in its 23 centers.

Currently, YTEPP offers two channels for talent development: *Vocational Skills Training Programs* and *Retraining Programs*. Vocational Skills Training Programs are offered to persons aged 15-25. These are conducted in 6-month cycles with courses in over 80 vocational courses and 12 occupational areas. Besides the training proper, the curriculum also includes career enhancement, on-the-job training, and continuous assessment. This is designed in such a way as to improve the chances of YTEPP graduates in gaining employment by providing a holistic training experience covering the different facets of employment in modern business.

Both industrial and services occupational trainings are covered by YTEPP, from courses in Construction and Auto Maintenance & Repair to Beauty Culture and Culinary Arts. Relevant to the IT-BPO industry, YTEPP offers courses in Business Support Services as well as Graphic Design. The Business Support Services course covers basic computer literacy and secretarial tasks. While in no means is this an intensive course on IT-BPO specific processes, this can help build foundational skills for computer-oriented jobs. Similarly, the Graphic Design course prepares trainees for employment in creative industries in which creative services outsourcing processes are included. Successful graduates in these courses are provided with a national certification from the National Examination Council. Additionally, YTEPP's employment bureau compiles a record of graduates in a single repository which enables them to become more accessible to employers seeking skilled labor. This can be potentially tapped by IT-BPO service providers seeking technically skilled labor.

Besides the 6-month courses, YTEPP has made significant efforts to provide more specific computer literacy talent development programs in shorter durations. These short-term courses are beneficial to the youth segment that may not have the opportunity to pursue tertiary education, and who may wish to enter the labor force earlier. YTEPP offers the following short-term computer literacy courses which are accredited on the national level for the basic program and on an international level for the advanced program:

Table 22: YTEPP Computer Literacy Training Programs

Training Programs	Courses Included	Duration	Accreditation
Basic Computer Literacy	• Introduction to Windows XP • Introduction to Microsoft Word • Introduction to Microsoft Excel • Introduction to Database Management • Introduction to Microsoft PowerPoint • Introduction to the Internet • Introduction to Outlook	30 Hours	National Examinations Council

Advanced Computer Literacy	• Advanced Microsoft Word • Advanced Microsoft Excel • Advanced Database Management • Integrated Office Management • Internet & Networking Essentials	36 Hours	Computer Literacy and Information Technology (CLAiT) - Cambridge

Source: YTEPP 2012

YTEPP also offers the following single-course programs which best fit trainees who already have basic computer literacies and want to expand their knowledge in more specific technology areas:

Table 23: YTEPP Single-Course Training Programs

Training Programs	Duration (Hours)
CorelDraw	12
Microsoft Publisher	12
Graphic Design	36
Microsoft Project	24
Advanced Microsoft Project	30
Peachtree Accounting	30
Introduction to Webpage Design	24
AutoCAD	40

Source: YTEPP 2012

These courses are focused on providing vocational training for specific skill sets which can be applicable to IT-BPO segments such as FAO and CSO. However, there is a possible caveat in making these courses exceedingly short. These courses can be completed in a matter of a few days and there is a concern that this might not be enough to make students proficient in the technical fields they are studying. Regardless, the increased focus on computer literacy training is an advantage to the IT-BPO industry, even if only viewed at the basic skill set building level.

The second channel for YTEPP's talent development initiatives lies in its *Retraining Program*. The program is aimed towards citizens aged 25-45 years who have been unemployed, displaced, or retrenched in the job market. YTEPP provides these trainees with training in both Vocational Skills and Life Skills (Soft Skills) at 12-18 week durations. Emphasis on Soft Skills Training is a welcome addition to YTEPP's training programs as these are an integral part of not only gaining employment opportunities but also in retaining employment. In addition, literacy training is available to trainees who are determined to have gaps in language and literacy skills. The program currently offers a training course in Multimedia Animation which graduates approximately 180 students annually.

The two-pronged approach YTEPP employs by targeting both the youth and unemployed workers is a worthy strategy to increase Trinidad and Tobago's scalability and employability levels. As the talent pool requirements of a growing IT-BPO industry increase, talent development programs such as these are needed to effectively sustain the employability of the labor pool. YTEPP can further improve its course offerings by engaging IT-BPO stakeholders to determine specific skills needs. *An industry-responsive YTEPP will then be able to better equip the labor pool with the more appropriate skills demanded by the local IT-BPO industry.*

Private Sector Support for Creative Services

The creative services industry of Trinidad and Tobago has been gaining private sector support.

The Trinidad and Tobago Coalition of Services Industries (TTCSI) is a body spearheading the development of the country's IT-BPO sector. The TTCSI is a national umbrella organization which aims to bring together all services sector stakeholders. Its main function is to lobby, channel, and address issues which will be critical to the development of the services sector.[26] Organizations such as these provide a united and collective voice to the numerous stakeholders involved in the services sector both externally, to global trade organizations, and internally, to the national government.

In November of 2011, the TTCSI held the country's first *National Services Week* - an event introducing and increasing awareness of the various services industries in the country. One day was dedicated to the IT-BPO sector, with the central theme of Cloud Computing. Representatives from Google, e-Source Capital Technologies, Cisco, and Illuminat were presenters in the event. Summits such as this also serve to provide avenues for convergence among stakeholders, and can be used as a platform to strategically announce and formulate growth plans. As this event grows larger and more interest is generated from both internal and external players, the National Services Week can be utilized as a marketing platform - where service providers and prospective service buyers and investors can converge to explore IT-BPO opportunities.

In addition, Toon Boom, Inc., a globally renowned Canadian animation company, is widely used by major animation studios such as Stan Lee Media, Walt Disney, Nickelodeon, Universal Animation, and 21st Century Fox. In India, Toon Boom was a primary catalyst driving the growth of the country's animation industry. The company initially set-up an animation school in India to train students on the use of their software. Since then, Toon Boom's software is now being used in 1,500 Indian schools and 50 animation studios, helping launch India's animation industry to an estimated market size of US$2 billion.[27]

Joan Vogelesang, Toon Boom's President and CEO, believes that *this model is easily replicable in other countries given the proper focus and attention during the critical growth stage.* It is with this mindset that Toon Boom seeks to grow Trinidad and Tobago's animation industry. Ms. Vogelesang has personally lead efforts to promote the industry by meeting key government representatives such as the Minister of Trade. She has also recently joined eTeck as an advisor on their state visit to India to promote investments in the country. Toon Boom's aggressive efforts

[26] TTCSI, 2012
[27] Business Without Borders, 2011

to assist in developing Trinidad and Tobago's creative services industry is expected to result in concrete gains in the global creative services market.

Toon Boom currently has a partnership with a Trinidad and Tobago animation studio, Full Circle Animation. It has committed to providing both animation equipment and software to Full Circle, increasing its capability to produce digital content. Further, Toon Boom also plays a proactive role in imparting knowledge to its partner companies. Experienced Toon Boom employees will be stationed at Full Circle Animation's office in Trinidad and Tobago once their first outsourcing project comes in. This *hands-on approach* by Toon Boom in developing the capabilities of Full Circle Animation will be beneficial for the latter in transferring the operation expertise and knowledge it will require to become a full-fledged animation outsourcing studio.

As seen in Toon Boom's contributions, private sector support can be extremely valuable to nascent industries such as Trinidad and Tobago's animation sector, as these are the institutions that most often have the necessary know-how to succeed in their business fields and compete in the global arena.

Current IT-BPO Industry

Trinidad and Tobago's IT-BPO industry has developed in recent years, with global IT providers such as IBM, Fujitsu-ICL, and Microsoft having established presence in the country. With the formal identification of ITeS as a targeted sector, the government's recent push to advance ICT usage across sectors and the development of infrastructure and a more business friendly environment – the country has taken the necessary steps to improve the value proposition of the local IT-BPO industry.

The current outsourcing landscape in Trinidad and Tobago mostly focuses on the ITO segment with some local providers already playing a regional provider role. Low-end BPO service providers are also present in the country, though in much smaller scales than their ITO counterparts. Despite these gains, Tholons believes that there remain promising opportunities for Trinidad and Tobago's outsourcing industry. With evolving technologies allowing for a whole myriad of processes to be outsourced, Trinidad and Tobago can establish an entirely distinct niche different from segments already being dominated by established outsourcing destinations like India, the Philippines, China and South Korea. Carving out specific process niches will be the key for Trinidad and Tobago in utilizing its inherent service delivery capabilities.

Government's recent efforts into developing Trinidad and Tobago's IT-BPO industry has brought much focus on the different opportunities for growth. There are many paths towards establishing a robust IT-BPO sector, and it is imperative to carefully examine and analyze the country's current outsourcing landscape in order to identify potential success areas.

Analysis of the Current Industry

ITO Services

The IT-BPO industry of Trinidad and Tobago is still considered to be in its nascent stage. Having a historically dominant export sector in oil, and a small labor pool - has left the IT Services sector largely underexplored.

Despite this, the country has continued to develop its capabilities in specific ITO and KPO segments. This is attested by the presence of global service providers serving the Caribbean region, along with the emergence of smaller players serving regional clients. Service providers in the country assert that the country definitely has the basic capabilities to fulfill ITO services in the country, albeit on a smaller scale. The following table shows select service providers in Trinidad and Tobago comprising a healthy mix of global and domestic players:

Table 24: Established Service Providers in Trinidad and Tobago

Service Provider	Major Services	Headcount	Year Established	Client Markets
IBM	• Application Development and Maintenance • Cloud Computing • Hosting • Contact Center Support	>250	1949	Caribbean
FUJITSU	• Infrastructure-as-a-Service • IT Support • Application Outsourcing	50-100	1968	Caribbean
TRINIDAD SYSTEMS LIMITED	• IP Telephony • Networking • Payment Systems • Application Development	300	1982	Central America West Africa Middle East
ILLUMINAT	• Data storage • Hosting • Network Monitoring • Business Continuity & Disaster Recovery • Application Services	280	2001	US Canada Central America South America

Teleios	• Application Development • Agile Processes • Microsoft Solutions Framework	11-50	1997	Caribbean
medullan	• Enterprise System Development • Healthcare Information Management	11-50	2004	North America

Source: Tholons Research and Estimates, 2012

From the list of selected service providers, it is apparent that ITO services are the dominant segment in the country. The two global service providers in the table provide ITO processes to Caribbean client markets. Fujitsu, in particular, has provided services to the Trinidad and Tobago government for its national ICT agenda, *fastforward*. In 2008, Fujitsu was able to close a US$860,000 contract with the Trinidad and Tobago government to expand coverage of its GovNeTT system to 400 government websites as well as enhance the system's shared services suite.[28]

The relatively smaller ITO service providers are homegrown Trinidad and Tobago businesses which have slowly built up capabilities and have now expanded business activities outside the regional market. Particular focus markets for these service providers are the North American and Latin American regions.

It is interesting to note that these established service providers all have employee headcounts of less than 300 – confirming the inherent scale limitations of the country's talent pool. However, this observation can also be viewed in a positive context, in that ITO providers in emerging locations often do not have the same size headcounts as would be found in BPO-centric locations. *In fact, the presence of no less than four ITO providers with headcounts of over 100 employees clearly validates the ITO capabilities of the country's talent pool*.

