



Internet Access for Households in Dhaka, Bangladesh: Problems and Challenges

Riaz Khan ^{a,*}

^a Department of Computer Science and Engineering, North South University

Abstract

Internet access in for households in Dhaka, Bangladesh is characterized by high cost and slow connections. Customers suffer due to the weak infrastructure, limited bandwidth and costly service provisions. There is interest, especially among the urban young, for Internet access. This segment is well aware of the potential of using the Internet for information, communication and entertainment. Despite this interest, growth in Internet access among households has been limited by the cost of getting the services. Until recently the country connected to the web exclusively through VSAT and this has contributed both to the high service charges and the limited bandwidth availability. Now that the country has been connected to the submarine fiber optic cable the situation is improving slowly. The market is characterized by a large number of service providers serving a relatively small market. Although the competition has driven down the price of access the cost of service compared to the purchasing power of a household is still high. Interestingly, many households in Dhaka have graduated to cable modem connections, partly due to the weak land line infrastructure. However, the speed of most of these connections is no better than dial up modem connections. Service providers contend that the cost of providing access is still relatively high. They have brought down their prices by selling a limited amount of band width to a relatively large number of households. This has resulted in low speeds for the Internet connections. The end result has been frustration for both the customers and the service providers. Households contend that the service they get is sub-standard. The service providers counter that households want fast connections at prices that are uneconomical. Internet access therefore remains fraught with challenges and problems. This paper is based on a survey of Internet access among households in Dhaka and examines the issues facing households who need to access the Internet.

Keywords: ISP, Internet access; Dhaka; Internet use; Market place; Cost of access;

1. Introduction

The number of users of the Internet in Bangladesh was estimated at 0.45 million in 2006, according to the International Telecommunication Union (ITU). This translates into a mere 0.31% of the population. The number of subscribers is even lower, at 0.1% of the population (0.15 million) (ITU).

However, there are plenty of Internet Service Providers (ISP) in Bangladesh, mostly based in the capital city Dhaka. The first group of ISP started their operations in 1996, and since then there has been a proliferation of ISPs. In August 2007 there were 209 ISP listed as operators by the Bangladesh Telecommunication Regulatory Commission (BTRC).

Customers can therefore choose from a plethora of ISPs and yet they are confronted with confusing and conflicting claims regarding the quality of service. On the ISP side there are issues of high costs and high expectations, which cause frustration for both the ser-

vice provider and the customer. This paper looks at the situation of Internet access in Bangladesh with particular reference to households in Dhaka.

2. Computer Base

Computer penetration in Bangladesh is very low, with an estimate of 12 computers for every 1000 persons, in 2005 (World Bank).

On the other hand the rate of expansion of computer purchase in Bangladesh is relatively high. According to research conducted by Springboard Research of Singapore, the Bangladesh PC market registered a growth of 19.2% in 2006 as compared to 2005, with 193,600 units shipped in 2006 as opposed 162,400 units in 2005. The growth in the economy and the higher spending on IT coupled with the low penetration base powered this growth. The expansion in the PC purchases is likely to lead to an expansion in demand for Internet access.

* Corresponding Author: Email: riaz@northsouth.edu

3. Fragmented Marketplace

As remarked earlier the number of ISPs has increased dramatically since the Internet came to Bangladesh in 1996. There is a lot of competition among the ISPs for customers but as yet no ISP dominates the market. The well known players who have been offering their services for many years are well established, but have not been able to consolidate their positions allowing new entrants to come into the market. The competition is particularly keen among the high end market segment that makes up a lucrative portion of the earnings of the ISP.

4. Customer Skepticism

In Bangladesh in that the price for Internet access is very high, but the customers are able to only pay a relatively small amount. This has resulted in ISPs offering relatively cheap solutions that are low in speed and quality.

ISPs have compounded the problem by making inflated claims about the speed and quality of the deals that they are providing. Now there is general skepticism among the customers, because of the inconsistent record among the ISP in providing connections. In this market so many ISP have promised and not delivered, that it is difficult for any ISP to be taken seriously when it claims to provide good connections.

