

CHALLENGES AND OPPORTUNITIES OF INFORMATION TECHNOLOGY TRAINING IN BANGLADESH

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ABSTRACT

IT education in the country is now the hottest temptation sweeping the youths in Bangladesh. The youth dream of getting high paying jobs at home and abroad armed with their IT training or degrees. But such high hopes are probably unrealistic in the present context of IT education and training in Bangladesh. The mushrooming growth of IT education centers through the franchise arrangements with so-called world-class foreign institutions is misleading the softhearted students. The quality of IT education offered by most of training institutions are not maintaining standard. Humanware and not hardware and software are becoming a bottleneck in IT. Proper IT manpower development can enhance IT use in our domestic front, getting jobs abroad and offer opportunities of software exports. This paper is an attempt to discuss the present status of IT education and training in country and identify the areas of weaknesses, opportunities and finally to make some recommendations in the light of global IT education standard.

1. INTRODUCTION

In the 18th century, the invention of steam engine started the Industrial Revolution, which brought great prosperity to the west. In the 20th century, the Green Revolution swept the world and helped avert mass starvation. At the beginning of the 21st century, we poised to enter the Information Technology (IT) revolution, a phenomena that will radically change our lives forever. IT is understood as the sum total of the various technologies involved in processing and transmitting information, including computing, telecommunications and microelectronics. IT can be used as a tool for economic development, defence preparedness, and as a catalyst in social transformation.

There have been tremendous impacts of IT on the trade, commerce and industries. The developed countries, due to their strong technological and economic base, are leading the world in this sector. IT plays an increasingly important factor shaping socioeconomic change and improving quality of life for people all over the world. Being a developing country Bangladesh is also striving to take advantage of this

technology for making changes in this socio-economic condition of its common people. To prosper in the knowledge based economy, Bangladesh must develop a dynamic and relevant based education and training system to keep pace with the rapidly changing and high demanding IT education explosion all over the world.

2. OPPORTUNITIES IN THE IT FIELD

Software industry is largely dependent on human resources and some of the developing countries are taking advantage of this opportunity. Bangladesh has a substantial source of educated, unemployed youth force, with the ability to read and write English. We can utilize our huge brainpower to produce uncountable and endless intellectual property to change the life style of our population by the appropriate cultivation of the IT. Bangladesh is lying at the cross road of the present IT revolution happening worldwide. Thus, Bangladesh does have a quite a few inherent strength, which can be used as the launching pad for making this country a potential offshore source of software and data processing activity.

In tandem with the growth in IT implementation in USA and Europe the shortfall in skilled IT manpower has also increased in those region. The USA alone demands 166,000 highly skilled IT professionals every year, of which only 50% can be meet through its own citizen [2]. This shortfall is meet by importing thousands of immigrant workers into the USA. In 1999 about 1,45,000 IT professionals from India alone traveled to USA, to work under the H-1B visa [2]. The situation in Europe is similar, where 160,000 IT jobs remain vacant every year for want of IT professionals. As the rate of IT implementation and Internet commerce grows in Asia and Latin America, the global shortfall in skilled IT manpower could be stand at one million jobs by 2003.

A comparative monthly salary of programmer in Bangladesh as compared to India and the USA showed in table-1 that provides us with the incentive for tapping the cheap Bangladesh skilled labor force [4]. So, for the IT service professional makes it all the more attractive for overseas IT companies to acquire Bangladesh manpower in IT.

	Bangladesh	India	USA
Programmer (Monthly Salary)	US\$ 400	US\$ 1200	US\$ 5000
Data Entry Operator (per 10,000 key stroke)	US\$ 3.00-4.00	US\$10.00-12.00	US\$ 30.00-40.00

Table 1: Comparative salary of programmers and data operators.

3. HUMAN RESOURCE DEVELOPMENT IN IT AND ITS AVENUES

Bangladesh have been trying to keep pace with the rapidly changing and high demanding IT education explosion all over the world. Steps have been taken to

implement computer education into the secondary and higher secondary levels. 2-year degree program also have computer courses. At the university level all national and public universities and in particular private universities have started producing computer science graduates through opening computer science departments and about 1,500 graduates are coming out annually [4]. It is worth mentioning that private universities produce almost 50% more computer science graduates than the national universities.

Our universities are not producing sufficient number of IT graduates to meet the demand of the market. There is an acute shortage of skilled programmers in the world market also. So, in parallel to the public sector, now it is time to produce large number of world class IT professionals from private IT education and training institute prevailing in the country. In this respect Bangladesh observes an exponential growth of IT training in last 4-years [4]. But the quality of training of these institutes must be ascertained.

