

**Analyzing the different mobile packages and other parameters  
and formalization of country policy for BTRC**

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By

Mushfiqur Rahman

Student ID: 01201050

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## DECLARATION

This is certified that I, Mushfiqur Rahman bearing University ID 01201050 formalized some country policy for BTRC on mobile telephony under CSE-400 course and I therefore declare that this thesis is based on the results found by myself. Materials of work found by other researcher are mentioned by reference. This thesis, neither in whole nor in part, has been previously submitted for any degree.

Signature of  
Supervisor

Signature of  
Author

## ACKNOWLEDGMENTS

At first, I should thank Almighty Allah for enabling us in the completion of our thesis in time. We were assigned to formalize some country policy for Bangladesh Telecommunication Regulatory Commission (BTRC). I have tried to present my study in this paper. I would like to express our gratefulness and thanks to our respected thesis supervisor Dr. Syeed Salam for giving us the opportunity to research on this topic. His dynamic guidance at all stages of work encouraged us to accomplish our work successfully. We always felt that we are under guidance of highly qualified and experienced personal.

## ABSTRACT

In spite of being a developing country Bangladesh has made significant progress in the telecommunication sector. Though the telecom sector has flourished rapidly and there are five fully established companies are operating at the moment, these companies do not operate on the basis of a strict policy. Recently some policies have been introduced by BTRC, there is doubt of how strictly these policies are hardly followed and how beneficial is it for the government. The policies proposed in this thesis paper are likely to be effective for BTRC and the government in terms of obtaining higher revenue and also for the consumers as it will enhance and protect consumer sovereignty. We also develop a software which will compare among all the present tariff of the mobile phone operators and give a suggestion about which package should be convenient for the mobile phone user.

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## **CHAPTER 1**

### **PREFACE**

A very low level of penetration, limited capability to meet the growing demand, low level of investment and old outdated systems and technologies necessitating reactive remedial measures, has characterized the telecommunications sector in Bangladesh. In order to develop a national sound telecommunication infrastructure to support the economy and welfare of the country by providing telecommunication facilities on demand, assuring satisfactory quality of service and ensuring value to the customers, a sound National Telecommunication Policy is essential. This is also imperative to ensure the cost based pricing of the present as well as the future services to satisfy the need of specialized groups in particular and the public in general. With this in view, this new policy will ensure the orderly development of the telecommunications sector through the provision of services in all the areas of the country, to satisfy the increasing demand for telecommunications and to provide equitable opportunity and competition amongst the service providers.

Telecom is a fast changing dynamic sector. Continuous change in technologies and opportunities created by such change and consequent impact on the customer/user necessitates changes and adaptation of policies in the sector. Countries, which respond timely and appropriately to such change, grow successfully whereas those who fail lag behind, remaining trapped in the vicious circle of poverty and under-development.

Bangladesh being a developing country is earnestly trying to catch up with the developed world, and adapt its policies, in response to changing needs, opportunities and requirements in different sectors, including the telecom sector.

Due to the inherent dynamism of the telecom sector and the speed with which change is taking place therein, there is a convergence of technologies, knowledge, expertise, experience, and of policies and strategies, to achieve defined policy objectives.

The telecommunications sector is expanding rapidly with the introduction of the latest services and equipment. This development has become a catalyst for the growth of the nation's commercial and industrial sectors. The integration of the telecommunications and computer industries has resulted in the rapid growth of sophisticated technology, which ushers in a new Information Technology-based century. In addition, the telecommunications sector as an industry in its own right has gone through rapid growth too, and contributed much to the nation's economic development.

## **CHAPTER 2**

### **VISION**

The Strategic Vision of the Government is to facilitate Universal Telephone Service throughout the country and where there is a demand, all those value added services such as cellular mobile telephone paging, data services, access to Internet (including electronic mail), Voice mail and video conferencing – all at an affordable cost without compromising performance.

To achieve the Vision, Government's role as a service provider will diminish as the private sector's role increases. The Government's objective will be to create a new policy environment to support this new scenario. Its ability to create policy, regulate and facilitate will be strengthened through a new Telecommunications Act, which reflects the Government's new policies, objectives and strategies and the establishment of new institutions including a Telecommunication Regulatory Commission (TRC), which will become the guardian of the Act and fulfill its regulatory functions.

I have made some mobile telephone policy for Bangladesh Telecommunication Regularity Commission (BTRC) and also some consumer rights. We will recommend the government to put our policy to their telecommunication policy for mobile phone. We also developed a software, which will compare the tariff of the several mobile phone operators. In future, we will recommend the BTRC to make use this software in every dealers' office, from

where a subscriber will come to know which package will be convenient for him/her regarding his/her usual time for talking.

The Government understands that this Universal Service – affordable and reliable – will be achievable only through reforming the sector to encourage a plurality of private and public operators so that they conduct their business within a competitive environment. Within this environment interconnection and revenue sharing will be clear and fair to all service providers and their subscribers.

## **CHAPTER 3**

### **IMPORTANCE OF TELECOMMUNICATION**

The Government of Bangladesh (Government) recognizes that provision of world-class telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. It is also anticipated that going forward, a major part of the GDP of the country would be contributed by this sector. Accordingly, it is of vital importance to the country that there be a comprehensive and forward looking telecommunications policy which creates an enabling framework for development of this industry.

## CHAPTER 4

### Mobile Communication: Trend & Outlook

#### 4.1 Technical concept of Mobile Phone

Every one knows what mobile is. To know it from technical point of view, let us compare it to fixed phone. The mobile exchange database needs additional mobility information for current location of the mobile set; otherwise it will be difficult to setup the mobile incoming call. Secondly, the exchange is to authenticate the mobile for outgoing call, otherwise a man purchasing a mobile set from the market may try to make a call.

Unlike a fixed phone, a mobile phone is not permanently connected with the network resource. It just receives a radio broadcast signal & does not use network resource until it makes a call. So, if a mobile phone makes very few calls & pays little money, the network operator does not mind, because the operator can sell more SIM card to utilize available resource. Suppose, a network provides 10 lacs mobiles where, each mobile in average uses 200 minutes talk time per month. The same network could provide 20 lac mobiles, if each mobile uses 100 minutes (half talk time per month of course, more 10 lac mobiles would have some additional signaling load & need additional memory space in

database). Nevertheless, from the economic point of view, the present mobile marketers are mostly concerned with talk time.