5. Quality of Service Problems

There is a tremendous amount of variation in the quality of service that is provided to the customer. At the household level the term “broadband” refers mainly to services where the customer is using a cable modem and does not rely on dial up i.e. it does not necessarily refer to the speed of the connection. In the local market the term “shared broadband” is used. This essentially means that a limited amount of bandwidth is being shared among several customers. The speed of the connection for a particular consumer is therefore, dependent on how many households are “sharing” the connection, at that particular moment. This leads to ambiguity about the speed of the connection.

Unfortunately the companies that are offering Internet services have in many instances failed to provide an adequate solution to their customers. The most common complaints are low connection speed, unreliable connections and high prices.

All these prevent the customer from getting a high quality Internet connection. Each problem has its origins in some of the early constraints faced by ISPs. One of the most insidious problems has been that of promising too much and delivering too little. This was especially true when the Internet started in Bangladesh because of the limitations on the available bandwidth

and the high cost of providing service. ISP needed to sign up as many customers as they could with all types of incentives. However, keeping the price low meant that they had to cut back on service. When broad band came in there was a similar problem. Many ISP did not have adequate bandwidth to provide the kind of bandwidth to their customers that they promised. In many cases instead of providing dedicated connections they sacrificed connection quality in order to serve as many customers as possible. For many customers the initial speed of the connection would be satisfactory but as more and more customers start sharing the same connection, the speed and quality dropped dramatically.

The problems with quality are compounded by the slow or inadequate response to customer complaints. As a result although many ISP have entered the market, it has proved difficult for them to consolidate their positions and satisfy their increasingly skeptical customers.

6. VOIP

Another issue is the evolving status of Voice over IP (VOIP) services. Various companies had been operating call termination services for many years, even in the absence of clearly defined legal status of VOIP. In 2003 the cabinet gave approval to VOIP service but there have been numerous delays in handing out licenses for this operation. When BTRC issued an invitation for licenses in 2006, the process was caught up in legal wrangling. In the first quarter of 2007 the government undertook a drive to close illegal VOIP operations, confiscating equipment and imposing penalties on the companies involved.

The government has been taking steps to legalize the use of VOIP. A committee of experts recommended that all phone, mobile and Internet operators should be eligible to apply for licenses for VOIP (Daily Star, March 5, 2007). The government has announced that it would auction VOIP licenses to private operators in October 2007 (Daily Star, Aug 21, 2007). Legal VOIP operations would benefit the Internet market, by increasing demand.

7. Infrastructure Constraints

Until last year when Bangladesh finally got connectivity to the submarine fiber optic cable (SEA-ME-WE 4 cable), ISPs had to rely on the more costly VSAT connections to provide Internet connectivity. The introduction of the submarine cable for connectivity was a welcome development. In May 2006, the Bangladesh Telegraph and Telephone Board (BTB) announced their tariff structure for the submarine cable and this was one fourth of the older tariff structure that ISPs had been paying until that stage for VSAT connectivity.

Although there has been a decrease in ISP tariffs since then, it has not been proportional to the reduction in BTTB rates.

The ISP market also suffers from multiple infrastructure constraints. For customers who rely on dial up connections the low prevalence and quality of land lines result in unsatisfactory service to the customer.

On the other hand, when an ISP provides a cable modem wired connection it lays out the line in a haphazard manner using whatever poles are available along roadside. Rather than consolidating the connection along one cable each ISP lays its own cables, resulting in a patchwork of cables along the roads tied to each other and to the utility poles on the roads. Sometimes this leads to disruptions in the service because of breaks in the cable.

7. Survey of Households

In order to understand the usage of Internet among households in Dhaka a survey of households was carried out in different localities in Dhaka. The survey looked at households that were living in multi-storey apartment buildings in Dhaka. The survey was conducted in the following areas of Dhaka: Motijheel, Nikunja, Ramna, Gulshan, Banani, Baridhara, Uttara, Mohammedpur, New Eskaton and Mirpur. Such households are likely to house income groups that can afford computers and Internet access. The households were selected by a two stage process. First roads were selected randomly from a list of roads in that area. Then a listing of households carried out along each selected road and a further random selection from this list of households was carried out. In the end a total of 1,509 households were approached and 1,484 of these households consented to being interviewed.

8. Prevalence of Internet Connections

The survey showed that the prevalence of computers and Internet connections among the households is roughly evenly divided among those who only have computers, those who have computers and Internet connections and those who have no computers.

