

Role of Information Technology in Socio-economic Development of Bangladesh: An Overview

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ABSTRACT

Information Technology (IT) is a crucial source in socio-economic development of a country. It is considered in Bangladesh as a thrust sector and its impact is very important in socio-economic development of the country. The business, health, and agriculture are ingredient sector in development and IT plays an important role to ensure socio-economic development. Education is the fundamental issue in development and it is based on information technology because it's directly linked to each other. The other issues in socio-economic development are also depends on proper utilization of information technology. The government of Bangladesh emphasized on this issue but due to some difficulties like rich IT infrastructure, expertise, and regulatory policy it is not achieved. Considering any difficulties, government should be prioritized on information technology to achieve the goal of socio-economic development in Bangladesh.

Keywords: Information technology, Strategic tool, Socio-economic development, Bangladesh

INTRODUCTION

Information technology has become a potent force in transforming social, economic, and political life globally. Bangladesh could take the benefit of information technology (IT) as an enabling tool to reduce poverty and provide education in this flat world, the level of playing field has become so flat that an individual can compete with a multinational company. It is the time to grab this opportunity to uplift our socio-economic standing.

Potential development in the IT makes a distinct impact on the nation. Bangladesh has already entered in the e-era which needs strategic support and impetus from various sectors. A number of sectors that need fostering are e-commerce, e-governance, e-medicine, e-services, e-learning, e-rupees, e-citizen

and others. People have to save time, money and effort which can be utilized for the development of the nation in the present stage of transition to build a peaceful Bangladesh. They should not hesitate to say that they are in the emerging state of e-era. The IT sector of Bangladesh is one of the fastest growing sectors of its economy. The Government has declared IT as the thrust sector. The Government of Bangladesh has given immense importance to IT for development of economic growth and poverty reduction. For this, a separate ministry has been set up to expand IT facilities all over the country.

INFORMATION TECHNOLOGY (IT)

Information technology (IT) is defined as "all forms of technology used to create, store, exchange and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations and other forms, including those not yet conceived)." It is a convenient term for a rapidly expanding range of equipment, applications services and basic technologies that process information. The elements of IT fall into three principal categories: computers, telecommunications and multimedia data and many combinations of the building blocks that may be used to create the IT resource across an organization (Keen, 1995).

In the last quarter of this century, a new form of socio-economic organization has emerged. After the collapse of statism, in the Soviet Union and throughout the world, it is certainly a capitalist system. Indeed, for the first time in history the entire planet is capitalist, since even the few remaining command economies are surviving or developing through their linkages to global, capitalist markets. Yet this is a brand of capitalism that is at the same time very old and fundamentally new. It is old because it appeals to relentless competition in the pursuit of profit, and individual satisfaction (deferred or immediate) is its driving engine. But it is fundamentally new because it is tooled by new information and communication technologies that are at the roots of new productivity sources, of new organizational forms, and of the formation of a global economy. (Castells, 1999)

IT AS A STRATEGIC TOOL

Information technology is not the cause of the changes people are living through. But without new information and communication technologies none of what is changing our lives would be possible. In the 1990s the entire planet was organized around telecommunicated networks of computers at the heart of information systems and communication processes. The entire realm of human

activity depends on the power of information, in a sequence of technological innovation that accelerates its pace by month. Software development is making possible user-friendly computing, so that millions of children, when provided with adequate education, can progress in their knowledge, and in their ability to create wealth and enjoy it wisely, much faster than any previous generation. 'Today Internet used by about 100 million people, and doubling this number every year- is a channel of universal communication where interests and values of all sorts coexist, in a creative cacophony.'(Castells, 1999) Certainly, the diffusion of information technology is extremely uneven. Most of Africa is being left in a technological apartheid, and the same could be said of many other regions of the world. The situation is difficult to remedy when one third of the world's population still has to survive on the equivalent of one dollar per day.

Technology by or in itself does not solve social problems. But the availability and use of information and communication technologies are a pre-requisite for economic and social development for our country. They are the functional equivalent of electricity in the industrial era. 'Econometric studies show the close statistical relationship between diffusion of information technology, productivity and competitiveness for countries, regions, industries and firms.' (Dosi et al., 1988).