#### **4.2 Initial Mobile Phone:**

First electronic mobile phone with full duplex connection was introduced in 1946 in Europe, North America & Japan. This was single cell system using frequency range of 50 MHz with cell radius up to 100 Km. The mobile equipment was very large & was carried in cars. Due to limitation of frequency resource the capacity of single cell system was very limited. The cost of such mobile was very high & was only used for national security purpose. Development of semiconductor technology reduced the size of the mobile equipment as well as network radio equipment by 1950, but the capacity problem was still there. So there were very low growth rate. There were hardly few thousands mobile in the world at that time. The situation was stagnant for long 35 years till the innovation of Cellular mobile.

#### **4.3 Cellular Mobile (1979 to 1990): 1st Generation**

The introduction of Cellular mobile led to a quantum leap in mobile communication. Cellular technology had broken through in capacity problem of single cell system. It facilitated frequency reuse in the subsequent cells with reducing cell radius & increased capacity with same frequency band.

In 1979, USA introduced their AMPS (Advanced Mobile Phone System) & Japan introduced NTTMTS & both used frequency range of 800 MHz. During 1981-86 Scandinavian countries introduced NMT (Nordic Mobile Telephone), in 1985 Great Britain introduced TACS (Total Access Communication System), France

introduced Radiocom2000, and Italy introduced RTMS & all used frequency range of 900 MHz. Also in 1985 Germany introduced C450 with frequency range of 450 MHz. By this age semiconductor technology developed much more with the innovation of VLSI, VVLSI & microprocessor reduced the size of the mobile & reduced the cost. Simultaneous reduction of network cost due to increased capacity, low mobile equipment cost & competitiveness in the market sufficiently reduced the cost of mobile phone. Commercial operation of mobile phone took place from here. In 1990 total 10 Million mobile was used in the world with annual growth of up to 50%.

The radio system of 1st generation mobile was analogue. So, there was capacity limitation especially in high-density urban areas & still big mobile equipment due to battery size. Incompatibility among different standards is other important problem of 1st generation mobile. These limitations were mostly resolved through 2nd generation mobile.

#### **4.4 2nd Generation Mobile (1992-2005):**

Introduction of digital radio system led to another quantum leap in the mobile communication. Digital radio system increased the capacity much more & incorporation of dual frequency (say, 900 & 1800 MHz) in the same antenna has overcome the capacity limitation till now. Development of battery technology reduced the size of the mobile equipment around 100 gram. Data communication in lower rate & new supplementary services were introduced in this generation.

During the 2nd generation, different countries & regions set some standards in their equipment. After long competitions, finally few major standards prevailed in the market, such as Digital AMPS (D-AMPS) in USA & Canada; PDC(Personal Digital Cellular) in Japan; IS-95 in USA, Canada & Eastern Asia; & European GSM (Global System for Mobile Communication) worldwide.

European countries since 1978 were trying to develop international standard for mobile communication in Europe & introduced GSM standard in 1992. Europe captured the world market soon with GSM before other giant like US & Japan turned around. Mobile market grew exponentially in 2nd generation especially through GSM. In February 2001 total registered mobile in the world was 660 Million (out of those 410 million was GSM mobile).

Over this time, also the customers demand increased exponentially. Professional world demands mobile PC Internet connection with high data rate, worldwide accessibility, improved services, and cost reduction are the sustained demands.

The third generation (3G) of mobile communication represents a worldwide system of compatible standard under the roof of IMT2000. Here, most of the current & future demands are to be dealt with. The main tasks of 3G are high data rate, worldwide smooth mobility & advantages of home PLMN outside the geographical border. Some of the demands are already achieved by 2.5Generation.

#### **4.5 2.5 Generation Mobile:**

Some of the recommendations of IMT2000 are met by 2.5 G versions. HSCSD, GPRS, EDGE, Advanced Speech call items (ASCI), Intelligent Network IN, satellite roaming, new integrating mobile equipment etc. are the 2.5 G achievements.

**HSCSD, GPRS & EDGE:** The radio interface of 2G mobile networks could carry data at maximum rate of 9.6 kbps. The core part of mobile network, which is same as traditional PSTN circuit switched network, has the inherent bit rates of

64 kbps. In HSCSD (High-Speed Circuit switched Data) a technique of channel combining in the radio interface was developed. A theoretical data rate of 115.2 kbps would be possible by combining up to 8 physical channels in radio interface. But the core network of mobile, as mentioned above can carry maximum 64 kbps. So, combining up to 4 channels maximum 57.5 kbps data rate was achieved. To overcome this restriction of circuit switched network GPRS (General Packet Radio Service) was developed over HSCSD by building a packet data network in parallel with the existing circuit switched network & achieved a data rate of 115 kbps. After few days, EDGE (Enhanced Data Rate for GSM Evolution) was further developed over GPRS with new coding & modulation technique (8PSK) & achieved 3 times data rate to GPRS. These successive developments brought a new era in mobile data communication. GPRS & EDGE may be characterized as follows:

**GPRS:** GPRS is the key to provide high speed mobile data services over existing GSM network, saving cost by making use of the existing radio resources while evolving the GSM system into 3G systems.

- . A standard from ETSI and others on packet data in GSM systems
- . Uses a packet-mode technique to transfer data in an efficient manner.
- . Optimizes the use of network and radio resources.
- . Maintains strict separation between the radio subsystem and network subsystem.
- . Offers air-interface rates up to 115Kbps (171.2Kbps theoretically).
- . Supports multiple types of mobile terminals.

**EDGE:** A stepwise way in the direction of 3G

- . Allowing existing cell plans to remain intact
- . Preparing customers/users for the 3G services.
- . Global Standard

- . Introduced to the ETSI for the first time in 1997
- . EDGE is standardized by ITU and 3GPP
- . The major changes over GPRS standard are made radio interface.
- . Different modulation techniques
- . Can achieve data rate 3times higher

#### **4.6 3rd Generation Mobile:**

The concept of 3G mobile system has been discussed since early 90s under the term FLMTS (Future Public Land mobile networks). In mid 90s FLMTS is changed to IMT-2000. IMT stands for International Mobile Telecommunications & 2000 indicates both approximate date of introduction & frequency range.

