Research on Demand

Global Talent Pools

Client: Intuit

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Global Software Industry

An Introduction

Global software development efforts have increased in recent years, and such development seems to have become a business necessity for various reasons including cost, resources availability, and the need to locate development closer to customers. In the last decade, outsourcing has captured the attention of many in the software development industry. More recently, software development outsourcing is undertaking a transformation already seen in other industries, namely core development outside the U.S. (offshore, by contracting with third parties, i.e. outsourced).

Exhibit 1.0(a)

***Source**: AT Kearney Report*

Exhibit 1.0(b)

***Source**: AT Kearney Report*

Primary reasons for offshore outsourcing in software development include potentially less costly development resources in other parts of the world (e.g. India, China, Eastern Europe, etc.) for more complex software development, and specialized talent not widely available elsewhere (e.g. China for Asian language software development or Mexico for Spanish language software development). As more and more companies seek to do some offshore software development, questions arise as to what a software company should consider before deciding to outsource software development activity offshore. AT Kearney did a study in 2004 for best offshore location. See Exhibit 1.0(a) & 1.0(b).

A list of the most important factors to be considered while selecting a country for offshore development center follows (Fenwick & West):

Economy & Software Outsourcing

"Developing economies are expected to continue growing faster than high-income economies," says the World Bank. Developing economies can be the first choice for software offshoring since the developing regions are more supportive to the growth of every industry. According to the World Bank's latest report, Asia and Europe are the fastest growing economies in the world, so the best countries for offshoring may be within **Asia & Europe.**

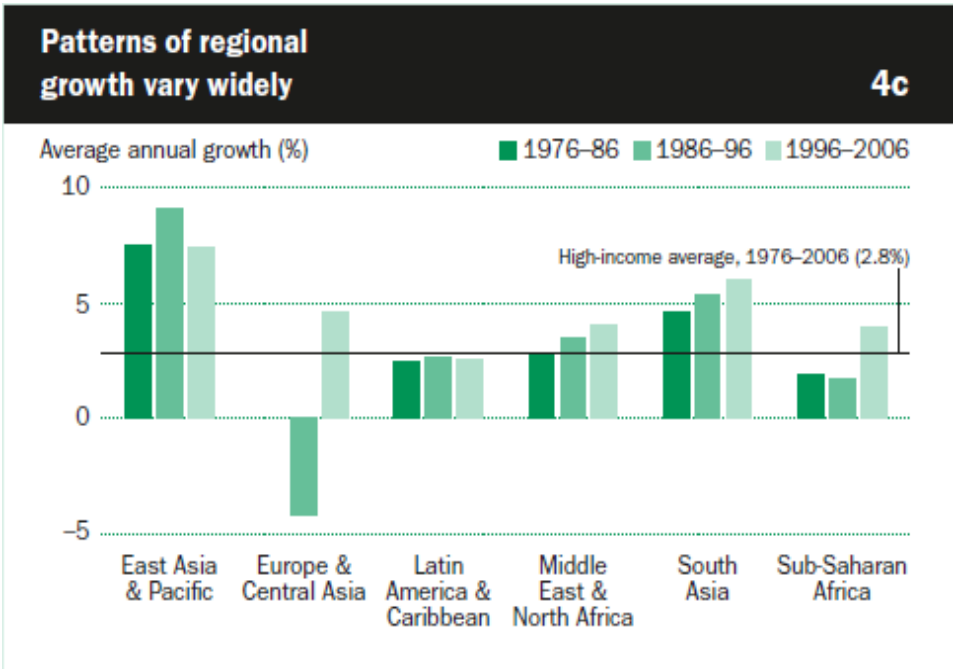


Exhibit 1.1
Source: World Bank Report 2007

Talent Pools & Impact

Talent availability is the biggest concern for every offshore software development center. Offshore development is required because the supply of higher-skilled engineers, computer scientists, & software developers in the talent pool has not been able to fill the demand onshore. According to the surveys done by Duke and Archstone, "the fact that most companies first consider offshoring is because they are looking to **lower costs, specifically labor costs.**"

One more important fact that has come out is that in the last few years not only have digital technologies compressed time frames and dramatically reduced the cost of data communications, but the **supply of qualified talent has grown** significantly in developing markets such as India and China, **while it has been steadily declining in more advanced economies** such as Germany, the United Kingdom, and the United States as shown in exhibits 1.2 & 1.3 below.

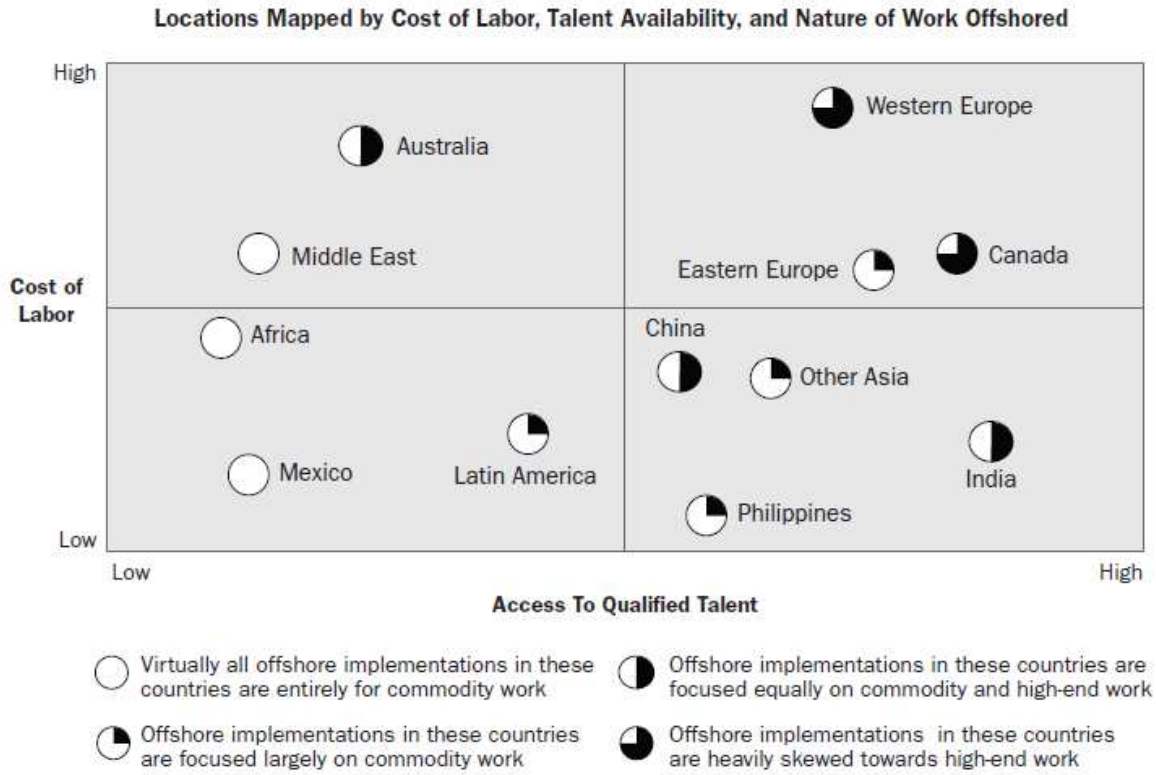


Exhibit 1.2

Source: *Booz Allen Hamilton/Duke University Offshoring Research Network 2006 Survey*

Note: *Shading of circles indicates degree to which high skilled work is currently off-shored to the specific country.*

The figure also suggests that **India, China, the Philippines, and other Asian countries** have the highest access to qualified talent and the lower talent cost. Therefore, the access to qualified talent and low cost of labor is the major factor affecting the choice of offshore development center. The next most important factor is **attracting and retaining the best talents**. These days, with the huge demand on software professionals around the world and with companies willing to pay high-salary packages, software professionals tend to switch companies very fast. According to David Beaney, the quarterly staff churn on the project teams in software industry had reached 25%. In this scenario, it is important for companies to bring out employee-friendly policies which would make the employees think twice before they quit. Looking at the way Google operates would give companies an idea on how to keep their employees happy. 24-hour food facility, 80-20 working hours - wherein each week you put in 20% of your efforts on an area which interests you -, and employee stock options are just some of the facilities which Google offers to its employees. Obviously, every company cannot implement each and every idea which Google implements, but this just goes to show the levels to which Google is ready to go in order to maintain employee satisfaction.

"Offshoring is a matter of global access to intellectual capital. In the end, companies will go to low-cost countries for the people, not for the costs." — Chief Technology Officer, Global Electronics Company

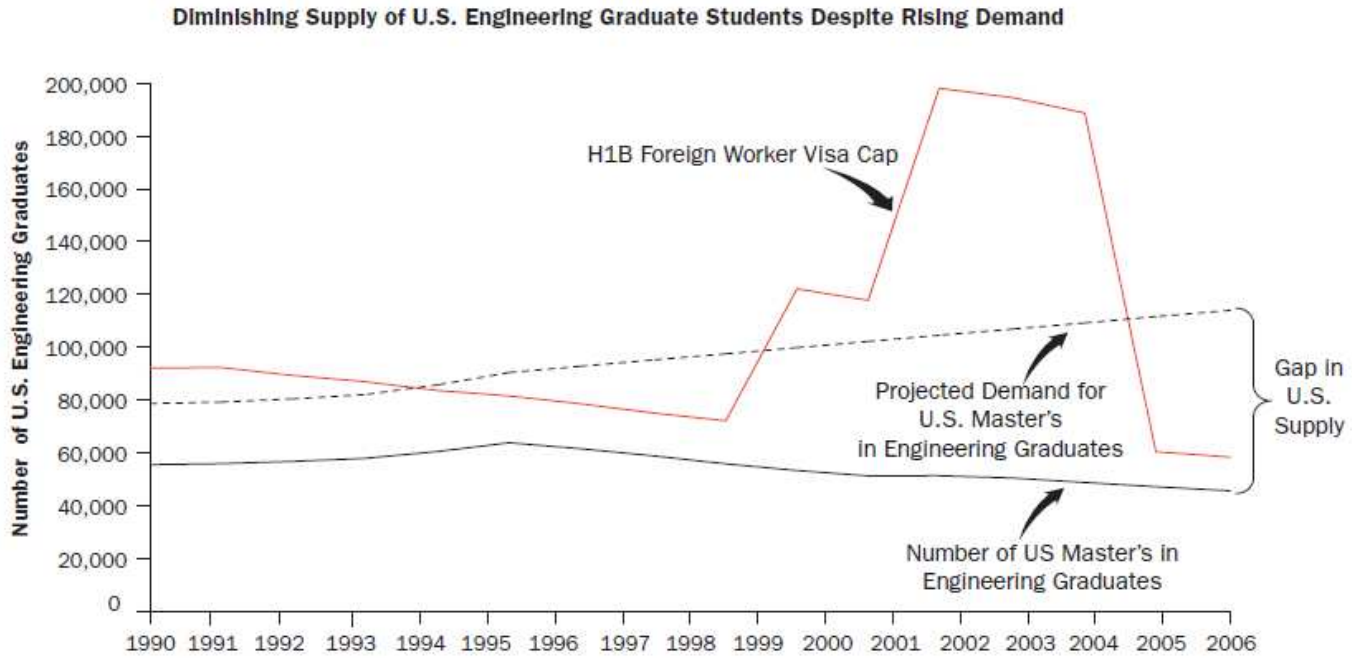


Exhibit 1.3

Source: *National Science Foundation, Duke University analysis*

The **quality of talent available** is the next important thing to consider. According to Mckinsey's Research Report on The Emerging Global Labor Markets, only 13 percent of potential job candidates in degree-specific occupations could successfully work at a multinational company. This share rises to 19 percent when taking into account the possibility that many graduates, who are unsuitable for their own profession, may be found suitable for a generalist position (e.g. an engineer could work as a call center agent or an analyst). See Exhibit 1.4.

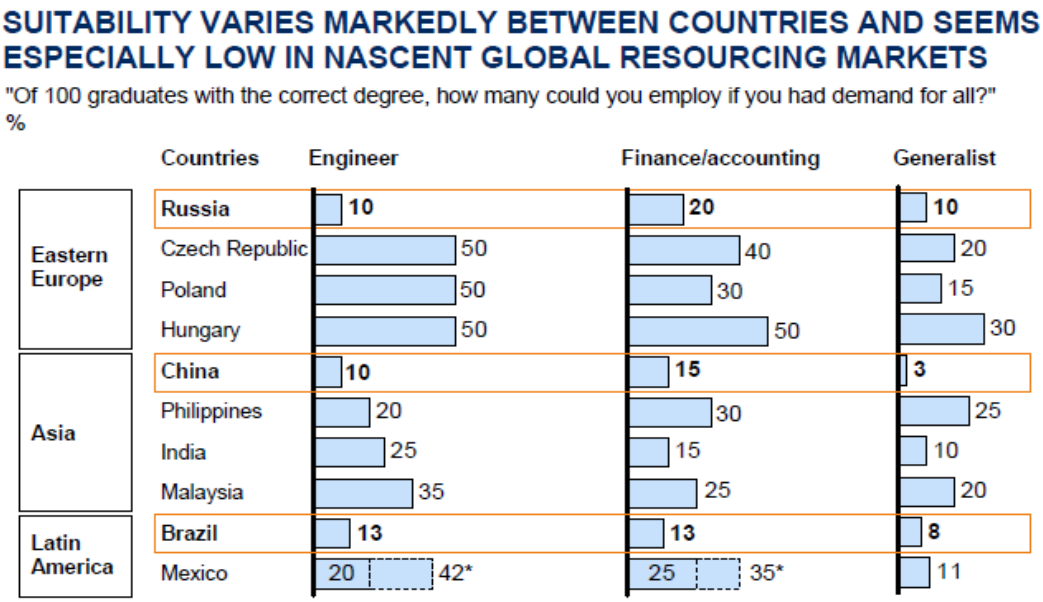


Exhibit 1.4

***Source**: Mckinsey's Research Report on "The Emerging Global Labor Market"*

Another important factor is the **accessibility of the talent**. Good talent is not valuable if it is not available as and when required. For example, the pool of potential talent in China, India, and Russia is affected by the global connectivity and their willingness to relocate. In China, just half the potential talent pool is estimated to be geographically accessible to multinational companies. In Russia, only one-third of students graduate close to a major international airport, and few are willing to relocate. In contrast, nearly half of all Indian students graduate close to a major international hub, and they are also the most willing to move. See Exhibit 1.5.

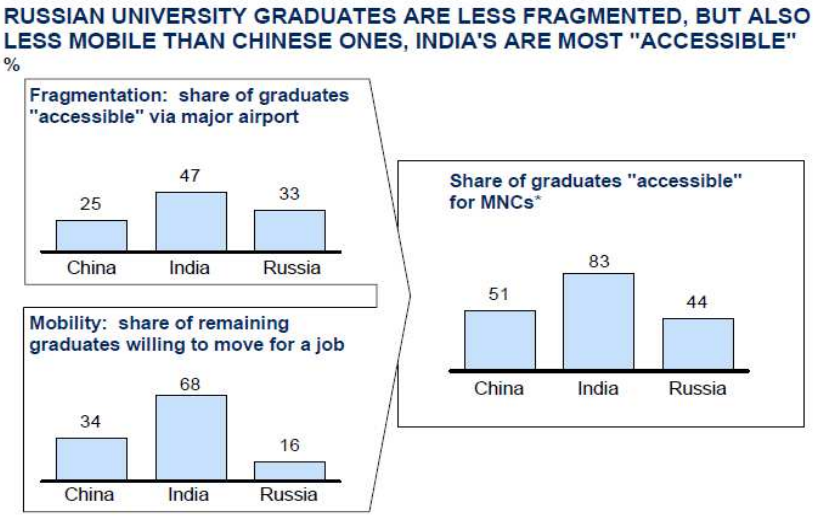


Exhibit 1.5

***Source:** Mckinsey's Research Report on "The Emerging Global Labor Market" 2205*

Role of Political Environment

The **political environment & local government support** are very important factors to be considered while planning for offshoring. The political environment consists of the government schemes to the software business and the amount of taxes & excise duty to be paid by the company. Government action is critically important to the emergence of a software R&D capability, yet some typical government actions have had a dramatically inhibitory impact on the industry in many countries. The entry barriers against foreign companies, the restrictions on foreign technology transfers, the role of the private sector in policymaking, taxes, duties, and tariffs, among other factors, play a very significant role.

