An Overview of ICT Sector of Bangladesh

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The internet, introduced in mid-1996, did not instantly create a market in Bangladesh. At the end of the year 1996, there were only two ISPs in the country and the number of users was close to one thousand only. Nonetheless, the tremendous growth came in the year 1997. The total number of ISPs increased more than a dozen and the clientele growth was ten times higher than that of the previous year. Afterwards, a few new ISPs started their venture recording a proportionate growth with a number of users. However, more liberal government policies followed in the subsequent years which led to a rapid expansion of this industry, eventually resulting in over 180 registered ISP's by 2005. Bangladesh had a golden chance to connect the country with submarine cable during 1991-95 but the government turned down the proposal of connecting with international submarine cable at free of cost because the government thought the state secrecy might be divulged if connected with an international submarine cable (Hamidur, 2009).

In 2006, Bangladesh got connected to the SEA-ME-ERL-4 (South East Asia - Middle East - West Asia - 4). The landing site of the Bangladesh branch is located at Cox's Bazaar. Bangladesh is also a member of the proposed SEA-ME-ERL-5 (South East Asia - Middle East - West Asia - 5), which will provide submarine cable connectivity for the country when its submarine cable is implemented within a couple of years.

Under the project of SEA-ME-ERL-5, the Executive Committee of the National Economic Council (ECNEC) approved the Second Submarine Cable project for keeping Bangladesh connected with the globe uninterruptedly. In this project, Bangladesh is going to be connected with the 20,000-km undersea cable called SEA-ME-ERL-5, a consortium of 17 companies of 14 countries, which would facilitate another 1300 Gbps (Gigabits per second) bandwidth for the country. The country got its first submarine cable connection SEA-ME-ERL-4 in 2006, which has already passed more than half of its lifespan, so Bangladesh needs to be connected with another cable before 2025.The second connection would allow Bangladesh to always stay online. Bangladesh

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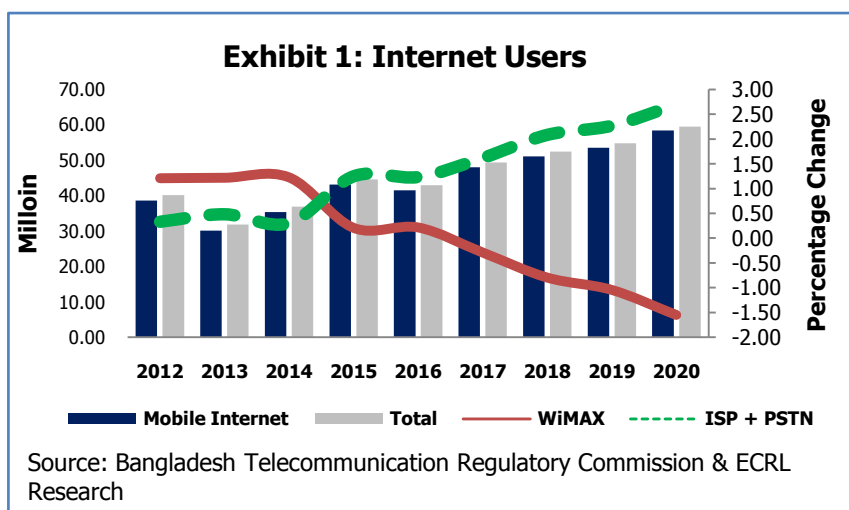[2] Research Associate, Department of Research, Email: subrata@emergingrating.com
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needs redundancy and this cable can ensure it. If there is a cut in the existing submarine cable line, it needs seven to 10 days for the repair that hampers the activities of information and communication technology (The Daily Star, 2015).

The ground station of the second submarine cable has been selected at Kuakata under Kalapara Upazila in Patuakhali and once the project is completed, it would be possible to meet growing bandwidth demand and increased supply in case of data and voice. Bangladesh Submarine Cable Company Limited (BSCCL) will implement the project by June 2016, at a cost of BDT 6,606.40 million. Of the total cost, the government will provide BDT 1,660 million while BDT 3,520 million will come from Islamic Development Bank (IDB) and BSCCL for project assistance and will contribute BDT 1,426.40 million from its own fund. The BSCCL signed a deal with SEA-ME-WE-5 (South East Asia – Middle East – Western Europe - 5), a 14-nation consortium, in March last year to get a second connection, and got approval from the Cabinet Committee on Economic Affairs in April this year. Initially, the lifespan of the cable is set at 20 years but it could be extended by five years. At present, India has eight connections, Pakistan four and Sri Lanka has three undersea cables (BSS, 2015).