Incidentally, this positive headcount rate can be seen in regional providers as well, through Illuminat and Trinidad Systems Limited, both of which share their origins in Trinidad and Tobago. To maintain growth in this sector, Trinidad and Tobago's tertiary graduate population must maintain technical skill standards and increase graduate rates in the near term. Currently, the UWI and UTT, two of country's largest universities, produce only 400 IT graduates annually.[29]

To address this predicament, the UWI and UTT have developed specialized courses for the ITeS sector to mitigate both scalability and employability concerns. These programs function with *education-intensive approaches*, which help in increasing the employability of IT workers. UTT has crafted a curriculum with the help of IBM and other local players for ICT courses targeting both undergraduate and Masteral students. In addition, UTT developed the Master's Program in Industrial Innovation, Entrepreneurship, and Management designed to train students to become

[28] Fujitsu Transaction Solutions, 2009
[29] Ministry of Trade and Industry, 2009

capable managers in ITeS companies. Similarly, the UWI has integrated ICT courses across different curricula allowing students to pursue specializations in specific IT fields. These courses include Cisco Academy, Microsoft IT Academy, and Nortel Certified Technology Specialist-Converged IP Solutions. The UWI also offers Bachelor and Master Degrees in Electrical and Computer Engineering as well as a Bachelor Degree in Computer Science and Technology. The additional focus in IT Services will definitely increase skills capabilities of Trinidad and Tobago's graduates, especially with the tighter integration of IT courses in university curricula. Ultimately, this should allow for a higher number of graduates to be transitioned into the ITO sector.

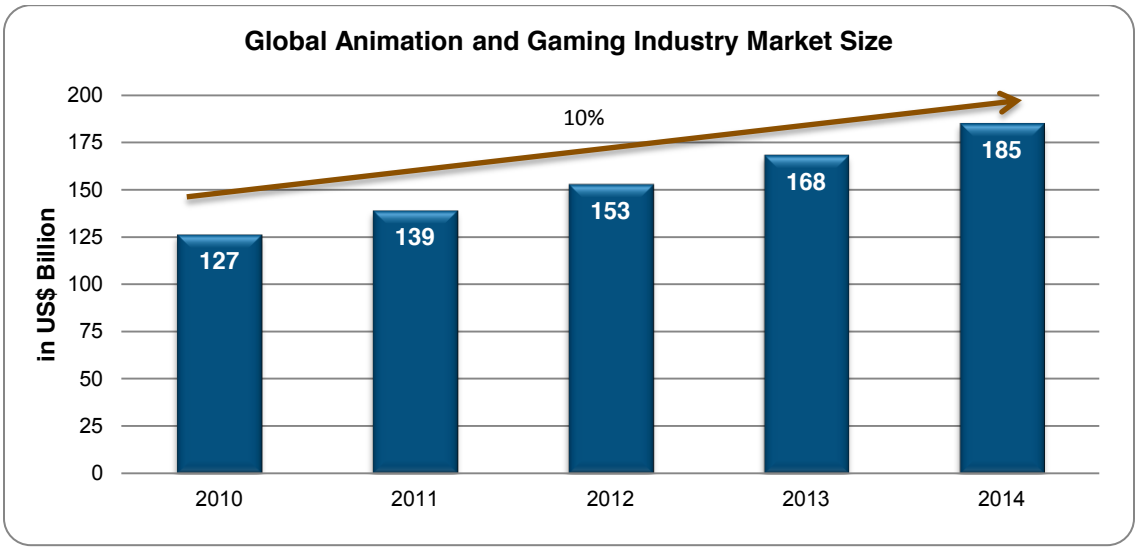
The previous section highlights the current status of Trinidad and Tobago's ITO segment. While IT skills capabilities exist and have helped attract service providers to the country, *scalability remains a long-term concern*. The country may consider setting rational growth targets for its ITO industry. In the long term, Tholons estimates than the sector could potentially accommodate 10-15 medium sized providers with headcounts within the 500 to 1,000 employee range.

As Trinidad and Tobago works on improving the scale and capabilities of its ITO labor pool, it is imperative for industry stakeholders to also explore other segments which can contribute to the overall growth of the country's IT-BPO industry.

Creative Services Outsourcing

The Creative Industries as a whole has been also highlighted by the Trinidad and Tobago government as one of its targeted sectors. Animation is included under this category focusing on three segments: pre-production, production, and outsourcing. This is a particularly accurate identification of a promising niche industry for the country and as the global animation and gaming industry market presents a low-hanging opportunity for Trinidad and Tobago. This market grew by 12% from the period 2005-2009, and is forecasted to grow by an additional 10% through 2014.

Chart 3: Global Animation and Gaming Industry Market Size



Source: NASSCOM Animation and Gaming Industry Report, 2009

This is a promising development as Trinidad and Tobago's local animation studios are strategically poised to capitalize on this growing market segment. The current Animation industry of Trinidad and Tobago has been established in the country for around 10 years with local animation studios establishing their mark across the region's creative industries. These animation studios have been steadily growing in both capacity and experience due to domestic engagements with diverse clients ranging from government, advertising, and education sectors.

There has been a noticeable increase in pilots for animated television series, six such series having been completed through 2011, and there has also been a noted increase of animation from the advertising industry. With this domestic experience, local animation studios have begun to developed service delivery capabilities – increasing the maturity of the country's animation ecosystem. This may indicate the readiness of the industry to begin exploring foreign creative services outsourcing markets.

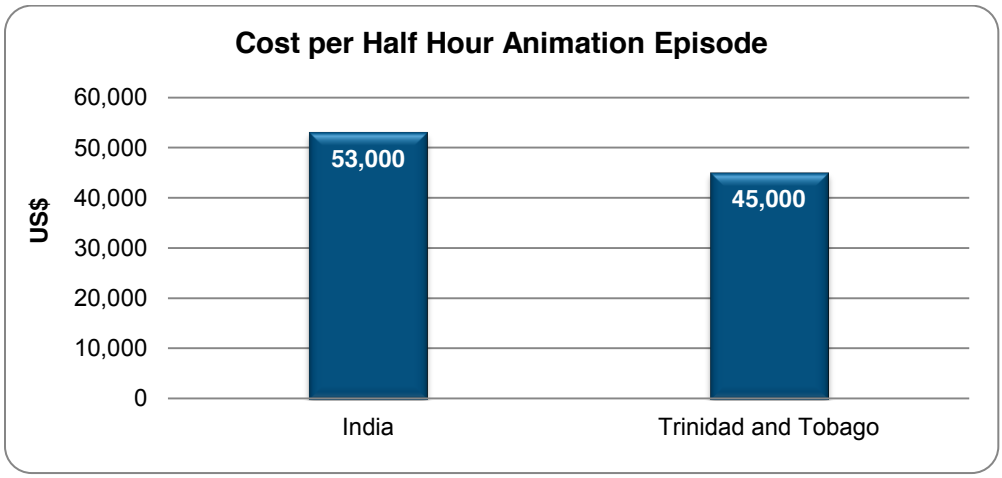
Trinidad and Tobago animation studios have consistently proven their capabilities by showcasing works such as short animated films in the country's premiere animation festival, the *Animae Caribe Animation and New Media Festival*. The Animae Caribe is a yearly festival which exhibits animated work from both the Caribbean and international locations such as Hong Kong, Egypt, US, and Spain. Moreover, it is an opportunity for local animators and professionals to learn from international industry experts in the field of Animation.

International animation studios have also begun to take notice of Trinidad and Tobago's animation capabilities. Toon Boom, a global provider of digital content and animation creation software, has made significant headway in the country, establishing a partnership with local animation provider, Full Circle Animation, a pioneer in the country's animation industry. In this partnership, Toon Boom will be providing software and equipment to Full Circle Animation, enabling local animators to create digital animation in formats required by international clients. Moreover, Toon Boom will guide Full Circle Animation in its first outsourcing engagement. Trainers will be made available to Full Circle Animation for the first 2-3 months of the project, transferring knowledge to local animators and hand-holding Full Circle Animation through their first outsourcing engagement.

Another advantage for Trinidad and Tobago is its current stock of local animators, supported by a capable tertiary platform. UTT currently offers a 2-year Digital Media Studies diploma course aimed at training students for employment in the Animation industry. Graduates from this program are typically able to be integrated into the Animation industry, provided they are given short training and immersion programs of specific animation processes. The creation of a Bachelor of Arts and Science in Animation is also being pursued. In addition, YTEPP holds a re-training program aimed at unemployed people between the ages of 25-45 who wish to re-enter the animation industry. In total, approximately 220 animators graduate yearly comprised of 40 animation graduates and 180 YTEPP graduates. Both these programs employ a two-pronged approach in ensuring the labor supply of the animation outsourcing sector – as talent is sourced from both the fresh graduate and re-skilled trainee segments of the labor pool.

With regard to cost, Trinidad and Tobago also provides an advantage in comparison to even a more mature destination such as India. Full Circle Animation proposes a production cost of US$45,000 per half hour animated television episode - 15% cheaper than rates in India.

Chart 4: Cost per Half Hour Animation Episode



Source: Tholons Research, 2012

Coupled with the region's nearshore advantage, low production costs in the country are definitive propositions of the local Animation industry. Moreover, costs could be driven lower as the number of animation studies increases and competition accelerates. Increased utilization of modern animation technologies, both hardware and software, could also help drive costs down and increase delivery capacities.

However, gaps still exist in the development of the country's CSO ecosystem. Currently, CSO service providers do not have the necessary manpower to export service on a profitable scale, and access to capital from ether public and private institutions is still lacking. An injection of funding at this nascent stage of the industry will be crucial for CSO providers. This funding will be required to expand operations and deliver services to the global animation market. If funding is not made available, location animation studies will remain restricted to providing services to the domestic market.

Further, global platforms for promoting CSO such as Animae Caribe are greatly underutilized. Animae Caribe can be a potentially huge draw for international clients. Animae Caribe should be treated not only as a regional animation event, but more so, a platform for lead generation, that can effectively showcase the animation capabilities of the country. Further discussion on the utilization of Animae Caribe will be provided later in this study.

Trinidad and Tobago's movement into the CSO space has gained momentum in recent years. With the assistance of global animation providers such as Toon Boom assisting local animation studios, the sector has a much better chance to capitalize on global market opportunities. This positive momentum can be extended with proper government support, and the provision of capital resources to improve delivery capabilities and marketing initiatives. These combined elements could usher in a new period of development and growth for the country's CSO sector.