The **political stability** of the country is also a very critical factor. If a country is ruled by a stable government which takes decisions for its long-term development, the industry and companies will prosper. On the other hand, instability causes insecurity.
JBIC has done a survey on Overseas Business Operations by Japanese Companies. The survey found that the political system has a very important role in the industry development. See Exhibit 1.6.

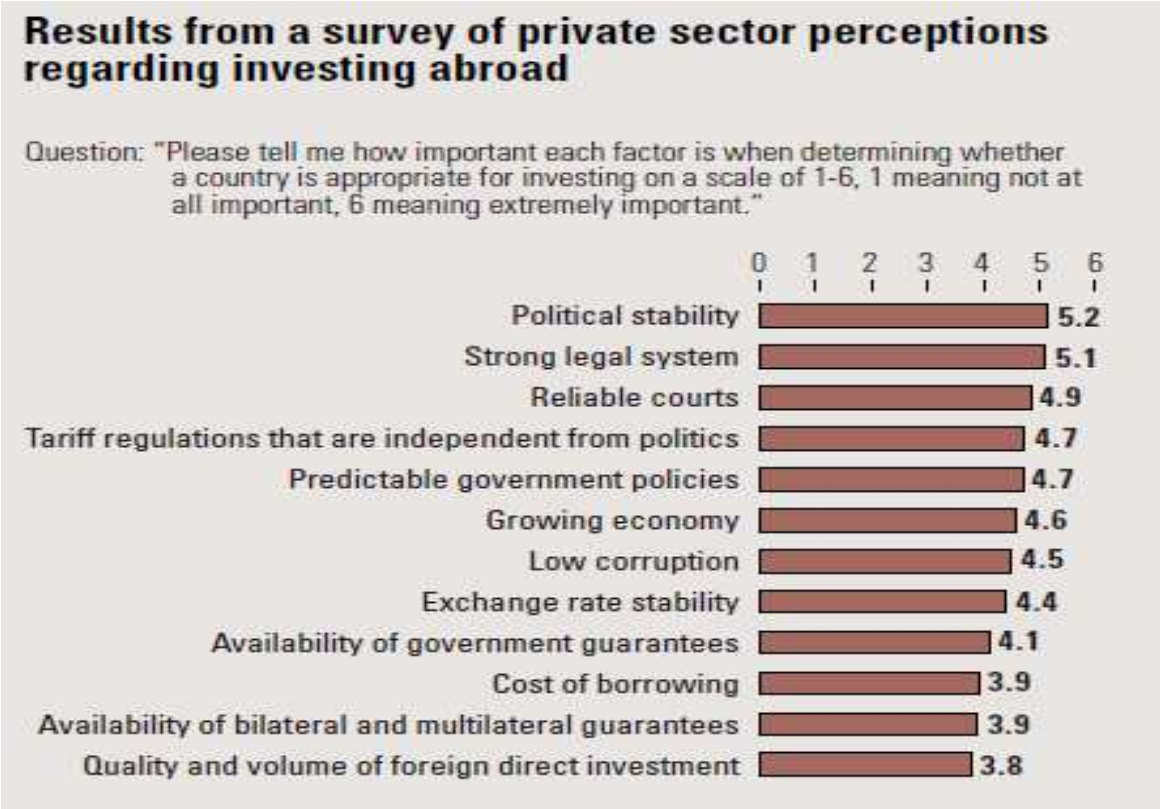


Exhibit 1.6

***Source**: Survey of private sector perception regarding investing abroad, JBIC*

Role of Social & Cultural Environment

Social and cultural environment also affects the growth of any Industry. Social and cultural environment has direct impact on **expectations and preferences** and **beliefs and preferences**, and that affects the economic outcomes.

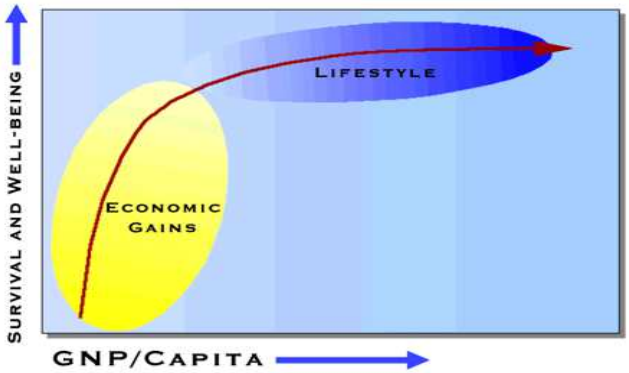


Exhibit 1.7

Source: *World Value Survey*

According to the World Value Survey, "survival and well being affect the per capita GNP," and survival and well being totally depend on the social and cultural environment. See Exhibit 1.7.

"Economic, cultural, and political changes go together in a coherent manner," says Ronald Inglehart in his book Modernization and Post Modernization.

Also the **quality of governance** has a big impact on economic growth. The relationship between the quality of governance and economic growth has been robust over time and across countries. The World Bank defines *governance* as the way public officials and institutions acquire and exercise authority to provide public goods and services, including education, health care, infrastructure, and a sound investment climate. Bad governance is often equated with **corruption,** which is in turn an extremely important factor that affects any business. Exhibit 1.8 explains that the quality of governance affects the Growth GDP per capita. This shows that bad governance lets the economy down.

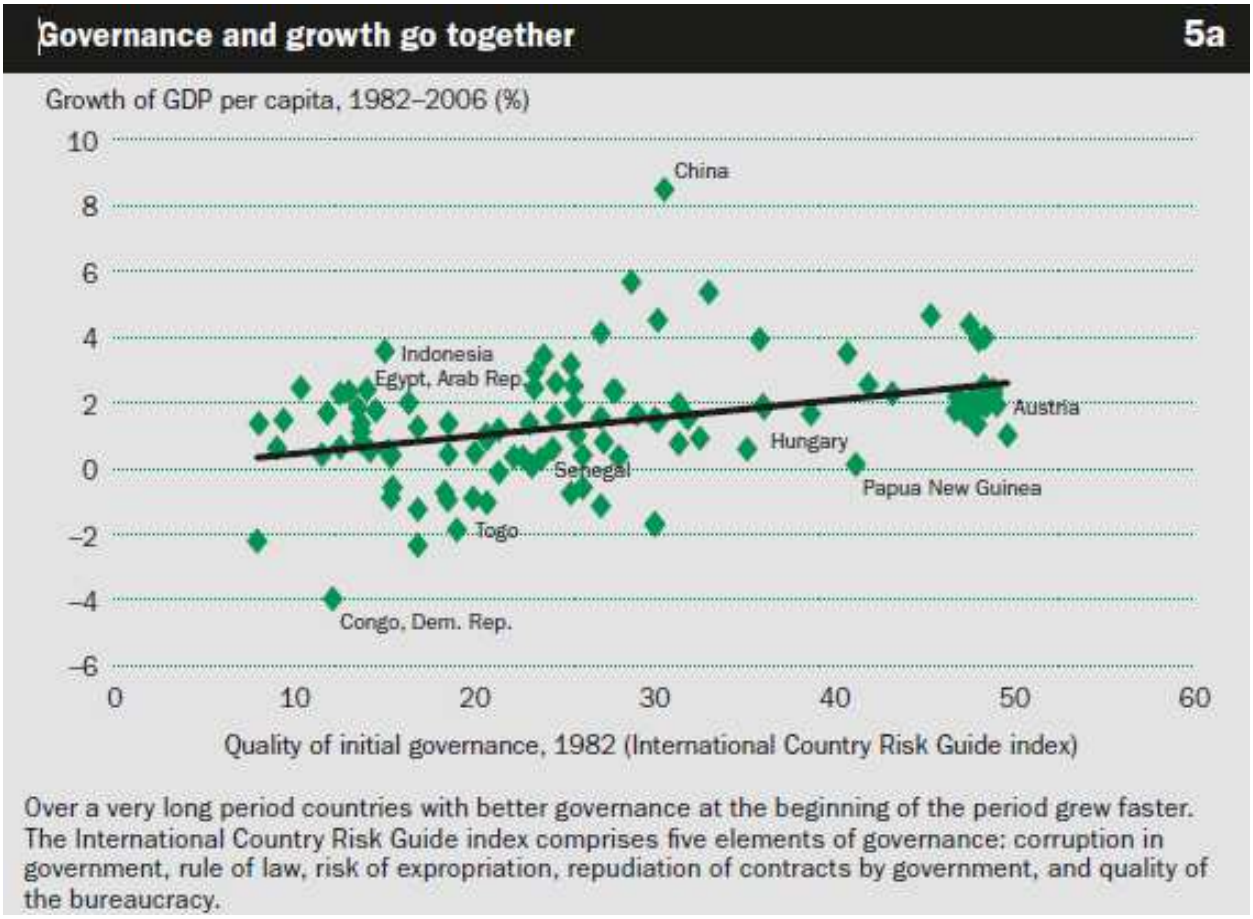


Exhibit 1.8
Source: World Bank Reports

Infrastructure & its Impact

The development of an economy is dependent on its infrastructure. The industry needs electricity to manufacture and roads to transport goods. Bad infrastructure leads to inefficiencies, poor productivity, wastage, and delays. Therefore, infrastructure is also a very important factor to be considered while selecting a location for setting up an offshore development center. Good infrastructure includes **electricity, Global data transmission facilities, telephone connectivity, and good airports and roads**.

According to the World Bank, there is an increase in the number of migrants in water- and hydropower-rich countries. Being on the top, Latin America and Asia had the largest number of migrants of any developing region in 2000-2005, from which they received more than 50 billion workers' remittances.

Exhibit 1.9 & Exhibit 1.10 show that the availability of electricity directly affects the manpower availability.

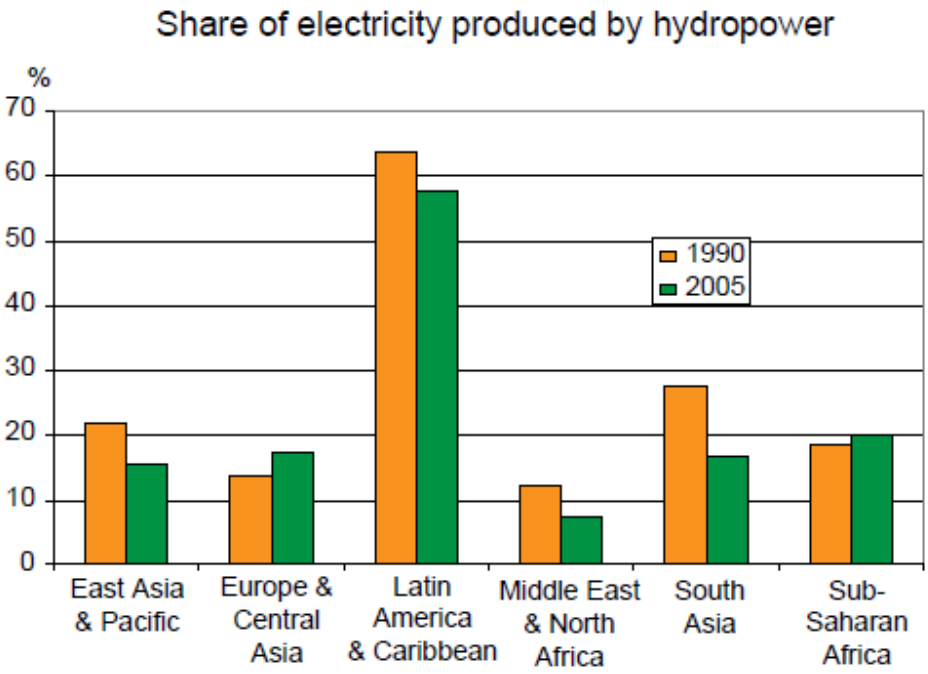


Exhibit 1.9

***Source**: World Bank Reports*

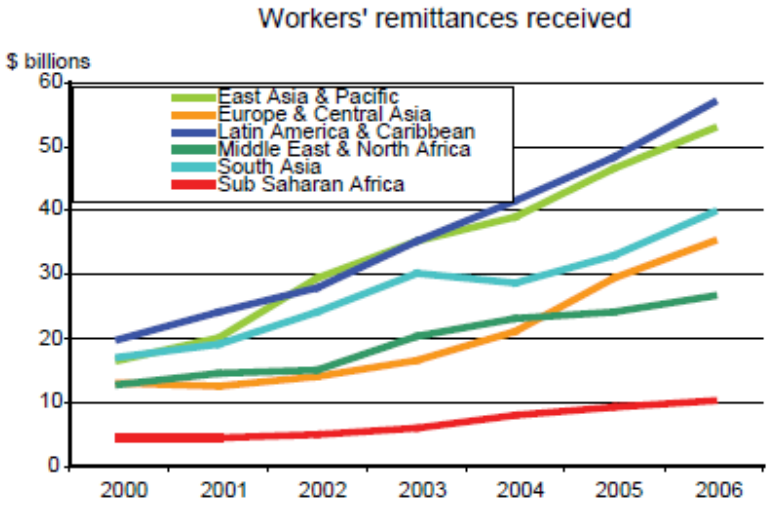


Exhibit 1.10

***Source:** World Bank Reports*

Many countries like India, China, the Philippines, Russia, Thailand & Malaysia, etc. have setup special business places (software parks for software industry). These parks fulfill all the basic infrastructure requirements like water and electricity.

Software technology firms cannot develop their products or deliver their services without a robust communications infrastructure. In many of Asia's developing countries, **high-speed Internet access** has been variable, insufficient, or expensive. This is not to say that there is no progress in this area. High-speed networks are being built rapidly in some countries, and the increase in international capacity has caused tremendous downward price pressure. Bandwidth is fast becoming a commodity, and its increasing ubiquity in those countries that have prioritized its development means that specific locations cannot rely upon it as a sole differentiator. Software parks or technology zones that offer advanced telecommunications infrastructure as part of the value proposition to prospective tenants are finding that the gap between the infrastructure offered by the parks and that available elsewhere is closing.

Language

In software outsourcing projects, the natural language being used in the documents is an important factor because language differences may cause misunderstandings. For instance, "more than" in Japanese means equal and more (>=), but in Chinese it means more (>). The misunderstandings in requirements specifications or other development documents may cause project overruns. It is very important how well the suppliers' employees understand the non-native natural languages used in the documents (e.g. Business agreements, requirements specifications, and design specifications provided by the outsourcers).

The development of English as a global language is one of the most remarkable phenomena of the late 20th and early 21st centuries. **English** has become the common language of the Human Society and the global language, and it is being used as a global lingua franca for communication between speakers of many languages. Since English is the native language of the U.S., it is affecting the software industry too. Plus, poor English is the main reason interviewers from software companies reject applicants.

Expat Factor

The **expat factor** should also be taken into consideration when planning for an offshore development center. Obviously, the employees and clients from the outsourcing country will keep on visiting the offshore center, so before selecting an offshore location, remember that the level of comfort and respect for foreigners in the outsourced country is a very important factor to be considered. Recently, HSBC has done a survey (HSBC survey reveals best expat locations**)**, which concludes that Brazilian, Irish, and Australian expats are the wealthiest in the world. Moreover, not only do expats earn more, but they also save more in countries such as Singapore, the UAE, and India.

A Study of
Best Offshore Locations

India

India's software industry is one of the world's successful and fastest growing information technology industries. According to the latest NASSCOM-McKinsey report, annual revenue projections for India's IT industry in 2008 are **US $87 billion**, and market openings are emerging across four broad sectors - IT services, software products, IT enabled services, and e-businesses -, thus creating a number of opportunities for Indians as well as outside companies.

Advantages of Indian Software Industry

1. **Fast Growth Rate** - The industry has grown over **50%** per year over the last five years, and if current trends persist, software exports may account for a full quarter of Indian exports within the next five years.

2. **Manpower Availability** - India's total population is over **1.12 billion** and **52%** of the total population is less than **30** years of age. Out of the total population, the labor force is **516 million**, and the growth rate is **1.6%** per year. India has a total of **3573** Engineering colleges, and **200,000** IT graduates enter the workforce every year. It is estimated that India has over **4 million** technical workers. India is the world's 2nd largest English speaking country with **100 million** English speaking people, and by **2010,** it is estimated that India will have the highest number of English speakers in the world.

