

Internet Access Among Different Professions in Bangladesh: Status, Problems & Solutions

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Abstract

This is the age of globalization where there is an intense competition everywhere in the world but still we have lacks in the world of Information Technology (IT). Where we expect Internet in every desk of every office, every house and every profession it couldn't possible due to high prices of Internet using, poor government regulations, corruption, back dated technology, poor economic condition of the country, lack of public awareness regarding Internet, low buying power of the inhabitants and overall poor technological infrastructure. This research article reflects the status of Internet access among different professions (teacher. lawyer. engineer. doctor and student) in Bangladesh. The article is written on the basis of data collected from different professions in Bangladesh through a questionnaire survey, personal interview and literature survey. The article reflects the status and barriers of Internet access in Bangladesh and recommends possible solutions.

Background of the study

Bangladesh - the verdant deltaic plain around the confluence of three mighty rivers of Asia namely Ganges, Jamuna and Brahmaputra - is known to the world at large as home to over one hundred million of the world's poorest. What however is not known of this once agriculturally abundant land is the fact that it is also home to one of the world's biggest ready-made-garments industries and that nearly ten million of its people are college graduates. This vast pool of educated workforce, who can read, write and understand English, is shaping a new industry in

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Bangladesh i.e. the information technology industry. Use of computers in Bangladesh, as a research and data manipulation tool, dates back more than 30 years. Today computers are widely used in offices, business houses, educational institutions and at home. Bangladesh allows 100% duty and tax-free import of all computer hardware and software¹. The state provides many other fiscal and infra-structural facilities to accelerate the use of computers and the growth of the IT industry. Uses of Internet in Bangladesh tremendously increase day by day. After the legalized of online Internet on June 4, 1996² lots of Internet providing company provides Internet facilities at divisional cities of the country through ISP and broadband services. This article identifies the status and problems of Internet access among different professions in Bangladesh and also gives some proposal to overcome the problems persist.

Methodology

The research work is based on both primary and secondary data. The primary data are collected from Internet users of different professions like students, research scholars, lawyers, engineers, doctors of Dhaka and Chittagong cities of Bangladesh and the secondary data are collected from Internet providers and organizations related to Internet business. Data also are collected from 1134 persons through questionnaire survey and direct interview. Respondents are asked both open and close ended questions. Due to lack of knowledge on Internet, respondents are confused in many cases that create problem to complete this research smoothly. Other than the respondents, data are also collected from some reputed organizations like Bangladesh Telephone and Telegraph (BTTB) Board, Bangladesh Computer Council (BCC), Bangladesh Computer Samity (BCS). Opinions regarding Internet and problems mentioned by the respondents are analyzed critically by using some statistical tools like SPSS and MS Excel.

Overview of Internet

Twenty first century is the century of IT -a Hi-Tech century. Adoption of technology is the only means to survive in the present competitive technological world. The alarming thing in IT is

grabbing not only the production industries but also the service industries as well as trade and commerce. Skilled workers are on the way of forgetting the so-called telecommunication system. Now ISO phone, Postal mail, Fax are replaced by the Internet Phone, E-mail and Internet Fax. Internet is the latest buzzword among the computer users nowadays. Everyone, whether he is working in the field of information technology or not, is inquisitive about it. Internet is a worldwide computer network that contains a large collection of information, which could be made available to you on your computer. Internet is the abbreviation of Internetwork System and is described as a network of networks. It can serve as an encyclopedia since one can get the desired information in detail on any subject of his interest.

Attempt to know the exact starting point of Internet is virtually impossible. During mid 1960's, Researchers were beginning to experiment with the idea of computer networks connected with the normal telephone lines and modems. Out of their brainstorming the idea of packet switched networks was born. The information that travels across the network is broken down into many numbers of pieces; called packets. These packets include not only the core information, but also the addressing information about the destination and their intended order. These packets are then sent across the network where they eventually arrive at the intended destination, but may not be in the intended order. Therefore these packets are reassembled at the receiving side and this is how the messages appear in computer at the other end of the network. Over the years, packet switching has been used in the networks of all sizes. When the local networks started coming up, in large numbers at research agencies and universities, it became desirable to connect them in some fashion.

During 1969, the US Department of Defense, through Advanced Research Project Agency (ARPA), created an experimental packet switched network over telephone lines. Out of this initial collection of networks, ARPANet allowed scientists, researchers, and military personnel at diverse sites, to communicate through electronic communication. Many of these sites found ways to

connect their private network not having a similar host computer and hence it led to the need of hooking up computer systems that were fundamentally different from each other. During 1970's the ARPA developed a set of rules, called protocols that helped in connecting different networks all over the world. During 1982, ARPANet joined with MILNet (the military network) and a few others and it is said that Internet was thus born, from this consolidation of networks 3. In Bangladesh first time Internet was introduced on June 4, 1996 and was introduced by Internet Services Network (ISN) and within the very shortest time Grameen Cyber Net and some other NGO started Internet activities.