SWOT Analysis

Table 25: Trinidad and Tobago SWOT Analysis

Strengths	Weaknesses
• Nearshore location of Trinidad and Tobago allows easier access with clients in North America and Latin America. • Tertiary education's focus on ITeS will improve future graduate's employability. • Stable macro-economy conducive to business. • World-class ICT and physical infrastructure being developed throughout the country, such as Tamana InTech Park. • Active participation of private sector players for IT-BPO development. • Existing training and development programs for the talent pool.	• Low scalability in terms of workforce and graduates may impede expansion activities of service providers. • High salary costs compared to India, Philippines, and Latin American destinations such as Colombia and Argentina, which may discourage IT service providers looking for cost arbitrage. • High incidence of crime induces significant risk consideration. • Government bureaucracy may discourage the completion of various infrastructure projects as well as the entry of IT service providers to the country.
Opportunities	**Threats**
• Capable animation studios can possibly develop Trinidad and Tobago's CSO sector with support from government and multinational service providers. • Local universities have shown support for ITeS industries by providing focused courses ensuring sustainable talent pool. • Established relationship between Toon Boom Animation of Canada, which can serve as a precursor for further development of CSO services. • The CARICOM can be utilized as a regional hub in providing outsourcing services. • Animae Caribe can be used as a capable platform for CSO marketing and promotions, and lead generation. • Local ITO industry is small, but very capable of delivering high-value ITO services.	• Escalating competition from Latin American countries with greater scale may impede the growth of Trinidad and Tobago's nascent IT-BPO industry. • Trinidad and Tobago may face Animation branding challenges against more mature destinations such as India and the Philippines. • Country's image as a capable ITO provider may be diminished if service providers are unable to scale.

Recommendations

From analysis of the current economic landscape and existing ITeS industry of Trinidad and Tobago, Tholons proposes strategic recommendations for the mentioned industry of the country. These recommendations are derived from the strengths observed in the previous section and are matched with the most attainable opportunities in the ITeS space. In addition, the country's weaknesses and threats are also carefully considered, noting the direct and indirect impact these conditions may bring in the course of building the country's services outsourcing industry.

Tholons recommends four specific action items that can capitalize on the inherent strengths of the local IT-BPO ecosystem as well as capture the existing opportunities in key areas in the global outsourcing space. Moreover, Tholons includes an ancillary recommendation that complements the services-centric action points.

- **Focus on Creative Services Outsourcing**

Trinidad and Tobago has taken concrete actions to establish its Creative Services Outsourcing sector. The country has an existing, albeit small, Animation industry - a subset of the CSO line. Because of internal and external industry drivers, a greater focus on CSO in the near term can allow the niche sector to become a springboard for the country's IT-BPO industry. Animation services should be considered as a low-hanging fruit for the country in actualizing gains in the enlarging global IT-BPO industry. Likewise, a deeper focus on developing its Animation sector can also provide a unique service delivery image for the local industry. *Many larger delivery locations in the regional and across Latin America are already known for specific BPO, ITO and KPO services, but none has established an international brand as a destination for Creative Services Outsourcing*.

- **Engage Public Sector Stakeholders**

The current assessment of Trinidad and Tobago's IT-BPO industry reveals that institutional support from government can be improved. Industry accelerating initiatives such as providing better access to capital, development of industry-specific policies and providing a more secure environment, are some of the concrete steps which government should take to catalyze industry growth. Such support from the public sector can complement existing private sector initiatives. Given the proposed and focused approach to develop its CSO sector, Tholons also sees that a more collaborative participation between private and public sector stakeholders will allow for a more efficient and effective means to stimulate the entire IT-BPO landscape.

- **Utilize CARICOM to Expand CSO Opportunities**

CARICOM members present themselves as feasible target clients and potential sources of talent for Trinidad and Tobago's animation services. With a small population that may be hindered by scale capabilities, the CARICOM can be utilized to complement the country's animation outsourcing activities through the augmentation of labor pool. Trinidad and Tobago, with its

current capabilities, can also serve as the *lead service delivery country for CSO in CARICOM*, and can act as the delivery hub to the global CSO market.

- **Utilize Animae Caribe as a CSO Platform**

Animae Caribe is an annual event that highlights the animation capabilities of participating countries. Recognizing Anima Caribe as a viable marketing and promotions platform can allow Trinidad and Tobago to better capitalize on global market opportunities. Providing additional budgets to the event for example, would allow for coordinators to attract more international animation players to the event. This is beneficial in giving local providers the necessary contact with international industry best practices and provides them a better understanding of global market opportunities. Closer contact with international CSO companies also improves lead generation initiatives. This is a much needed activity as the country's budding CSO sector remains limited to delivering animation services to the regional market.

- **Manage Risk Perceptions**

Based on the findings of the preceding sections, social and security risks continue to linger in the country. These negative risks may curtail Trinidad and Tobago's efforts in communicating its capabilities as a possible destination for animation services. Perception-building initiatives that convey to potential investors that the country is in fact, a safe and secure place to do business can help the development of the local IT-BPO industry, especially as many locators will be foreign companies who may have different perceptions of current security conditions.

These recommendations are investigated in greater depth in the following section. Each recommendation will have consequent steps that the country should likewise consider.

Focus on Creative Services Outsourcing

Creative Services Outsourcing encompasses a wide gamut of processes, most often dealing with Entertainment and related industry verticals. This includes film (e.g. motion pictures and video production), music, gaming, e-learning, and advertising. Animation services have become an integral part of these subsectors, as animation is said to enhance movement of characters and *bring life* to static drawing, models, or inanimate objects. Animation as a process is said to produce a more engaging visual platform to end users and viewers.

The outsourcing of animation processes by clients such as animation studios, video game development and movie companies are driven by the need to lower production costs. Likewise, many service buyers are situated in locations which may not necessarily have the talent pools to supply the required volume of animation services. In such instances, the animation service buyer would need to outsource the services from *alternative locations* that have the technical skillsets and manpower to fulfill the demand. India, the Philippines, Canada and smaller Eastern

European nations have emerged as alternative destinations providing CSO services to the North American and Western European markets.

Tholons asserts its analysis of CSO as being a low-hanging opportunity for the country. There are several supply and demand side considerations which substantiate this opportunity. First, the global CSO industry is relatively new, and there are few established or dominant CSO hubs. Thus, opportunities are available even for smaller delivery destinations such as Trinidad and Tobago. Second, the CSO market is relatively fragmented – there are thousands of small CSO providers scattered across the globe, providing CSO services across a myriad of vertical industries. Demand requirements also often require much smaller production teams, especially when compared to *volume-based services* found in the BPO or ITO sectors. Finally, CSO processes are not easily replicated, making them less prone to be engulfed by the cost arbitrage of larger, more mature outsourcing destinations. India for example, in spite of its cost advantages, vast talent pool, and expertise in the ITO and KPO sectors, has been unable to establish a dominant CSO sector, at least not in the scale of its other, more pronounced service lines.

With this recommended identification of the CSO niche for Trinidad and Tobago, stakeholders should consider the following activities to streamline industry-building initiatives aimed at enhancing the CSO capabilities of the country.

Finishing Schools for the CSO Talent Pool

An effective approach to improve animation and creative skills proficiencies involves the establishment of an *alternative talent development platform* which will be tasked to improve specific skills proficiencies. This approach has become a common practice in established outsourcing destinations such as India, China, and the Philippines. Though blessed with large labor pools, talent proficiencies in these countries are often unable to keep pace with expanding and evolving IT-BPO industry requirements. The creation of short-term training institutions such as Finishing Schools, have provided a focused and effective approach in improving both the scale and quality of the labor pool in these locations.

Finishing Schools are supplementary and non-formal institutions designed to provide short-term technical training programs focused on improving *specific* skill sets in the labor pool. *The chosen skill sets should be derived from the skill proficiencies required by the industry*. An approach such as this immediately addresses the critical needs of service providers in terms of labor. The target students of these institutions comprise secondary and tertiary graduates, career shifters, and near-hires. The diverse sources of talent for Finishing Schools also allows for the creation of a larger talent base and a steadier stream of labor. This is unlike traditional educational platforms such as tertiary education, wherein longer training periods restrict the stream of candidates. It would be illogical for career shifters for example, to re-enter university to simply acquire a new skill set.

In implementing Finishing Schools, Tholons presents a four-stage implementation framework. The entire framework rests on collaboration of institutions which are keen in developing a more reliable stream of employable labor pool. These stages are presented below.

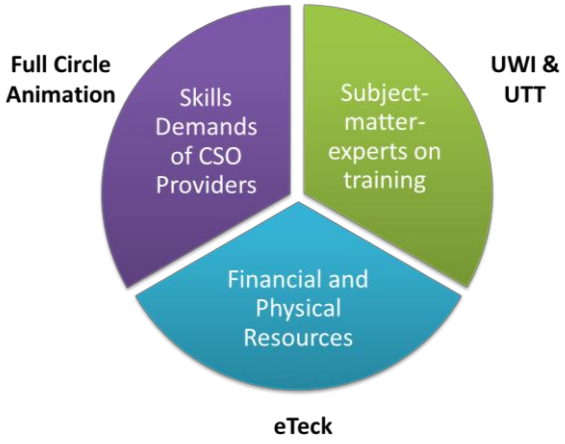
Table 26: Finishing Schools Framework

Stage	Overall Function	Components	Component Function
Needs Analysis	The *Needs Analysis* stage focuses on the initial assessment of the critical components of Finishing Schools – stakeholders, labor pool, current industry dynamics, and infrastructure. The interplay of these four components will determine the pace of development for the succeeding stages.	**Stakeholder Analysis**	Identify and engage stakeholders involved in Finishing Schools and gauging their related capabilities for the next stages
		Labor Pool Analysis	Identify labor pool's existing strengths, weaknesses, and capabilities, as well as potential trainer skills and capabilities
		Industry Analysis	Identify short and long term labor pool needs of the IT Services industry for prioritization in Finishing School courses
		Infrastructure Analysis	Evaluate the location's capability to execute a Finishing School (including a suitable location/school, availability of lecturers, etc.)
Program Conceptualization	The *Conceptualization stage* is focused on two mutually dependent activities – the role of stakeholders for Finishing Schools and the partnerships that they need to establish, and the targeted program designs. These two activities will become a crucial requisite for the next two stages. Given this, there are two possible considerations for the stakeholders involved in the Finishing Schools.	**Stakeholder Participation**	Identify each stakeholder's role and concrete deliverables for the implementation of the Finishing Schools
		Stakeholder Calibration	Identify needed reforms for institutions to better perform the roles assigned in Stakeholder Participation Component
		Program Development	Create a curriculum covering BPO/KPO/ITO service lines identified in the Industry and Labor Pool analysis. Frequency and overall duration of classes will also be identified.

Implementation	This stage leverages on the fusion of labor pool analysis and infrastructure analysis in Stage 1. Through the labor pool analysis, the stakeholders can identify which locations need skilling, re-skilling and up-skilling programs. Moreover, infrastructure analysis also creates more avenues to effectively identify which locations it is feasible to roll out the programs.	**Country-specific Locations**	Identify cities where Finishing Schools will be best implemented considering criteria such as near-hire & recent graduate density, location of major IT services firms & universities
		Marketing and Promotions	Initiatives to promote the Finishing Schools program will be held in universities and IT services firms to highlight up-skilling capabilities
Evaluation	The *Evaluation* stage focuses on post-implementation assessments of the Finishing School's various components. This stage is critical in identifying areas where the program has succeeded or failed. The results of which will allow adjustments to be made to further improve the Finishing School program.	**Course Curriculum Assessment**	Identify elements in the curriculum which need more/less focus given real world experience and day-to-day operations
		After-program Skills Assessment	Carry out the same skills assessment tests as done during pre-implementation phase to evaluate if the program resulted to an increase in IT services skills
		Stakeholder Assessment	Evaluate each stakeholder as to the roles and deliverables assigned to them

A combination of stakeholders from industry, academe, and the public sector should be involved in the development and implementation of the Finishing Schools platform. The contribution of individual stakeholder expertise is crucial and should be fully utilized. In Trinidad and Tobago's case, CSO providers will play a determining role in the curriculum development of the proposed Finishing School, as a focused objective for the trainings institutions revolves around the training of creative services professionals. Further, academic institutions such as the UTT and UWI can act as subject-matter experts on training and education components, while public sector can provide technology and capital resources to execute the talent development initiatives. This *collaborative implementation model* will provide the best chances for the Finishing Schools platform to succeed.