3. **Good Infrastructure** - India's IT Sector in the last decade has been propelled by a phenomenal growth of the IT infrastructure in India. Government setup SEZs (specialized economic zones) where the opening of software services companies would get certain tax subsidies. All leading infrastructure builders and developers in India have taken up big information technology projects of building IT parks to cater to the demand of organized office space for the Indian IT industry. All kinds of power, water, and other basic requirements have been taken care of in IT parks and SEZs across the country. In addition, Indian **telecommunication industry**, one of the fastest growing telecom markets in the world, is facilitating the Indian software industry. According to Telecom Regulatory Authority of India (TRAI), the overall (fixed and mobile) subscribers have risen to more than **200 million** by the first quarter of **2007**. The Ministry of Communications and Information Technology (MCIT) has very aggressive plans to increase the pace of growth, targeting 250 million telephone subscribers by the end of **2007** and **500 million** by **2010.**

   There has been also a rapid growth in the **transportation facilities** that were established in the mid '90s and faced significant challenges. Today, India's infrastructure, including roads, airports, and power generation, can support the current market.

4. **Political Environment & Government Support to Software Industry** - India has been enjoying a stable democratic environment over the last 50 years. The Indian government is consistently reinforcing its commitment to the IT industry with its simple and encouraging policies and a vibrant economy. In 1991, the government of India invested to build **SoftNET**, a microwave telecommunication network capable of high-speed data transmission. The Department of Information Technology (DIT) - under the Ministry of Information Technology, Government of India - has been allocated **$385 Million** in **2008-2009** for the Information Technology industry. Furthermore, three new schemes have been announced for the development of IT in India. Two schemes for the establishment of 100,000 broadband Internet-enabled 'Common Service Centers' in rural areas and another scheme called 'State Wide Area Networks' (SWAN) have been announced. The former scheme is supposed to get an uplift from the Central Government of India. A third scheme for the 'State Data Centers' has been announced with a budgetary allocation of **Rs 275 billion**. The tax regime for the Indian information technology sector has been broadened in the Indian Union Budget **2008-2009**. Customized software will attract **12%** service tax starting from the financial year **2008-2009**. There has been also an increment of excise duty from **8%** to **12%** for packaged software.

5. **Indian Economy** - India's economy has been one of the stars of global economics in recent years, growing **9.2%** in 2007 and 9.6% in 2006. Such growth has been supported by markets reforms, huge inflows of FDI (foreign direct investment), rising foreign exchange reserves, both an IT and real estate boom, and a flourishing capital market. The growth rate of the Indian IT and ITES sector was around **20%** in 2007. Exhibit 1.12 shows the growth statistics of FDI in India.

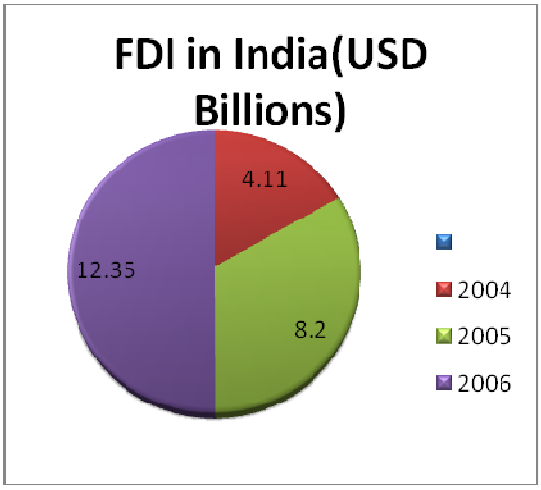


Exhibit 1.12

***Source**: Economy Watch*

Threats to Indian Software Industry

1. **Increase in Labor Cost** - India's competitive advantage of being able to provide low-cost labor to the software industry will come under serious threat in two years, as its currency appreciates and salary costs rise. The annual hike in Indian employees' salaries was the highest across the world in 2008 according to Hewitt's study, making Indian labor more costly than before. Henning Kagermann, chief executive officer of SAP, which is based in Germany, reportedly told the German edition of the Financial Times that rising personnel costs in India are forcing him to start looking to other countries. ''India is slowly getting expensive,'' he is quoted as saying. ''We have decided to hire a certain number there, and then start looking at other locations.''
2. **Labor Shortage** - The next big challenge for the Indian software industry is the labor shortage. In a country of 1.1 billion people, raw talent is plentiful, Noshir Kaka said, but not all of it is market-ready. McKinsey stated that only about a quarter of India's college graduates are "suitable" for employment by multinationals or their Indian outsourcing partners. The chief handicaps are weak spoken-English skills, especially among graduates of non-elite schools, and the uneven quality of college curriculum and faculty.

These concerns can actually pose the biggest threats to software outsourcing in India in the coming decade.

China

China is being considered as the next big destination for IT outsourcing. The Chinese IT services market has grown nearly **42%** a year since 1997. China's information technology (IT) industry has become the **third largest** in the world and a major income-earner of the economy according to the Ministry of Information Industry (MII), China. There are many compelling reasons as to why China is an ideal destination to either put into effect a multisourcing strategy or set up an outsourcing center.

Advantages of Chinese Software Industry

1. **Manpower Availability** - China's pool of potential talent is enormous. In 2003, China had roughly **9.6 million** young professional graduates with up to seven years of work experience and an additional 97 million people that would qualify for support-staff positions.

2. **Political Environment & Government Support** - The Chinese government has also put in its bit to enhance China's image as an outsourcing destination. It has liberalized the economy, laws, and policies and laid a major emphasis on education. Recognizing the over-dependence on export-led development, the Chinese government initiated a "go-out" policy in 2002, a plan to create between 30 and 50 "national champions" from the most promising or strategic state-owned enterprises in China by 2010. These "National Champions" enjoy a range of benefits from the government including information-sharing networks, domestic tax breaks, cheap land, and low-interest funding from state-owned banks.
   The Chinese government has also established **35** national schools to provide software training to ensure a steady supply of IT Talent.

3. **Chinese Economy** - China's economy is huge and expanding rapidly. In the last 30 years, the rate of Chinese economic growth has averaged 8% per annum. The economy has grown more than 10 times during that period, with Chinese GDP reaching 3.42 trillion US dollars by 2007. In Purchasing Power Parity (PPP) GDP, China has the biggest economy after the United States. Most analysts project China to become the largest economy in the world this century using all measures of GDP.

4. **Infrastructure** - China is now wired for business. Accessibility is on par with New York or London, with Shanghai boasting a state-of-the-art international airport with direct daily flights to most major cities in the world. Importantly, access to downtown takes only 7 minutes on the world's fastest train - **The Maglev**. There is accommodation and restaurants to suit all tastes and budgets, and free and reliable broadband and wireless access is widely available.

   China's State Informatisation Expert Group invested heavily in accelerating the adoption of IT in key sectors of the Chinese economy and infrastructure through large-scale projects such as the **"Golden Card"** (adoption of IT in banking), **"Golden Bridge"** (the construction of national telecommunications backbone and other networks), and **"Golden Custom "** (computer networking for foreign trade and other related issues).

Threats to Chinese Software Industry

There is a misconception that Chinese companies are going to change the global business landscape overnight. In reality, there are some threats to Chinese software industry growth.

1. **Overseas Acquisition Activity** - China's total overseas acquisition activity of **US$3 billion** in 2004 is actually a mere fraction of the US$243 billion value of the global total of mergers and acquisitions (M&A) in only the first quarter of 2005. The World Bank recently reported that one-third of Chinese enterprises had lost money on their foreign investments and that 65 percent of their joint ventures had failed. China's course may be set, but the journey to high performance will be long.

   "China's top 500 are greatly inferior to their world's counterparts in terms of scale, productivity, profit-making capacity, managing capacity, and competitiveness," says Chen Jinhua, Chairman of Chinese Federation of Enterprises.

2. **Quality of Talent** - Although China has a large number of computer graduates entering its job market, the school education and market needs are out of joint, so the enterprises cannot directly get the talents who can meet their demands. Although the corresponding training institutions and systems are excellent, the talents are still the bottleneck of the software enterprises' development. Few of China's vast numbers of graduates are capable of working successfully in the services-export sector.

3. **Talent Shortage -** McKinsey predicts that multinationals will have an increasingly hard time recruiting high-quality staff in China at a time when growing numbers of foreign companies are expanding their operations there.

The Philippines

The Philippines is emerging as a strong player in the global software industry. The Philippine software industry saw an increase in software exports by **33%** or **272** million dollars in 2006, according to industry reports. Estimated revenue in the Philippines today is pegged at **US$2.3** billion.

Advantages of Philippine Software Industry

1. **Huge, Quality, & Stable Manpower** – The Philippines has a pool of highly-informed and educated workers, supervisors, and managers. It possesses a **huge pool** of trained, multi-skilled, and productive labor force. Therefore, the Philippines' key competitive advantage lies in its people. The Philippines is the world's third largest English speaking nation and has a well-educated English-speaking work force. The attitude, commitment, community, and education give the Philippines its competitive edge, especially in the front-office operations such as customer service and sales. The Philippines has the highest Literacy rate (**95%**) in the Asia-Pacific Region. The country also has the second most suitable workforce in Asia Pacific.

2. **Infrastructure -** The Philippines has a strong and affordable telecommunications system, Internet access, and similar facilities. E1 connections are available from the U.S. to the Philippines at **US$2,000** per month. There are at present **11** international carriers, **5** nationwide cellular operators, and **5** nationwide long-distance providers. The country has a capacity of 10 million phone lines, of which **3.5 million** are in use. Cellular phone subscribers increased to **33 million** from **9 million** in **2002**. In addition, the Philippines was dubbed the SMS text-messaging capital of the world, and its volume of messages remains one of the highest in the world. Digital microwave radio system, digital fiber optic network, and broadband network are also laid out to cover almost every major city in the country.

3. **Government Schemes for National IT Industry** - The Philippine government also has various initiatives and incentives to attract U.S. companies to put their offshore offices in the country. The Philippine government has revised the Investments Priorities Program (IPP) to cover IT and IT-enabled services and ICT support services located either outside of Metro Manila or in identified IT hubs. Incentives are regularly reviewed and updated to encourage the flow of foreign and domestic investment in the country. The Philippine government imposes only **10%** tax payment on taxable income; exempts investors from contractor's tax, local licenses, fees, dues, and imports, or any other local taxes and burdens except real property tax; and provides tax and duty-free importation of training materials and equipment without prior BOI approval for regional operating headquarters. The country also has an E-Commerce Law or Republic Act 8792 that will protect the interest of outsourcers and IT.

Threats to Philippine Software Industry

1. **High Non-labor Cost** - The Philippines' non-labor cost is very high compared to that of its competitors. For example, Electricity cost in the Philippines is **$0.109** per kW hour, which is very high compared to India **($0.076)** & China **($0.066)**.

2. **Quality of Infrastructure** - The Philippines is admittedly lagging behind in infrastructure quality of manpower and investment incentives provided by the government. The country still needs to invest heavily on basic infrastructure over the long term to further improve its competitive edge over other Asian countries such as India. The Philippines Telecom Network is rated average on reliability.

3. **Political Instability & Business Insecurity** - The Philippines lags behind in government support. In the Philippines, it takes double the amount of time needed in Malaysia or India to achieve the proper approval for opening a business. There are also strict labor laws and high level of corruption which hinder investment and business opportunities.

4. **Scarcity of Managers** - The Philippines does not have a pool of ready managers. Although there is a surplus of talent in all occupations at the entry level, this is not the case in occupations at the managerial level. Management talent is generally acquired from sources like returnees who have worked or studied in developed countries, as in the case of the **30000** highly skilled Chinese who immigrated to the U.S. in 1998 and came back to china to set up the operation there. Also according to a study by the World Bank, Indian entrepreneurs & venture capitalists have promoted India as an outsourcing destination, but the Philippines does not have that advantage. Filipinos prefer to stay abroad for better career opportunities and better salaries.

Malaysia

Malaysia is one of the most preferred locations in the world for shared services and outsourcing. Malaysia's software market grew at a rate of 8.3% from US$442.89 million in 2005 to US$479.6 million in 2006, and the market is forecasted to further expand at annual growth rate of 8.5% from 2006 to 2010. Malaysia has been ranked as one of the most upcoming markets in outsourcing destinations.

Advantages of Malaysian Software Industry

1. **Lower Cost & Ease of Doing Business** - The cost of doing business in Malaysia and Malaysia's MSC is very affordable. MSC-status companies are given a variety of incentives such as tax holidays, research grants, and no restrictions on foreign ownership and employment of foreign knowledge workers.

2. **Manpower** - Malaysia has multilingual, well educated knowledge workers. The Malaysia Plan reported in a survey conducted by the Multimedia Development Corporation (MDC) in May 2003 that of the 17,854 jobs created by MSC companies, 86 percent comprised knowledge workers such as software developers, programmers, and analysts. By 2008, some 60,000 jobs will have been created in this US$3 billion industry in the MSC. In 2006, Malaysia projected a total of 43,757 ICT Diploma and Degree graduates, **and the number will keep on increasing every year.**

3. **Government Support** - The government's positioning of Malaysia as a hub for Services and technology innovation has resulted in a number of multinationals locating some of its global or regional operations in Malaysia. Multimedia equipment is duty-free imported, and the MSC proposition provides the freedom to relocate people, capital, and equipment. For ease of financing, customized incentives are available from Malaysia Debt Ventures (MDV). The country also offers one of the lowest rentals in grade-A buildings compared to key cities in the Asia-Pacific region. A recent United Nations Conference on Trade and Development (UNCTAD) survey on Global Investment Prospects ranked Malaysia as the 7th top hot spot for global foreign direct investment (FDI). Malaysia has a relatively more stable political climate backed by consistent economic growth which makes it attractive for sensitive, high-end applications in banking and finance.

4. **Infrastructure** - Malaysia has big cyber cities where big companies can locate their premises .These cyber cities are audited annually to comply with a set of minimum standards and criteria. Malaysia is supported by a high-capacity, digital telecommunications infrastructure designed to meet the highest international standards in capacity, reliability, and pricing. Major cities in Malaysia, such as Penang, Kuching, Ipoh, Kuantan, Melaka, and Seremban, are also easily accessible by good infrastructure such as highways, rail, and air transport. Malaysia's well-developed infrastructure and attractive business environment make it a rising alternative to India and China.

5. **Quality of Life** - Malaysia offers high-quality, safe, and abundant cosmopolitan living at affordable cost. You will find a vibrant nightlife with a variety of entertainment options including international

clubs and concerts by chart-topping performers. The city has entertainment options for people of every taste, from classical orchestras to jazz bars and dance clubs that offer the latest hits.

Threats to Malaysian Software Industry

1. **Labor Cost Increase -** Malaysia is losing advantage as low-cost, low-wage producer. Malaysia is increasingly facing a rising threat from lower-cost producers within the region. Other countries are outpacing Malaysia primarily due to the country's lack of available manpower to sustain the growth of its offshore and outsourcing industry. Malaysia is also facing a shortage of Knowledge workers.

2. **Limited Market Size** - Malaysia's market size is limited compared to that of its competitors.

3. **Infrastructure (Broadband)** - The attractiveness of Malaysia in the context of e-business and e-commerce application development and utilization remains questionable. In 2004, Malaysia was positioned number 33 in terms of its global e-readiness index (Economist Intelligence Unit, 2005). And in 2005, Malaysia slipped and was ranked 35th in the world in terms of being e-ready.

Australia

The Australian software industry is very diverse. The industry has a number of opportunities and advantages, including broad expertise in small to medium enterprises, the chance to establish a sustainable commercial advantage in user industry applications, significant export or overseas development activity dependent on building the necessary marketing and distribution, and opportunities to participate in the development of basic operating systems and core desktop applications.

Advantages of Australia Software Industry

1. **Manpower** - Australians are well-known in many markets around the world as innovative software engineers and good project managers. Australian computer science and engineering academics and researchers are highly regarded by the international community. In 2006, Australian researchers developed the world's fastest gigabit per second point-to-point connection. Rated at six gigabits per second, the connection was capable of transferring a DVD in less than ten seconds. In addition, Australian researchers developed the adaptive frequency-hopping technology for Bluetooth, used in personal data assistants, cell phones, and other devices.

2. **High-Quality Research & Development -** According to the Australian Government Industry Statement 2007, the Australian government has extended eligibility of the R&D tax concession. The new changes mean multinationals in Australia will be eligible to access a 175% Premium Tax Concession on incremental spending on R&D where the intellectual property is not held in Australia. Australia ranked 3rd for development and application of technology and 7th for R&D expenditure per capita for countries with a population over 20 million in the 2006 World Competitiveness Yearbook. The Australian government's science and innovation package is a ten-year, $8.3 billion funding commitment, stretching from 2001-02 to 2010-11 and aiming to increase Australia's ability for research & development.