International Telecommunication Union -ITU- is the authority of IMT-2000. The IMT-2000 is planned as the worldwide guideline of the third generation communication standards. Many regional standardization committees have been developing their own standard under the IMT2000 roof. The 3G standards are UMTS (successor of GSM), UWC-136 (successor of DAMPS), MC-CDMA (Successors of IS-95 CDMA) & WCDMA (Successor of PDC). Only MC-CDMA uses three carriers of 1.25 MHz bandwidth & need to replace the 2G-core network. All other three standards will use wide band CDMA having 5 MHz bandwidth & still use the 2G core networks. It is assumed that UMTS (Universal Mobile Telecommunication System) as GSM successor will dominate the 3G market.

#### **4.7 New technologies & products:**

The 3G foresee many demands of the global telecom industry world & many new technologies are evolved to cater this demand. Every potential vendor

are developing their product in compliance with the 3G requirements & trying to capture the market. Soft switches, NGN, IMS, WiMAX, HSDVA, TDMoIP are new technologies to realize 3G objectives. The overall economical & technological environment of the global telecom industry is changing tremendously.

## **CHAPTER 5**

### **PRESENT STATUS OF BANGLADESH**

Bangladesh announced National Telecommunication Policy in 1998 whereby the telecom sector has been liberalized for private participation through investment on BOO and BOT basis. In 2001 the Bangladesh Telecommunication Act was enacted which has been put into effect on 30<sup>th</sup> January 2002 and the Bangladesh Telecommunication Regulatory Commission (BTRC) was established on 31<sup>st</sup> January 2002 consisting of 5 Commissioners of whom one is made the Chairman and the other one Vice-Chairman. BTRC has the exclusive jurisdiction to grant, renew, suspend & cancel license, allocate, manage & monitor frequency spectrum, approve & rebalance tariff between operators, decide dispute between operators and consumers, issue enforcement order, impose administrative fine, decide compensation for acquisition of pathway, investigate the commission of offence under the Telecom Act, monitor the quality of service, frame regulation, code of practice for the operators, frame national numbering plan, give public hearing on important issues of telecom service, advise the Government for amendment of law on telecom. Government of Bangladesh now under the law retains the functions of policy making in the telecom sector for overall development and international matters related therewith.

## 5.1 Current Telecom Scenario:

Bangladesh Telegraph and Telephone Board (BTTB) is the main state owned monopoly as the largest PSTN operator and provides fixed telephone services to the subscribers all over the country. It has both nationwide trunk and also international telephone service. It has the monopoly of controlling international gateway for call termination. It provides Internet, Telex & Data service. As required by the National Telecom Policy BTTB will be restructured into limited Company. As per section 93 of the Bangladesh Telecommunications Act 2001, BTTB has become an operator and is in the process of granting licence by the BTRC for a period of 15(Fifteen) years subject to the condition of renewal upon payment of licence fee etc.

The Ministry of Post and Telecommunication (MOPT) earlier granted licence to the Bangladesh Rural Telecommunication Authority (BRTA) and Sheba Telecom (Private) Ltd. for providing PSTN services in the Thanas having interconnection facilities from BTTB in 1990 and 1994 for a period of 20 and 25 years respectively. Multisectoral licence for providing Cellular Mobile, Radio Trunking and Paging services was given to Bangladesh Telecom Ltd. (BTL) in 1989. Later the Cellular Mobile licence was transferred to The Pacific Bangladesh Telecom Ltd. (PBTL). The PBTL in the name and title City Cell as popularly known, has been operating under the same terms and conditions of the original licence providing Cellular Mobile Phone services of CDMA technology. In 1996 the MOPT granted licence for providing Cellular mobile phone service (GSM) to TM International (Bangladesh) Ltd. commonly known as AKTEL, Grameen Phone Ltd. and also Sheba Telecom Ltd. for 15 (fifteen) years with revenue sharing on gross earning and a payment of licence fee, royalties etc. Both these three companies are joint venture companies with Bangladeshi partners. Grameen Phone Ltd. (GP Ltd.) introduced a scheme for providing mobile phone to village women on subsidized rate in less advantageous position towards their empowerment under poverty alleviation program with the

collaboration of its sister organization Grameen Bank which is a wonderful success story both in telecommunication and poverty alleviation in rural areas in Bangladesh.

Frequency spectrum management has also been vested exclusively under the jurisdiction of the BTRC, which allocate frequency on the recommendation of the Spectrum Committee headed, by one of its Commissioners. The BTRC has the exclusive jurisdiction to grant licence for the use of frequency, regulate the radio station equipment, use of radio apparatus and over all monitoring of the radio spectrum.

Interconnectivity between the operators is still a serious problem. The BTRC with participation of BTTB & private operators have taken up schemes with the support of ITU and other donor agencies for expansion of interconnection facilities. Bangladesh has already made agreement to join the submarine cable scheme by which it will be able to enter into the telecom super highway for development of ICT sector. In respect of dispute between operators on interconnectivity, the BTRC is vested with the exclusive jurisdiction to decide the same under section 47 of the Bangladesh Telecommunications Act, 2001. Section 37 of the Act 2001 imposes obligation as recommended by the ITU on the operators to provide 10% telecom services in rural areas and also for creation of US fund with the compulsory contributions of the operators. The law discourages discrimination and monopoly and provides for ensuring environment for healthy competition in level playing field. As compared to the growing demand teledensity in Bangladesh is still low i.e. 1.5% (including mobile telephone) as of today. There is a good potential market in telecom sector in Bangladesh.

## **CHAPTER 6**

### **GENERAL CONDITIONS FOR MOBILE PHONE OPERATOR**

1. The Bangladesh Telecommunication Regulatory Commission (BTRC) proposes to issue licence for installation, operation and maintenance of GSM Cellular Mobile Telecommunication Services through open competition from amongst the private operator, having experience in providing GSM Cellular Mobile Telecommunication service. The applicants/offers should apply with an up-dated list of their business record and record of experience in providing GSM Cellular Mobile Telecommunication Service.