In Bangladesh, mobile subscribers are just over 118.93 million and mobile internet users are over 34.91 million. It is fair to say, that these "pocket computers" will be the first entry point into the internet for many people in this country (Milon & Islam, 2012). The total number of Internet Subscribers has reached 44.625 million (Mobile Internet 43.167, WiMAX 0.208, ISP + PSTN 1.250) at the end of March 2015 (BTRC, 2015). After

Exhibit 1: Internet Users

Source: Bangladesh Telecommunication Regulatory Commission & ECRL Research

forecasting BTRC data, a total number of internet subscribers will be 59.54 million by 2020. Mobile internet subscribers will increase rapidly compared to any other internet subscriber which is 58.39 million by 2020; interestingly results show WiMAX subscribers fall in zero after 2016. According to the internet live stats data, in July 2014, Bangladesh was 24th in the world ranking with 10.87 million internet users of 158.51 million total country population and the

country's share of world population 2.19% and country's share of world internet users 0.37% with penetration (% of population with internet) 6.86%. Million and Islam (July 2012) have shown the scenario of daily internet users in Bangladesh, where Monday and Tuesday represent the highest traffic because of working day and Friday represent the lowest number of internet users because of government holiday (Milon & Islam, 2012).

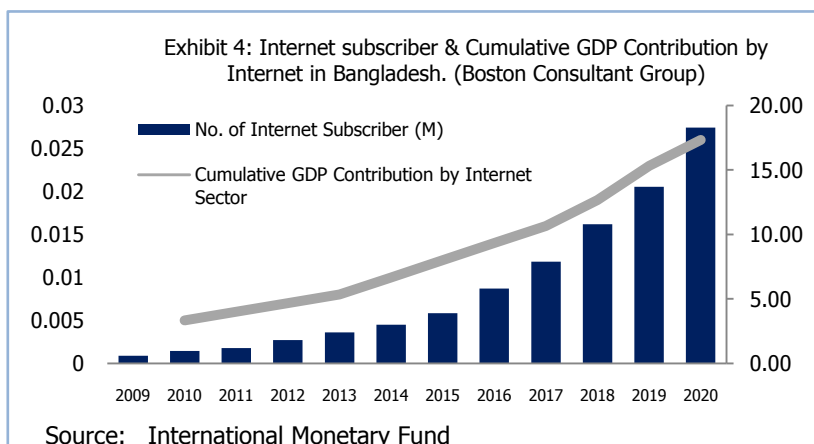**Exhibit 2: Bangladesh Local Internet Users by Day of Week**
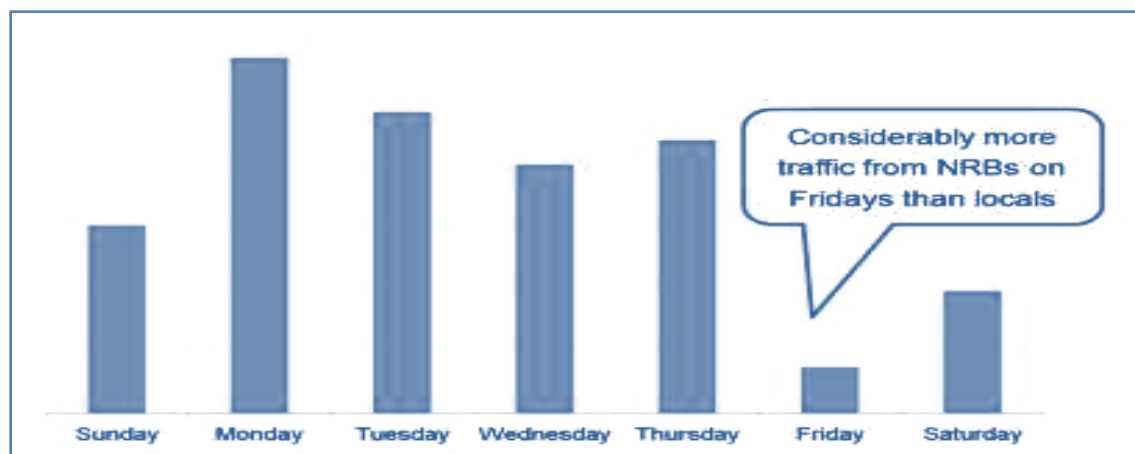
Source: The Daily Star (Friday, July 13, 2012)

Internet bandwidth prices are going down at both IIG (International Internet Gateway) level and retail level. Historical records show when internet bandwidth price decreased the volume has increased drastically. The graph below shows the historical relationship between price and volume.