3. **Infrastructure** - Australia has the 5th largest ICT market in Asia Pacific and the 12th largest in the world. The Australian Telecommunication Services sector posted revenue of $35 billion in 2005-06. Australians have embraced mobile communications enthusiastically with state-of-the-art network coverage available for over 98 percent of the population. As of June 2006, up to 19.86 million - or 96 percent of Australians - owned a mobile phone. Australia's inter-capital and metropolitan fiber optic transmission network traverse 44,645km and 135,556km respectively equivalent to circling the earth 4.5 times. The fiber backbone is supported by a comprehensive carrier-operated microwave network consisting of 25,289 transmitters and base stations.

Threats to Australian Software Industry

1. Gartner says outsourcing in Australia is expected to grow only 4.7% to reach AUD10.9 billion in 2008. Gartner Australia research director Kurt Potter says that although user organizations often have fundamentally sound procurement departments to initiate outsourcing contracts, many IT sourcing strategies and governance structures are still immature, lacking altogether or misaligned with enterprise objectives.

2. Australian organizations often lack the basic building blocks for successful vendor management and outsourcing success; as such, the expected cost savings and other benefits are difficult to obtain. Kurt Potter, research director at Gartner, said, “In extreme cases, the lack of needed trust and control to optimize the outsourcing relationship results in deal failure.”

Vietnam

Vietnam is also one of the attractive destinations for offshoring among many software companies. Although the software industry in Vietnam is still a young sector whose turnover does not appear impressive, it is growing at a fast pace with a high level of support from the government.

Advantages of Vietnamese Software Industry

1. **Low Labor Cost** - Many Indian, Japanese, and South Korean software companies have started outsourcing to Vietnam for its low-cost labor. An experienced senior developer earns $350–$600 USD monthly. The average salary for Vietnamese IT professionals is about 50% less than that of their counterparts in India.
2. **Government Support** - Vietnamese government is very supportive of the software industry. New IT companies in Vietnam enjoy four-year income tax exemption as well as 0% import tax for materials directly used in software production and 0% export tax for software products. Also, Vietnam has special business places (software parks) where companies get good Internet access and better uptime guarantee with subsidized fees.
3. **Good Quality of Manpower** - 32% of Vietnam's population is below 14 years of age, and 63% of the population is between 15 and 64 years old. The Vietnamese are generally regarded as hard-working and loyal, and English is widely recognized as the second language in Vietnam.
4. **Large Vietnamese Expatriate Community in the U.S**. - Vietnamese-American communities are a good source to find U.S.-educated executives, project managers, technical architects, and other professionals that understand the U.S. business processes and requirements. Vietnamese-Americans are very affluent and want to invest in Vietnam, and being fluent in both Vietnamese and English, they can liaise between onshore and offshore operations.

Threats to Vietnamese Software Industry

1. **Infrastructure** - Vietnam doesn't have high-class infrastructure to support the software industry. Vietnam urgently needs to upgrade its national infrastructure (roads, electricity, telecommunications, and Internet bandwidth & access).
2. **Intellectual Property** - The Vietnamese IT companies are facing issues of understanding and respect with regard to the company and customer's intellectual property. Most companies don't have established processes to handle software licensing, data security, and IP protection. It is tough to enforce these processes and audit requirements to Vietnamese vendors in particular and to all offshore vendors in general.
3. **Government Instability -** Since Vietnam is a communist country, there are challenges of doing business there and laws may change overnight. Foreign ownership and joint-venture partnership are not well defined, Compliance and Audit laws are fairly vague, and corruption is a problem. Needless to say, doing business in Vietnam may be risky.
4. **Scalability** - Since most companies in Vietnam are small, they don't have in-house technical talents or available resources to take on large-scale projects.

Ireland

Ireland has been recognized as Europe's premier location for software development. Since the 1980s, most leading U.S. software vendors have based their European operation centers in Ireland and are making the country a pre-eminent site for software localization in Europe.

Advantages of Irish Software Industry

1. **Manpower -** The Irish labor force is relatively low-cost, young, well-educated, and adaptable to change. In 1980, Ireland produced more engineering graduates than it needed. Labor costs in Ireland are below the average for the OECD area. However, they are significantly higher than in Greece, Portugal, S.E. Asia, Eastern Europe, and Latin America, all of which - besides competing in the global market - are alternative locations for international investment.

2. **Government Support** - The stable and favorable Irish government has played a major role in the growth of Ireland's software industry. The 10% tax rate for business - the lowest manufacturing tax rate in Europe and about one-third of that in the U.S. - attracted multinational manufacturers to Ireland. Financial incentives from the Irish government have also been a contributing factor to the growth of Ireland's software industry.

3. **English as a Native Language** - Ireland is predominantly English-speaking, so there is no language barrier for doing business.

Threats to Irish Software Industry

1. **Infrastructure Cost** - Telecommunications costs in Ireland remain expensive, except for both business calls and leased lines to the UK and the U.S. This applies for the cost of calls and the cost/rental of equipment. The costs of industrial and office accommodation in Ireland are among the most expensive in Europe. Transport is also an important cost factor for Irish companies.
2. **Labor Shortage** - In recent years, Ireland has not been able to fill the demand for labor in the local software industry, leading to a skills gap that will threaten the future of the industry. The number of graduates in the IT discipline has been declining sharply since 2001.

Thailand

Thailand's software industry has enjoyed impressive growth during the past few years, reaching a value of US$1.391 billion in 2006.

Advantages of Thai Software Industry

1. **Infrastructure** - Thailand has an excellent infrastructure for the software industry including broadband Internet services, network resource, security management, and low incidences of power outages. Thailand has software parks which provide a very good basic infrastructure to software companies.

2. **Manpower** - Thailand has a growing number of manpower for the IT industry every year. Thailand boasted 38,975 technical staff in the software industry in 2006. This number, which represented a 13% increase over 2005, is expected to continue to grow as government-sponsored training and educational initiatives begin to bear fruit.

3. **Low-Cost Technical Labor Force** - The average salary of a technical employee is around US$700 per month, less than half what it is in the United States or the European Union.

4. **Strong Government Support –** Thailand has strong government support and a business-friendly environment for software business. Thailand ranked 15th out of 178 economies in terms of overall business friendliness in the World Bank's *Doing Business 2008 report*. This ranking represents a rise from the 18th place that Thailand occupied in the previous year.

Threats to Thai Software Industry

More than 95 percent of the 1,128 software companies in Thailand are SMEs (small-to-medium enterprises) with a registered capital of less than US$2 million. Most of these firms serve local industries rather than companies overseas. In 2006, only US$76 million of Thai software was exported. Still, the industry has a great potential. It is expected to grow by 29%, or to US$1.778 billion, in 2007 as a result of expansion in both domestic and foreign markets, but for the time being, it is still a comparatively underdeveloped industry.

Brazil

Brazil is Latin America's largest back-office software market with approximately 50% market share in the region and 1.1% in the world market in 2007. In 2006, the IT sector accounted for 1.5% of the Brazilian GDP. This percentage is higher when compared to countries like China and Mexico, in which the IT sector accounts for 1.0% and 0.4% of the GDP respectively.

Advantages of Brazilian Software Industry

1. **Infrastructure** - The country's telecommunications infrastructure is now of good quality after receiving billions of dollars in investment since it was privatized in the late 1990s. Brazil is Latin America's biggest telecommunications market. Plus, the country has a growing software market and is fast embracing new technologies.

2. **Time Difference -** The time difference between Brazil and the United States is minimal, and a rising number of American companies are taking this into account especially when they outsource data centers and call centers.

3. **Economy** – Brazil has the eighth biggest economy in the world.

Threats to Brazilian Software Industry

1. **Internet Connectivity** - Much of Brazil is very poor. Major cities suffer from unreliable, yet expensive, Internet connection.

2. **Scalability** - Most Brazilian software companies are much smaller than their Indian counterparts, thereby limiting the services they can offer the clients.

3. **Poor Spoken-English Skills** - Brazilian universities are churning out tens of thousands of engineering graduates a year for jobs in the information technology business, but most of them are not fluent in English.

Singapore

Singapore has become the top destination for outsourcing for many companies. In a 2004 report, the U.S. Department of Commerce ranked Singapore as the second fastest-growing hub for outsourcing among U.S. businesses. According to AT Kearney, PricewaterhouseCoopers, and the Economist Intelligence Unit, Singapore is one of the most attractive destinations for offshoring.

Advantages of Singaporean Software Industry

1. **Infrastructure** - Singapore has a high-quality infrastructure that supports all kinds of IT Business. Singapore is rated as the top country in terms of infrastructure and business environment according to the AT Kearney Report. When First Data Corp., the U.S.-based global back-office service provider of electronic commerce and payment systems, decided to establish a regional hub for its South and Southeast Asian operation, it chose Singapore as its hub instead of India. Cara Taylor, the spokesperson of First Data said that Singapore was a clear choice because of *"its growth, infrastructure, and proximity to clients."*

2. **Manpower** - Singapore has quality English-speaking manpower. Singaporeans are also cosmopolitan in their view of the world and are comfortable with diverse cultures.

3. **Intellectual Property Rights** – Singapore has made excellent efforts to protect intellectual property. Singapore signed a Memorandum of Understanding with the European Union to collaborate on the awareness and protection of intellectual property. Singapore also has an extremely active Intellectual Property Office charged with formulating and enforcing laws and stimulating the creation of intellectual property.

Threats to Singaporean Software Industry

1. **High Cost of Labor** - With one of the highest per capita income levels in the world, Singapore cannot be considered a cost-efficient location especially when compared to other offshore locations.

2. **Increasing Value of the Singapore Dollar** - The Singapore Dollar is increasing against the U.S. Dollar, which makes Singapore a more costly location for outsourcing. The increasing prices of basic infrastructure and requirements are a major concern for companies that wish to set up an offshore center in Singapore.

A Comparative Study of Different Offshore Locations

Companies can find suitable offshore locations if they rationally analyze the factors that are most important to them, including their home market, their first language, what activity they want to outsource, the scale on which they want to offshore, and whether they want to outsource or set up a captive operation. That means different companies will assign different costs and benefits to the same location. The following comparative study of different offshore locations will help Intuit identify the best-suited location for its outsourcing operation.

Comparative Analysis of Labor Statistics

Demand and Supply of Labor

Companies that wish to set up services offshoring operations in China face more competition for talent than they would in other low-wage locations. In India and the Philippines, for example, the local economy is growing less briskly, and working for a company that provides offshore services is therefore a good option. In China, domestic and multinational companies serving the fast-growing domestic market already provide attractive opportunities for suitable graduates, and there are many more jobs in the manufacturing export sector. As a result, it's wrong to assume, as many companies do, that every suitable young professional in China is available for hire in the services offshoring sector. The demand for low-cost labor is increasing at a fast pace and if it keeps on increasing at the same rate, then the labor supply will be constrained by 2021. See Exhibit 1.13.

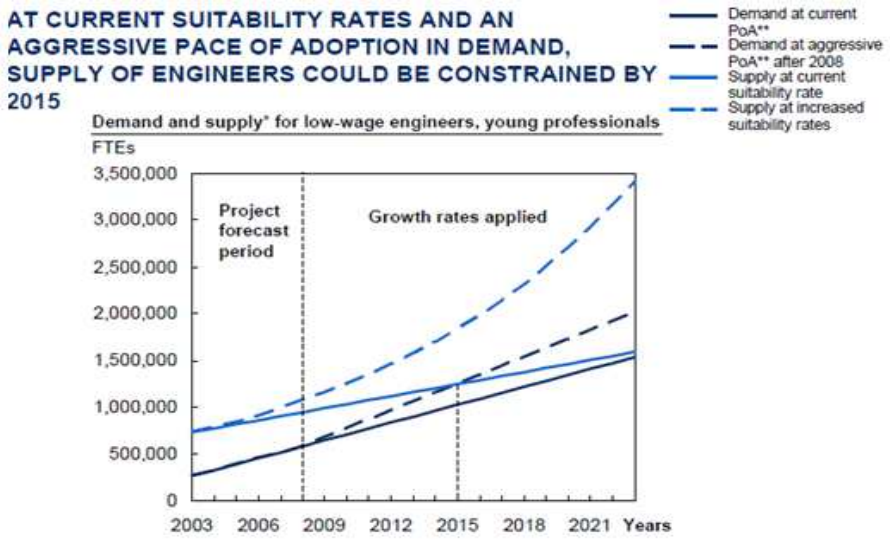


Exhibit 1.13

***Source**: Mckinsey Report*

According to a study by Mckinsey, **India, the Philippines, and China** are very often the top choices among companies offshoring IT- and engineering-based services. If we compare the demand for young professional engineers in the United States and the United Kingdom to the supply from India and China, the study shows that the demand will exhaust the supply from these two countries by 2008. If the supply from the Philippines is added, the demand from the United States and the United Kingdom growing at current rates will exhaust the supply of young professional engineers from these three countries by 2011 (see Exhibit 1.14).

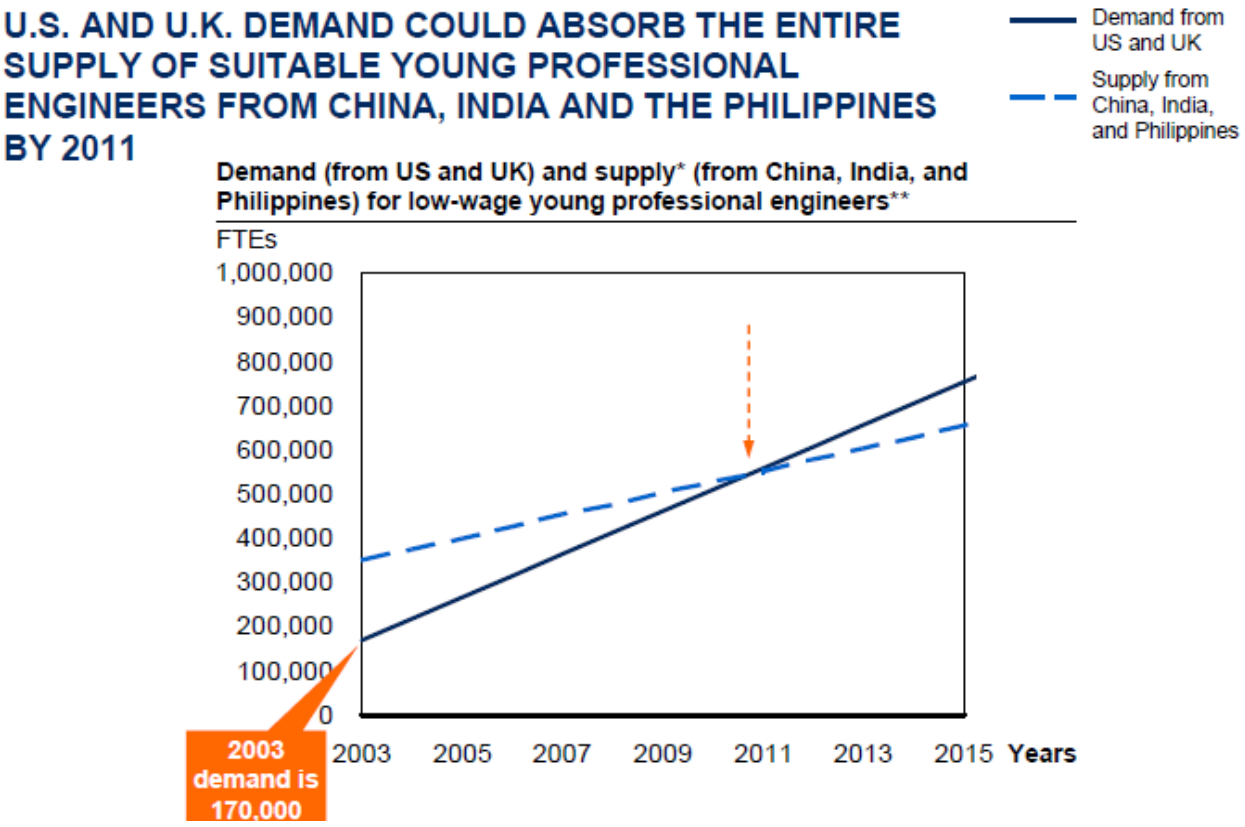


Exhibit 1.14

Source *: Mckinsey Report*

The next important factor to be considered is the prospective labor source. According to the Nasscom report, the working-age population is highest in **China and India**.