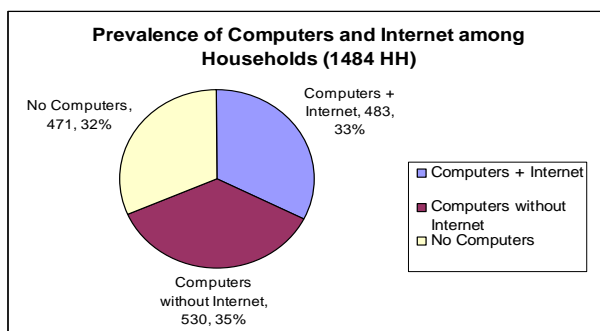


Figure 1. Prevalence of Computers and Internet
The households are getting their Internet connec-

tions from a variety of ISP. As Figure 2 shows the leading ISP among households had 22% of the connections surveyed. The next most prevalent ISP had 13% of the connections. The top nine ISPs account for 76% of the connections in the sample. (The “ISP (10-47)” category in the figure lumps together 48 ISP who had 1% or less, of the connections in the sample).

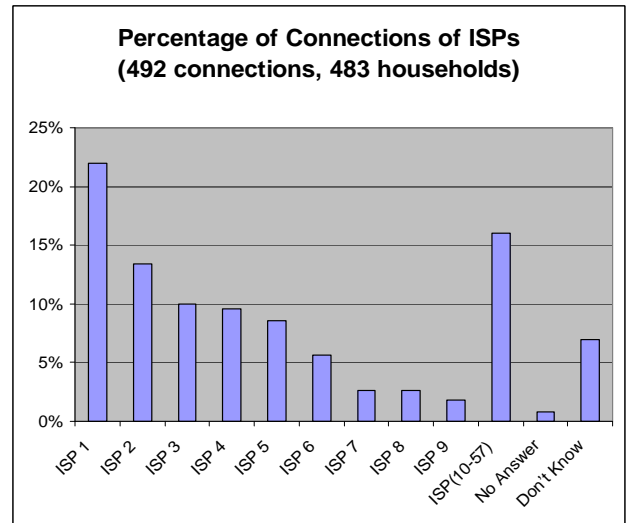


Figure 2. ISP Connections

The most interesting thing to come out of the survey was the fact that most of the households had switched over to cable modem connections. As Figure 3 shows cable modem is the dominant mode of connection (74%) among the households surveyed. It had been expected that the dominant type of connection would be pre-paid dial up connections. But possibly the lack of good phone lines, combined with ISP efforts to provide cable services to their customers, has resulted in these households switching to cable modem connections. Pre- paid dial up connections and DSL ran a distant second and third in this survey.

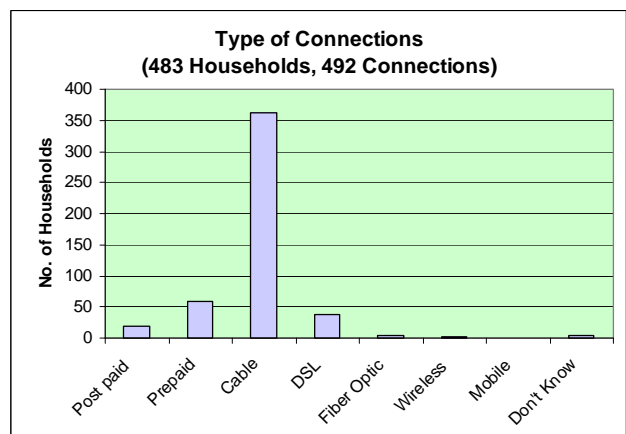


Figure 3. Type of Connections

9. Use of Internet

Internet use followed a predictable pattern. The

most prevalent use of the Internet is for Email (99%) and browsing (94%) followed by chatting (54%). Households are also using the Internet for online news (24%), job search (22%), music downloads (17%) and video downloads (16%).