The crucial role of information and communication technologies in stimulating development is a two-edged sword. On the one hand, it allows countries to leapfrog stages of economic growth by being able to modernize their production systems and increase their competitiveness faster than in the past. The most critical example is that of the Asian Pacific economies, and particularly the cases of Hong Kong, Taiwan, Singapore, Malaysia and South Korea. On the other hand, for those economies that are unable to adapt to the new technological system, their retardation becomes cumulative. Furthermore, the ability to move into the Information Age depends on the capacity of the whole society to be educated, and to be able to assimilate and process complex information. This starts with the education system, from the bottom up, from the primary school to the university. And it relates, as well, to the overall process of cultural development, including the level of functional literacy, the content of the media, and the diffusion of information within the population as a whole.

SOURCES OF DATA

The study is mainly conducted by using secondary data. Besides, the sources of data are from different books, journals, and daily news papers, relevant documents from government and non government organizations. Internet websites were used to conduct the study.

IMPACT OF IT ON SOCIO-ECONOMIC DEVELOPMENT

The developmental impact of IT on developing countries needs to be closely monitored. The present paper discusses these issues under the broad dimensions of business and economic productivity, health, agriculture, education, telecommunications infrastructure, social equity, cultural identity, democracy, and sustainable development.

Business and Economic Productivity

Commercial connections are the fastest-growing component of the IT today as more and more companies are establishing closer links with customers, business partners, vendors, and information resources via the network (Press, 1996). However, to date, there is little research carried out about the impact of IT usage by commercial organizations in developing countries although many commentators have speculated that the Internet represents a tool for improved economic productivity. For example; the World Bank estimates rates of return to the local economy of between 13 and 20% (World Bank, 1995). IT will enable local companies to market their products and services abroad and thereby overcome one of the most important barriers to global competitiveness facing developing countries. It is observed that while companies in Bangladesh find it prohibitively expensive to advertise extensively in print publications, advertising on the Internet is relatively cheap. Along similar lines, a recent study reports that while the total numbers of Bangladeshi companies that have set up web sites are gaining greater exposure in the global market.

Network connections also promise improved regional collaboration and competitiveness in trade and research. The Common Market for Eastern and Southern Africa (COMESA) and the United Nations Conference on Training and Development (UNCTAD) have both commented on the positive potential impact of trade information networks on interregional and intraregional trade (Adam, 1996).

Health Science

Health information technology (HIT) has the potential to advance health care quality by helping patients with acute and chronic conditions receive recommended care, diminishing disparities in treatment and reducing medical errors. (Johnson, 2006). The information technology could help to physician as well as patients to connect updated system within modern world. It is possible to develop medical science in Bangladesh by using IT and exchanging views regarding medical information with modern hospitals in the world.

Mobile telephony, electronic mail and videoconferencing offer new options for sharing perspectives. Digital technologies are making visual images and the voices of people more accessible through radio, TV, video, portable disk players and the Internet, that change the opportunities for people to share opinions, experience and knowledge. This has been coupled with steps to deregulate the telecommunications and broadcast systems in many countries, which open up spaces and platforms, such as community radio, for increased communication. (WITSA, 2006)

In Bangladesh within the Health and Population sector the use of electronic system or IT is very poor. Many are accustomed of using only the e-mail services and using the computer as a typewriter. Particularly the doctors tend to remain away from using the electronic system. The reason may be many. One of the reasons is said to be the lack of knowledge of using computers. This non-use is gradually leading to a big gap between the people who use electronic system and those who do not. Time has come to bridge this Digital Divide gap within the Health and Population sector of Bangladesh. While trying to bridge this gap it is needed to pay more attention to the health professional who are far more lagging behind then the others. Medical University and Colleges have not yet networked with Electronic Library facilities. The Digital Divide gap is narrowing in developed countries but in developing countries like Bangladesh, the gap is widening everyday. And the gap in the women community of Bangladesh is very high. (Akbar, 2001)

High costs, administrative inefficiency, medical errors, variable quality, and poor coordination are longstanding problems in health systems world wide. Many of these problems could be addressed by applying Health Information Technology to medical care, in particular through electronic health records (EHRs). The records are convenient for patients and physicians alike, can significantly reduce medical errors, and will help track public health problems among populations (Pacific Health Summit, 2006).