Figure 4: Proposed Implementation Model for Finishing Schools in Trinidad and Tobago



Undoubtedly, implementing the Finishing Schools platform on a wide-scale (nationwide) level would entail a considerable amount of resources. *Thus, industry stakeholder should consider the option of modifying existing training programs and recalibrating them to become Finishing School institutions*. Likewise, as Trinidad and Tobago's outsourcing industry is still in its nascent stage, any talent development initiative should be fully rationalized before full implementation. It is for this reason that a pilot program should be conducted to determine the effectiveness of the program design. The pilot program allows for a careful, calculated, and controlled approach, which can better utilize the limited resources available to the CSO industry.

The next three sub-sections present preliminary discussions on conducting the first stage (Needs Analysis) of the Finishing Schools framework in Trinidad and Tobago.

Current CSO Labor Pool

In effectively implementing Finishing Schools, a necessary precursor is for stakeholders to take a comprehensive assessment of the relevant CSO labor pool. A complete survey of this particular labor segment will determine the real-world supply capacity of Trinidad and Tobago to delivery CSO processes and likewise determine the most appropriate client markets to target.

Animation graduates serve as the backbone of all CSO processes in the country. With a fewer number of graduates compared to other CSO destinations, Trinidad and Tobago should take specific measures to compensate for this handicap. A possible solution to offset this condition is by increasing the employability levels of existing animation graduates. This can be done through appropriate training and development initiatives such as Finishing Schools.

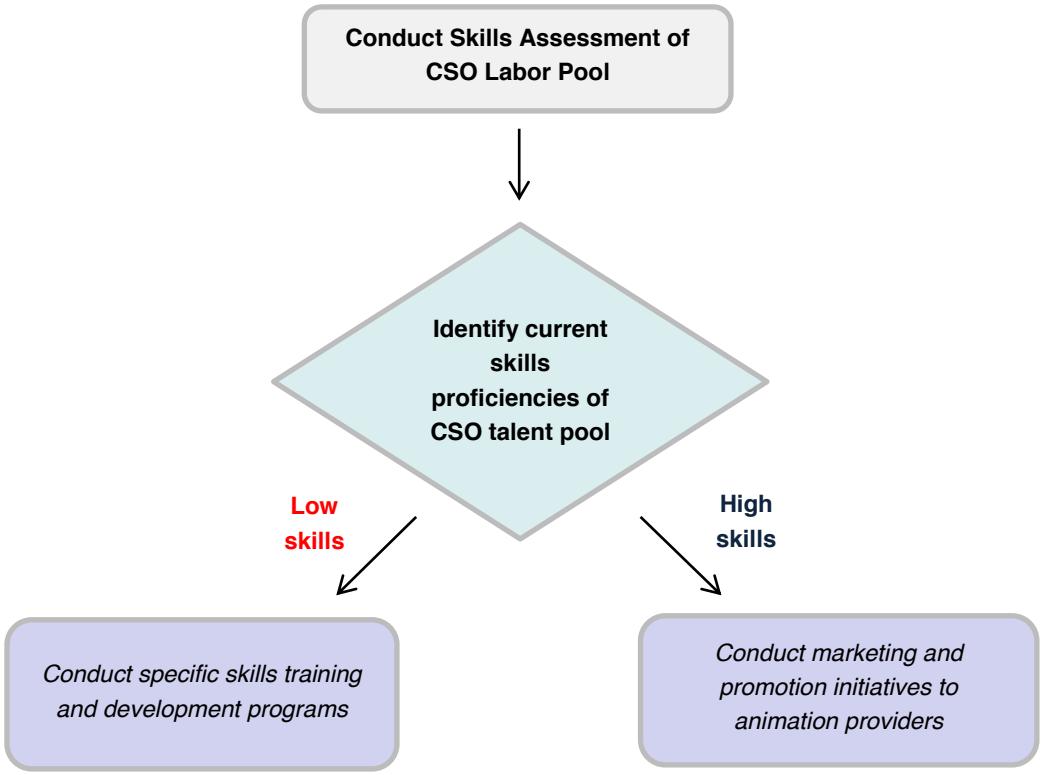
However, having a smaller labor pool is not entirely disadvantageous to the country. Having a smaller number of animation graduates for example, allows for animation training programs to be deployed more quickly and within a more favorable cost envelope. The target group is smaller, thus, the cost to train the group is also smaller.

In addition, Trinidad and Tobago already has supportive private sector players, like Full Circle Animation, which can aid in the actual implementation of animation development programs.

The CSO labor pool assessment results, coupled with the initiatives provided by stakeholders will determine the potential of the industry to deliver outsourced creative services. The results of the skills assessment exercise should also serve as a focal point for stakeholders in determining the most appropriate developmental path for the country's CSO industry.

The flowchart below summarizes the two possible industry paths of Trinidad and Tobago.

Figure 5: Possible Industry Paths for Trinidad and Tobago



Skills assessment will allow the country to categorically determine if the creative services labor pool is competitive in the global CSO arena. A thorough examination of existing animation and related creative skillsets will also uncover the skills gaps and strengths of the talent pool. The resulting *skills gaps* imply two different approaches from Trinidad and Tobago – low skills will mean more effective skills training and development programs need to be implemented, while high skills would *green light* the industry to pursue opportunities in external CSO client markets.

Trinidad and Tobago can utilize two main sources of graduates for its skills assessment program: the public state university UTT and the technical and vocational skills training provider YTEPP. The continuous streams of animation graduates from these institutions provide an adequate and representative base for gauging the skillsets of the animation labor pool. Although differing in

their respective delivery models, it will be important to assess the skills of their animation graduates as both will be the primary sources of talent for CSO service providers.

If skills sets are found to be inadequate, then further training or tweaks in the curriculum should be undertaken. Two possible courses of actions can be made to address such low skills proficiency in animation. One, necessary adjustments in existing course curricula in both UTT and YTEPP course offerings should be explored in order to address identified gaps in student skill sets. Toon Boom or other creative service providers can be consulted as subject-matter experts in revising or retooling animation-related curriculum.

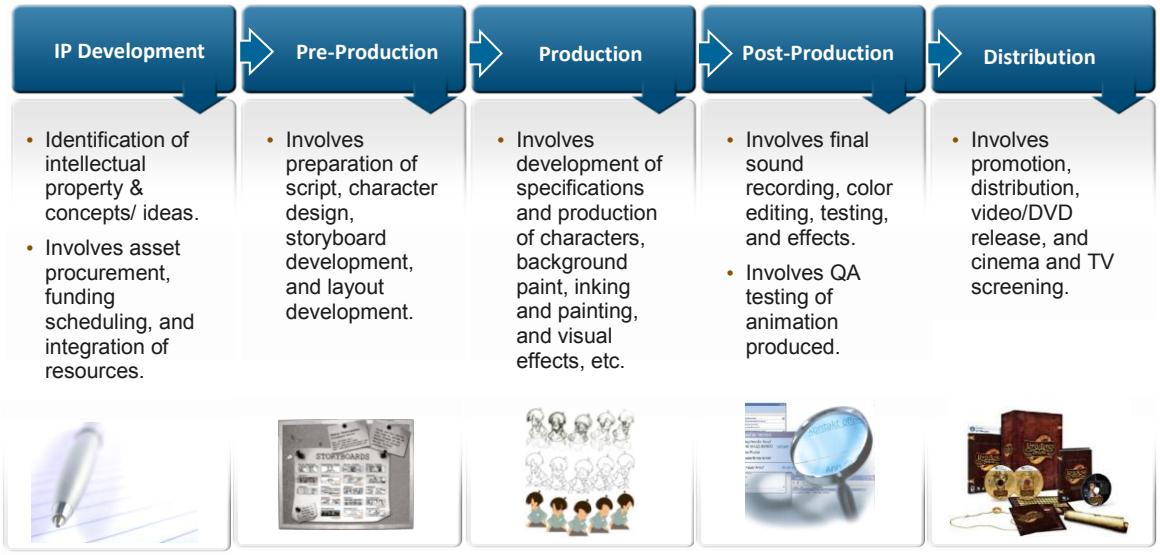
Second, industry stakeholders should consider providing specific up-skilling programs for the labor pool's current animators. Animation graduates from previous years may not have the appropriate proficiencies to gain employment in an outsourcing-oriented animation studio. They may be unaware of new animation technologies and software solutions for example. Nevertheless, these animators, if up-skilled properly, could help augment the CSO talent pool. These animators already have the core competencies and fundamental skill sets needed to fulfill animation processes - they may just need to be re-skilled and re-oriented towards the CSO delivery model. Again, Finishing Schools provide a capable platform for this training requirement.

On the marketing and promotion side, a comprehensive skills assessment of the animation talent pool will give proper identification of existing skillset strengths. An output of this phase may be in the form of a Skills Registry wherein information on available skillsets is detailed. Programming languages, animation software proficiencies and animation process certifications are some of the data points that an industry sector Skills Registry should capture. These data points can also be used to entice external clients and validate delivery capabilities of the industry – assisting in the promotion of the country as a CSO destination.

Mapping Animation Service Processes

Complementing the animation labor pool is the mapping of various animation services. This will help match the skills of the graduates to the most appropriate service processes in animation sector. The entire animation group involves five distinct and inter-dependent stages. The last stage is considered an ancillary stage, which deals more with the distribution of the final (animated) product. Figure 6 below presents a general illustration of these animation stages.

Figure 6: Animation Process Map



Source: NASSCOM, Tholons Research 2012

IP Development is the first stage in the animation process and is the cornerstone of any project. IP development entails the planning, brainstorming, concept formulation & approach and story creation. The continuation and execution of the remaining stages rest on the degree and quality of this first stage. From observed animation projects, this stage often requires a significant amount of time to fulfill, due to the complex and intangible nature of 'creating new ideas.'

In many cases, the Pre-Production stage is simultaneously done with the IP Development. Pre-production delves more on the preparatory processes for the actual production of the animation project. This stage includes script creation, character design, and storyboard development. As the brainstorming of ideas transpire, animators are more likely to sketch these ideas. Once the ideas and concepts have been transitioned into a tangible medium, whether in paper or software form, the Production stage can them begin.

The Production stage then includes all the processes required to generate *animation output*. The Production stage aims to develop the specifications presented in the preceding two stages. For instance, character design specifications are produced into animation content, including background paint, inking and painting, as well as visual effects production. Finally, the Post-production stage involves the testing and polishing of the animated output. Post-production should address final sound recording, color editing, and quality testing of the animated product.