Present Scenario of Internet Access in Bangladesh

Though we are living in the age of Information Technology and everywhere there is a touch of computer and Internet, the status of Internet using and the access of Internet is very poor. The data of the table given below gives us the clear idea about what is the position of Internet and its access in Bangladesh's.

Year end	1998	1999	2000	2001	2002
Total Internet Hosts	1000	3000	3500	3	2
Hosts/ 10,000 inhabitants	0.08	0.24	0.25	-	-
Internet users ('000)	5	50	100	186	500
Users/10,000 inhabitants	0.40	3.94	7.28	14.28	15.2

Table-1: Status of Internet & Internet User in Bangladesh.

Data collected from respondents of different professions

Name of the professions	Number of respondents	Have Internet connection	Broadband Internet Users	Office/ Outside users	Average Usage Per month
Doctor	26	24	5	20	30-100
Lawyer	12	9	3	5	30-50
Engineer	21	18	5	15	30-50
Professor	35	8	2	7	10-30

Table-2: Data from different professions

Data collected from students of various programs in different institutions

Name of the Institution	Number of respondents	Have Internet connection	Broadband Internet users	Outside of home users	Average usage per month (hrs)
Dhaka University	156	19	3	42	100-30
Dhaka Medical College	95	11	5	56	20-70
Asian University	126	25	11	42	10-30
IUB	62	40	27	20	50-100
Darul Ihsan University	66	28	8	30	20-50
USTC	55	7	2	30	30-50
Premier University	59	12	2	21	20-30
Chittagong College	55	5	0	5	5-10
ICMAB	20	4	0	6	1-10
Chittagong University	150	11	1	36	10-30
IIUC	195	23	2	35	20-50
Total	1039	185	61	323	

Table-3: Data from students of different Universities.

From the opinion of the respondent, the main barrier to spread Internet Access in Bangladesh are the followings :

1. Very High Cost of Internet Access ;
2. Backdated infrastructure of National Telecommunication System;
3. Lack of availability of Internet;
4. Lack of adequate skilled Human Resources;
5. Low literacy rate;
6. Not aware about the benefit of Internet uses;
7. Poor promotion of Internet Service activities ; and
8. Low International trade.

Lack of Internet availability hinders the Internet Access in Bangladesh

Internet availability includes the following subcomponents 5; availability of ISP's, availability of high bandwidth, cable model

access, web hosting services, competition in ISP services, scope for public Internet access, ease of dial up connections, availability of dedicated leased line services, and capacity has been estimated to be 40-50 mbps, which is much less than the International data transmission network. There are almost 60 ISPs providers in Bangladesh. They are⁶:

81.- No Name of 18P

- 1 A B Network Limited
- 2 *Access Technologies
- 3 Aftab IT Limited
- 4 *Agni Systems Limited
- 5 Bangladesh online Limited
- 6 BTTB
- 7 *Bdcom Online Ltd.
- 8 Bd corp
- 9 Bijoy Online. net
- 10 BG Tech
- 11 *BRAC Bdmil Network System
- 12 Dolphi Net
- 13 Drik Online Limited
- 14 E-Net Communication Ltd
- 15 Global Infomamtion Services
- 16 *Grameen Cybernet Ltd
- 17 Information Services Network
- 18 KLBd Online
- 19 NCLL
- 20 Pradeshta Network Limited
- 21 ProshikaNet Online Limited
- 22 Raspit.com
- 23 Shapla.net
- 24 Span Internetworks Ltd
- 25 Spark Systems Ltd
- 26 SpectraNet Limited
- 27 Trans-net System Ltd
- 28 Vas Digital Communications Ltd
- 29 Westec Limited
- 30 *Intech Online Ltd
- 31 *BOL

Web Address

- http://www.abnetbd.com
- http://www.accesstel.net
- http://www.aitlbd.net
- http://www.agnLnet
- http://www.bol-online.net
- http://www.bttb.net
- http://www.bdcom.com
- http://www.bdcorp.com
- http://www.bijoy.net
- http.y /www.bgtech.com
- http://www.bdmail.net
- http.z /www.dolphi.net
- http://www.drikcom
- http://www.bdfast.com
- Ltd.http://www.globalctd.net
- http://www.citechco.net
- Ltdhttp://www.bangla.net
- http://www.klbd.net
- http://www.ncll.net
- http://www.pradeshta.net
- http://www.bdonline.net/pcs
- http://www.raspit.com
- http://www.shapla.net
- http://www.spanin.com
- http://www.sparkbd.net
- http://ssl-idt.net
- http://www.transbd.net
- http://www.vasdigital.net
- http://www.bdlinkcom
- http://www.intechworld.net
- http://www.bol-online.com

Lack of developed High Speed Communication

Lack of developed high speed fiber optic data communication network, which is the backbone to the services for all over the *country*. is still a limitation for us ⁷. In this information age, telecommunication services ranges from narrow band voice services to broadband services for graphs & images, moving pictures, video on demand, video conferencing etc. These are still in infant stage. Only few companies provide Internet services with broadband facilities. The speed of the Internet connection varies from 64kbps to 2mbps gateway access (one may be limited to 14kbps to 19kbps due to telephone lines).