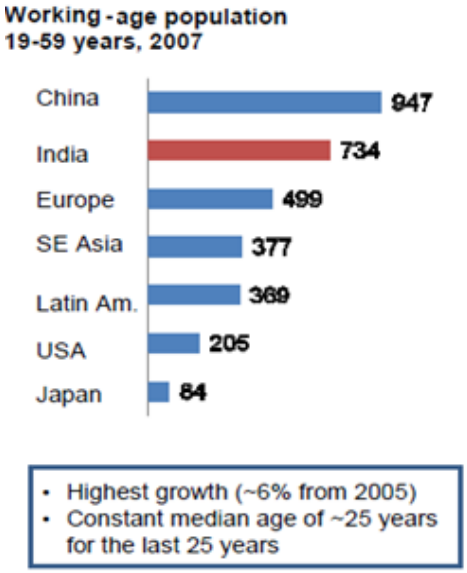


Exhibit 1.15

***Source**: Nasscom Report*

If education spending is compared to the working-age population, then the best prospective source of the skilled labor can be identified. According to the World Bank's report, individual spending on education is lowest in **India and China**.

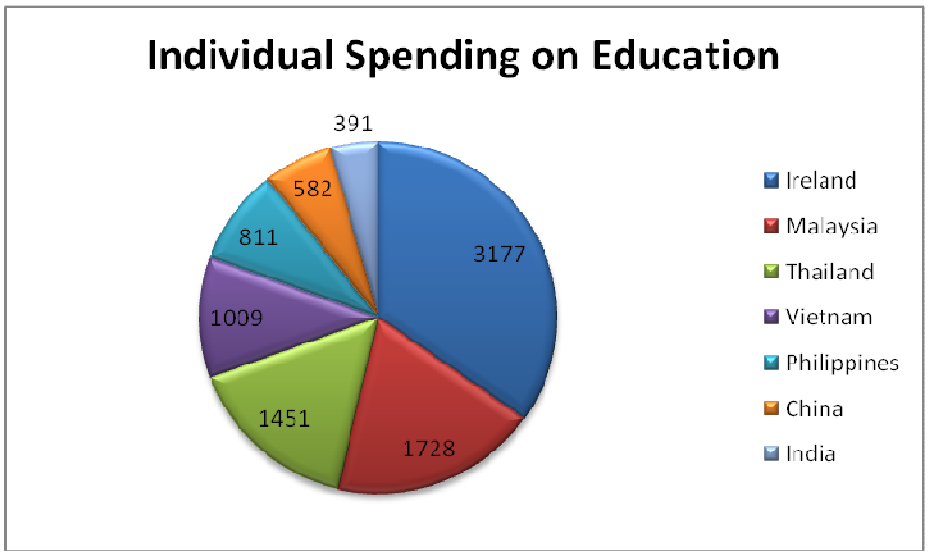


Exhibit 1.16

***Source:** World Bank*

Labor Cost

Countries that emerge as low-cost offshore locations are subject to the preferences of companies making the analysis and offshoring their services. An increasing number of countries will likely emerge as attractive offshore locations to more companies in terms of labor cost. Based on a study done by Mercer, Exhibit 1.17 shows the salary comparison between IT managers across the most preferred offshore locations. The study shows that the current labor cost is lowest in **Vietnam, the Philippines, and India**.

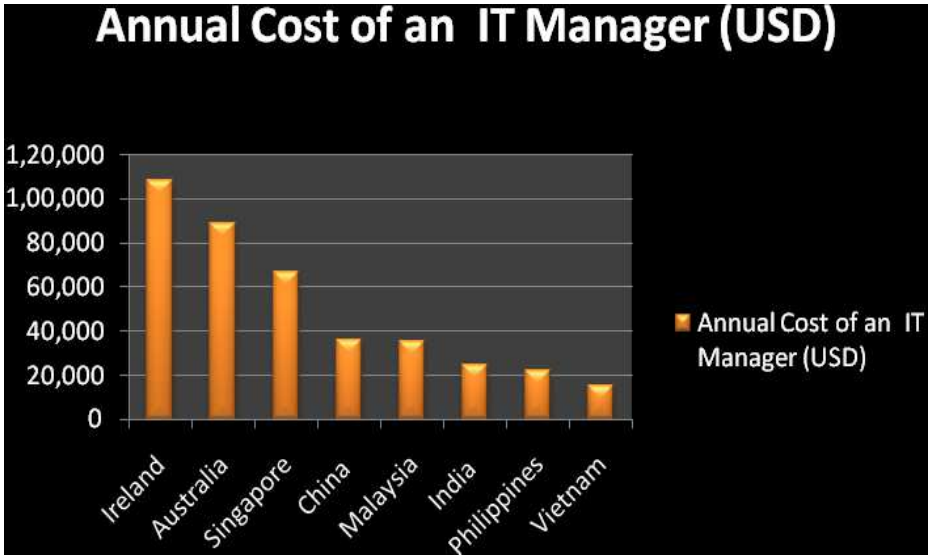


Exhibit 1.17

***Source**: Mercer Study*

In another study of the most attractive low-cost offshore locations, Mckinsey found that the most attractive countries in terms of labor cost are **India and the Philippines.** See Exhibit 1.18.

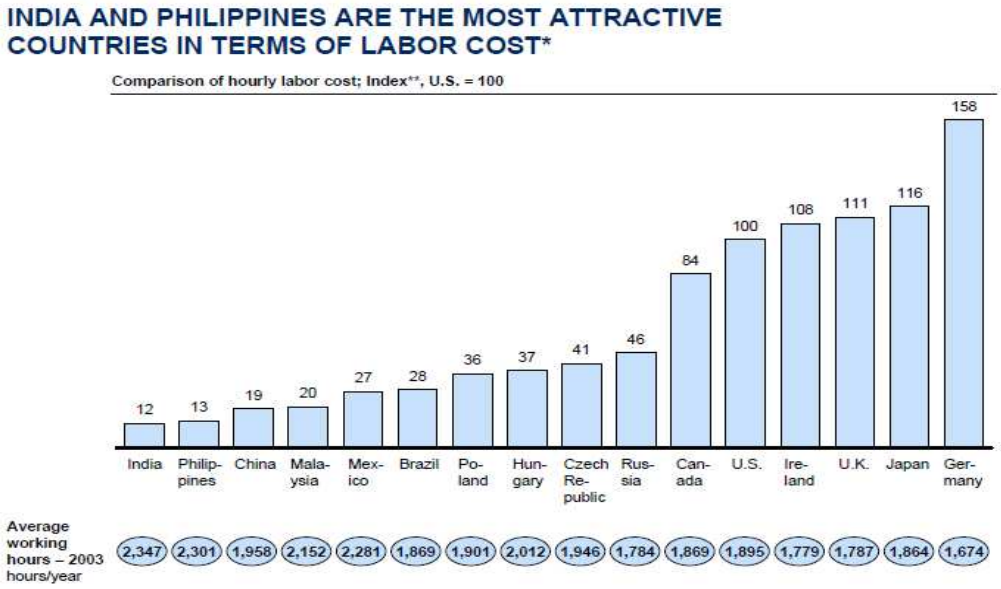
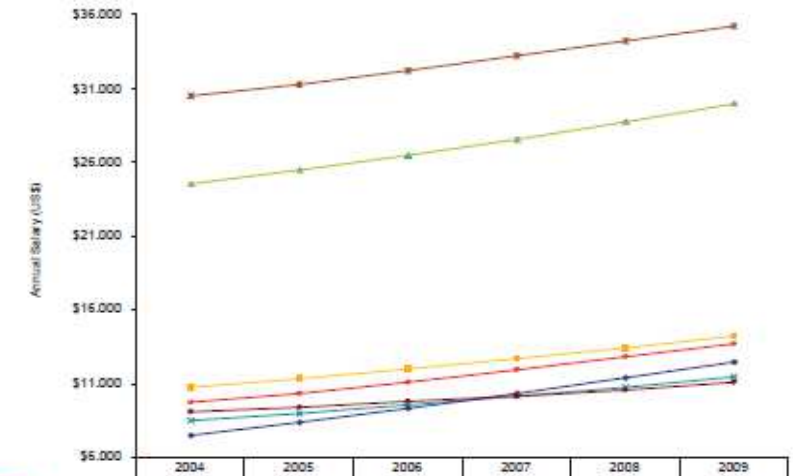


Exhibit 1.18

Source: *Mckinsey Report*

The Frost & Sullivan report shows more data on labor comparisons. See Exhibit 1.19.



	2004	2005	2006	2007	2008	2009
China	$9.720	$10.332	$11.076	$11.896	$12.788	$13.709
Czech Republic	$8.500	$8.985	$9.533	$10.133	$10.761	$11.461
India	$7.500	$8.348	$9.299	$10.313	$11.375	$12.467
Ireland	$24.500	$25.456	$26.473	$27.558	$28.715	$29.951
Malaysia	$10.750	$11.341	$11.981	$12.673	$13.424	$14.238
Singapore	$30.500	$31.263	$32.200	$33.231	$34.228	$35.220
The Philippines	$9.050	$9.367	$9.760	$10.141	$10.577	$11.063

Exhibit 1.19

Source*: Frost & Sullivan Report*

Increase in Labor Cost

The increasing labor cost is also an important phenomenon that affects companies' choice of offshore locations. In a study done by Hewitt, **India, China,** and **the Philippines'** labor cost increase is the highest in Asia Pacific. See Exhibit 1.20.

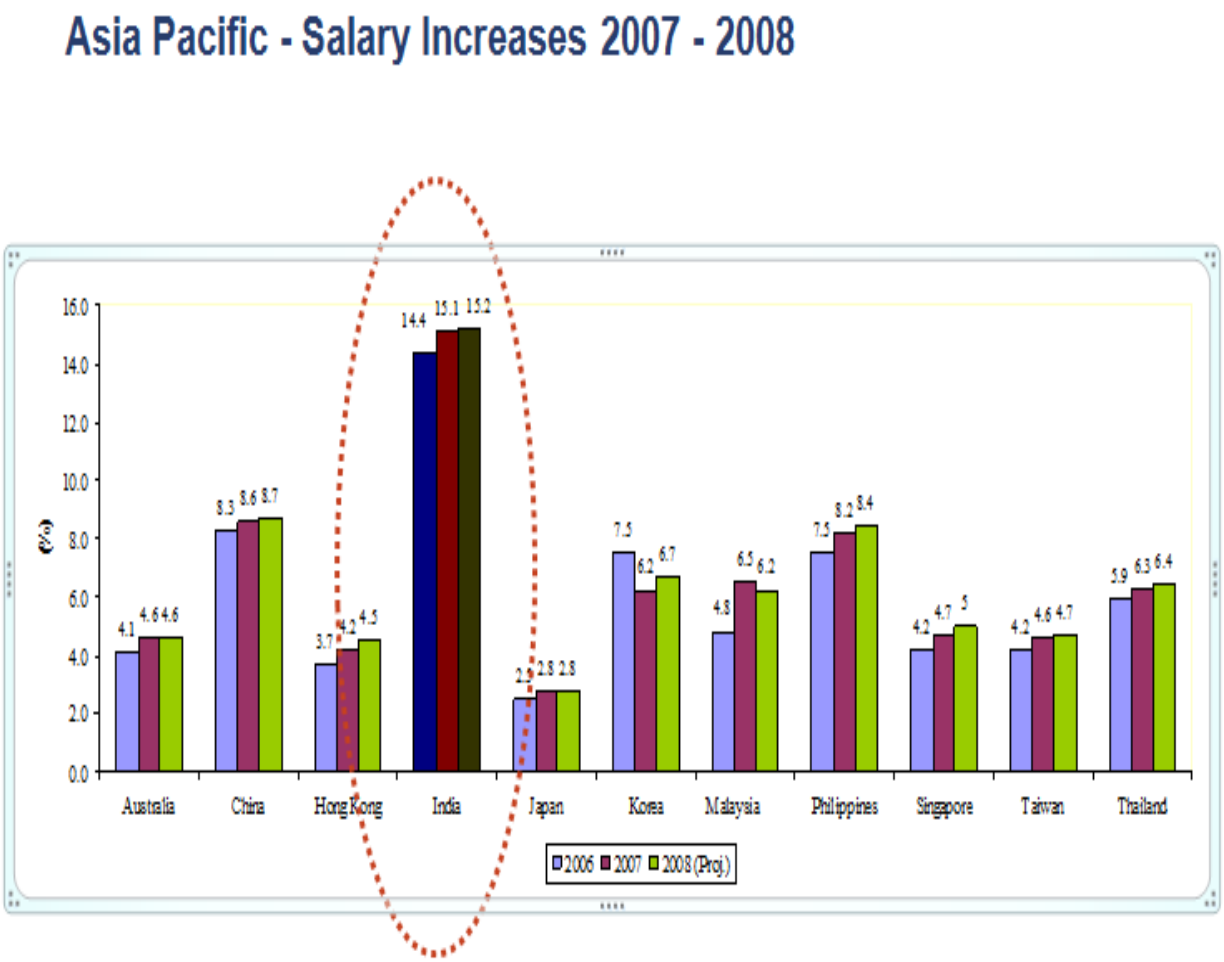


Exhibit 1.20

***Source**: Nasscom –Hewitt Report*

According to a Mckinsey report, the rise in labor wages is highest In **India, the Philippines, China, and Malaysia.** See Exhibit 1.21.

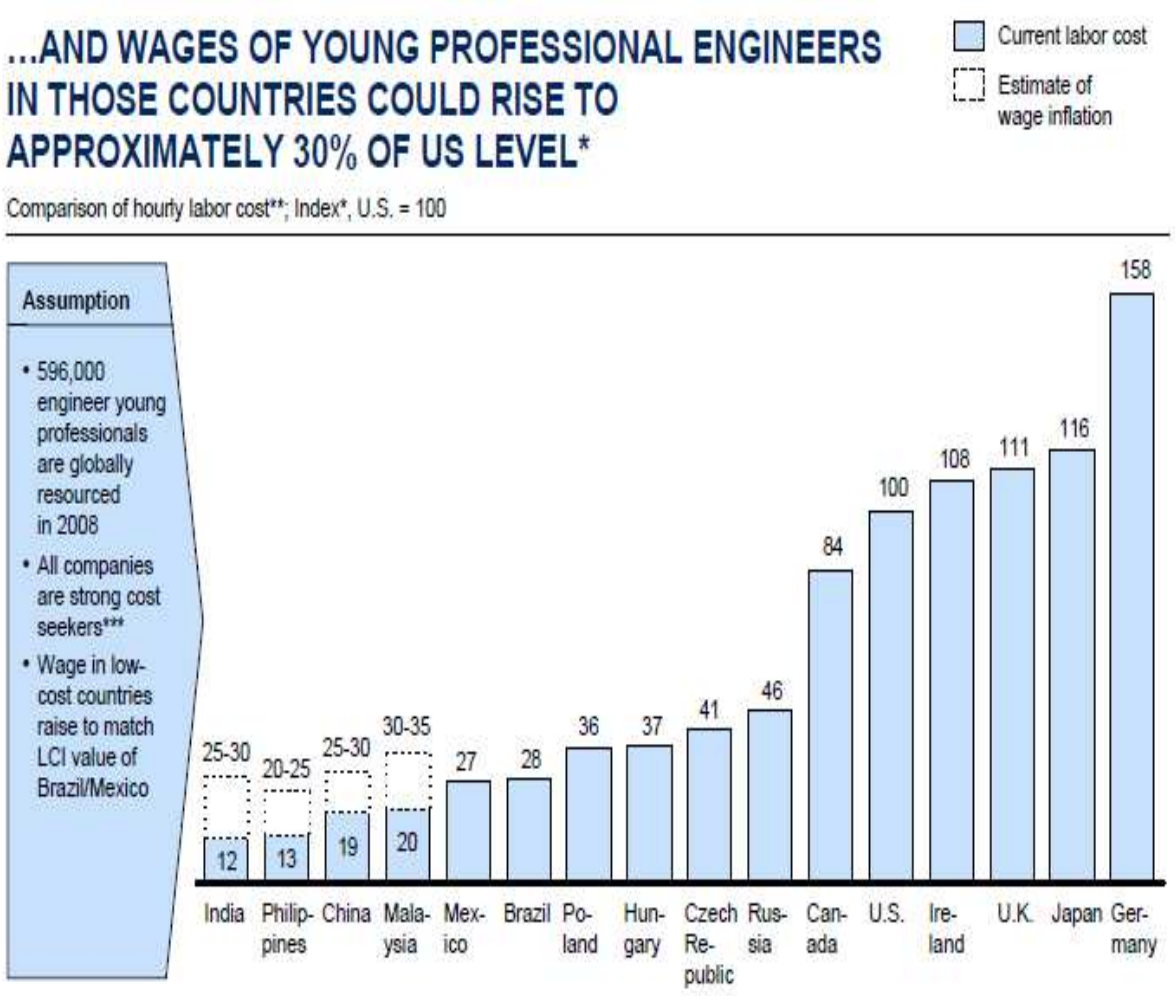


Exhibit 1.21

***Source**: Mckinsey Report*

Quality of Labor

Another important factor to be considered in this comparative analysis of labor statistics is the quality of labor. According to a survey done by PERC on the quality of labor in different offshore locations, India and the Philippines have ranked first and second respectively.