2. Eligible applicants/offers will have to be Bangladeshi companies/firms or Joint venture companies with Bangladeshi partners, or overseas companies with 100% Foreign Investment having experience in telecommunication sector (GSM Cellular Mobile Telecommunication service).

3. The proposals are to be submitted in triplicate, one of which will be marked as “original” and others marked as “copy”.

4. Licence will now be given to only one Licensee/operator from amongst the applicants/offers. The licence will be given for an initial period of fifteen

years covering the whole of Bangladesh. After that period the Commission subject may renew it to satisfactory performance.

5. The Bangladesh Telecommunication Regulatory Commission will assign necessary frequency, as per availability to the licensee/operator, provided that the licensee/operator fulfils the required criteria given by the Bangladesh Telecommunication Regulatory Commission.

6. The applicant/offerer shall furnish necessary solvency certificate (s) with regard to implementing the project from scheduled banks in Bangladesh or by the relevant banks in the concerned foreign countries.

7. The licensee/operator shall be responsible for installation, testing and commissioning of all equipment to provide the necessary services to the full satisfaction of the Bangladesh Telecommunication Regulatory Commission.

8. An applicant/offerer shall be disqualified from obtaining a licence, the applicant/offerer being a company/firm/corporation/partnership/society or any other organization, if

(a) Any provision listed in sub clauses (i) to (v) below is applicable to its owner or to any of its directors or partners, or

(b) Sub-clause (vi) listed below is applicable to it.

(i) He is an insane person,

(ii) He has been sentenced by a court under any law, other than this Act, to imprisonment for a term of 2 (two) years or more, and a period of 5 (five) years has not elapsed since his release from such imprisonment,

(iii) He has been sentenced by a court for Commission of any offence under this Act and a period of 5 (five) years has not elapsed since his release from such imprisonment,

(iv) He has been declared bankrupt by the court and has not been discharged from the liability of bankruptcy,

(v) He has been identified or declared by the Bangladesh Bank or by the court or by a bank or financial institution as a defaulter/loaner of that bank or institution, or

(vi) His licence has been cancelled by the Commission at any time during the last 5 (five) years, 5 - 9. The Commission, on receipt of all applications/offers, shall examine and evaluate their acceptability in relation to the set criteria and any other consideration that it may find necessary.

10. Existing GSM and CDMA Cellular Mobile Operator/Licensee or its partner/shareholder in Bangladesh, either in own name or in association with any other operator/person, will not be eligible to apply.

11. The offer/proposal should be signed in each page by an authorised person (Chairman/Managing Director/Chief Operating Officer/Chief Executive Officer/Chief Technical Officer) of the applicants/offers.

## CHAPTER 7

### MOBILE COMPANIES CURRENTLY OPERATING IN BANGLADESH

At present in Bangladesh there are five mobile telephone companies existing. Brief information of each company is given below.

#### **7.1 Pacific Telecom Bangladesh Limited:**

Pacific Telecom is the pioneer in the mobile telecom sector in Bangladesh. It is a joint venture of Sing Tel Asia Pacific Investments Pte Ltd, which owns 45% of the shares; Pacific Motors Limited, which owns 31.43% of shares and Far East Telecom Limited, which owns 23.57% of shares.

**Established:** 1993

**User:**

Total user: 6.5 lacs

Post-paid: 150000

Pre-paid: 500000

## **7.2 Grameen Phone:**

Grameen phone is a joint venture of Telenor Mobile Communications, AS, which owns 68% of the shares and Grameen Telecom Limited, which owns 32% of the shares.

**Established:** 26<sup>th</sup> march, 1997

**User:**

Total user: 7.5 million

Post-paid: 1 million

Pre-paid: 6.5 million

## **7.3 Aktel TM International (Bangladesh) Limited**

Aktel is a joint venture of TM International, Berhad that owns 70% of the shares and A K Khan and Company that owns 30% of the shares.

**Established:** 1997

**User:**

Total user: 34 lacs

Post-paid: 100000

Pre-paid: 3300000

#### **7.4 Teletalk Bangladesh Limited:**

Teletalk limited is the only government owned mobile telephone company in Bangladesh.

**Established:** 26<sup>th</sup> December, 2004

**User:**

Total user: 248795

Post-paid: 9659

Pre-paid: 239136

#### **7.5 Banglalink TM:**

Orascom Telecom has recently bought Banglalink, previously owned by Sheba Telecom Limited.

**Established:** 12 April 2005

**User:**

Total user: 20 lacs

Post-paid: 100000

Pre-paid: 1900000

## **Policy for BTRC**

- 1. Promote infrastructure development, especially infrastructure that will increase teledensity.**
- 2. All the companies should not be established in the same place.**
- 3. Co-ordination amongst the different mobile phone operators.**
- 4. BTRC should give best coverage and network award to the mobile operator.**
- 5. Foreign currency**
- 6. All the mobile operators should offer their share in the share market.**
- 7. All the mobile operator should have a telephone directory**
- 8. Increase private investment in the telecommunication sector**
- 9. Encourage fair competition amongst the service providers**
- 10. In the board of director at least half of the director should be local people**
- 11. Ownership transfer**
- 12. Technology transfer**
- 13. Changes in the License Fee**
- 14. Changes in the license fee renewal charges**
- 15. One operator one license**

## CONSUMER RIGHTS

1. There should be no line rent for post-paid users
2. All the value added services should offer free to the subscriber or monthly fixed amount of rental basis
3. All the help lines should be free of charge
4. Money back refund option for the subscriber
5. Per second billing system should be introduced in the per-paid packages
6. Subscribers shouldn't pay the whole pulse's bill for the network failure problem
7. All the mobile packages should have the privilege to receive overseas calls
8. Clear descriptions and pricing
9. Customer service and technical support
10. Increase service choice for customers
11. Payment of post paid bill through SMS
12. Customer confidence
13. Paying through mobile phones must be made secure
14. SMS cannot be used to request permission for SMS advertising
15. Extra charges should not be taken for calling landline from mobile phones