Country	Total Hosts	Hosts/10000 Inhabitants	Users (000)	Users/10000 Inhabitants
Bangladesh	2	-	500	15.32
India	78595	0.75	16580	159.14
Pakistan	12707	0.87	1500	102.77
Nepal	1206	0.52	80	34.48
Srilanka	2335	1.23	200	105.56
Bhutan	1242	17.98	10	144.75

Table - 4: A comparison of Internet Access between Bangladesh and Neighbouring Countries.

If we compare the data with our neighbouring countries it will give us a clear picture about the status of our Internet access.⁸ From table-4 it is clear that even Bhutan. Nepal has the higher access to Internet comparing to Bangladesh.

High Tariff Structure is the main barrier for Internet Services in Bangladesh ⁹

The main barrier identified by the respondent of different professions to have Internet and Internet Access in Bangladesh is cost of having Internet connection. If we look into the cost of Internet Access in Bangladesh. the following scenario comes to play a vital role in the mind of middle-income people of this poor country to take decisions whether they actually need/want Internet or not.

Speed of Port (One time in Tk.)	Registration Fee (One time in Tk.)	Installation & Testing	Annual Rent (Tk.)
64 kbps	10,000	10,000	4,20,000
128 kbps	20,000	10,000	6,40,000
256 kbps	40,000	10,000	10,00,000
512 kbps	40,000	10,000	16,00,000
1 mbps	40,000	10,000	25,00,000
2 mbps	40,000	10,000	40,00,000

Table-5 : cost Structure of Leased Access Service

Installation Charge	Port charge	Minimum charge
As above	Per month 10% of annual charge	Equivalent to 5 days charge

Table-6 : Charges for Temporary Leased Access (less than 1 year)

Registration charge (One time in Tk.)	Reactivation Fee in Tk.	Usage charge in Tk.
1000 including up to	200 each time for a disconnected	0.50/min. for peak hours
1000 minute initial	period beyond 59 days	0.30/min. for off peak hours
use in first one month	and less than 1 year.	6000 per month fixed for unlimited access.

Table- 7: Fee structure for Dial up access service.

1) Software installation charge/configuration charge: Tk. 300.00

ii) Additional E-mail ID (up to 3):

Registration fee (One time)	TK. 200 each for three years
Service charge	Not mentioned

(ii) Changing ID: Tk. 100 each time

Each address up to 64	Tk. 600 per year
Each additional Address	Tk. 400 per year
One block of class C address	Tk. 1, 10,0000 per year

Table-8: Cost of IP address

Registration fee (One time)	Tk. 1000
Service charge	1500 per year

Table-9: Cost of Domain Name Registration under . bd

Registration fee (One time)	Tk. 1000
Service charge	5000 (max space 5 MB)
For additional space	Tk. 500 per MB per year

Table-10 : Web Hosting charges

From Table - 7 it is clear to us that a person want to have the Internet in his home has to pay Tk. 1000 at the initial stage to get connection in addition to the hardware cost necessary to install required software. Not only that if we look forward to the payment structure of the same table he/she has to pay Tk. 0.50/minute. Moreover 15% VAT is also there. Tk.200 is charged as registration fee to have an additional ID. It is surprising that to have the geographical domain (country domain on the web i.e.bd) a person has to pay Tk.1000 as registration fee and Tk.1500 per year annual service fee. If a person don't have it what is the existence of the country? To have a personal web address one has to pay Tk. 1000 as registration fee and Tk.5000 for service charge to get the facility of only 5MB space. This high tariff structure obviously hinder the way of spreading Internet access in Bangladesh.

Lack of Skilled Human Resources is one of the obstacles for Internet Access

Another problem to spread Internet access is the inadequate skilled human resources in this sector. Due to uncompetitive National Education Policy very few people become expert in this sector to provide quality service. Also the low rate of literacy is one of the major causes to increase the Internet access. Most of the peoples are not aware of the benefits of having Internet access due to this high illiteracy rate. Even those who are literate are not using Internet as they are not technically expert and most of them don't have basic knowledge about computer. It will be clearer to us if we see the comparative study of PC density of Bangladesh and neighbouring country.