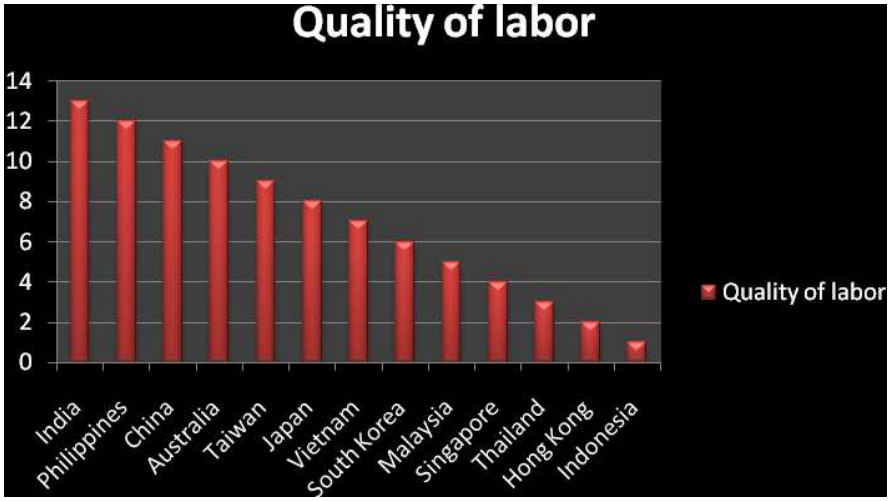


Exhibit 1.22

***Source**: PERC Survey*

Comparative Analysis of Infrastructure

According to the Mckinsey Research, the cost and quality of infrastructure play an important role in offshore location attractiveness (see Exhibit 1.23). In the same report, comparisons have been drawn between different countries in terms of the cost and quality of their infrastructure (see Exhibit 1.24).

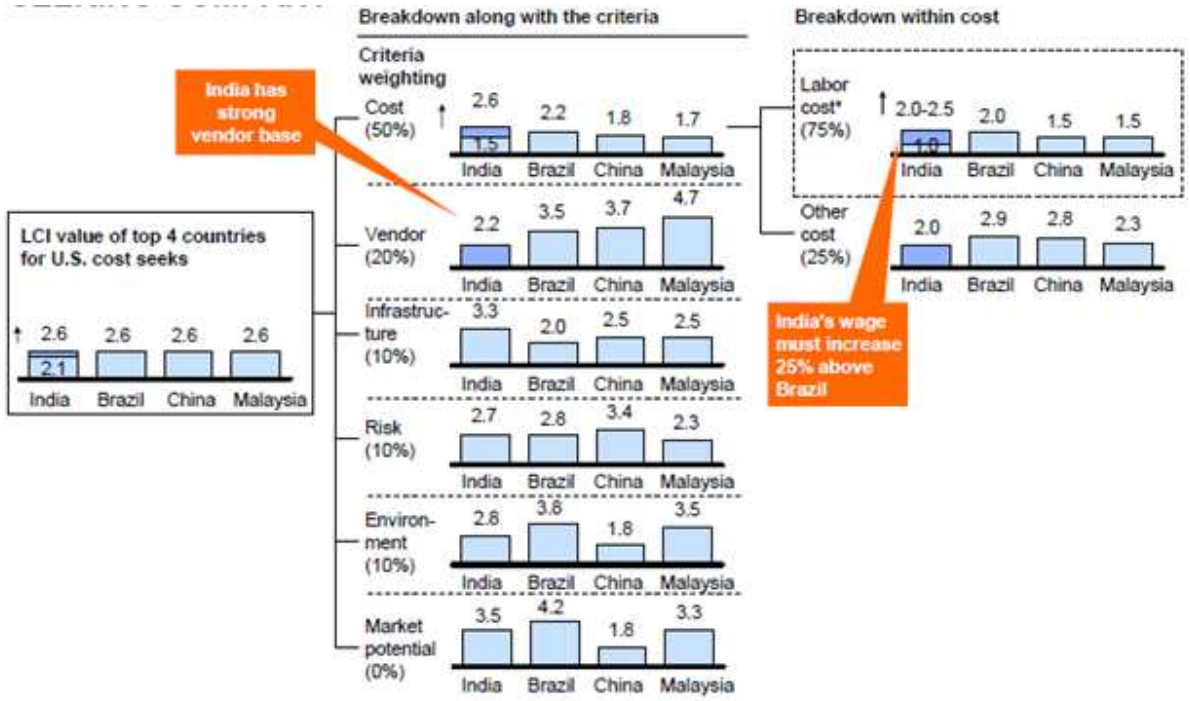
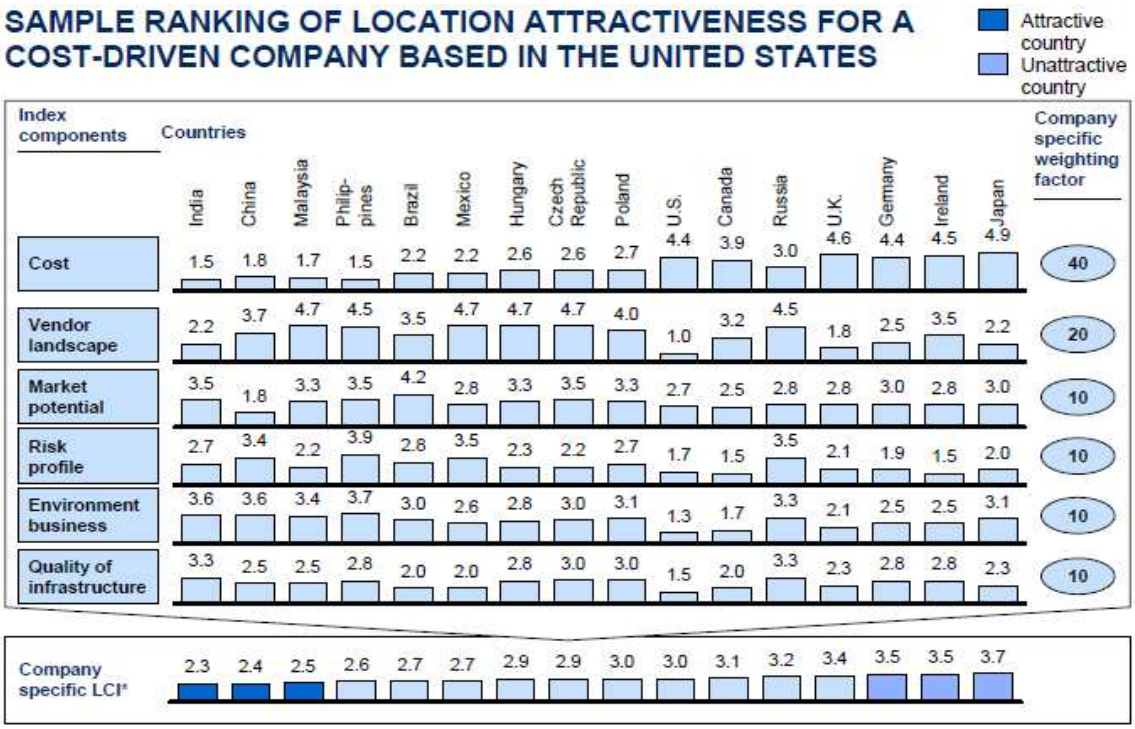


Exhibit 1.23

***Source**: Mckinsey Research*



* In this ranking 1 is the most attractive and 5 is the least attractive.
Source: Location cost index database

Exhibit 1.24

***Source**: Mckinsey Report*

Exhibit 1.25 shows a comparative analysis of the annual spending on energy sources, transportation, telecommunication, and water & sanitation in India, China, Malaysia, the Philippines, Vietnam, and Brazil.

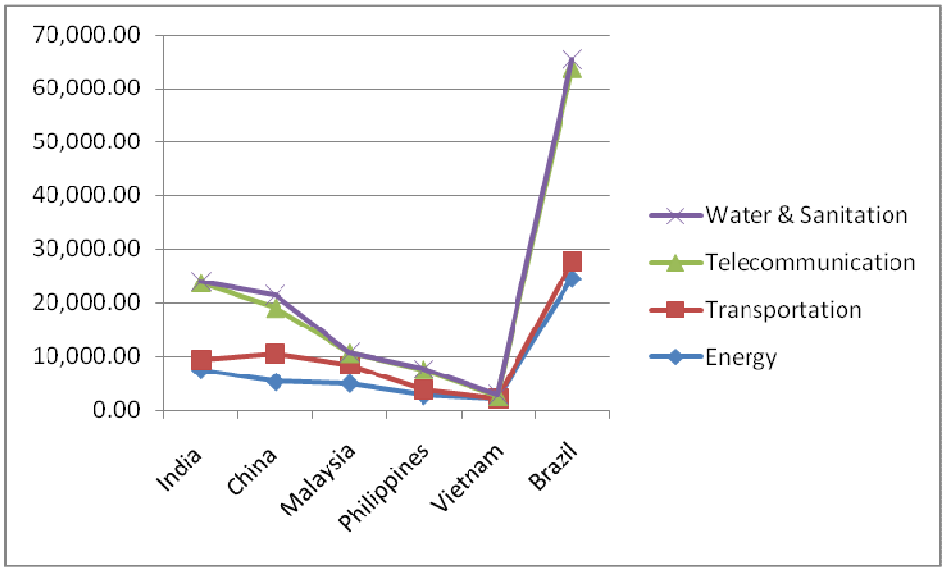


Exhibit 1.25

***Source**: World Bank Data*

Exhibits 1.26 & 1.27 rank different offshore locations based on their infrastructure quality. **Singapore** has the best infrastructure quality.

Infrastructure Ranking

Country	Overall Infrastructure	Railroad	Port	Air	Electri-city	Tele-coms
China	3.5	3.7	3.7	3.9	4.2	5.4
India	2.9	4.7	3.2	4.8	3.0	6.0
Indonesia	3.7	3.2	3.7	4.1	3.6	3.9
Korea	5.2	5.4	5.3	5.7	6.1	6.5
Malaysia	6.1	4.9	6.1	6.2	5.9	6.0
Thailand	4.9	3.7	4.5	5.6	5.3	6.1
Vietnam	2.7	2.8	3.1	3.9	3.4	4.9
Philippines	2.3	1.5	2.4	3.9	3.6	4.8
Ranking	8 of 8	8 of 8	8 of 8	6 of 8	5 of 8	7 of 8

Exhibit 1.26

***Source:** Gilberto M. Llanto Philippine Institute for Development Studies*

Exhibit 1.27

***Source**: Gilberto M. Llanto Philippine Institute for Development Studies*

Exhibits 1.28, 1.29(a), & 1.29(b) show a pie chart comparison between different offshore locations based on number of airports, Internet hosts, and telephone lines.

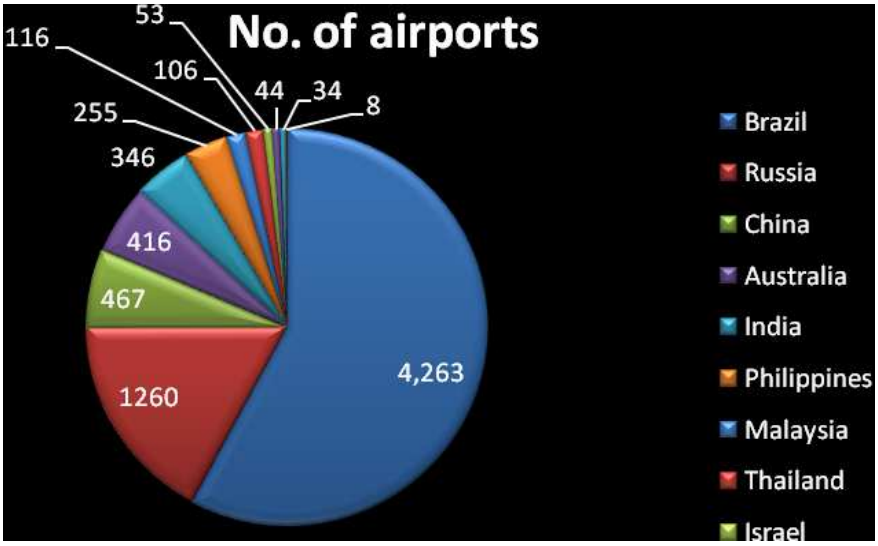


Exhibit 1.28

***Source**: CIA World Fact Book*

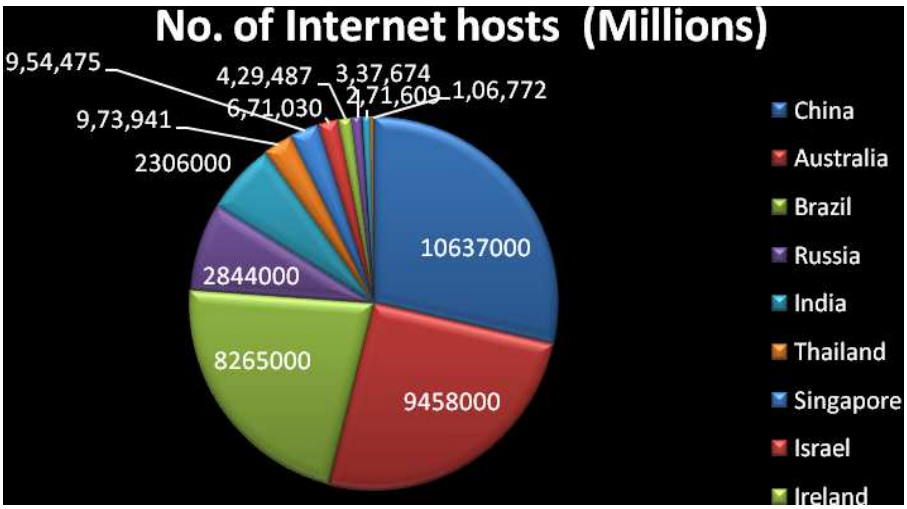


Exhibit 1.29(a)

***Source**: CIA World Fact Book*

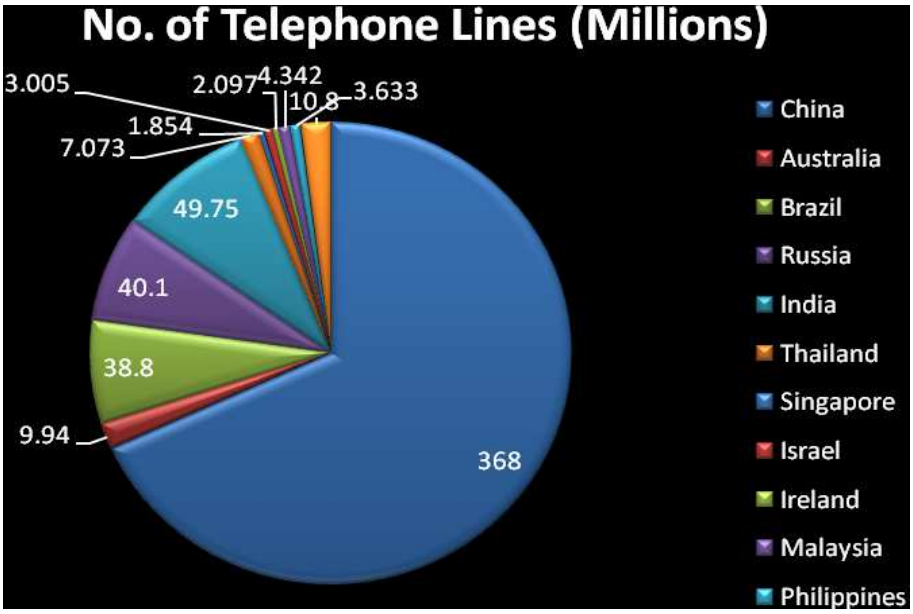


Exhibit 1.29(b)

***Source**: CIA World Fact Book*

Based on the survey conducted by the Economic Intelligence Unit, Exhibit 1.30 below shows a comparison between different offshore locations in terms of their e-readiness. A country's e-readiness is essentially "a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities." Australia and Singapore rank highest in e-readiness.