Education

The single most important factor for increasing the ability is to take advantage of IT opportunities is education. This requires interventions at all levels, from literacy through scientific and technological education. To enter IT fields, the concentrated efforts of the past 10 years to ensure access to quality basic education for students should be continued and strengthened, with IT integrated into the programs.

Science and technology education is necessary for working in IT as computer programmers, engineers, systems analysts, and designers. It is interesting and fortunate, however, that there is a great deal of variation in the percentages of students enrolled in the natural sciences, computer science, and engineering in developing countries. For example, recent enrollment statistics indicate that more percent of students enrolled in natural sciences (including IT).

Networks in developing countries have usually started in the university and research community where their impact has been positive. For example, a survey undertaken in developing countries on the impact of electronic communications technology shows that academic and research institutions have been able to conduct joint projects effectively, improve resource mobilization, and carry out research between distant sites inexpensively (NRC, 1996).

The network provides a variety of services – student and teacher newsletters, educational software, curriculum notes, computer conferences, e-mail, and access to databases. The network has been evaluated and shows a significant effect on student creativity. With World Bank funding, the goal was to reach all secondary schools and half of all primary schools in the developing countries by 2000 (Press, 1996).

In recent years, there has been increasing interest in the use of electronic networks to support distance learning around the world by enabling computer-media conferencing and collaborative learning to take place, and by providing access to electronic libraries and to the multimedia education market (Hall, 1996; Panos, 1998). Distance learning has been earmarked as especially relevant for developing countries where there is a need to educate large numbers of geographically dispersed people (UNESCO, 1985).

However, at the same time, some commentators have argued that the generation of distance learning material is capital intensive, and may therefore lead to the exclusion of the mass of the population in developing countries from this form of education (Bates, 1993).

Agriculture

Bangladesh is a land of agriculture and about 84% people directly or indirectly depends on agriculture. The source of economic activities is mainly agricultural development and supply of raw materials in industry come from agriculture. The effective management and marketing system of agricultural product bring positive change in socio-economic development in the country. The knowledge of Information technology can help to farmers as well as agriculturalist to make this change. Farmers could produce good agricultural product and selling it in good price to national and international market through awareness information technology. Government has taken some initiatives to provide IT facilities in rural areas but in present situation it is difficult to ensure because of proper infrastructural development. It is very important to make awareness building regarding information technology among farmers in the country. So, appropriate measures should be taken by government to bring changes in agriculture in enhancing IT facilities for making socio-economic development of Bangladesh.

Poverty Alleviation

Harnessing networks to deliver benefits in developing countries means ensuring that those facilities are responsive to the poorest and most disadvantaged communities. Electronic communication can assist in the management of crises and in poverty alleviation. Another potentially beneficial area for the application of electronic networks relates to the problem of food insecurity. Electronic networking can deliver critical information to farmers, extension workers and researchers fighting crises caused by famine.

In terms of poverty alleviation, the Village Internet Programme of the Grameen Bank in Bangladesh aims to promote poverty alleviation by reducing migration from villages to cities, creating IT-related job opportunities for the rural poor, and by creating familiarity with computers among the rural population of the country (Grameen Bank, 1998). Another example is the Honey Bee network established in 1990 as a pilot experiment in India. This electronic network aims to create a repository of indigenous knowledge and to link knowledge-rich grassroots innovations within a region in order to promote activities within poor communities which are both economically and ecologically viable (Gupta, 1997).

Empowerment of Women

IT can be a powerful catalyst for political and social empowerment of women, and the promotion of gender equality. The Beijing Declaration and Platform for Action (PFA) adopted at the Fourth World Conference on Women in 1995 drew attention to the emerging global communications network and its impact on public policies, as well as the attitudes and behavior of individuals. (United Nations, 1995). It called for the empowerment of women through enhancing their skills, knowledge, access to and use of information technologies. Lack of access to information and communication technologies becomes a significant factor in the further marginalization of women from the economic, social, and political mainstream of their countries and of the world. Without full participation in the use of information technology, women are left without the key to participation in the global world of the twenty-first century.