In developing capabilities to deliver outsourced animation services, it is important to identify which processes can be outsourced in each stage as well as the necessary skill sets required to fulfill those processes. Among the four discussed stages, the IP Development stage has the least potential to be outsourced, as clients often require more control of IP in this stage. The remaining three stages allow for more flexibility, though are often dependent on the specific proficiencies of the service provider. Voice-overs are done in accent neutral destinations, color editing are done in lower-cost destinations, while character rendering may be done in more mature CSO locations.

Table 27: Animation Service Lines and Skill Requirements

Stages	Outsourced Processes	Required Skills
Pre-production	Preparation of Script	• Graphic Design • Illustration and Sketching • Knowledge in IT and Animation Software & Tools
	Character Design	
	Storyboard Development	
	Layout Development	
Production	Character specification production	• Coloring • Illustration and Sketching • Knowledge in IT and Animation Software & Tools
	Background paint	
	Inking and painting	
	Visual Effects Production	
Post-production	Special sound effects	• Coloring • Sound Mixing • Knowledge in IT and Animation Software & Tools
	Color editing	
	Final sound recording	
	Animation testing and final rendering	

Source: Tholons Research 2012

Table 29 above presents specific outsourced processes under the animation service line. To the advantage of Trinidad and Tobago, InvestTT has already identified that animation services in the country should focus on the pre-production and production stages. Given this, the country should align training efforts to properly nurture these process groups. Future talent development initiatives such as Finishing Schools, should also take these stages into account during the development of course curriculum. Doing so will allow such training platforms to generate a more focused, and employable pool of graduates.

Develop Service Delivery Infrastructure and Facilities

Another precursor in developing a niche CSO sector is for a sound service delivery infrastructure to be in place. Both the quality and quantity of infrastructure need to be in place to foster continuous service delivery capabilities. Supporting infrastructure will also improve the competitiveness of the country in delivering outsourced animation services.

Current animation providers in the country mention the general lack of modern animation studios and production facilities. Such deficiencies will limit the CSO processes that Trinidad and Tobago can deliver. In addition, the lack of these facilities may constrain Finishing Schools from providing holistic training programs. *On-the-job or on-site training classes for example, cannot be done without available animation facilities.*

Given these findings, it is imperative for the country to mobilize the necessary resources to establish such facilities. Government can play an instrumental role, as it has the financial resources to establish such an infrastructure. In addition, the public sector can also look into developing finance partnerships among local CSO companies, relevant industry stakeholders, and if possible, foreign investors.

The role and assistance of the public sector at this nascent stage of the animation industry is critical, and as the following section will show, public sector involvement opens immediate windows of opportunity for the country to explore.

Tamana inTech Park as a Suitable Location for CSO Activities

The Tamana InTech Park, being the first SEZ in Trinidad and Tobago designed for knowledge-based businesses, presents an opportunity for CSO providers to develop in a conducive and structurally sound environment. The InTech Park's design brings several advantages to CSO providers such as state-of-the-art telecommunications and physical infrastructure, tax incentives, a supportive cluster business environment, as well as a regular inflow of fresh graduates from the UTT campus situated within the facility.

The park's digital and physical infrastructure will be particularly beneficial to Trinidad and Tobago's CSO providers. Tamana's dedicated electricity substation ensures service providers a stable and redundant supply of power. In addition, sophisticated telecommunications infrastructure as seen in the park's inclusion of networking solutions based on NGN architecture will provide reliable leased line services to the park's CSO tenants. The nearby airport will also make it easier to facilitate business opportunities with global clients and knowledge transfer opportunities from experts across the world. These structural components will allow for uninterrupted operations, and can serve as the foundation for developing a globally competitive service delivery environment. The Park's tax incentives can also play am enabling role in driving the growth of smaller CSO service providers in the country.

Further, educational and training facilities located within InTech Park can contribute to the overall sustainability of CSO operations, as these institutions provide CSO companies a more fluid access to talent resources. Graduates in courses such as Digital Media Studies are appropriate matches for employment in the CSO sector. Employability levels can also be increased by setting up a Finishing School within the Tamana InTech Park, and offering specific training and re-skilling courses in animation processes. Technology parks are also often ideal locations to establish Finishing Schools due to the high concentration of IT-BPO providers located within the parks.

Case Study 4: Implementing Finishing Schools in IT Parks

Finishing Schools in Tech Parks

The Software Technology Parks of India's Success with Finishing Schools

Establishing talent development initiatives has always been a sound approach to bridging talent divides between industry players and potential employees. In fact, talent development is constantly pursued in established IT-BPO locations such as India, the Philippines, and China - especially in tech parks where the high concentration of IT-BPO providers are constantly competing for talent. Finishing Schools are an example of these talent development initiatives which have garnered success in tech parks around the world. In addition, Finishing Schools have been welcomed by both industry and potential employees especially in locations where higher education institutions are unable to meet the scale and stringent proficiency demands of the IT-BPO industry.

The Software Technology Parks of India, an autonomous government agency in charge of managing India's tech parks, held its own pilot program for Finishing Schools in Chennai last 2009. The government agency provided the infrastructure and mentoring while its partner, the Centre for Development of Advanced Computing, provided the educational content. The initial investment for the pilot program was US$102,491. The established Finishing School trained fresh graduates in soft skills, communication, and engineering. Toshiba Embedded Systems India was the first IT-BPO service provider to avail of the Finishing School services by sending 25 of its new recruits to train under a 6 month program in soft skills and communication.

Due to the Finishing School's apparent success and the attention it has received, the Software Technology Parks of India had already intended to replicate the program to the other 50 tech parks under its mandate across India. The country's success with the Finishing School shows that it is indeed a worthwhile and effective initiative to improve a location's labor pool.

Sources: SiliconIndia, 2009, Hindu Business Line, 2009

To date, the Tamana InTech Park remains under construction and is targeted to be completed sometime after 2012. With the park's current state, Trinidad and Tobago's CSO stakeholders should already be able to communicate their growth strategies with eTeck to ensure that these are taken into account during construction and development stages. Particularly important for InTech Park stakeholders will be to consider the development of multimedia/animation facilities for CSO service providers and the Finishing School Pilot program. These stakeholders should be immediately engaged to guarantee an inclusive development of Trinidad and Tobago's CSO industry within the Tamana InTech Park.

Engage Public Sector Stakeholders

Presently, support from the government sector comes only in the form of generalized programs and incentives, and as seen in the InvesTT's Targeted Sectors for Growth initiative. Dedicated government support should be aligned with the existing push of the private sector in developing the country's creative services capabilities. However, because it is a relatively small industry

sector, the nascent animation industry does not yet have the proper leverage to demand for focused government support. With regard to talent development, focused public support is already available in state-owned universities and re-training programs specifically targeted to the animation outsourcing market.

Industry stakeholders should also work together to establish a more collaborative union between public and private sectors to capitalize on immediate opportunities for the local industry. Particularly, this unified front should explore the existing market potential within the animation outsourcing space. Key areas in which public sector can stimulate and collaborate with the private sector in developing includes:

- Improve local assistance programs for access to credit
- Improve investment policies to attract foreign service providers
- Establish industry-specific government channels to oversee industry and operational concerns (business permits, registration, marketing and promotion initiatives)

Investment related assistance may be handled by the InvesTT and the Ministry of Trade and Industry. InvesTT can contribute to the development of Trinidad and Tobago's animation by playing a more proactive role in facilitating foreign investments to the animation outsourcing sector for example. The Ministry of Trade and Industry can provide stimulus investments to local animation providers. An animation fund, or providing access to seed funding can be explored - along with other co-investment schemes such as matching grants - to stimulate and nurture growth of aspiring animation providers in the country.

To promote public-private partnerships, the TTCSI could also be engaged to take a more proactive stance in developing the animation sector. Although representative of the country's overall services sector, a targeted focus on the animation sector by TTCSI can better drive growth. The agency can initiate specific advocacy activities to promote the industry locally through its vast network of relationships with government and private sector stakeholders. *The utilization of TTCSI's vast network could increase interest in the industry across a wider range of sectors*. Moreover, and because of its knowledge of service trade agreements, TTCSI may also be in a relevant position to identify and highlight the export opportunities available to CSO providers.

Table 28: Stakeholder Mapping for CSO Industry

Stakeholder	Primary Roles	Suggested Modes of Support for CSO Industry
InvestTT	Facilitator of Foreign Investments Marketing and Promotions	• Promote and include the animation industry in its investment promotions activities • Facilitate investments from potential foreign companies and investors

Ministry of Trade and Industry	Investment Policy Creation	• Introduce investment incentives • Introduce tax incentives for locally produced animation production
Trinidad and Tobago Coalition of Services Industries	Umbrella Organization Marketing and Promotions	• Initiate trade negotiations for animation services • Represent service providers to address critical issues concerning human capital development
YTEPP	Vocational and Technical Skills Development	• Continually improve animation course curriculum to reflect industry needs
Ministry of Science, Technology, and Tertiary Education	Regulatory Body for Higher Education Institutions	• Continually improve animation course curriculum to reflect industry needs • Promote wider adoption of animation course offerings
eTeck	Investment Promotion for non-Oil and Gas Sectors Management Body for Tech and Industrial Parks	• Promote the growth of the animation industry in the Tamana inTech Park

Source: Tholons Research 2012

In many emerging outsourcing destinations, funding institutions often have limited understanding on the business models of service provider companies. This lack of understanding is compounded when traditional finance institutions evaluate niche service groups and providers – *such as animation studios* – and see these creative outfits simply as high-risk, low return companies. This predicament reaffirms the need for a collaborative initiative to dispel financial misconceptions and properly elucidate the real-world financial opportunities of these niche sectors.

A government body that works with industry stakeholders to draft fiscal policies and funding programs can help solidify the capital foundation of the industry. This body could also assist in dispelling financial misconceptions which local investors may have towards the niche services sectors. In Singapore, the Media Development Authority was established in 2003 for this very reason. It is largely credited with pushing for national policies to make the animation sector a significant contributor to the country's GDP. Trinidad and Tobago can view Singapore's example of a focused public sector representative. This will enable the local animation industry to develop strategic growth plans, knowing that the proper institution (government) is likewise supporting growth initiatives. Case Study 5 below study below presents the goals and objectives of Singapore's Media Development Authority.

Case Study 5: Example of Stakeholder Support in Singapore

Dedicated Public Sector Body

Singapore's Aid for Media Development

Beginning in the late 1990's, Singapore had experienced considerable growth in its Media Industry. During the period of 1997-2008, the size of Singapore's Media Industry grew at a CAGR of 6.8%. At 2008, it contributed approximately US$ 17.83 billion in revenues to the local economy and employed about 58,000 workers. In a large part, this growth was catalyzed by the establishment of Singapore's Media Development Authority (MDA) - mandated to development the vibrant media sector.

The MDA was formed in 2003 through a merger of the Singapore Broadcasting Authority, Films and Publications Department, and the Singapore Film Commission. The organization had two main objectives: to nurture homegrown media enterprises and to attract foreign investment for economic growth and job creation. Given this, the MDA has been able to spearhead initiatives for the overall improvement of the sector through industry-building programs and roadmaps.

The MDA provides assistance in the four main aspects of media development: Development, Production, Marketing, and Talent. For instance, in Production Assistance the MDA grants support comprising of 40% of a project's total spend in Singapore as long as Singaporean talent is used in credited roles. These benefits encourage foreign productions to pursue projects in the country. In Talent Assistance, the MDA provides grants for up to 70% of talent development course fees taking the expense of training off of the employer's shoulders.