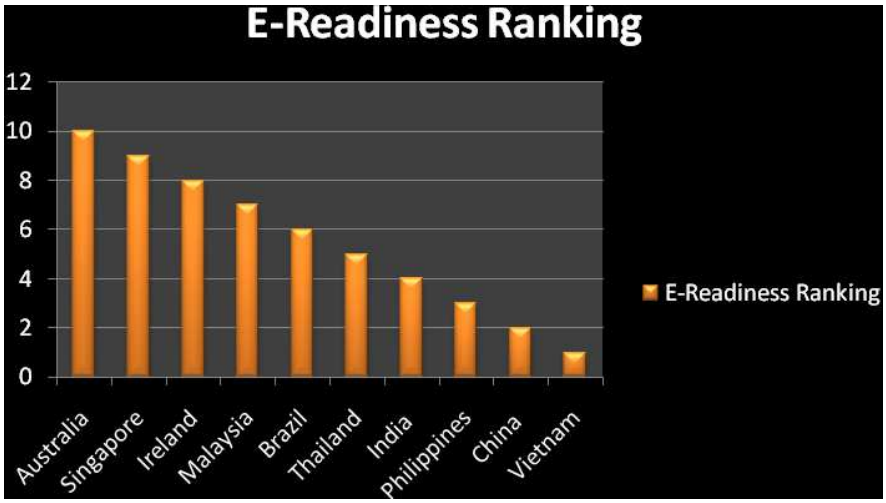


Exhibit 1.30

***Source**: Economic Intelligence Unit, IBM Report*

The higher the number, the better the e-readiness is.

Comparative Analysis of Government and Legal System & Taxation

Local government support is a very important factor in setting offshore business. Without the support of local government, it's difficult to run an offshore center. Exhibit 1.31 shows a comparative analysis of the ease of doing business in different offshore locations. **Singapore, Ireland, and Australia** rank highest on the Ease of Doing Business index.

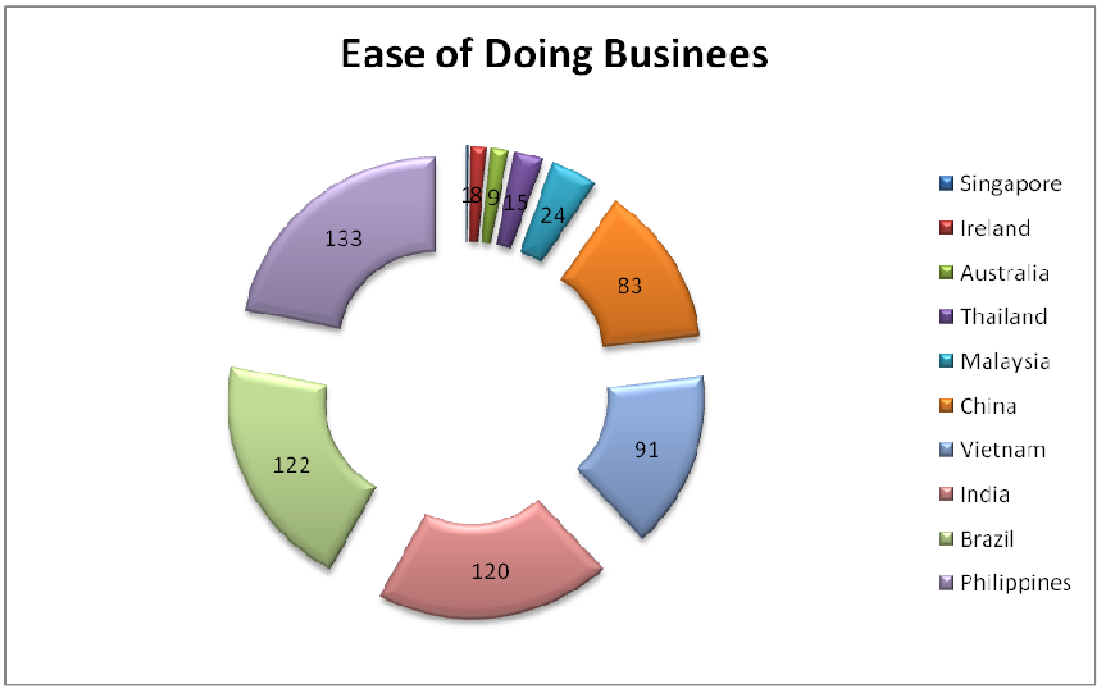


Exhibit 1.31

***Source**: Wikipedia*

The higher the number, the better the environment is for setting business.

Exhibit 1.32 shows a comparative analysis of different taxes (corporate taxes, individual taxes, payroll tax, and VAT/GSI/sales tax) for different offshore locations.

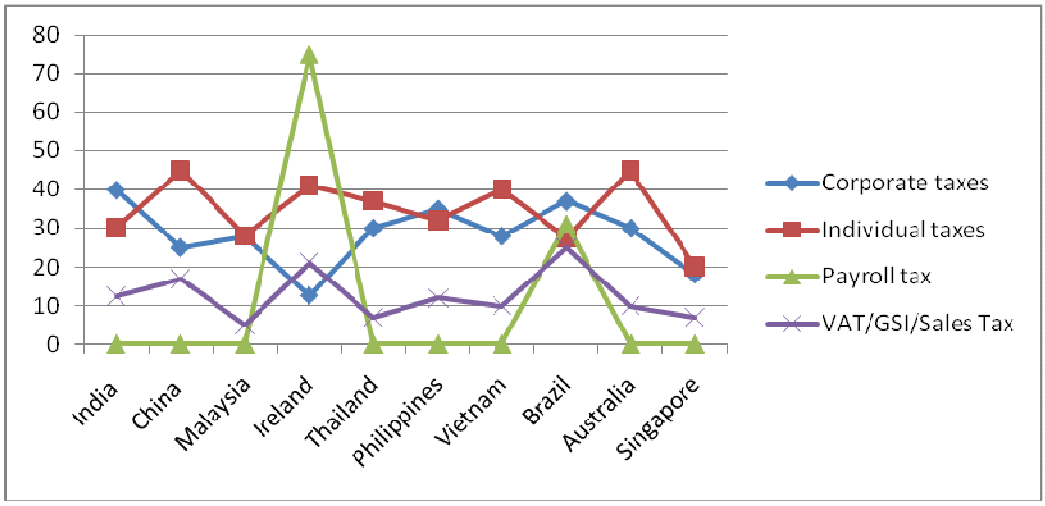


Exhibit 1.32

***Source**: Wikipedia*

Exhibit 1.33 below shows a pie chart comparison between different offshore locations based on national peace. Ireland, Australia, and Singapore rank highest in global peace.

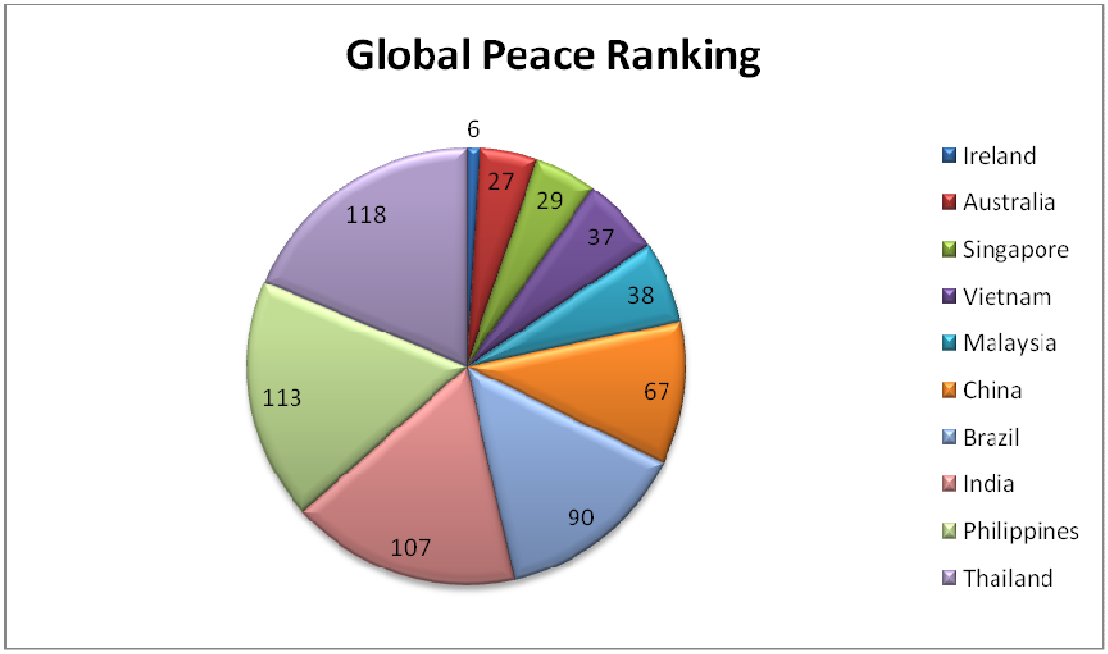


Exhibit 1.33

***Source**: Wikipedia*

Governments of many countries have been taking strict measures to prevent software piracy. Exhibit 1.34 shows a comparative analysis of the software piracy rate in different offshore locations.

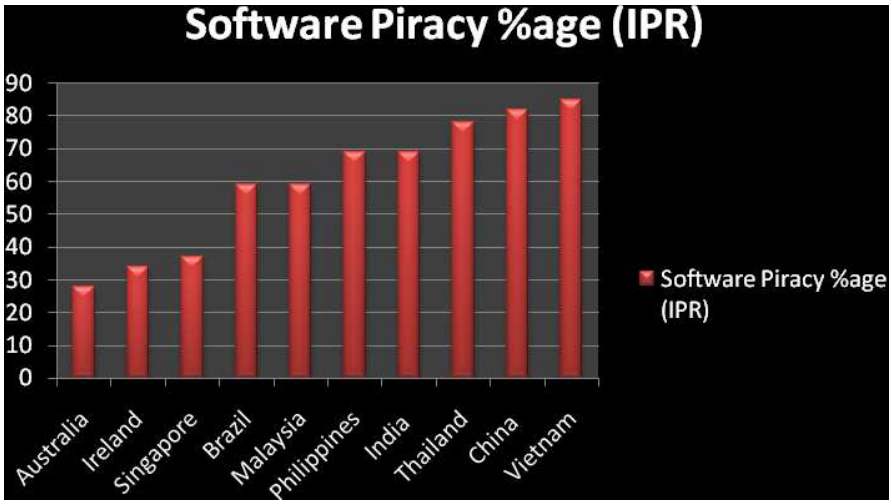


Exhibit 1.34

***Source**: BSA Piracy Study*

Comparative Analysis of Quality of Life

Social and cultural environment affects the growth of business in every country. Many factors including literacy rate, population below poverty line, minimum wages, per capita income, and crime rate, etc. affect the quality of life in a country.

Exhibit 1.35 shows a comparative analysis of the literacy rate in different offshore locations. **Ireland and Australia** have the highest literacy rate among their competitors.

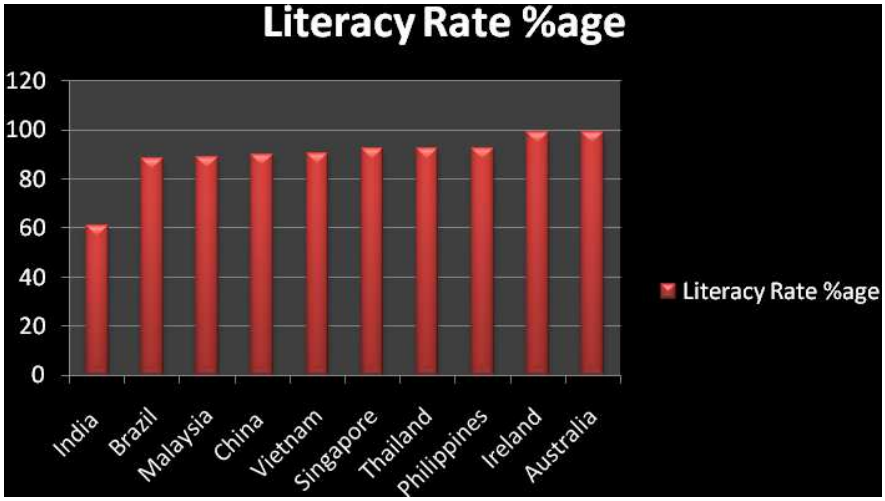


Exhibit 1.35

***Source**: Wikipedia*

Exhibit 1.36 shows a comparative analysis of the total population living below poverty line in different offshore locations. Brazil, the Philippines, and India have the highest percentage of population living below the national poverty line.

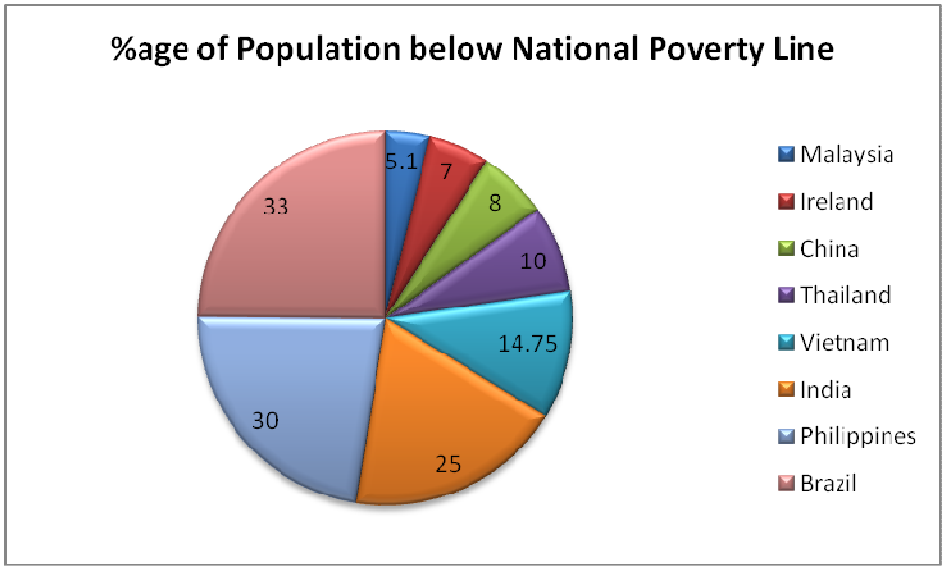


Exhibit 1.36

Source: *CIA World Fact book*

The number Shows the %age of population below poverty line

Exhibit 1.37 shows a pie chart comparison between different offshore locations based on gross annual wages.

Exhibit 1.37

Source*: Wikipedia*

Comparative Analysis of Economy

Exhibit 1.38 shows how different offshore locations rank among the world's top economies.

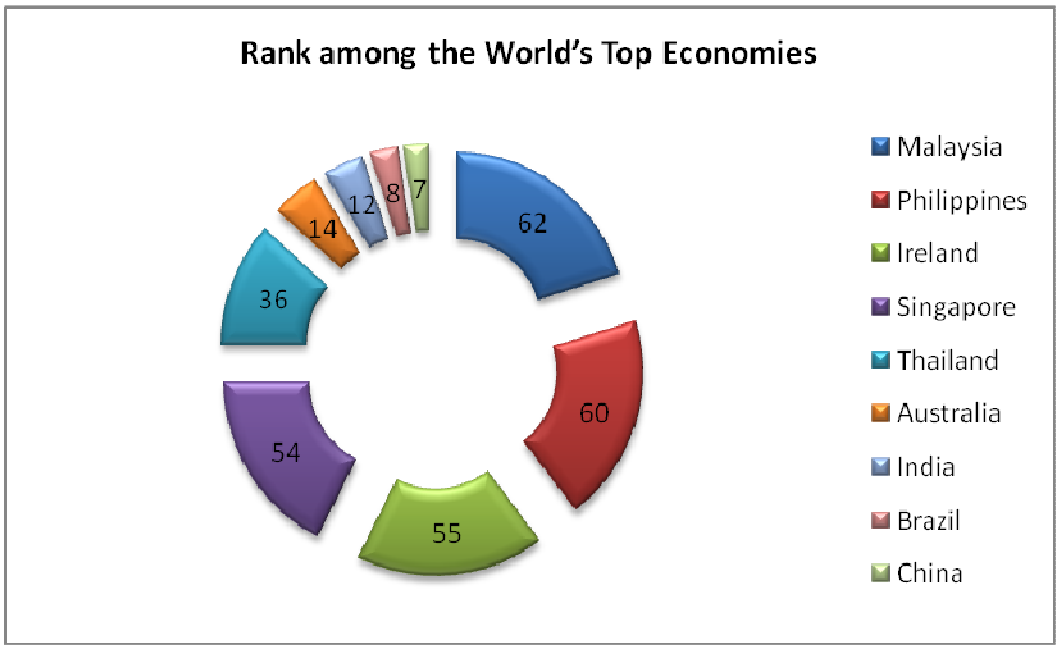


Exhibit 1.38

***Source**: Sales Fortune*

The number indicates the country's rank among the world's top economies

Exhibit 1.39 shows the top upcoming economies of the world by IMF. **China and India's** economies grew by 11.4 percent and 9.2 percent respectively in the last financial year, and the countries are making the largest country-level contributions to global growth.