Country	Total PC (000)	PC per 100 inhabitants
Bangladesh	450	0.34
India	7500	0.72
Pakistan	1000	0.42
Nepal	85	0.37
Srilanka	250	1.32
Bhutan	10	1.45

Table-L 1: A comparison study of PC density between Bangladesh and neighbouring country 10 :

Problems of Internet Industry in Bangladesh¹¹

The main problems suffering by the Internet industry in Bangladesh are as follows :

1. At present ISPs have no liberty to take VSAT. They are bound to buy VSATs from *BTTB* with high price.
2. Top VSAT operators of the world are offering competitive price to ISPs of Bangladesh but *BTTBs* monthly charge is much higher than the neighbouring India (for Bangladesh \$8000. for India it is \$1000).
3. Most of the ISPs of our country are connected with Internet Backbone through Singapore Telecom or Hong Kong Telecom. So ISPs had to sign with them. *BTTB* fix up terms and conditions for ISP and most of them are illogical and one sided.
4. *BTTB* has no technical relationship for Internet services through private ISPs. They are only providing telephone lines. Once the user is connected with ISP. *BTTB* has no relationship to transfer data through Hong Kong or Singapore Telecom.
5. Recently *BITB* is competing with ISPs by introducing itself as ISP and in parallel it is regulating them. It creates a question whether *BITB* has the right to become operator and regulator simultaneously.

BITB is not providing sufficient telephone lines to ISPs but they increase telephone lines as per their needs. The data for public switched telephone network is as follows:

Year end of started	1996	1997	1998	1999	2000	2001	2002
Main Telephone Lines (000)	316	368	413	433	491	514	700
Teledensity (%)	10.10	16.46	-	4.84	13.39	4.68	36.19

Table-12: Data showing the telephone availability in Bangladesh.

7. BTTB charges more monthly telephone charge for the phone lines of ISPs. BTTB is getting more money from users as they dial more than the normal telephone users.
8. BTTB has taken some measures to make their Internet charge unexpectedly high.

Recommendations to Overcome the Problems of Internet Access in Bangladesh

1. Reduce the high tariff for Internet and Internet operations. It will encourage more providers and healthy competition.
2. Rapid privatizations of the telecommunications sector may remarkably enhance the speed of renovations through open market competition.
3. Increase the digital telecommunication lines to increase the Internet users.
4. Presently Internet services are mainly limited to divisional towns. All types of media must play vital role to promote Internet services all over the country to spread Internet access in rural areas.
5. Government must ensure the availability of telephone lines for ISPs and reduce its tariff rate.
6. Government should allow private satellite link to enhance the service as well as it will increase the competition.
7. Liberty must be provided to ISP to select VSAT.
8. Improve the National Telecommunication infrastructure.
9. Ensure the proper implementation of Telecommunication Act 1998.

10. Ensure the proper implementation of ICT ACT 2000.
11. Rebuild the national education policy with giving emphasize on IT education from very elementary level.
12. Establish the slogan "Time to Enter in the World of IT".

Limitations of the study

Internet is probably the much-talked issue at present in Bangladesh. From the origination of Internet in 1970s, an underdeveloped country like Bangladesh was also hit by the wave of Internet. But there was lot of obstruction to start Internet in Bangladesh. When the author meet with different persons and organizations, they failed to accept him cordially. Most of the persons show negative attitude to give him time to fill up the questionnaire. Many of them are not willingly giving up-to-date information. Most of the organizations tried to maintain business secrecy. On the other hand, there is no commercial data bank in our country to have the latest information about the development in this sector. For this reason, the author has to depend on international media publications and web site for collecting information where information's are very scattered.

Further Research

Since the article is written on the basis of both primary and secondary data, there is ample scope to conduct further research on the said topic. Moreover, the subject matter of the article is technology driven which changes rapidly day by day. So the data given here may be the foundation for future research. Moreover, information technology is the thirst sector. More and more research in this sector may help the decision maker to enhance the infrastructure facility, quality, reliability and cost of the services.

Conclusion

Internet is growing leaps and bound. It now links few billion users on few million computers in almost all the countries in the world. But its situation in Bangladesh is not satisfactory. There are only 15.32 Internet users per 10000 inhabitants in Bangladesh, which is 10 times lower than India and most of the country of Asia. The

Internet access rate is very poor. Among the top educationist, only 10% have their own Internet access. 10-12% students of private academic institutions have Internet whereas in public university the rate is below 5%. Mainly they use Internet as a communication tools and for recreations. Few researchers also use Internet to have the up -to-date information in the field of science and technology. A few percentages of professionals like doctors, lawyers and engineers use Internet for data collection only but not frequently. In our country Internet has caught on and more and more individual users and agencies are getting hooked with the Internet. If we are able to implement the recommendations given, we will see a wide spread utilities of Internet and the ISDN.

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