## CHAPTER 8

### **POLICIES FOR BANGLADESH TELECOMMUNICATION** **REGULATORY COMMISSION (BTRC)**

#### **8.1 Promote infrastructure development, especially infrastructure that will increase teledensity:**

The International Telecommunication Union (ITU) has urged Government to recognize basic telephone as a 'human right'. The contribution of the mobile phone operator is great in making this telephone affordable and easily available to the population. Since in the rural area the land phone line has not been reached yet so it's the task of the mobile phone operator to do this job by making the best network coverage for increasing the teledensity. Some of the remote areas don't have any kind of telephone facilities. They have to go through a long way to make a call. But mobile phones make their life easier. Currently in Bangladesh not all the sub-districts is under a telecom network. But it is important to bring all the thanas or villages under a telecom network in order to increase the teledensity of the country.

In case of a country like Bangladesh where it may perhaps not be immediately possible to provide telephones to every individual, increase in Tele-access or Tele-reach is also of the utmost importance. For this purpose, it has been planned to give one hundred thousand mobile telephones to cover each village of Bangladesh. This mobile telephone will, in fact, act as a community telephone and will be placed with one individual in each village. Such an

individual will pay the normal charges to the operator for use of the telephone, while keeping a margin for him. Through this mechanism, all the villages of Bangladesh will hopefully be brought under a telephone network, while at the same time about a hundred thousand people will have additional income, which would help increase Tele-reach on the one hand and reduce poverty and unemployment on the other.

### **8.2 All the companies should not be established in the same place.**

In our country the five major mobile operators are established in Dhaka As a result they fail to provide 100% network coverage all over Bangladesh and even if they do provide network coverage in remote areas it remains insufficient. Moreover the network coverage in Dhaka is much stronger compared to other regions of the country. Some remote areas have no network coverage at all and people in such places cannot use mobile phone even if they can afford to. To overcome such a problem BTRC can divide the country into a certain number of zones and encourage the companies to operate in such areas. In order to promote this BTRC can give license to different operators in different zones and can also provide subsidies for setting up companies in a particular zone, which the operators would not have chosen otherwise.

#### **Benefits:**

From this there will be even distribution of mobile phone operators and the network coverage will be enhanced particularly in remote areas of the country.

### **8.3 Co-ordination amongst the different mobile phone operators.**

Big companies have to think about small or newly established companies. For example big companies like Grameen djuice offer whole night free talk time. Very big and established company like Grameen Phone, Citycell, can afford this sort of package but newly established company like Banglalink, Teletalk cannot afford this. As a result these new companies are lagging behind in the competition and also economically they are facing some loses

#### **8.4 BTRC should give best coverage and network award to the mobile operator**

BTRC should be keeping track of the quality of service that is being provided by the different operators and this should be from the subscriber's point of view.

There should be an opinion from the subscriber among the entire mobile operator who is giving the best network. BTRC in turn can provide an award to the best mobile operator. Such an award will provide and incentive to the different companies and arouse a sense of competition amongst the different operators, who will as a result improve their services and network coverage.

#### **8.5 Foreign currency**

It is seen that majority of the shares in the mobile telephone companies are owned by foreign countries rather than by Bangladesh. As a result of this a lion's share of the profit, which the company makes is going out of the country and is not very beneficial for Bangladesh. This transfer of foreign currency is not only depleting the foreign currency reserve but also is not making much contribution to the economic growth of the country. These companies are doing business in Bangladesh, and maximizing their profits and in turn the benefit the country is receiving is comparatively much less.

### **8.6 All the mobile operators should offer their share in the share market**

All the private mobile companies get their trade license free from the government of Bangladesh. Most of the companies about 70% ownership shares are foreign. So at the end of the day they're taking a huge amount of money from our country to their country. As a result of this, Bangladesh government is losing their foreign currency. It has a big impact on the nation's economy. In order to prevent this problem the mobile companies have to give share in the local share market.

### **8.7 All the mobile operator should have a telephone directory**

In order to find out who is using which phone number, there should be a telephone directory for each operator. Nowadays with increasing terrorism in this country, these terrorists are using these mobile phones for such criminal activities. To find out who is involved with this sort of crime, there should be a telephone directory. The directory should not be open to all; rather only police, army and Rapid Action Battalion. (RAB) can use this directory with the help of the operators.

### **8.8 Increase private investment in the telecommunication sector**

Expansion of telephones in the private sector is based on purely conservative estimates. The expansion in this sector could perhaps be much

more as it is expected that the private sector will play an increasingly significant and prominent role in the development of the telecom sector. All necessary facilities to encourage such growth of the private sector will be readily forthcoming.

Since Bangladesh is a developing country, it is quite difficult for the government to make sufficient investment in the telecom sector. It will be a slow process if the government is the lone investor in this sector. So in order to making a better telecom sector for the country and increase the teledensity the private investment is mandatory. The private company may take help from the foreign investor to make this sector into one of world class standard.

In Bangladesh already private investment has taken places. Except for the Tele Talk, the entire mobile phone operator is privatised. Recently 45% share of Pacific Telecom Bangladesh Limited has owned by the Singapore telecom company, Singtel and the Sheba Telecom Private Limited has been owned by an Egyptian company, Orascom. Now another middle-east company Warid Telecom is coming in this telecom market for business. So the private investor has already made a great contribution in our telecommunication sector.

### **8.9 Encourage fair competition amongst the service providers**

There should be a fair competition among the mobile phone operator. If the big operators launch some huge promotional activity then the small operators may not compete with them. Few days ago Dj Juice offer free talk time for the whole talk time and Aktel also offer the same free talk time at whole night to their subscriber. As a result some people who were using the other operators' mobile phone transfer to this two big companies. But it is quite difficult for the relevantly new companies like Tele Talk and Banglalink for offering this sort of free talk time offer to their subscribers. So the small companies may loose their subscriber without any valid reason, which is not justified. But now BTRC has made a rule

that companies cannot offer this sort of free talk time for the whole night for maintaining a fair competition.