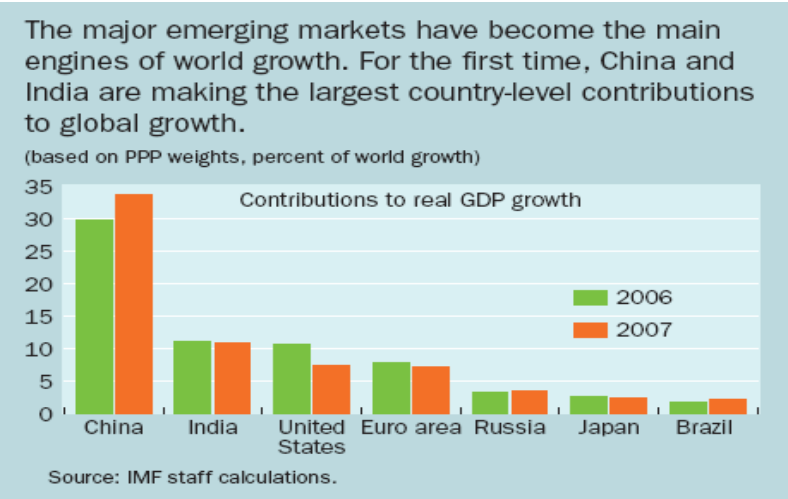


Exhibit 1.39

Source: *International Monetary Funds*

Exhibit 1.40 shows a comparative analysis of different offshore locations on the parameter of purchasing power parity conversion factor as per the World Bank's latest report.

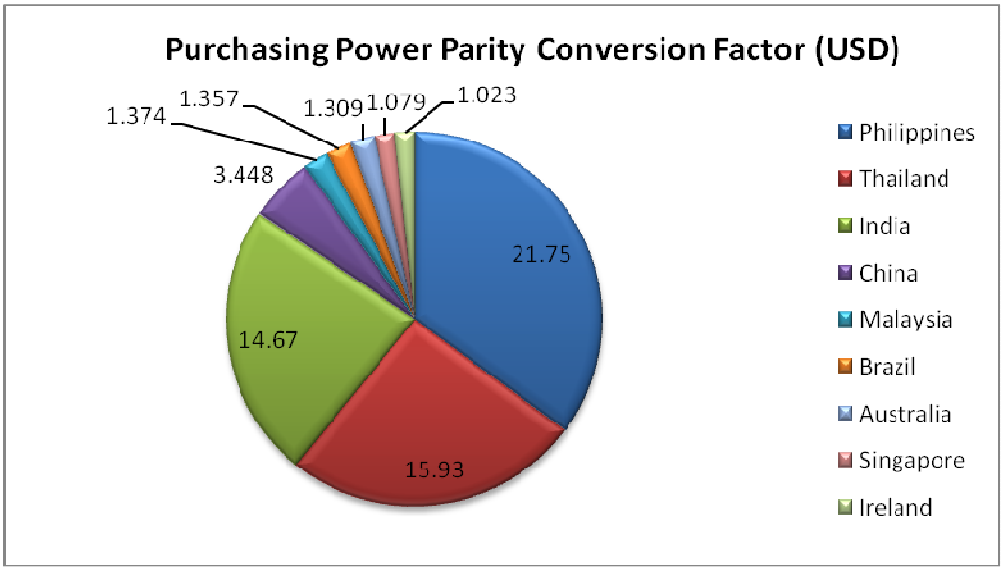


Exhibit 1.40

Source: *World Bank*

Exhibit 1.41 shows a comparative analysis of GDP Nominal in different offshore locations as per the figures provided by IMF.

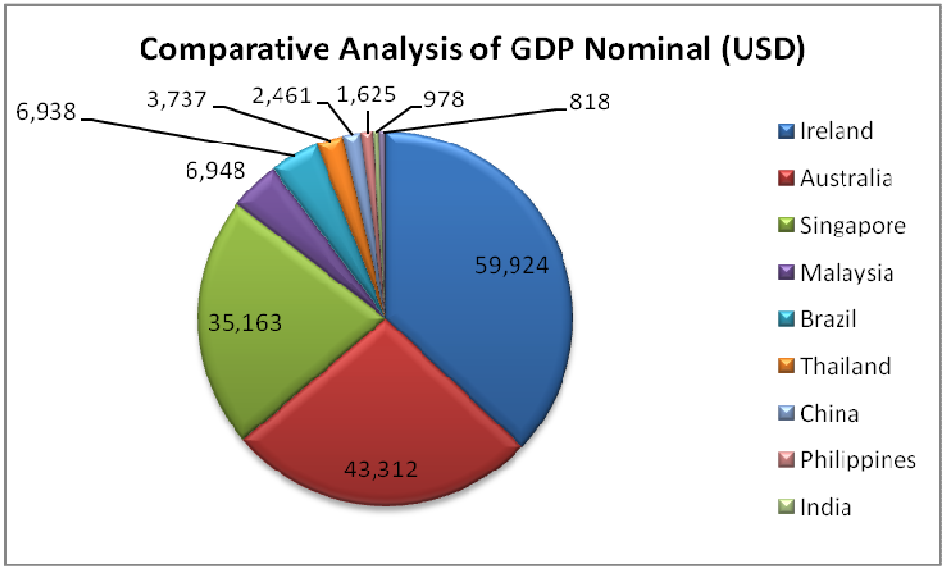


Exhibit 1.41

***Source**: Wikipedia, IMF*

Comparative Analysis of English-speaking Population

Exhibit 1.42 shows a comparative analysis of the number of English speakers in different offshore locations.

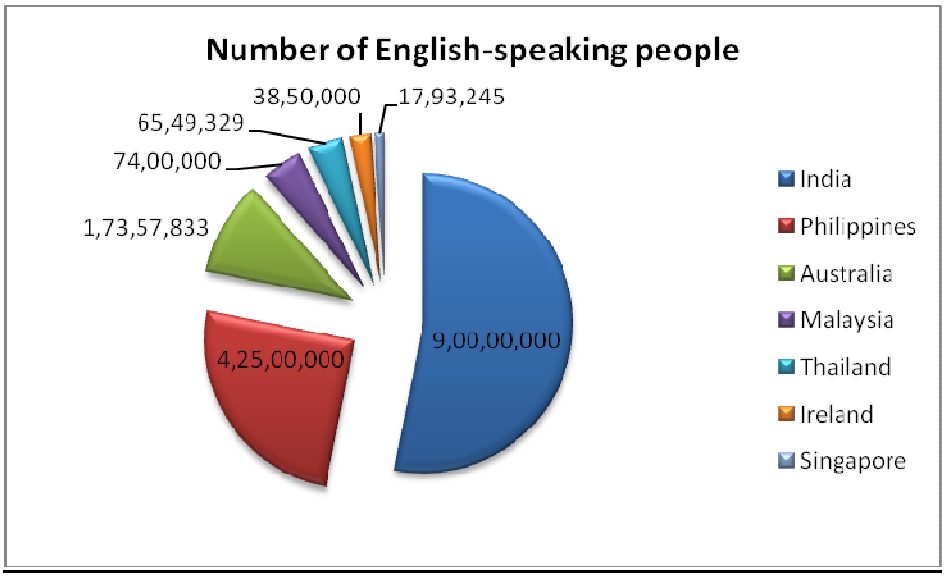


Exhibit 1.42

***Source**: Wikipedia, Nation Master, CIA*

Comparative Analysis of Expat Factor

According to an international survey by HSBC bank, not only do expats earn more, but they also save more in countries such as Singapore, the UAE, and India. See Exhibit 1.43.

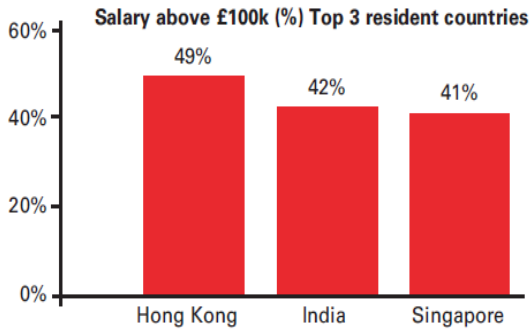


Exhibit 1.43

***Source**: HSBC Expat Survey*

On the other hand, Brazilian, Irish, and Australian expats are the wealthiest in the world. See Exhibit 1.44.

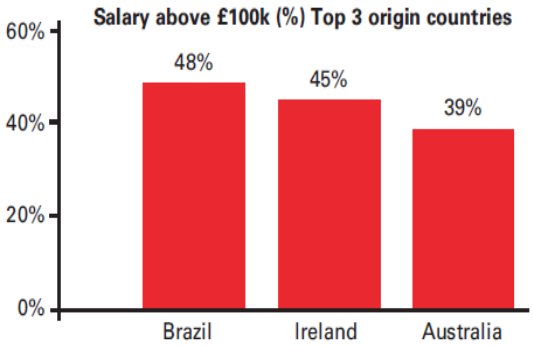


Exhibit 1.44

***Source**: HSBC Expat Survey*

Singapore, the U.S., and Belgium provide expats with the best quality of accommodation. See Exhibit 1.45.

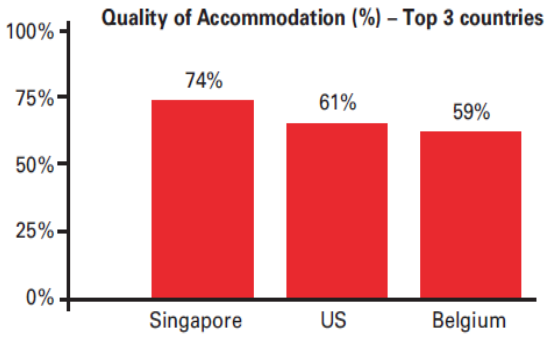


Exhibit 1.45

***Source**: HSBC Expat Survey*

Mercer did a comparative study on the cost of living in different countries. The study concluded that **India** is the least costly country compared to other offshore locations. See Exhibit 1.46.

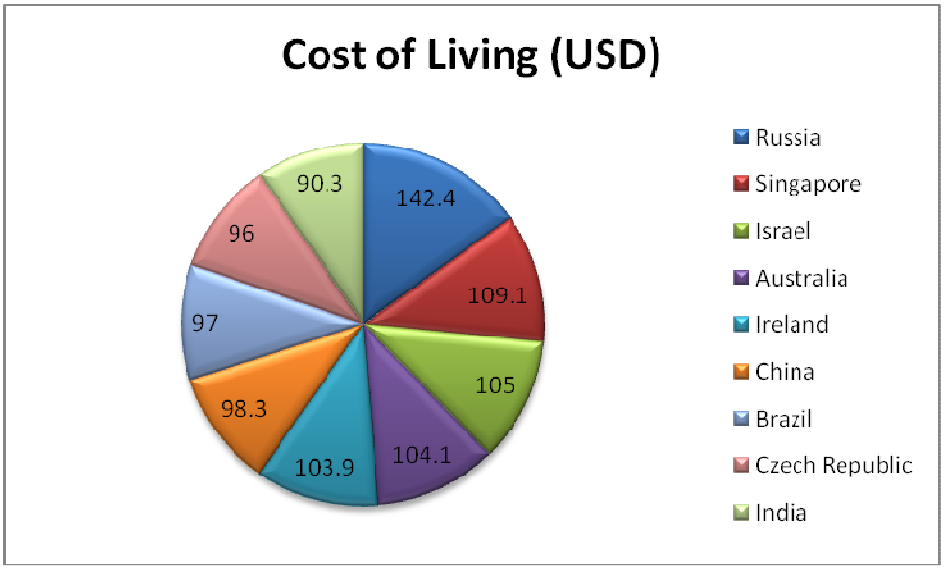


Exhibit 1.46

***Source**: Mercer Survey*

Findings of the Study

India

Advantages

- Low Labor Cost
- High Labor Quality
- Maximum no. of English-speaking People
- Highest Number of Working- age population
- Good Vendor Landscape
- Very good International Connectivity
- Good Telephone Connectivity
- High no. of Internet Hosts
- One of the Best Economies in the World

Disadvantages

- High Labor competition because of the presence of so many international Players in the Market
- Increasing Labor Cost
- Average Quality of Infrastructure
- Average E-readiness
- Difficult to do Business in
- High Taxes
- Less Peaceful Business Environment
- High Software Piracy

China

Advantages

- High-Quality Engineers
- Good Vendor Landscape
- Good market Potential
- Very Good International Connectivity
- High No. of Internet Hosts
- Good Telephone Connectivity
- High Literacy Rate
- One of the Best Economies in the world
- Less Cost of Living

Disadvantages

- Increasing Labor Cost
- Poor English-speaking Skills
- Average Quality Infrastructure
- Low E-readiness
- Difficult to do business in
- High Taxes
- Less Peaceful Business Environment
- Highest Software Piracy

The Philippines

Advantages

- High-quality Labor
- Low Labor Cost
- Good market Potential
- Good International Connectivity
- High Literacy Rate
- Supportive and Growing Economy
- High no. of English-speaking people

Disadvantages

- Increasing Labor Cost
- Bad Vendor Landscape
- Low Quality Infrastructure
- Bad Telephone Connectivity
- Low E-readiness
- Difficult to do business in
- High Taxes
- Not a peaceful Business Environment
- Software Piracy

Malaysia

Advantages

- Most Peaceful Environment
- Good market Potential
- Good Quality Infrastructure
- Good E-Readiness
- Easy to do business in
- Less Taxes
- Supportive and Growing Economy

Disadvantages

- Increasing Labor Cost
- Bad Vendor Landscape
- Poor International Connectivity
- Bad Telephone Connectivity
- Software Piracy
- Less no. of English-speaking people

Australia

Advantages

- Good Quality of Labor
- Good R&D
- Good International Connectivity
- High no. of Internet Hosts
- Good E-Readiness
- Easy to do business in
- Most Peaceful Environment
- Less software Piracy
- High Literacy Rate
- Supportive and Growing Economy
- High no. of English-speaking people

Disadvantages

- High Cost of Labor
- Bad Vendor Landscape
- Bad Telephone Connectivity
- High Taxes
- High Cost of living

Vietnam

Advantages

- Lowest Labor Cost
- Most Peaceful Environment
- High Literacy Rate

Disadvantages

- Low Quality Infrastructure
- Poor International Connectivity
- Bad Telephone Connectivity
- Low E-readiness
- Difficult to do business in
- High Taxes
- Highest Software Piracy

Ireland

Advantages

- Highest Education Spending
- Good Vendor Landscape
- Good market Potential
- Good E-Readiness
- Easy to do business in
- Most Peaceful Environment
- Less software Piracy
- High Literacy Rate
- Supportive and Growing Economy

Disadvantages

- Highest Labor Cost
- Poor International Connectivity
- Less no. of Internet Hosts
- Poor Telephone Connectivity
- Very High Taxes
- Less no. of English-speaking people
- High Cost of living

Thailand

Advantages

- Good Quality Infrastructure
- Easy to do business in
- Supportive and Growing Economy
- Low labor Cost

Disadvantages

- Low Labor Quality
- Poor International Connectivity
- Less number of Internet Hosts
- Bad Telephone Connectivity
- Average E-readiness
- High Taxes
- Not peaceful Business Environment
- Highest Software Piracy
- Less no. of English-speaking people

Brazil

Advantages

- Good Vendor Landscape
- High no. of Internet Hosts
- Best International Connectivity
- Good Telephone Connectivity
- One of the Best Economies in the world
- Low Cost of living

Disadvantages

- Average E-readiness
- Difficult to do business in
- Very High Taxes
- Less Peaceful Business Environment
- Software Piracy

Singapore

Advantages

- High Quality Infrastructure
- Good E-Readiness
- Easy to do business in
- Less Taxes
- Most Peaceful Environment
- Less software Piracy
- High Literacy Rate
- Supportive and Growing Economy

Disadvantages

- High Labor Cost
- Average Labor Quality
- Poor International Connectivity
- Less no. of Internet Hosts
- Less no. of English-speaking people
- High Cost of living