Exhibit 3: Internet Band Width Usage in Bangladesh (Mega Bit per second)
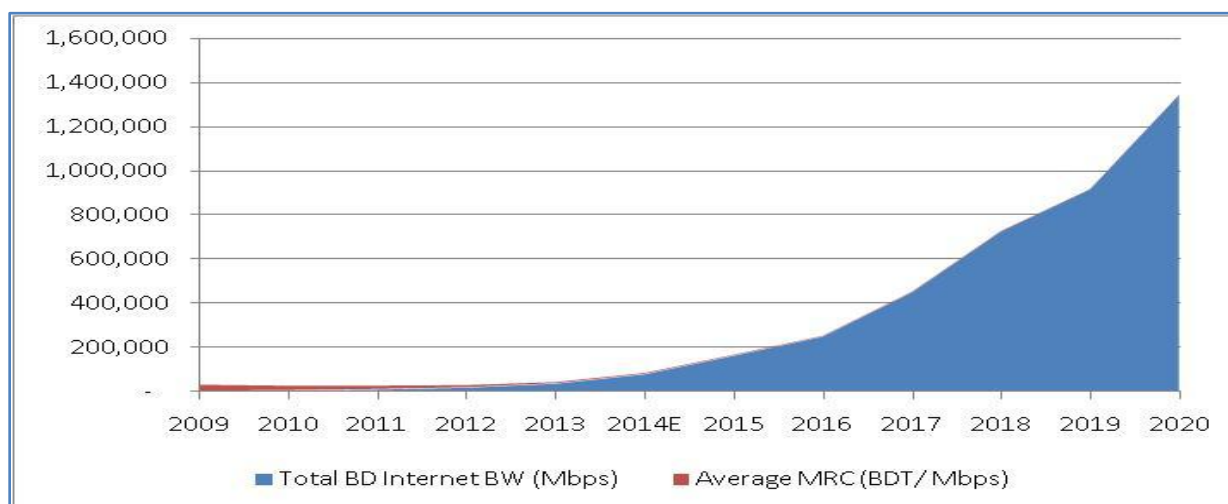
As the number of mobile subscribers increased, usage of mobile internet and data services grew rapidly. In Bangladesh number of mobile users is expected to grow at a rate of 13.16% over the next two years. According to Ericsson, 80% of the internet users access the internet by using mobile internet. On the other hand, smart phone accounted for

Exhibit 4: Internet subscriber & Cumulative GDP Contribution by Internet in Bangladesh. (Boston Consultant Group)

Source: International Monetary Fund

10% of total handset market in developing countries. It can be stated that there are over 9.20 Million smart phone users in Bangladesh that are expected to grow exponentially due to better network upgrade in the form of 3G and higher processing power device. In order to support this growth, the country needs more IIG bandwidth that provides potential future growth for IIG operators.

According to a research conducted by Boston Consulting Group (BCG), Bangladesh could have 18.3 Million subscribers by 2020 results a 10% increase in internet penetration rate. It also states that this 10% increase in penetration may result in 1% increase in new business formation which will create 129,000 new jobs. It is also expected that percentage of household, with at least one internet subscription, would be 32% and business adoption will be 66% by 2020.

Cumulative GDP contribution by the internet (Boston Consulting Group) increased internet penetration may bring significant economic benefit. Overall contribution to GDP by the internet was 0.60% in 2011 that is expected to grow at an accelerated rate, reaching to 2.6% in 2020. Increased internet use will improve productivity in both service sector and manufacturing sectors. It is expected that the service sector will gain the highest productivity, reaching to 3.5% in 2020 and the manufacturing firm will gain up to 1.8%. The research also states that over this ten-year-period internet could contribute 4.6% of government revenue.

BTRC reduced the price of per Mbps to BDT 5,000. It is expected that the operator will pass down the benefit to end users by charging lower subscription fees which will fuel demand for more internet protocol (IP) addresses. This will require the upgrading of the IP framework from

version 4 to version 6 (IPv6)[4] which may otherwise lead to compatibility issues with the new version. Currently, MTL Tele service Ltd has the equipment to make the transition. Meanwhile, capital expenditure remains major barriers for easy access. As operators provide better services at lower prices, they will be benefited in the long run if economies of scale are achieved.

In addition to that government has allowed six new international terrestrial cables in the private sector to install redundancy to submarine cable at the private initiative. All terrestrial operators, except one, got final approval from both Bangladesh and India for the commercial operation to link the country with the information super highway all over the world. The five operators who got final nod are Novocom Limited, 1ASIA-AHL JV, Summit Communications Ltd, Mango Teleservices Ltd and Fiber@Home Ltd.

The significant growth of internet users leads to the growth of cyber crime in Bangladesh. An incident of hacking of RAB website happened in 2008 but at that time there are not enough laws to prevent cyber-related crimes in Bangladesh except 'The Bangladesh Information & Communication Law 2006 (As amended in 2009)'. Under the section 56(1) of this Act, the cyber-related offenses will be punishable maximum 10 years imprisonment with or without fine but according to the ICT Act, the cyber crime will be treated as non-cognizable offence for that except some cases police can't arrest the criminals without warrant (BTRC, February 2006). The Digital Economy Act 2010 (addition of Act 2001) in sections 3 to 18 of the Act covers online infringement of copyright (BTRC, August 2010). The Information and Communication Technology (Amendment) Bill 2013 passed by parliament and the bill contains the increased amount of penalties for cyber crimes setting a minimum of seven years' imprisonment and a maximum of 14 years or a fine of BDT 10 Million or both for cyber crimes (New Age, 2013).

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[4] Internet Protocol version 6 (IPv6) is the most recent version of the Internet Protocol (IP), the communications protocol that provides an identification and location system for computers on networks and routes traffic across the Internet

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About ECRL

Emerging Credit Rating Limited (hereinafter referred to as ECRL) began its journey in the year 2009 with the motive to deliver credible superior & quality credit rating opinion in various industry segments around Bangladesh. ECRL obtained credit rating license from Bangladesh Securities and Exchange Commission (BSEC) in June 2010 as per Credit Rating Companies Rules 1996 and also received Bangladesh Bank Recognition as an External Credit Assessment Institutions (ECAI) in October 2010.

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