A report on Information Communication Technology (ICT) Sector of Bangladesh

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Executive Summary

The report attempted to highlight the prospects and opportunities of Information Communication Technology (ICT) sector in Bangladesh. Like other economic sector in the country, ICT is one of major sectors which contribute to the national economy. The report tried to furnish the overview of the performances of ICT sector and also find out the comparison among the various categories of ICT with respect to the profitability.

Despite having 50 years of history the government has only from 1997 officially recognized the potential of the Bangladeshi ICT industry and its impact on the economy. In collaboration with industry associations (BCS, BCC, BASIS and BACCO) and international trade support institutions the government has taken both short and long term measures (Vision 2021, Digital Bangladesh) to support and enhance development of the domestic sector and increase the export of ICT products and services.

The Information Communication Technology (ICT) industry has consistently grown in recent years at 20 to 30 percent per annum. Over 800 registered ICT companies generated total revenues of approximately $250 million. More than 75 percent of companies are involved in customized application development and maintenance, 50 percent are dedicated to IT enabled services, and 45 percent offer E-commerce/Web services (BASIS, 2014). However, 60 percent of companies solely focus on the domestic market. In addition to the registered workforce, thousands of independent freelancers offer their services at online market places and 5,500 students annually graduate from ICT courses at more than 80 public and private universities (BASIS, 2014).

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1. Background on the ICT Sector in Bangladesh

Bangladesh has about five decades of experience in using computers. In its early days the Information Communication Technology (ICT) sector in Bangladesh mainly focused on hardware operations. The first ‘second generation’, world mainframe, computer was installed in 1964 at Dhaka University. Soon after this several large banks and industrial concerns started using computers, mainly for accounting and payroll applications. The Bangladeshi gas and electricity companies also began using computer systems for their customer billing. Unfortunately the financial crisis that the country faced after its independence in 1971 hampered the expansion of computer uses in the Bangladeshi corporate sector. In 1982 a computer center was established at the Bangladesh University of Engineering and Technology. This center, later renamed the Department of Computer Science & Engineering has played a pivotal role in Bangladeshi IT education since its inception.

Over the years several Information Communication Technology (ICT) related associations have been established. The Bangladesh Computer Society (‘BCS’), Association of the IT Professionals, for instance was formed in 1979. The Bangladesh Computer Council (BCC) is the consequence of the evolution of the National Computer Committee which the government constituted in 1983. The Bangladesh Computer Samity (BCS), the ICT industry association, was found in 1987. Bangladesh Association of Software and Information Services (BASIS), established in 1997, promotes the ICT sector through awareness building, practical education for new graduates and paid internships, and training programs for mid-career employees.

2. Snap-shot of the ICT Industry in Bangladesh

There are over 800 registered software and ITES (IT Enabled Service) companies in Bangladesh (BASIS, 2013). There are also few hundred of unregistered small and home-based software and IT ventures doing business for both local and international markets.

Bangladesh Association of Software and Information Services (BASIS) recently carried out a survey on three hundred of its member companies. Analysis has been done on business nature, business volume and size of companies. Over 70% of the companies are found to be involved in development and maintenance of software for their clients. A number of those are simultaneously engaged in providing deferent IT enabled services for their clients as well. In total, almost half of the surveyed companies are involved in providing range of IT enabled services (data/form processing,

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graphic/web design, content management etc.)

One of the most encouraging recent trends in the industry is that, leveraging on recent positive changes like larger Internet user-base, better connectivity as well as introduction of new payment methods (online payment – through credit card and mobile payment), a good number of companies (around 45%; some dedicatedly and some along with their core software or IT service business) are focusing or diversifying on different web based services that include specialized portals, listing services, e-Commerce, e-Learning, payment intermediary services (Nyenorde Business Universiteit, 2014). A number of these ventures have done quite well in terms of popularity as well as financial viability. Some companies are also developing web applications based on cloud/SaaS delivery model. These emerging new business and service delivery models might define the new wave in the coming years for Bangladesh IT industry. With regard to average size of enterprises within the industry, it is interesting to note that, the distribution is quite spread with respect to both revenue size and employment number. Majority of the companies are in the range of 10 to 50 people in employee size. Similar pattern can be found in revenue size of the companies. However, there are few product companies who have relatively less number of people for significant revenue (Nyenorde Business Universiteit, 2014).

Currently there are over one thousand registered software and ITES companies in the country employing over 70,000 ICT professionals. Out of these companies, around 60% are mainly domestic market focused while 40% are mainly export focused (BASIS, 2014).