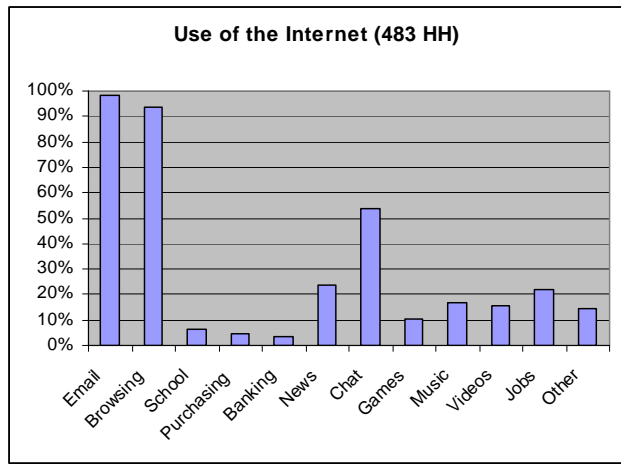


Figure 4. Use of Internet

10. Cost of Connections

Households pay their Internet charges on a monthly basis and Figure 5 shows the distribution of charges and the number of households paying charges in each category.

As can be seen from the Figure 5 most households are paying US\$ 29 (Tk 2,000) or less per month.

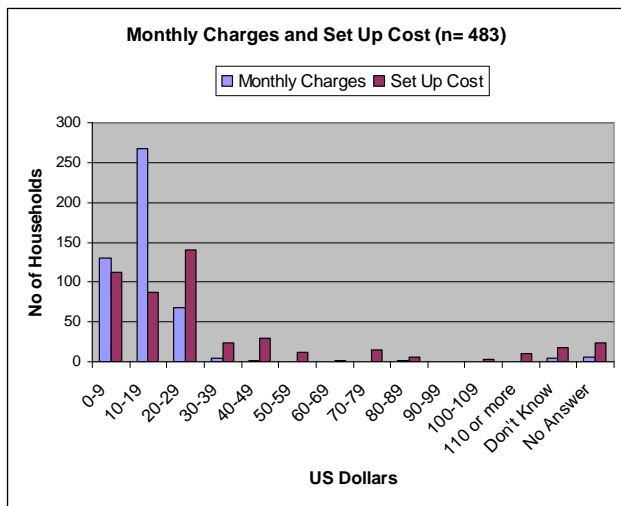


Figure 5. Monthly Charges and Set Up Cost

Similarly most households (70%) have paid US\$ 29 or less (Tk 2,000) for setting up their connections. There are however a small number of household (7%) who have paid US\$ 70 (~Tk 4,800) or more as initial charges for their connections.

11. Customer Satisfaction

Customer satisfaction is a difficult issue for both

customers and ISP. Although a majority of those households having Internet connections reported that they were satisfied with their connections, a large percentage (42%) of the customers said they were dissatisfied with their service. Customer dissatisfaction arises from a variety of factors including the speed, cost and reliability of connections. Customers say that service providers do not deliver as promised and there are numerous interruptions in services. Service providers counter that customers want to pay very low service charges and given the costs of given this service it is not possible to provide fast connections at those prices.

Table 1. Satisfaction with ISP

	No.	Percentage
Satisfied	274	57%
Dissatisfied	203	42%
No Answer	6	1%
Total	483	100%

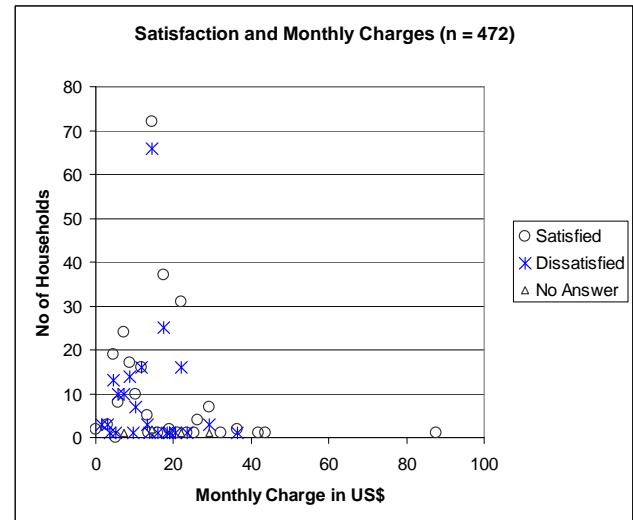


Figure 6. Satisfaction and Service Charge

If we look at Figure 6 we see that customer satisfaction is not dependent upon the amount paid if this amount is less than US\$ 40 per month. In this range there are many customers who are satisfied and many who are dissatisfied. Since the speed of the connection depends upon the amount paid, therefore each ISP has the potential to improve its performance with its customers.