In the past women were only considered for household work and were left outside the mainstream of development. In today's Bangladesh, the scenario has not changed much. But with the advent of IT, this conservative outlook about women is diminishing gradually. As a result, it is found that more women are employed in various knowledge based industries such as computer-aided designing, graphic designing, composing etc. With this growing number of women employment the job environment is becoming more convenient and friendly for women.

Now women earn for their family by means of IT and this substantial revenue stream has elevated the women positions in their own households, and the society they belong to. Women role in the family affairs, especially in decision-making, are no longer ignored. Information and communication technology is not just a technology but an inalienable weapon of women empowerment. In the era of knowledge-based culture, Bangladeshis can achieve excellence through proper use of the IT. For example Grameen telecom, Bangladesh has created a 'phone culture' among women by enabling their access to communication tools from which they might otherwise be excluded. They have also shown that poor, largely uneducated women can master the skills and run a small business. Women phone operators have achieved economic and social empowerment within their households and communities (Ahmed, 2006).

Management Strategy

A dependable information system is essential for Bangladesh to efficient management and operation of the public and private sectors. But there is a shortage of locally generated information needed for efficient performance of these sectors. In order to meet this objective, IT use in every sector shall have to be accelerated in terms of information generation, utilization and applications. Considering the seriousness and importance of IT government of Bangladesh has already declared IT as the thrust sector. Bangladesh government and private sectors have been trying to promote IT Sector over the past several years with their limitations and potentiality (Rahman).

Democracy

The prevalence of democratic institutions in a country is considered a key criterion for socio-economic development as reflected in the recent development indices. Some writers have argued that Internet connectivity promotes democracy (Press, 1996). Mueller and Tan assume that the Internet encourages democracy by providing people living under dictatorship with outside information and ideas, and by enabling them to share ideas and to coordinate political activity within their countries.

Research needs to be carried out to explore the link between the openness of information and democracy. Improved telecommunications and the Internet undermine the capabilities of authoritarian governments to restrict flows of information.

Sustainable Development

The UN Conference on Environment and Development held in 1992 saw an unprecedented level of involvement from international agencies and NGOs in policymaking. For example, the UNDP is currently involved in the Sustainable

Development Networking Project for linking users and suppliers of information on sustainable development. The programme has helped to provide information to some governments on environmental hazards such as how to safely dispose of toxic material. The UN has recently commissioned a feasibility study for setting up a sustainable development networking project (UNDP, 1995). Today, the Internet is playing a significant role in creating awareness about issues of sustainable development.

Economic productivity, telecommunications infrastructure, self-determination, social equity, welfare, empowerment, democracy and sustainable development form the major components of socio-economic development. This section has provided a systematic way of categorizing these development imperatives discussing each one in terms of its interaction with Internet usage.

CONCLUSION

The debate over the impact of the information technology on developing countries is not a discrete semantic debate conducted by academics, but has a direct impact on the lives of billions of people. Developing countries who are eager to explore the commercial application of the Internet cannot afford to ignore the social implications of the Internet. The success of the information technology should be measured less in terms of sheer numbers of connected individuals and more in terms of accessibility and contribution to social progress.

Beneficial use of the information technology demands investment in underlying technical infrastructure. It also means investment in social infrastructure and skills to use the technology in a way that is compatible with local circumstances, cultures and abilities. Governments in developing countries will therefore have to make a special effort to address these issues through policies that give the poor better access to knowledge on the Information technology, and help them acquire the skills and capabilities to make effective use of it. It is important to note that the term developing countries refers to a large category of diverse nations. The same strategy of information technology diffusion and usage therefore cannot be applied across the board, though groups of countries with the need for similar strategies could perhaps be identified. Thus, greater country to country cooperation to take advantage of the broad range of lessons should be a primary goal. Apart from commercial usage, examining the social impact of the information technology should be a frontier in research for the next decade. This requires combining analysis of economic indicators with other dimensions to investigate how rapid diffusion and usage of the information technology affects the social fabric of developing countries in terms of alleviating poverty, improving access to health care and education, conserving and fairly distributing resources, and strengthening participation in decision-making processes.

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