No. of Registered Software & ITES Companies	1000+
No. of BASIS Member Companies	705 (as of February 2014)
Approx. Revenue of Local Industry (incl. Export) (Does not include sales amount of imported software)	US $ 400 million
Approx. Revenue from Software	Tk. 790 crore
Approx. Revenue from ITES	Tk. 1050 crore
Export (2012 - 2013)	US $ 101.63 Million
No. of Exporting Companies* (Only registered companies. Does	160+

not include no. of freelancers)	
No. of Export Destination Countries	60+
Approx. No. of Human Resource Employed in the Industry	70,000 +

Source: BASIS, 2014.

Information Technology (IT) Workforce in Bangladesh

- No. of IT professionals working within the IT Industry more then 70,000.
- No. of IT professionals working outside IT Industry (including business enterprises, govt. telecom, NGOs etc.) more than 35,000.
- Yearly no. of graduates from IT related subjects more than 10,000.

  Source: BASIS, 2014

3. Government Policy

In 2009 the National ICT Policy was broadly reformulated across areas including education, science and technology, infrastructural development, employment generation, private sector development, agriculture, health and nutrition. The GoB included an e-governance vision and promotion program for the ICT sector in the sixth Five Year Plan. This vision was supporting the aim of delivering significant gains in terms of productivity and employment for both domestic as well as foreign investors. The GoB also initiated 'Digital Bangladesh' intending to set up infrastructure for enhanced connectivity. In addition to policy development the GoB is maintaining close relationships with industry associations such as BASIS, BCS and BCC.

4. Market Overview

4.1. Domestic Market: Private Sector Demand Still Propelling Growth

Local market still constitutes the major part of business of the software and IT service industry (63% of BASIS member companies are focused only in local market). There has been a consistent growth (around 20-30%) in this market over last few years. The trend also shows that the market is maturing in terms of both client requirement and solution response from IT companies (BASIS, 2013).

Although there is high level of interest for IT jobs in public sector, market share is still dominated by private sector. Most of the IT solution companies who are focused mainly in domestic market, it is found that a large part of them provide business application solutions including ERP, Accounting software, HR software, Sales Automation, Inventory Management system etc. to private sector business enterprises.

Banking and other financial sectors (including capital market, Insurance, Leasing, MFIs) still continue to be the major focus for a large portion of IT companies. In the banking sector, the core banking software market is dominated by foreign software (though in a number of cases local solution companies are working for implementation and maintenance for that software's). However, interestingly a good number of local IT solution providers are working with banks for providing range of ancillary services related to banking. Because of the increased activities in Bangladesh capital market during recent years, a number of companies have developed solutions for merchant banks, brokerage house and issue managers. As regulation in the micro credit/micro finance institutions (MFI) are getting more stringent and more pressure is on for operational efficiency, a number of MFI solution development companies are targeting this otherwise untapped market.

Manufacturing sectors including RMG, textile, pharmaceuticals and other consumer goods industries have created sustainable demand for IT solutions like ERP, HR information system, production and financial management solution. On the other hand, service industries like telecom (second highest after financial sector within service sector), retail & wholesale, healthcare (hospitals, diagnostic centers etc.), education (University, schools and colleges), publishing/media and real estate have created sizable market space for IT solution companies.

4.2. Export Market: New Optimism

It is a fact that despite high expectation, over last decade the software and IT service industry could not perform according to its potential in the export front. The export value is still meager compared to other outsourcing countries in the region. As reasons behind this lackluster performance, industry experts have identified a number of problems including lack of proper infrastructure, shortage of qualified IT resources, absence of international branding & marketing activities etc.