12. Conclusions

Internet access for households in Dhaka is a very challenging issue. On the one hand the cost of providing the service is relatively high; on the other hand the purchasing power of households is relatively limited. The net result is a mismatch between what the customers are willing to pay and what the ISPs are able to provide. This has resulted in inflated claims from the

service providers and dissatisfaction on the part of the customers.

Competition has driven down the price of connections but this has been done by compromising on the speed and quality of the connections. Rather than saying that connections are going to be slow if the service charge is low, the ISPs have inflated claims of speed in order to compete. Customers are unwilling to accept that their speeds will be compromised if they go for cheap connections. The dissonance between the expectations and actual service has resulted in customers being skeptical of the claim of ISPs.

Ultimately better infrastructure and the availability of more bandwidth at lower prices is required in order to improve the situation. Even then, there has to be better communication between the customers and the ISPs. On the ISP side there has to be more realistic marketing of products. There must be less hype and more deliverables. On the customer side there has to be a realistic assessment of what they can buy at a certain price. It is no use asking for a connection at a price that is uneconomical for ISPs to provide. This is a recipe for further frustration for both sides.

It is to be hoped that customers ISPs and household customers will come to some type of feasible solutions on these matters. Until that happens, the situation will remain unsatisfactory for both parties.

References

- Another illegal VoIP firm busted. Tk 25cr equipment seized. (2007, January 25). *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2007/01/25/d7012501138.htm>
- Khan, S. (2007, January 28). Inaction Over Illegal Voip Trade. In 5 Yrs. BTTB earning drops Tk 267cr a year. *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2007/01/28/d7012801055.htm>
- _____. (2007, April 8). Illegal VoIP denies country Tk 6,000 crore a year. Govt mulls financial penalties against operators; cell phone companies blame authorities for suspiciously delaying licensing process. *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2007/04/08/d7040801022.htm>
- _____. (2006, 25 May). Cost of internet use set to go down. BTTB announces tariff rate for submarine cable, satellite, internet services; ISPs hail the move. *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2006/05/25/d60525011812.htm>
- Govt decides to sell 3 licences for VoIP. Auction in October. (2007, August 21). *The Daily Star*, p. Front-page. Retrieved Aug 31, 2007 from <http://www.thedailystar.net/story.php?nid=910>
- Raihan, A. and Hasan, M. (2007). Peoples' Report on MDG: Bangladesh Information and Communication Technology. Retrieved August 26, 2007 from http://www.dnet-bangladesh.org/MDG_ICT_final.pdf
- ICT at a Glance: Bangladesh. (n.d.) World Bank. Retrieved August 26, 2007 from http://www.bangladeshgateway.org/ict_at_glance.pdf
- Internet World Stats: Usage and Population Statistics (2007) Bangladesh Internet usage, broadband and telecommunication reports. Retrieved August 27, 2007 from <http://www.internetworldstats.com/asia/bd.htm>
- Raihan, A., Roy, S., Rahman, H., Hasan, M., Hasan, R., Rahman, A.H.M.B. and Jewel, G.N. (2007). GISW 2007 Report BANGLADESH Chapter, Retrieved August 27, 2007 from http://www.globaliswatch.org/files/pdf/GISW_Bangladesh.pdf
- Roknuzzaman, M. (2006). A survey of Internet access in a large public university in Bangladesh. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 2 (3), 86-105.
- Springboard Research Finds Tremendous Growth in Bangladesh's Portable PC Market Portable Segment Leads the Bangladeshi PC/Server Market; 49.6% Increased IT Spending by Large Corporations Drives Growth Although Political Uncertainty is Projected to Affect Overall IT Market. (2007, March 28). Springboard Research, Press Release. Retrieved Aug 30, 2007 from Springboard Research website: <http://www.springboardresearch.com/news.html>
- VoIP Licences - HC stays BTRC tender process for 3 months. (2006, November 7). *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2006/11/07/d61107013725.htm>
- VoIP licence for all operators. Committee recommends govt. (2007, March 5). *The Daily Star*, p. Front-page. Retrieved Aug 30, 2007 from <http://www.thedailystar.net/2007/03/05/d7030501096.htm>
- WTI_InformationTechnologyPublic.pdf Retrieved Aug 30, 2007 from the International Telecommunication Union website: <http://www.itu.int/ITU-D/icteye/Indicators/Indicators.aspx#>