#### **8.10 In the board of director at least half of the director should be local people**

As the entire private mobile operators except for the Tele Talk are foreign investor and they have a huge share of the company so they are taking away a big percentage of money from our country. Since they have a big share so in the board of director panel they also have a big percentage. It means that almost all the top-level officials of this company are foreigners who make decisions of the company. Since they are foreigners so they only think for their profit not from Bangladesh's point of view. But if the directors are from Bangladesh then they may think about the profit of the company. So it is important that at least half of the directors of the board of director panel are from Bangladesh so that they can represent our country as well as make a wise decision, which will help the country to make a profit and make an established position in the world's telecom market.

#### **8.11 Ownership transfer**

At present in Bangladesh except Tele Talk the other four mobile phone operators are foreign investor. This foreign company comes here to do some business. As these foreign companies are the major shareholders of this mobile phone operator so they are the real owner of this phone companies.

Initially these companies invest a huge amount of money in this business. So as other business company there first target was to get recover from that

invest. After that they will make profit as many as they can which is also a large amount of money. Since they are the foreign investor and if they will make business in our country for a long time then it will be unfair to us as they are taking away almost all the profits from our country. So after a certain period of time there should be a transfer in ownership.

At present these foreign investor are holding 68% and more share of the mobile phone operator. So after 10 years from starting the company there should be a slight change in the ownership. It will be like 60% of share holder of the company will the foreign investors and the other 40% share will be owned by the local share holders and after 20 years the local share holder will owned the 60% share and the foreign investor should the rest of 40% share of the company.

### **8.12 Technology transfer**

When the foreign investor will leave the country after the transfer of the ownership, there should be also a transfer of technology as well. For the technical support there should be also a training session for the local people of how to handle and use the equipment and expertise. This training session will be in the future, as they will leave our country.

### **8.13 Changes in the License Fee**

For acquisition or establishment of a mobile telephone company, a certain amount has to be paid in the form of License Fee, which is a common rule in all countries of the world.

The license fee of a few countries are given below

Bangladesh	\$50million
Pakistan	\$291 million

United Kingdom     \$28 billion

The above figures show that license fee in Bangladesh is much less than that of our neighboring country Pakistan. Hence it is easier for a one to establish a mobile telephone company in Bangladesh, and in turn Bangladesh earns a less amount than that of other countries, resulting in the country to lag behind. When Orascom in Bangladesh acquired the license fee for only \$50 million but in Pakistan they paid \$291 million, which is almost six times greater. This implies that companies are willing to pay higher prices for the license fee, and if Bangladesh increases the license fee, the government would receive a significantly larger amount of income.

Another point to be noted is that this act of paying the license fee was introduced in the year 2005 by BTRC. This means that all the companies that have been set up before this got established without paying the fee. Only Warid Telecom that has recently joined the mobile telecom sector in Bangladesh has entered only after paying the fee. So here a question remains how the other companies started business in Bangladesh.

#### **8.14 Changes in the license fee renewal charges**

The companies have to renew their license fee on an annual basis. This renewal fee in Bangladesh is only 40 million Taka, whereas in Pakistan it is \$291 million, for a 15-year basis. Here also Bangladesh is lagging behind in the terms that it is receiving less revenue and this should be amended by increasing the renewal charges of the license fee if Bangladesh does not want to fall behind.

### **8.15 One operator one license**

Foreign companies have bought certain operators in Bangladesh but seem to be operating by the name of the company that was previously owned by Bangladeshi investors. For example the Egyptian company Orascom bought Sheba telecom but they are still operating under the name of Sheba Telecom. If they are to do so then they should pay extra charges for the operating under that name and if not they should use their own name. For this BTRC should take appropriate measures.

## CHAPTER 9

### CONSUMER RIGHTS

#### **9.1 There should be no line rent for post-paid users**

In Bangladesh the mobile operators are charging a fixed amount of line rent each month to the users, which they have no choice but to pay whether or not they use their phones that extensively. For example a certain person has to pay 300 taka for line rent each month but he makes only ten calls or so, the charge for which amount only to 50 taka. In such a case he may want to stop using that line and revert to a more convenient offer such as prepaid phones, which require no line rent or he may keep the line and not pay the bills in the due time, which is not very beneficial for the mobile phone company. To avoid such circumstances the company may adopt a new policy, which is beneficial for both the user and the company itself.

**Alternative:** Line rent against fixed amount of free talk time per minute.

The above alternative is an attractive one indeed, especially for the user, who will be allured to use his post paid line for appropriately rather than just keeping it inactive.

This offer is provided by most of the Mobile Telephone Operators in the other SAARC countries.

**Benefits:**

- For the subscriber they are receiving free talk time against their line rent. Unlike pre-paid here the free talk time should not added cumulatively with the next months free talk time. In pre-paid since customers are getting 365 days expiry date so they can use with the single card of worth 600 taka for the 365 days. But here in post paid offer they have to pay a fixed amount of line rent every month, so a beneficial side from subscriber point of view they are receiving a free talk time every month.
  
- The operators also benefit in the sense that they are receiving the expected line rents and such and offer may also attract more users to use post paid lines. As a result the operators get the desired profits.

**9.2 All the value added services should offer free to the subscriber or monthly fixed amount of rental basis**

Value added services like sms, mms, ring tones etc. should be free to subscriber. They can take charges from the subscriber after a fix number of sms, mms sent or ring tones download. For example, every subscriber can have the opportunity to send first 5/10 sms, mms free for every month for post paid subscriber and first 5/10 sms, mms free for every 300-taka scratch cards. Post paid subscriber can also download 5 ring tones free for every month. The

operator can take charges from the subscriber after they have done with the free options. This may encourage the users to make sufficient use of such value added services.

### **9.3 All the help lines should be free of charge**

Help lines are being offered to the subscriber at all time regardless of what the problem may be. If so then why should the operators charge the users for such services? Of a user faces problems regarding usage of the mobile phone then they should be able to have access to the help line services provided by the operator without having to pay for it. Operators should not be charging for providing such services. However, if some users make unnecessary calls and harass the operators then justified action should be taken against that particular user, for example they can trace the user and block his SIM for some time.