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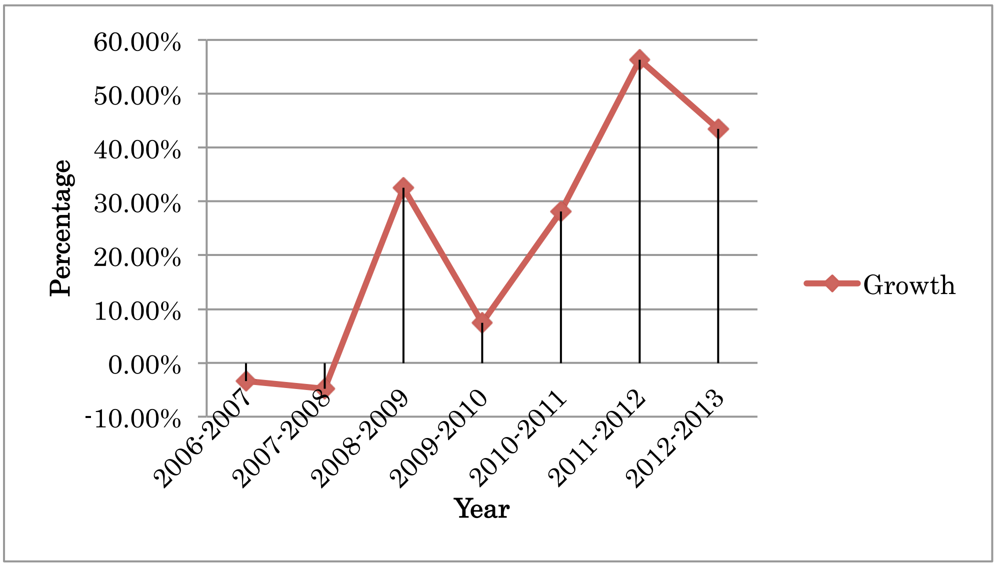

Figure: Export growth rate by yearly; Source data; BASIS, 2014.

Above the figure we found that in 2013 ICT exports growth rate were 42% increased compare to 2007.

There are over 160 BASIS member companies who have export in their portfolio. Around one third of those companies are 100% export based (BASIS, 2014). In terms of export destinations, North America (mainly USA; a major part of business in US market is still done through NRB linkage) still dominates, while in Europe countries like UK, Denmark and Netherlands have emerged as major destinations during last few years. A number of companies regularly export in Australia though the growth is limited by the number of NRB entrepreneurs located in that market. Japan, which is very sensitive to language skill, has been an important market for a while. However, in recent years much success has not been achieved in further penetration to this market.

4.3. Market Players

According to BASIS industry statistics from 2014 there currently are over 1000 IT and ITeS companies registered in Bangladesh. The total industry turnover is estimated around 250 million USD. Over 75 percent of the member companies are involved with customized application development and maintenance. Almost half of them are offering ITeS to its customers (BASIS, 2014). The specialization of the BASIS member companies export is shown as below:

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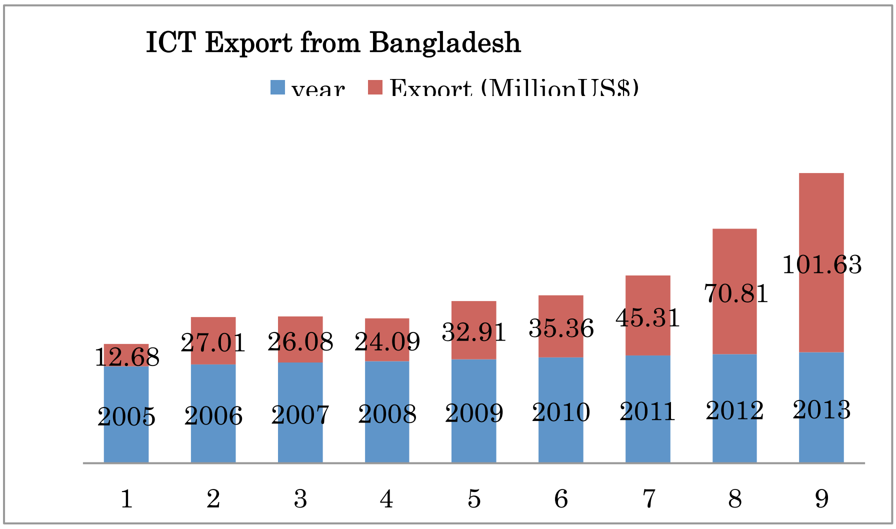

Source: BASIS, 2014

Approximately 65 percent of BASIS' member companies have between 10 and 30 employees. It is estimated that not more than 20 companies have over 100 employees and just 5 companies in the Bangladeshi IT industry have over 200 employees (BASIS, 2014). Based on these statistics it can be concluded that the market is dominated by Small and Medium Enterprises (SME).

According to BASIS report over 60 percent of their member companies solely focus on the internal Bangladeshi market. Recently in Bangladesh large-scale automation projects were implemented in sectors like banking, telecom, pharmaceutics, garment and textile which have increased the domestic demand for software and ITeS. According to BASIS statistics the domestic IT service industry market has grown at 20 to 30 percent per annum during the last few years. Banking and other financial sectors are the main domestic target group for Bangladeshi ICT sector. Although the banking software market is dominated by foreign software solutions local companies are working on maintenance and implementation of this software. A number of companies have developed software solutions, providing a range of ancillary services related to banking. Manufacturing sectors including garment, textile and pharmaceuticals have created sustainable demand for IT solutions like ERP, HR information systems, and production and financial management software.