IT manpower is needed for the following purpose:

- In domestic industry: to develop packages and undertake turnkey projects on analysis, design and implementation of computer applications.
- In hardware industry: to market and maintain IT products
- In domestic user industry: to design and implement application systems.
- In the software export industry: to develop software, manage projects and market software internationally

Human resource development is essential to encourage widespread IT literacy and also adequate supply of IT professionals to support economic goals of the country. Since IT education and training become the center-piece of the new emerging economy worldwide and thus the need for quality control of IT training is felt all the more everywhere; Bangladesh cannot be an exception.

4. IT TRAINING CENTERS

There is a recent surge of awareness about IT industry in Bangladesh. Besides the universities, which are offering academic degrees in IT related fields, there are numerous IT training centers in Bangladesh. These training centers are providing training ranging from 6-month to a couple of years. Training centers can be divided into 3-groups viz. training centers with foreign franchise, local training institutes (government and private) and in-house training. Table-2 shows the different training centers operating in Bangladesh [4].

The training centers with foreign franchise (USA, India, Singapore, UK etc.) have reasonably ambitious curriculum but most of them are maintaining a high standard of office and in some cases they are not maintaining the quality of education. The rough enrollment in these institutions is about 10,000 per year but in most cases the enrollment drops to about 20% after the 1st year. As a result, most of the trainees of

these institutions end up with the training equivalent of a computer literacy and some basic computer skills.

Types of training centers	Name of the training centers	Training received by most of the students	Total enrollment/year
Foreign affiliated	APTECH, NIIT, LCC, IBM ACE, TULEC, CMC, WINTECH, GENETICS, REI, Pentasoft, New Horizon, ASSET, ARENA Multimedia etc.	Computer literacy Basic Programming Specialized course	10,000
Local: Govt. & Govt. affiliated	BCC, BMDC, BIBM, NOTRUMS, NIDASNA etc.	Computer literacy	5,000
Local: private	ECIT, Bhuiyan Academy, Concept, CITN, BRAC (BITI), Grameen, Proshika, Desktop, IBCS Primix, Daffodil etc.	Computer literacy Basic Programming	1,000
Local: small scale	Approximately 200 institutions distributed throughout the country.	Computer literacy	10,000

Table 2: IT training institution in Bangladesh

The local training institutes with government affiliation have a big enrolment and are accessible to the middle-income families; however, in most cases the training is roughly computer literacy. Recently the NGO giant like Grameen, BRAC and Proshika have started their own training centers. Because of their organizational strength throughout the country, it is expected that training could be spread to the grass root level in Bangladesh and will have significant impact in IT education.

There is a silent surge of IT awareness in Bangladesh and as a result numerous small-scale computer centers sprung up all over Bangladesh. Although most of these training centers are geared toward computer literacy, some of these claim to teach programming (Visual Basic & C).

5. PRESENT STATUS OF IT THE TRAINING CENTERS

Bangladesh has set a target to earn more than US\$ 2 billion by the year 2006 through software export. This projection is, no doubt, inspirational. But the present IT scene here cannot but ask how this ambitious goal will be realized.

The stated amount of earning from IT is only possible with trained manpower. The way to creating such manpower is through training in IT education. But this training

is not up to the mark except some cases and not yet suitable to meet the demand of the times. At present, the training institutes are not creating sufficient number of IT professionals of appropriate caliber.

But only a handful of IT training centers are possibly providing appropriate courses for their learners in Bangladesh. Most of the other IT institutions are persuading eager learners to join their courses of dubious value. The unsuspecting one are falling for the persuasion not knowing their value in the job market or promote the national economic objective of export IT products and manpower.

5.1 MANY A SLIP BETWEEN THE CIP AND THE LIP

Since, IT education worldwide is based on the English language and thus a good level of proficiency in English, ought to be the criterion for getting admission in these as students respectively. But in reality no rule is followed in this regard in many IT centers. The irony of the fate is that most of the firm does resort to magnificent advertisement being eloquent messages published especially in Bangla newspapers so as to induce the vast majority of rural aspirants, who do not usually read English dailies, to come on to their un-trodden path. The poor degrees or lack of English language proficiency of the learners are hardly taken into account while admitting them. Although computer and its relative avenues call for some sort of mind game, these firms enroll students in gangs irrespective of their mental as well as intellectual capacity and academic profiles. Almost anyone who can pay the demanded fee can join one such IT centers. The brochures and other publications of some of the IT centers appear attractive but on close examination the flawed English presentation of some contents can be spotted by the discerning eye.

5.2 BIG GAP BETWEEN REALITY AND COMMITMENTS

Most of the IT centers make big promises to the pupils about assured jobs awaiting them on completion of courses. Only later do the pupils discover how misleading such promises can be. The courses in many centers are of dubious value, lots of courses may be on offer, but after taking these courses it is doubtful whether one becomes a truly competent IT professional to cater effectively to local or international demand.