The Media Industry of Singapore is also steered into strategic development opportunities through the Singapore Media Fusion Plan which underpins the country as the "Trusted Global Capital for New Asia Media." The strategic roadmap identifies key growth opportunities and relevant programs to take advantage of such growth. One example of this is the development of IT infrastructure and physical media clusters specifically for the use of the Media industry.

With a dedicated public sector body, Singapore's Media industry has been able to capitalize on global market opportunities. It also presents a united front for a growing private media industry. The MDA represents the industry's needs and encourages government agencies to provide the appropriate developmental programs.

Source: Singapore Media Development Authority 2011

Utilize Animae Caribe as a CSO Platform

Tholons sees great potential in Animae Caribe as a platform not only to showcase local animation talent, but also as an opportunity for major stakeholders, CSO providers, and clients to converge and generate significant international interest in Trinidad and Tobago as a CSO destination. In fact, Animae Caribe can become a viable marketing and promotions platform for the country to leverage on to expand market reach of its small, but capable animation industry.

Having been held for a decade, Animae Caribe is considered as the premier animation event in the Caribbean region. Its yearly activities focus on the following:

- Short Animation Film Screenings
- Animation Industry Conferences and Sessions
- Animation Technique Workshops

However, these three activities may not necessarily be enough to market and promote Trinidad and Tobago's CSO services globally as these tracks are more focused on film exhibition and specific skills workshops for animators. From a global market perspective, these may not be compelling enough to convince investors that Trinidad and Tobago is a capable CSO destination. In 2009, Animae Caribe introduced the business rationale to the Caribbean Animation industry, convinced that the sector could generate profitable returns if nurtured properly. Since then, business seminars have been a regular part of the Animae Caribe festival, highlighting the country's potential as a profitable investments destination for animation services.

While Trinidad and Tobago is on the right track in promoting its animation industry, Animae Caribe still has to be better utilized as a platform for the CSO. The event should be able to better identify business opportunities from the external audience, and industry growth strategies should be clearly conveyed to participants and stakeholders. NASSCOM's CSO Summit, the *Animation and Gaming Conclave*, does exactly this for India's CSO industry. For instance, the theme of 2010's Animation and Gaming Conclave was, "It's All About Opportunities." Centered on this theme, NASSCOM provided event participants with industry-relevant figures, growth projections, global industry trends, and strategic plans. In this way, India's CSO service providers were made aware of industry dynamics, allowing them to better adapt and align service offerings towards global trends in the in the animation and gaming industries.

Government agencies in Trinidad and Tobago should also support the Animae Caribe as an industry-building platform. Relevant ministries such as the Ministry of Tourism, Ministry of Science, Technology, and Tertiary Education, among others, should consider taking a more active role in the event to assist in the development of the local CSO industry. The following roles can be played by the respective government agencies:

Table 29: Government Agencies and Roles in the Animae Caribe Festival

Government Agency	Role
Ministry of Tourism	• Officially promote Animae Caribe as a CSO industry summit to potential clients/investors abroad • Utilize vast client and partner network
Ministry of Science, Technology, and Tertiary Education	• Provide information and progress on human resource development initiatives pertaining to the CSO industry • Assess future needs of CSO service providers with regards to skills which can be incorporated into future animation-oriented curricula

Ministry of Trade and Industry/ Trinidad and Tobago Coalition of Services Industries	• Formally enact and introduce investment incentives for potential CSO locators • Provide information on the current state of the animation sector in the country and projected business opportunities • Utilize vast client and partner network

Source: Tholons Research 2012

Supporting previous discussions on engaging the public sector, concrete support from government agencies can reaffirm the country's identification of the creative services industry as a strategic growth sector. These public agencies will be in more favorable positions to introduce initiatives that can catalyze the country's CSO industry, whether through talent development, investment incentives, or marketing and promotions. *Animae Caribe can become a more productive platform – delivering greater impact – with the involvement of relevant government stakeholders.*

While initial iterations of the Animae Caribe can be focused on the marketing of Trinidad and Tobago's CSO capabilities, succeeding years should optimize the Festival's potential to generate business leads. The Animae Caribe can serve as an avenue for potential clients to understand the country's specific delivery capabilities, and make contact with local animation providers who may become outsourcing partners.

As such, the key in appropriating this annual festival to Trinidad and Tobago's advantage may be to *restructure* the Festival's main objectives and content. From simply showing *what* Trinidad and Tobago can offer in the animation space, Animae Caribe should now be geared towards convincing potential investors *how* the country can deliver outsourced creative services in a profitable business context. *There is no reason that Animae Caribe should be seen merely as an art exhibit, when it has the potential to become an art auction – a selling place for creative services.*

Considering these suggestions can make Animae Caribe a truly relevant marketing and promotion platform for the local industry. Similar events, both in the form of industry summits or conferences, are widely accepted as a best practice for industry and niche sector promotion.

Case Study 6: Outsourcing Summits as a Crucial Business Leads Generator

Industry Summits

Successful Outsourcing Summits in China and Latin America

China

Industry summits and fairs are a manner in which a country's service providers can both converge and attract clients globally.

One of the more anticipated events is the China International Software and Information Service (CISIS) Fair which has been running for nearly a decade. In 2011, around 800 exhibitors participated in the event offering over 1,000 varied IT products, solutions, services, and technologies to more than 30,000 visitors. An estimated US$11.1 million in revenues were estimated to be signed during the 4-day event.

Latin America

The fast emerging outsourcing regions of Latin America and the Caribbean saw its first outsourcing industry summit, the Outsource2LAC, held last April 2011 in Montevideo, Uruguay. Organized by the Inter-American Development Bank (IADB), this event was a convergence of representatives from 16 Latin American and Caribbean countries - attended by investment promotions agencies, industry trade organizations, and government stakeholders. In addition, around 400 companies were present, composed of both service providers and clients. To catalyze business opportunities, business matchmaking in the form of face-to-face meetings were facilitated. More than 800 of these meetings were organized and held during the Outsource2LAC summit.

Events such as these have great potential to catalyze business activities in a location. This convergent platform for IT-BPO stakeholders - comprising of government agencies, academe, service providers, and clients – allows not only for service capabilities to be showcased, but also allows for the meaningful exchange of information to transpire. This exchange can ultimately transition to better exploration of business leads and market opportunities.

Source: CHNSourcing, 2011, Outsource2LAC, 2011

Utilize CARICOM to Expand Market Opportunities

The initiative of CARICOM to pursue a *Single Market and Economy* among Caribbean countries can be an avenue for Trinidad and Tobago to expand CSO opportunities. This will be important for the country because of its smaller domestic market and scale restricted labor pool. The Trinidad and Tobago Coalition of Services Industries may take the lead on this initiative as the representative of services industries to global trade organizations.

As the country's creative services industry develops, service delivery capabilities and capacities may be restricted by the small domestic market. This would require the industry to explore external client markets, such as larger revenue markets found across CARICOM member nations. Likewise, as this niche sector evolves and begins to target international markets, the

country may need to augment its talent pool, by pooling labor from CARICOM partners with larger talent pools.

The following facets of the CARICOM Single Market and Economy (CSME) will be advantageous to Trinidad and Tobago's CSO industry. These benefits may allow for CARICOM to act as a regional or service delivery hub for animation outsourcing, and promoting greater collaboration among Caribbean countries.

Table 28: Integrating the Benefits of CSME in Creative Services Outsourcing

Benefits	Application
Right of Establishment	• Major service providers may establish and operate delivery centers in any CSME-member country under the same terms and conditions as the country of origin
Regional Trade in Services	• Service providers can offer services throughout CARICOM countries without restrictions and taxes
Free Movement of Skilled Persons	• Animation studios can tap into the labor pool of other CARICOM member countries without labor and travel restrictions
Free Movement of Capital	• Double Taxation Agreements among CARICOM countries negate the need for paying redundant taxes • Elimination of capital transfer restrictions within CARICOM countries make it both easier and cheaper for service providers to establish delivery centers

Source: Tholons Research 2012

Further affirming the regional approach to animation outsourcing, countries such as Jamaica, Guyana, Grenada, and Barbados already have budding animation sectors and talent development initiatives which can be leveraged on by Trinidad and Tobago.

Jamaica

After Trinidad and Tobago, Jamaica has the next best developed animation industry in the Caribbean with several established service providers, and number of animation related courses now being offered in its universities. IDEAL Studios is considered to be one of the pioneer animation studios in Jamaica offering 2D and 3D animation services. It is currently in the process of expanding its employees by 50 animators through job training incentives. Trainees going through the 2D animation training are guaranteed employment in the studio while job vacancies in 3D animation are available to those show excellence during training activities. Another notable service provider in animation outsourcing is Digital Transtec, an established IT services company in Jamaica. It is slated to expand into the animation outsourcing industry by establishing a 50-seat animation studio in the coming years.

The academic sector is also contributing to the development of Jamaica's animation outsourcing industry. The establishing of animation labs is currently in discussion to be launched in both the University of Technology and the Edna Manley College of the Visual and Performing Arts. Training sessions held in these animation labs will be capable of graduating a maximum of 25 students per academic cycle. Animation courses will also be introduced in 2012 in the University of West Indies, Mona and the Northern Caribbean University.

Further giving credence to Jamaica's budding animation sector is the holding of the first ever satellite Animae Caribe Festival in the country, complementing the main festival in Trinidad and Tobago. The event featured animation workshops, award winning film screenings, and seminars by internationally-recognized animators. This was hosted by the Jamaica Promotions Corporation (JAMPRO) which also identifies animation as a priority sector.

Barbados

Currently, Barbados' animation-related initiatives mainly consist of talent development programs. The National Council for Science and Technology (NCST) acts as the lead organization implementing these initiatives. The organization plans to establish a Digital Media Center together with partners from the private sector which will provide an ongoing training ground for animators. As plans are still in its initial stages, some training courses have already been provided in Barbados through Toon Boom with a total of 60 participants.

In addition, students in the primary and secondary levels of education will be exposed to the animation sector through the Kids Animation Motion Project (KAMP). In concept, participants will be taught the basics in the creation of cartoons and other animated material. Exposing the youth to animation at such an early age will basically help to promote awareness in the animation sector. Further, the summer camp initiative may encourage the youth to pursue employment opportunities in animation. 240 students are expected to participate in this venture.

Locally, the Ministry of Education has realized the opportunity in using animation as a tool for learning. Through its Audio Visual Department, the Ministry plans to set-up a 25 person animation studio to serve educational needs. Besides this, a local services provider, E-Solutions, is also expected to put up a 25 seat animation studio.

Guyana

Similar to Barbados, the Ministry of Culture, Youth, and Sport in Guyana will be launching a major summer camp initiative to expose the country's youth to animation. This program is being led by Toon Boom and will be held in partnership with the Kuru Kuru Training College and the Burrowes School of Arts.