Around 200 Bangladeshi ICT companies serve international markets by offering outsourcing services and project delivery models. Out of the exporting member companies the revenue of around one third of these companies is fully export based. In terms of export destinations North America (Canada and the US) dominates, whereas European countries like the UK, Denmark, the Netherlands

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and Germany have emerged over the last few years to become major export destinations (Nyenorde Business Universiteit, 2014) . According to The BASIS statistics data, the exporting member companies in 2012 just 8.3 percent exports to India whereas 63.8 percent exports to the US.

The opportunities in Bangladesh have been acknowledged by several global ICT companies. For example, the Korean technology firm Samsung has opened a high-end Research and Development (R&D) center in Bangladesh employing over 250 engineers. VizRT, a Norwegian company that creates content production tools for the digital media industry, is building captive centers following acquisitions of ICT production companies in Bangladesh. Other global IT companies (e.g. AMD, LG and IBM) are currently in the process of setting up back-office R&D or support centers in Bangladesh.

4.4. Market Leading Information Communication Technology (ICT) Company in Bangladesh

SL	Company Name	Address
1.	**Technobd Web Solutions (Pvt) Ltd.**	46 Kazi Nazrul Islam Avenue (4th Floor) Karwan Bazar, Dhaka-1215, Bangladesh. **Phone :** 88-02-9126385, 88-02-8142040 **Fax :** +88.02.8142040 Ext. 102 **Website :** www.technobd.com
2.	**Datasoft System Bangladesh Ltd.**	73-d, New Airport Road Manipuripara, Dhaka-1215, Bangladesh. **Phone :** 880-2-9110136,880-2-9110136, **Fax :** +880-2-9114747 **Email :** info@datasoft-bd.com
3.	**DCastalia**	Falcon Peace, Flat A7, House CHA-43/8, Wireless Gate, Mohakhali, Dhaka-1212, Bangladesh. **Phone :** +88 02 8820545

		Email : info@dcastalia.com **Website :** DCastalia
4.	**Technician Bangladesh**	House # 152, Road# 19.Block # K. Goran, South Banosree Rampura, Dhaka, Bangladesh. **Hotline :**+880-1921454142 **Email :** info@technicianbd.com **Website :** www.technicianbd.com
5.	**Access InfoTech Ltd.**	65/B Kemal Ataturk Avenue Banani, Dhaka - 1213, Bangladesh. **Tel**: +880 2 9884434, 9884436, 8812340 **Fax:** +880 2 9885781, 8828420 **Web:** www.accessitbd.com
6.	**Habib Intelligent Software Limited (hisoft)**	1-B/1-13, Kalwalapara, 2nd Floor Mirpur-1 Main Road Dhaka-1216, Bangladesh. **Phone :** +88-02-8032454 (103) **Fax :** +88-02-9006400 **Website :** hisoft.com.bd
7.	**WAN IT Limited.**	Gulfesha Plaza (10th Floor), Room # D-10, 8, Shahid Sangbadik Salina Parvin Road Moghbazar, Dhaka, Bangladesh. **Phone :** +88 02 9331894, 9354284, 9355121 **E-mail :** info@wanitltd.com
8.	**SSL Wireless**	93 B New Eskaton Road, Dhaka 1000 Bangladesh **Phone :** +880 9666796969 **Fax :** +880 2 913 2172 **E-mail :** query@sslwireless.com **Website :** sslwireless.com

9.	**Millennium Information Solution Ltd.**	Janata Tower, Software Technology Park (6th Level) 49, Kawran Bazar, Dhaka-1215.Bangladesh. **Phone :** 880-2-8180050 **Fax :** 880-2-8180049 **E-mail:** info@mislbd.com
10.	**Unicorn Software and solutions**	24/1, Eskaton Garden, Dhaka, Bangladesh. **Phone :** +88-02-9360346 **Fax :** +88 02 9360365 **E-mail :** Info@ussbd.com **Website :** ussbd.com