### **9.4 Money back refund option for the subscriber**

Mobile consumers have the right to request a money back refund. While using any particular package, if they are unhappy with the product or service provided then there should be a refund option. Money back refund policies should be available to all the mobile consumers within the initial 30 days of purchase, when customer confusion is most likely to occur. This is a substantial offer for the consumer and helps to enhance consumer sovereignty.

### **9.5 Per second billing system should be introduced in the per-paid packages**

Most of the operators provide 20 or 30 second pulse and there are very few offering per second pulse. This has proved to be very inopportune for the user. Some time the subscribers use one or two seconds more than the pulse. That means if there is 20 seconds pulse system and the user disconnect the line after 21 seconds then still he or she has to pay bill for 40 seconds where as the cost of make that call for mobile operator is 21 seconds. Since they have a policy to make a profit depending on the air time that they are provide, so they should not take that charges for the air time that the consumer didn't use. Per second billing allows the consumer to pay for the exact time, which he has talked for, and not extra money for talking one or two seconds more than the pulse.

#### **9.6 Subscribers shouldn't pay the whole pulse's bill for the network failure problem**

Due to network failure sometimes the network goes down while having the telephone conversation. So the consumer failed to talk to the other person but the consumer has to pay the bill. If due to network failure the line gets disconnected then the company shouldn't take charge for this type of case from the customer.

#### **9.7 All the mobile packages should have the privilege to receive overseas calls**

The mobile companies have introduced a peculiar type of service called "Mobile-to-Mobile" service. The package is designed in such a way that any mobile phone and PSTN phones can reach those subscribers except BTTB's fixed phone, though the new fixed phone services launched by private operators can be reached by these "Mobile-to-Mobile" phones. These peculiar phones are causing a revenue loss worth Taka hundred thousand crore per annum.

When Grameen Phone (GP) first launched its mobile service, it had to seek interconnectivity from BTTB. But BTTB then could not provide necessary interconnection due to various constraints. As a result GP started to increase their subscribers base without BTTB's interconnection and introduced the GP-GP package. As the package got tremendous popularity in the market, so obviously other mobile operators started following GP's footprint. Currently, 80 lakh mobile subscribers of the country's total one crore mobile subscribers are of this type of Mobile-to-Mobile services.

One mobile-to-mobile subscriber might not have the privilege for calling abroad as his/her package might not allow him to make such calls, but there is no such instance in the world where one should not be able to receive calls from abroad as the incoming facility is a privilege and fundamental right of a subscriber. In this case, the fundamental right has been violated.

### **9.8 Clear descriptions and pricing**

Mobile consumers have the right to have clear and easy to understand descriptions of the products and services for which they are paying. The consumers have the right to know exact costs for all products and services prior to purchase, clearly expressed in each customer's local currency.

### **9.9 Customer service and technical support**

Mobile consumers have the right to courteous customer service and technical support that are easily accessible 24-hours per day and seven days each week.

Mobile consumers must receive replies to all inquires within 24 hours. For example: the consumer is not receiving any incoming calls or their outgoing calls are blocked then they should get the solution of their problems within a day. Mobile consumers must have their issues resolved quickly and respectfully.

Customer service assistance should be available through:

- Toll-free phone service
- Real-time online chat with service personnel,
- E-mail response.

### **9.10 Increase service choice for customers**

Customers should have the choice for changing their package facilities from one option to another.

For example, in Aktel pre-paid packages there is an option to change from their regular package to Exceed option. This change makes the customers to have a lower call rate for calling the Aktel numbers. For this change the company charges 100 taka from the customers as a subscription charge. But after converting in to exceed option they don't have the chance to come back in their regular normal pre-paid option. Similarly in Grameen Phone (GP) pre-paid package there is a time period called My Time. The consumers have to select their choice for My Time either from 6 a.m. - 9 a.m. or from 2 p.m. - 5 p.m. During this time the call rate between GP to GP is lower than the regular tariff. The same GP pre-paid packages have another choice called My Choice. In My Choice option the consumer have a lower call rate than the regular call charge. To convert this package under My Choice option the company charges 25 taka from the consumer as subscription charge. But under My Choice option the consumer do not have the My Time facility. But if a subscriber converts his/her easy pre-

paid package to My Choice option they do not have the chance to convert his/her package to regular easy pre-paid package.

So customer should have the open choice for switching their packages between all the available options.

### **9.11 Payment of post paid bill through SMS**

There should be a system that a post-paid subscriber can pay their bills without going to the bank or going to the company. The consumer may be in such a place that at that moment it is not possible for him/her to go to the bank for bill payment but they need to pay the bill as soon as possible otherwise their post paid lines got disconnected,

Recently GP and Aktel has launch this new facility for their valuable post paid subscriber that without going to the bank and standing in a long queue they can pay their bills. The GP users can now pay their bills through Flexi Load option and the Aktel users can make their payment from the pre-paid scratch cards. Here they have to just send the scratch card's pin number to the operator through the sms.

### **9.12 Customer confidence**

Customers should only receive goods and services that they requested. There should be no marketing advertisement through the mobile phone. Also there should neither be any hidden cost nor any invisible opt-ins.

In our country we still don't receive any kind of Spam or junk sms unlike other countries. But in future this Spam might affect the consumer. So there should be no Spam. Mobile phone users have the right to a Spam-free environment, where only authorized messages are sent to their phone.

For example, if the user take some kind of service from a company and tell them that in future if that company launches any new product then user can ask them to let him/her know about that promotion. Only in that case the company can send him/her sms regarding their product, Unless and until the user don't ask them to do so the company cannot send any kind of promotional sms to the user.

### **9.13 Paying through mobile phones must be made secure**

Today in Bangladesh we cannot shop with our cell phones but in near future we may have the technology to buy and pay several kinds of bills through our cell phone. Hence cell phones will be used just like credit cards.

However if cell phones are used for such a purpose, it has to be made secure.

Security should be developed so that whenever a transaction is made, customers must prove their identity, for example with a pin code or personal code. The customer's identity must also be checked when payment is made.