Toon Boom has also established a partnership with local IT Services provider, BrainStreet Group. The service provider has signed a Memorandum of Agreement with Toon Boom to utilize its software with the aim of establishing an animation outsourcing studio. BrainStreet will be offering services such as storyboard production, character and prop design, background and layout

design, sound design, post-production, licensing, and distribution. Likewise, animation capabilities will help expand its existing online e-learning platform with enriched animated content.[30]

With growing capabilities across these Caribbean countries, there is little doubt on the region's improving capabilities to become regional hub for animation outsourcing. While these countries are still in their nascent stages in animation, Trinidad and Tobago can take the lead role in developing the service delivery cluster. *Trinidad and Tobago can be the hub in the Caribbean service delivery wheel*. The country's own success as an animation destination can concretize growth opportunities for the entire Caribbean region. The country can also pursue the consolidation of CSO service providers through the development of an *umbrella industry association* composed of regional animation providers and associations.

A regional animation association will heighten the capabilities of existing small-scale animation studios. With established partnerships and international linkages, member providers can tap talent resources from other partner destinations if animation engagements are too large for one provider to handle. Through this proposed regional animation association, the Caribbean can also market itself as a *collective group* to potential global clients. This could increase the attractiveness of creative services outsourcing across the entire region.

External Risk Perceptions and Effects on CSO Industry

The findings of the preceding sections establish that there remain social and security risks in Trinidad and Tobago. The high incidences of violent crime hinder the country efforts in promoting itself as a capable and safe creative services destination. The declared State of Emergency in 2011 also impacts the country's overall security image to potential foreign investors. As such, more proactive risk reduction measures should be explored by government to reduce the direct effects of crime on businesses as well as to mitigate the adverse effects on external perceptions.

Thus, relevant government agencies should be vigilant in monitoring external perceptions and investor sentiments of the country. If perceptions are found to be wanting, then stakeholders must take concrete efforts to address domestic issues and dispel misconceptions which may be causing investors to take an apprehensive stance toward the country.

Trinidad and Tobago can learn from the example of Medellin in Colombia which struggled with violent crime in the 1990's due to drug-related activities. In the early 2000's, the newly-elected Administration's resolve to improve security conditions became apparent. Then President Alvaro Uribe increased military and police forces by adding 36,000 military troops and 7,000 police officers across the country from 2002 to 2004. This had a positive and direct impact greatly diminishing criminal activities in the country. Marketing and image-rebuilding initiatives were implemented shortly after, conveying to external investors that Colombia had begun to resolve domestic security issues, and was well on the way to establishing a safe, secure and potential-rich business environment.

[30] Business Guyana, 2011

On the marketing and promotions front, Trinidad and Tobago can highlight success stories of service delivery locations that have prospered after domestic security issues were resolved. Sri Lanka and Colombia are two examples of such locations that have been able to adequately alter external risk perceptions. Currently, local businesses *seem* marginally affected by the security risks and government should highlight this fact to maintain external perceptions. If it is in fact, business as usual, then government should be able to convincingly convey this sentiment to external markets. In addition, *the Tamana InTech Park can be a focus for Trinidad and Tobago - promoting InTech Park as a safe and secure location for businesses*.

Industry Development Roadmap

Figure 7: Trinidad and Tobago's Scorecard

		Trinidad and Tobago	Peru	Jamaica	Chile	Philippines	India
Core Components	Scalability						
	Employability						
	Cost						
	Current Infrastructure						
	Service Delivery Maturity						
Supporting Components	Stakeholder Support						
	Legislative Support						
	Risk						
	Marketing and Promotions						

Poor Fair Satisfactory Very Good Excellent

The chart above presents comparable rankings of the current IT Services ecosystem of Trinidad and Tobago, in relation to regional and global competitors. It should be noted that the scorecard components match the Tholons Location Assessment Framework components. These components have a crucial interplay in assessing the overall competitiveness of a prospective outsourcing destination. The scorecard ranking can be analyzed in two ways – providing horizontal and vertical comparisons respective to individual ecosystem components.

Vertical Comparison

As seen in the scorecard, vertical comparison of components provides analysis on the current strengths and weaknesses of a country as a competitive outsourcing destination. Trinidad and Tobago's scores range mostly from *Fair to Very Good*. Among the core components, most indicators scored *Satisfactory* except in Scalability. This should be viewed as an immediate concern for the country in developing its services outsourcing industry. A promising advantage for the country is found in the Current Infrastructure component, buoyed by government initiatives to upgrade the country's ICT infrastructure. This should increase in the near term with the expected completion of the Tamana InTech Park.

With regard to Trinidad and Tobago's supporting components, *Risk* scored the lowest with a *Fair* rating due to lingering domestic security issues. As suggested in previous analysis, crime incidents can be detrimental in attracting foreign investments. Nevertheless, the country's IT-BPO industry is garnering much-needed support from the private sector, with domestic and internationally renowned service providers showing initiative to catalyze industry growth. This resulted in a score of *Very Good* for the Stakeholder Support component.

Horizontal Comparison

Horizontal Comparison is considered as a platform for peer evaluation, assessing outsourcing related components against other countries, including the peer group and more mature global competitors. As a nascent destination, a significant gap exists between Trinidad and Tobago and established destinations such as India and the Philippines. Compared to its peer group, the country competes competitively with locations such as Jamaica, Peru, and Chile. However, there remains much room for growth. The country for example, can improve on aspects such as *Marketing and Promotions* by encouraging public sector stakeholders to allocate additional resources to promote the local IT-BPO industry. The development of a regional CSO association can also contribute to marketing and promotions activities and potentially expand target markets. Likewise, more focused support from the public sector in the form of investment incentives and policy creation can increase *Legislative Support* ratings. In this aspect, the country can view the examples of Chile and Jamaica, which garner ratings of *Very Good* in these components. *Scalability is* a common hurdle for the country and its peer group. This necessitates the need to implement intensive talent development programs to better optimize its small labor pool.

These issues can be addressed by providing actionable solutions which can directly improve the core components of the country's outsourcing ecosystem. For instance, improving the scalability and employability of the talent pool can create a positive near-term impact, as a more capable (and sizeable) talent pipeline makes the country a more compelling destination for foreign service buyers and providers.

This scorecard can be used by industry stakeholders in Trinidad and Tobago to evaluate its current service delivery capabilities. As well, the scorecard can also be used as a benchmark which can allow IT Services stakeholders to monitor the progress and achieved milestones of its industry development roadmap.

Roadmap Action Items

A well-defined roadmap is essential in identifying, developing, and promoting the specific outsourcing segments that an emerging outsourcing should focus on. The main feature of a clear roadmap is that it functions as a guide for maintaining the same level of focus throughout the implementation stages, reminding stakeholders of the achievement parameters for each activity and how each milestone contributes to the bigger picture. It will also highlight the need for a focused and concerted effort to be able to successfully achieve the country's ultimate goal of becoming a viable CSO destination in the Caribbean.

Table 29: Illustration of Industry Development Tracks for Trinidad and Tobago

TRACK 1 Immediate Actions	TRACK 2 Developing Key Enablers	TRACK 3 Growth and Expansion
Skills Assessment and Program Conceptualization	Animation Finishing School Pilot Program	Long Term Development Planning
Short Term Marketing & Promotions	Address Infrastructure Concerns	Continuous Talent Development Initiatives
Policy Evaluation	Establish Regional CSO Association	Continuous Infrastructural Improvements
Establish a Lead Public Sector CSO Agency	Utilize Animae Caribe as a marketing and promtion platform for CSO Industry	Continuous Marketing Activities
Conduct Immediate Risk Reduction Measures		
OUTPUT ACHIEVED		
• Analysis of talent pool capabilities • Defined roles among stakeholders • Investment attractiveness • Initial steps for public sector representative for CSO Industry • Improved security conditions	• Talent assessment comparison • Initial steps towards building a regional CSO hub • Improved business environment • Improved infrastructure • Enhanced visibility in the global outsourcing landscape	Growth and Expansion Continuous Improvements
THEME		
Pursue a systematic industry development strategy focused on the Creative Services Outsourcing sector. Gradually build talent pool capabilities by implementing talent development programs such as Finishing Schools, and later developing Trinidad and Tobago to become the center of the regional CSO delivery cluster.		

Tholons has developed a strategic roadmap that incorporates three distinct and consecutive tracks. Although not confined to definitive time ranges, Track 1 is classified as short term actions, Track 2 as medium term actions, and Track 3 as long term actions. The transition of phases rests on the successful implementation of the recommended steps – the completion of the preceding track, a requisite for the next.

Track 1: Immediate Actions, aims at setting the initial steps towards determining the direction and outsourcing strategy for Trinidad and Tobago's budding IT-BPO industry. It also lays the foundation for the succeeding steps over the next two tracks. First, Trinidad and Tobago should undertake a concise accounting and profiling of the skills of the labor pool, and as relevant to the proposed outsourcing niche - *the CSO sector*. Track 1 initiatives should establish the foundation for Trinidad and Tobago's long term plans. Initial steps towards creating a public sector representative for the CSO industry should be pursued. This will serve to direct the industry towards growth through policy creation and aggressive programs specifically catered for animation outsourcing. In the mid and long term, public sector participation will be crucial in spearheading development initiatives, requiring the involvement of public sector agencies such as those responsible for infrastructure, education, and marketing and promotion.

At the moment, security risks in Trinidad and Tobago remain a pressing concern that should be addressed. Collaborative efforts should be explored to effectively curtail criminal activities.

Further, Track 1 should already involve actions which consider the long term requirements of the country's scale-restricted talent pool. A thorough evaluation of Trinidad and Tobago's educational system should be done together with an implementation of appropriate solutions that address skills and employability gaps. The country should also be open and prepared for education reforms in the case that the need arises. The country should also embark on English skills development to further strengthen talent pool capabilities and expand target client reach.

The efforts of Track 1 mark the beginning of a systematic industry development plan. In particular, the results of Track 1 will also serve as the foundation for building a sustainable CSO industry in Trinidad and Tobago.

Track 2: Developing Key Enablers to Success contains action points which continue the initiatives of the previous phase. Trinidad and Tobago already has existing talent development programs, yet most are still formative stages. It is imperative in this phase to initiate outsourcing-directed talent initiatives. This includes the continued development of the talent supply through curriculum development as well as implementation of ancillary training programs such as Finishing Schools that focus on CSO talent development.

In addition, steps to establish a regional CSO delivery hub in the Caribbean should be pursued. Existing animation sectors in countries such as Jamaica, Guyana, and Barbados can be allied through the CARICOM. Support from Toon Boom will also contribute to the development of the regional CSO hub as its partner-company network in the Caribbean is vast. Ultimately, a regional hub for animation will increase Trinidad and Tobago's CSO capabilities by fostering collaboration among participating countries. This can also pave the way for improvements in the annual Animae Caribe Animation and New Media Festival, transitioning the Festival to become a capable marketing and promotion platform for the country's CSO sector. Trinidad and Tobago should be able to inject relevant marketing activities in the Animae Caribe aiming to promote the country as

a CSO provider and investment destination. To achieve this *transformation*, public and private sectors must take more proactive and collaborative roles to meet common objectives.

Track 3: Growth and Expansion, aims to ensure the continuity and growth of Trinidad and Tobago's outsourcing industry. Track 3 prepares the country to increase service delivery offerings and expand market bases. The milestones of this track would include higher revenue figures, increased industry headcount, and diversity of services portfolio. This track would also imply that the country would have already created its "unique outsourcing identity" across specific client markets and horizontal service tracks. Track 3 highlights the importance of continuous and innovative efforts to improve Trinidad and Tobago's longer term capabilities.