5. Products and services

At present the ICT sector in Bangladesh can be classified into four main areas: information technology (including software solutions), ITeS, network solutions and hardware solutions. Most Bangladeshi market players initially offered their services and products predominantly on the domestic market. Bangladeshi software solutions and ITeS are nowadays exported to other regions like Europe and Northern America. Software Solutions are feasible particularly for Information Technology Outsourcing (ITO) whereas back office activities are regularly outsourced by making use of ITeS. This can be referred to as Business Process Outsourcing (BPO). In the ITC Exporter Directory a distinction is made between eight different categories of IT products and services exported from Bangladesh. The following diagram it was shown:

1. BPO Call Centers	2. System Integration
3. Customized Software Development	4. Website Design
5. Mobile Application Development	6. Graphics Animation/ Gaming
7. Web Application/ Cloud	8. Embedded Software

Some of these categories consist of broad segments in which the range of ICT products and services will vary. This variety could be explained by the relatively large population in Bangladesh having different skill sets and expertise. According to the industry outlook provided by BASIS the major niches in Bangladesh for ICT service providers can be found in BPO and the following fields of ITO: web development and design, mobile application development, graphic design, customized application development, and maintenance.

6. Market Analysis

An analysis to explore the possibilities of Bangladesh as an ICT offshoring destination was conducted based on interviews with industry experts. This analysis shows the Bangladeshi ICT sector as it is seen by current situation. The following section of the report was reflecting on the offerings and strengths of the Bangladesh ICT sector as well as some risks and barriers.

6.1. Strengths

Overall the interviewees recognize that the Bangladesh ICT sector has the potential to become a global destination for offshoring. The summary of the main strength points are given below:

1. The biggest strength in Bangladesh is the young population that we have. They can be trained easily and fit in the sector needs.
2. As a result of a decent education system, the average level of technical knowledge is surprisingly. In addition to the talented workforce, Bangladeshi ICT companies are very flexible in acquiring additional workforce if a project scales up.

3. The technical knowledge of the Bangladeshi workforce is considerably high. In addition to that, Bangladeshi companies are rather flexible in scaling up the workforce when needed.
4. Costs in Bangladesh are approximately 40 percent lower than in India and Philippines.
5. Due to the large population the wages are still very competitive. Bangladesh is even cheaper than competing countries such as Sri Lanka and Philippines.
6. Employee readiness to work and lower costs are the ultimate beauty of the Bangladesh market.
7. Bangladeshi services and products are better priced than in other ICT offshore destinations. With better quality, lower prices and a better commitment (understanding of the client problem, time schedules and resources to be put in) Bangladesh could compete with Indian companies.

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6.2. Weaknesses

As a developing market Bangladesh has a fair set of weaknesses. Most of them come from lack of skills, know-how and investment in the country. The main weaknesses are given below:

1. The main weakness of the Bangladeshi market remains infrastructure and power shortages.
2. The main weakness is the lack of reliable infrastructure. Internet speed, bandwidth and electricity are key problems that regularly affect daily operations. Since many of the companies are dedicated to software development, damage of poor internet connectivity is limited.
3. The Bangladeshi ICT sector also suffers from poor international visibility and lack of brand name as a global offshoring destination.
4. The ICT sector in Bangladesh is comprised of mainly small ICT companies that currently seem to lack focus and scale to take up large long-term projects.
5. Scalability is an issue as 90 percent of the companies have 10-30 employees.
6. The companies in Bangladesh do not manage to create a unique sales proposition. They all offer a wide range of products and services. 80 percent of the companies in Bangladesh are offering the same services. Whereas the technical work can be done, the long term service is not very reliable because of the size of the companies.
7. There is a big lack of soft skills in Bangladesh. If you have 100 candidates for the job, probably just 2 have the right soft skills (listening, keeping conversation going, etc.) This makes training costs high.
8. Sometimes there is a gap between the industry needs and the IT graduates. To solve the problem, companies need to offer trainings and internships for post-graduates.
9. Due to the lack of investments the competition is not tough and the turnover of employees is lower than in other countries. The investment climate is good; hence there is a lot of room for growth.
10. Bangladesh as a young democracy, Infrastructure to support economic growth is an inadequate and often not able to serve companies with basic needs such as a stable power supply and access to high speed internet.

7. Benefit of the ICT Sector

To date the ICT industry could be seen as one of the top sectors in the country for graduate employment in terms of creating high quality jobs. According to BASIS the average monthly compensation for an ICT employee is approximately US$ 200 per month (BASIS, 2014). Comparing the size of the national population and the size of the national economy, it seems that the ICT industry in Bangladesh, especially the ICT and ITeS exports, is still relatively small. Looking at the characteristics of the market, the global trends in offshoring, and the growth of ICT services and products exported from Bangladesh over recent years.