Some IT centers also advertise courses having much appeal internationally. In these cases, those who join the courses are told that the really complex courses would have to wait ill very end. Foreign teachers would arrive to handle these courses. But the instruction drags on sometimes with these courses not completed or completed partially or without the foreign teachers arriving to take up the teaching. After continuing in this fashion for a while, the fed up students themselves are found eager to quit and they are consoled by rewarding them certificates on the basis of what tid bits of little value they have learned.

This might serve a sense of half-baked accomplishment of the students and add handsomely to the earnings of the IT centers. But in what way it meets the needs of the IT education seekers or the higher goals set for the country's earnings?

5.3 POOR QUALITY AND SHORTAGE OF TRAINERS

Parallel to the old adage that "The man behind the gun is more important than the gun". It can be said that the situation becomes worse when the state of the faculty comes into consideration. Majority of the institutions have no fulltime faculty and run by part-time teachers who, due to abnormal load, cannot revise their knowledge base in accordance with the developments that takes place in the respective fields day by day. On the other hand, a few of the institutes have a small number of full time teachers who apparently fall far below the required standard and are not used to teach smoothly in English, which is the medium of instruction in this field. This factor combined with an irrelevant or weak curriculum out of touch with realistic industry needs, poses a major barrier for advancement in IT human resource development.

6. SOME RECOMMENDATIONS

While discussing skill requirements for the IT industry, we need to keep a few critical issues in perspective. We must remember that there are many segments in the IT 'skills pyramid'. At the top, there are highly experienced and talented system analysts and software engineers, who are usually trained for several years at the top universities and through corporate programs. At the bottom, there are entry-level programmers, database administrators and operators who can cater the job market with only 1-2 years of IT training. Thus, the main objective of the IT training institutes actually imparting training to the bottom levels IT professionals. To impart world-class training to this segment of IT professionals following recommendations are immediately need to be addressed by the concern authorities.

1. Today's practice of enrolling en-masses by the IT institutes must be restricted and students with good IQ should be encouraged to come to this area. The Bangladesh Computer Council (BCC) may be empowered enough to scrutinize the quality and reasonability of the curricula of these institutes.
2. There is a need for laying down guidelines in the realm of IT education. The centers must turn a new leaf in all respects. They must deliver all that they promise. Most important tasks would be getting teachers of the right caliber, teaching appropriate courses with high demand in local and international market.
3. ISO certification should be made compulsory for the IT training institutes for standardization of the training quality.
4. National certification examination should be introduced for different levels of IT trainers/professionals.
5. Taking the initiative to arrange mutual recognition of certification between Bangladesh and potential foreign countries.
6. Addressing the fraudulence practices in IT training. IT awareness campaign may be organized and fraudulent institution should be punished.

7. Enforcing the existing foreign exchange regulation act and regulation for foreign workers registration to stop the illegal fund transfer.
8. Providing loans of IT training for students and working people.

7. CONCLUSIONS

We must devote ourselves towards the economic emancipation of the poor masses. IT is one of the few sectors that can only exploit the rapid pace of growth of the economy. Future of Bangladesh lies on the quality of our manpower. It is the most valuable and potential resource we have. We are very lucky to have a population, which has an excellent basic quality to adapt, adopt and learn very quickly. They are hardworking, intelligent, law abiding, innovative, and have an indomitable spirit to make a better life.

Preparing the nation to shoulder the responsibilities of transforming the nation from the low-level, dependent economic position to a technologically oriented high growth, self-reliant economy effectively and confidently can be done only through high quality education.

IT offers Bangladesh an excellent chance to demonstrate how a poor nation can pick up speed to transform itself in the shortest possible time. Thus, it is imperative on the part of the government to watch over the curriculum of IT education centers and guide developments in relation to IT education so that manpower can be created to this field consistent with the objectives.

REFERENCES

- [1] Banga, Vivek, " The impact of Internet on business", presented in SUMMIT-2000, held 9-11 Sept. 2000
- [2] NASSCOM Annual Report, 1998
- [3] Banerji S., Ghose D., " Information Technology and Rural Development : A New Harvest", PC world India, May 2001
- [4] Proceedings of the TechTransfer-2000 Conference, held on 23-24 Dec. 2000, BUET, Dhaka, Bangladesh
- [5] Proceedings of the International Seminar on " Human Resource Development for Sustained Economic Growth and Poverty Alleviation as well as in the Member States of the OIC", 11-13 April 1999, Dhaka, Bangladesh.
- [6] Report on survey of IT resources of Bangladesh, Bangladesh Computer Council (BCC), April 1999.
- [7] Mann Catherine L. , " A Policy Premier : Global Electronic Commerce ", Institute of International Economics, USA.
- [8] S. C. Bhatnagar, Nitin Paul, " Developing Computer Professionals: Challenges and Opportunities", Vikapa, vol. 10, Nov. 2000.