To be implemented consistently, this Roadmap need not be restrictive and limiting in fostering outsourcing innovation in the country. Rather, Trinidad and Tobago must continue to search for new means to develop and enhance its IT Services industry *even* with an industry Roadmap in place. Current or previously (prior to the Industry Roadmap) mandated initiatives geared to developing a sustainable talent pipeline, creation of a competitive business environment and implementation of economic policies to support the industry – are all initiatives that could guide industry stakeholders during industry development, and should act as complements of the growth strategies proposed in this Roadmap.

Table 30: Strategic Roadmap for Trinidad and Tobago's IT-BPO Industry

Strategic Roadmap to Develop Trinidad and Tobago's Outsourcing Industry				
Track 1: Immediate Actions				
Objective	**Action Items/Activities**	**Key Stakeholder Responsibility**	**Milestone/ Achievement Parameter**	**Future Goals**
Skills Assessment and Program Conceptualization	▪ Provide national technical skills and language capability assessment ▪ Global Benchmarking of labor pool and industry characteristics ▪ Utilize results to conceptualize Finishing Schools in the country	▪ Academe ▪ Ministry of Science, Technology, and Tertiary Education ▪ Ministry of Labor and Small-Medium Enterprise Development ▪ YTEPP ▪ CSO Service Providers	▪ National Assessment Report	Skills Assessments for 5,000 fresh graduates and new hires. Develop inventory of IT-BPO employable labor pool.

Short-term Marketing and Promotions	▪ Launch promotional campaigns to target geographies and industry verticals ▪ Create promotion program directed to orient the labor pool about opportunities in CSO ▪ Participate in regional roadshows and trade events ▪ Use the National Assessment for promoting the outsourcing capabilities of the country	▪ InvesTT ▪ CSO Service Providers	▪ Present Differentiator among other competitors ▪ Investor Value Proposition ▪ Creating Visibility among target clients	Identify in US$ amount – number of deals closed or initiated from specific marketing and promotion initiatives.
Policy Evaluation	▪ Enhance Financial - Tax/Incentive policy ▪ Review tax/incentive policies and their effectiveness ▪ Propose options for reforms in investment incentives and tax policies	▪ Ministry of Trade and Industry ▪ eTeck ▪ InvesTT	▪ Creating attractive investment environment	Identify percentage growth of new locators or service providers availing of tax incentives.
Establish a Lead CSO Agency	▪ Engage public sector stakeholders ▪ Propose the creation of a lead CSO agency comprised of relevant public and private sector stakeholders, especially in implementing Finishing Schools	▪ InvesTT ▪ Ministry of Trade and Industry ▪ Trinidad and Tobago Coalition of Services Industries ▪ CSO Service Providers	▪ Public Sector CSO Agency directing strategic programs for industry growth	Identify revenue growth targets for CSO sector
Manage External Risk Perceptions	▪ Identify pressing security concerns affecting the industry	▪ OCNFB ▪ Coast Guard ▪ Police Force ▪ Ministry of National Security	▪ Improved security conditions encouraging investments and business activities	Improve external market perceptions of domestic risk situation

Track 2: Develop Key Enablers to Success				
Finishing School Pilot Program	▪ Identify roles among relevant stakeholders ▪ Develop course curriculum focused on animation processes ▪ Launch pilot of the Finishing School	▪ Lead Public Sector CSO Agency ▪ Academe ▪ Ministry of Science, Technology, and Tertiary Education ▪ Ministry of Labor and Small-Medium Enterprise Development	▪ Program implementation ▪ Improved scale and quality in the labor pool	Identify increase in number of graduates with CSO background Identify skills improvements in Animation processes of the labor pool
Address Infrastructural Concerns	▪ Increase government investments in infrastructure support such as the creation of SEZs and other technological parks ▪ Streamline bureaucracies associated with infrastructure development	▪ eTeck ▪ Lead Public Sector CSO Agency ▪ National Government ▪ Ministry of Trade and Industry ▪ Ministry of Works and Infrastructure	▪ Improved infrastructure for outsourcing ▪ Additional SEZs	Identify and implement actionable solutions for infrastructure concerns resulting to improved efficiency
Establish Regional CSO Association	▪ Collaborate with Caribbean countries with existing animation industries ▪ Utilize close relationship with Toon Boom to establish a network of CSO service providers ▪ Utilize CARICOM benefits to enable the creation of a regional CSO association	▪ Lead Public Sector CSO Agency ▪ Toon Boom ▪ CSO Providers ▪ Trinidad and Tobago Coalition of Services Industries	▪ Integration of small-scale CSO providers in the Caribbean region	

Utilize Animae Caribe as a CSO Platform	▪ Engage public stakeholders to take on more proactive roles in Animae Caribe ▪ Employ marketing and promotions activities focusing on Trinidad and Tobago's CSO capabilities ▪ Promote the concept of a Caribbean CSO Hub	▪ Regional CSO Association ▪ Lead Public Sector CSO Agency ▪ Ministry of Tourism ▪ Ministry of Trade and Industry ▪ Academe	▪ Improved awareness and visibility in the global outsourcing landscape	Identify increase in number of participants in the Animae Caribe Identify in US$ amount – revenues out of contracts signed during the Animae Caribe
Track 3: Growth and Expansion				
Long-Term Development Planning	▪ Transition to higher value services ▪ Identify new niche areas for growth and more particular services for specialization ▪ Set annual targets and outsourcing vision for Trinidad and Tobago	▪ Lead Public Sector CSO Agency	▪ Competitive Differentiators	
Continuous Talent Development	▪ Assess industry and labor capacities ▪ Launch additional training programs through PPPs	▪ Lead Public Sector CSO Agency	▪ Enhancing capacity to meet growing demand	
Continuous Marketing	▪ Re-orient marketing efforts for Trinidad and Tobago's outsourcing industry with enhanced positioning of the country's strength in outsourcing ▪ Continue city marketing efforts ▪ Design marketing program that is more specialization-driven and niche-based	▪ Lead Public Sector CSO Agency	▪ Sustain Global Position	

Key Risks

- Trinidad and Tobago should aim to continually build its capabilities in the CSO segment, considering the inherent strengths of the local talent pool and opportunities in the global outsourcing market. However, Trinidad and Tobago should not view the establishment and delivery of CSO services as a final goal for the industry, as it may deter the exploration of other opportunities in other high-value IT Service groups.
- A critical consideration is the talent pipeline. Talent development will be crucial in driving local industry growth. Failure to implement improvements in the quality of education as well as in increasing the employability of the talent pool impedes other vital elements of the Roadmap.
- Trinidad and Tobago must maintain economic performance to enhance the image of the country as an attractive investments destination. Failure to uphold this may result to a decline in investor confidence and a possible reduction in outsourcing-related investments.

The development of outsourcing in Trinidad and Tobago and the implementation of the strategic Roadmap will require the consideration of the key risks listed above. The stakeholders in charge of implementing the Roadmap must take precautions in ensuring that such risks are mitigated, if not altogether addressed. It is also imperative that the Roadmap is nuanced in issues relevant to Trinidad and Tobago's strategic segment development plan, considering industry and ecosystem building components such as marketing and promotion activities, incubation of local service providers, and the development of sector-specific skills proficiencies.

Assumptions

- Minimal changes in current global demand trends – Sustains or increases
- Policy implementation – Infrequent amendments or modifications
- Strong commitment and support to develop the outsourcing industry among stakeholders and other related institutions
- Provision of funding and public resources to sustain industry development
- Provision of a secure business environment
- Key recommendations will be adequately funded and implemented within stipulated time frame and properly implemented by local industry stakeholders

The Roadmap is built on the premise that the assumptions mentioned above will hold true to a large extent. This highlights the notion that the development of a location's outsourcing industry is directly affected by a host of internal and external factors. As such, monitoring external factors will not only ensure the success of the Roadmap (provided internal factors are also dutifully implemented) but will also provide flexibility in the case that some assumptions do not hold true.

Conclusion

The global outsourcing market continues to expand in both depth and size: service buyer markets continue to procure at increasing rates and the variety of outsourced processes has expanded at an equally aggressive pace. These developments, coupled with improvements in delivery technologies, have allowed a new myriad of service groups to be outsourced in an efficient manner, across destinations. This holds true for the creative services industry and for animation processes in particular.

Global entertainment companies have increased spending on outsourced animation processes such as storyboarding, content creation, 2D & 3D rendering and motion capture among others. This growing demand has also driven the interest of emerging delivery locations, both large and small, to explore their respective capabilities to deliver these animation processes. This is the case for Trinidad and Tobago, an emerging destination, slowly realizing the inherent capabilities of its small but talented labor pool, to participate in the creative services outsourcing arena.

Although still a nascent outsourcing destination, Trinidad and Tobago already has key advantages to leverage in its pathway to become a regional CSO destination. Core advantages such as IT infrastructure and private sector support are in place in the country. Government has also been instrumental in developing initiatives to improve IT infrastructure create a more attractive business environment. Private sector support, on the other hand, has come from globally renowned animation software provider Toon Boom, which has taken a proactive role in promoting the country's animation providers. In addition, the Animae Caribe New Media and Animation Festival has the potential to serve as a global marketing and promotion global platform for the country's CSO sector.

However, scalability issues, common with other Caribbean outsourcing locations, are likewise evident in Trinidad and Tobago, with tertiary graduates only numbering around 7,000 annually. If stakeholders aim to grow the potential-rich CSO industry, this is a hurdle that must be addressed though talent development initiatives specifically focused on improving the skill proficiencies of the CSO talent pool. The implementation of Finishing Schools is a feasible solution. Likewise, lingering security risks cloud the external risk perception of Trinidad and Tobago. With proper government resolve to improve the general social environment of the country, the adverse effects of these security conditions can be mitigated.

An industry development approach targeting the CSO sector matches well with the country's value propositions as an outsourcing destination. A focused approach in a single outsourcing segment will best utilize existing resources and allow for a more collaborative means of development, as stakeholders would be tasked to accomplish a singular and unified goal. Trade agreements such as found in CARICOM, should also be utilized to explore the country's potential in becoming a CSO delivery hub for the Caribbean.

Finally, stakeholders must consider that the success of this industry Roadmap hinges on the level of commitment across key stakeholders and the effectiveness and timing of implementation. Trinidad and Tobago may yet realize its potential to becoming a viable CSO destination, for as long as it stays committed to the developmental path which its industry stakeholders shall chart.

About Tholons

Tholons is a Services Globalization and Investment Advisory firm that combines "Best of Breed" consulting experience with deep execution expertise and investment insights to deliver truly effective services to its clients. Tholons offers a detailed understanding of business processes and combines it with practical hands-on expertise in executing the strategy. Tholons draws upon the considerable experience of a hand-picked team, which has successfully formulated and executed globalization strategies to unlock value for Global Fortune 1000 companies. Service providers leverage Tholons expertise to optimize their global delivery model. Tholons advisors engage with government bodies to build compelling strategies for making countries attractive destination for outsourcing.

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