We can conclude that the significance of the ICT sector for the Bangladeshi economy will grow in the near future.

8. Possibilities of the ICT Sector

There are huge possibilities of the Information Communication Technology (ICT) sector in Bangladesh. These are below:

- ICT industry of Bangladesh has a great opportunity to become a major sector of the national economy. As we know that availability of a lower labor cost in Bangladesh to helps the ICT industry to secure a very strong position in the market.
- As a Least Development Country (LDC) Bangladesh has duty free access to global market for ICT Materials. This advantage may accelerate expansion and growth of Bangladesh ICT industry.
- Bangladeshi ICT products are being exported different countries. It is increasing gradually worldwide.
- Bangladeshi ICT industry is very much capable to ensure proper quality of the product as per requirement of the global buyers of the international ICT market.
- Increasing labor cost all over the world. However, Bangladeshi ICT sector labor cost is comparatively cheap; as a result Bangladeshi ICT products can be fulfilled global demand.

9. Recommendation

9.1. Market Bangladesh as an ICT Offshoring Destination

The visibility of Bangladesh as an ICT offshoring destination needs to be improved upon. Both private and government industry supporting associations, such as DCCI, BASIS, BACCO, and BCC, should jointly leverage marketing efforts, actively seeking collaboration with international TSIs. Proactively partnering with foreign trade development organizations is recommended as the GoB and sector organizations together with TSIs can enhance domestic and foreign commercial interests. Their aim is to develop the Bangladeshi economy through the increase of bilateral trade and foreign investments.

9.2. A Collaborative Bangladesh ICT Industry

As a result of both the limited size and lack of international track record most Bangladeshi companies face difficulties to attract and serve larger international clients. Besides collaboration between industry peers through short-term partnerships or long term joint-ventures lead to more available technical know-how and additional financial, organizational and marketing resources. These are necessary to ensure access to foreign markets. Companies can also exchange or rotate workers in order to develop additional technical or commercial skills.

9.3. Improve Infrastructure

Next to the existing sea cable and the landline with India an additional undersea optical fiber cable will be installed. This cable is expected during 2014 and will be essential for further development of the ICT sector. Establishing additional internet hubs and broadband networks in remote areas is set up that could be considered.

9.4. Unique Sale Proposition

Bangladeshi ICT companies should specialize in particular product and service ranges in order to create more reliable and unique sales propositions. The combination of innovative and technically advanced products and the ability to offer total ICT solutions at competitive prices will provide a unique value proposition that could strengthen Bangladesh's position in the global ICT value chain.

9.5. Crate a Quality Controlled Match-Making Platform

Potential foreign clients should be able to find Bangladeshi companies and examine their offerings easily. Currently it lacks a quality controlled and well promoted platform showcasing Bangladeshi ICT companies. It would create business opportunities if Bangladeshi companies offer products and services on a standardized platform based on several market segments within the ICT industry.

9.6. Support Innovation

Based on the rapid changes and developments in the global ICT landscape, it is important that the Bangladeshi ICT sector continues to innovate and to move up the value chain. To create the right

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conditions for innovation, the following measures need to be taken into account: developing specialized training facilities for talented ICT engineers, establishing ICT hubs, business development and management.

10. Conclusion

Bangladesh economic data shows a solid average annual growth rate of its GDP of 5.6 percent between 1994 and 2013. This flourishing environment for growth is created by a young, skilled and motivated workforce, numerous initiatives of the GoB stimulating the economy and improving the educational system, high ranking of easiness to do business, and cost competitiveness compared to the surrounding markets. Bangladesh has a young population, with nearly two thirds of the population under the age of 34, which, combined with increasing educational quality, creates a talented and skilled pool of young workers with the ability to read and write in English. In combination with the relatively low wages, this is an attractive asset for potential offshoring services in many different industries.

Looking at the Bangladeshi ICT offshoring industry it can be concluded that although it is relatively young, it is rapidly developing. In the fiscal year 2012-2013, according to BASIS, the total value of ICT exported services from Bangladesh was $ 101.63 million. It is estimated that within five years 1 percent of Bangladesh's total GDP will be come from the software and IT services sector and over 1,50,000 software and IT professionals will be working in the Bangladeshi IT industry. In near future, Bangladeshi software solutions and ITeS will be leading exports to Europe and Northern America.

End

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