### **9.14 SMS cannot be used to request permission for SMS advertising**

Any company cannot send commercial text messages to consumers' mobile phones without receiving written consent to do so in advance because this is some sort of direct marketing. Asking for permission via a text message

could generally be considered as direct marketing. Sending text for permission was therefore not permissible.

If a customer has already purchased a product or service from a company, it is allowed to use text messages to market similar goods to the client. However, this also requires that the customer be told that his or her contact information might be used for direct marketing; in addition, the possibility of forbidding the use of this information must be offered. Refusing consent to receive further direct marketing must be possible each time the customer is sent a message.

### **9.15 Extra charges should not be taken for calling landline from mobile phones**

BTTB charges 1.50 taka for calling local land phones. When one calls from a mobile phone to a land phone it is seen that the mobile operators not only keep their own charge but also charge 1.70 taka extra, which they in turn pay BTTB. If BTTB charges 1.50 taka then why is it that the mobile companies charge 20 paisa extra? This is a matter to be noted as it is a consumer right.

## CHAPTER 10

### Software for analyzing different mobile packages

We have developed a software for the mobile phone user which will analyze the different mobile phone packages which are available in the market. Our software will compare the different tariff and gives us a report saying which package is best for the user. The user will input the slot time in which s/he is usually talk most. This input will be taken, as parameter and considering this particular time the software will calculate the total cost using per day. Our software gives two reports. One considering the price of the sim and another does not consider the price of the sim.

Telecommunication at present is at the zenith of industrial success. Communication for business or for the pleasure chat among the youth, mobile companies have grabbed the major Grid of economy. The term "mobile" is now as popular a term among the business Industries for their enormous profits, or among the youth for their popular gossip or as it is even among the children as an object of tremendous interest loaded with various video and gaming facilities.

But in the swim of their money making tendency, they are playing ridiculous games with the clients. Considering the demand of mobile communication, mobile companies have offered special packages at different rates. On the face of manifold offers, people are easily hoaxed and can be

allured by a wrong package for his requirement. The basic objective of our “Mobile Service Management” is to serve the appropriate choice for the clients.

Remarkably, the margin of mobile facilities does not confine to talking. Now versatile operations and information have been zipped into a network. A student can see his result, a business person can watch the flip flop of share market, a banker can check his balance and what not. The latest edition of mobile service is internet access. Regardless of call rates, a client must look into all these incentives to choose the most beneficial service for him. A student should go for the economy package while a businessman should go for the most communicative and accessorized package.

Our software holds the detailed database of every separate package or service of every mobile company. In proportion to the call rate and economic status of a user, the software will make its suggestion for the user or the user himself can study the details to choose his own package. If the software is introduced to the users, they will be better aware of his requirement so also they can utilize their mobiles properly and establish nationwide communication smoothly.

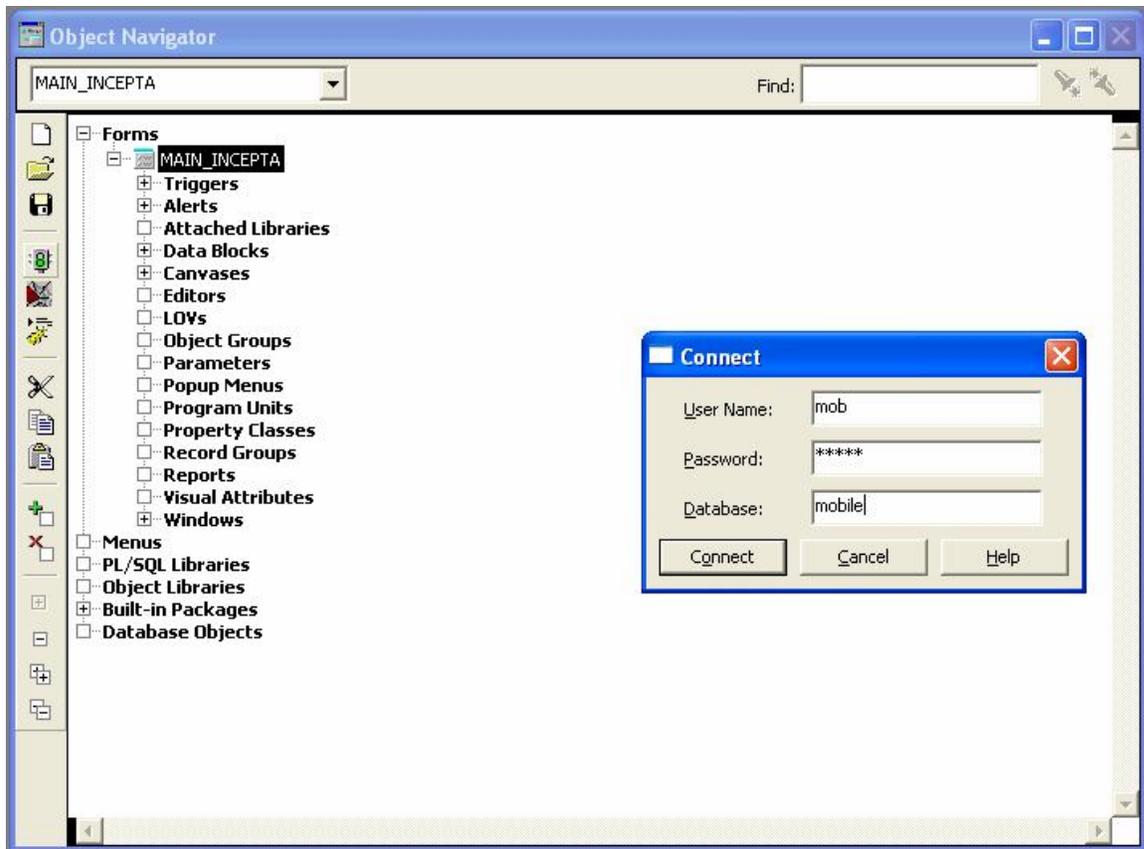


Figure 10.1—Login form

After log in to our software there are three forms that has to be fill up.  
They are:

1. **Service Information Entry Form**
2. **Sim Information Entry Form**
3. **User Information Entry Form**

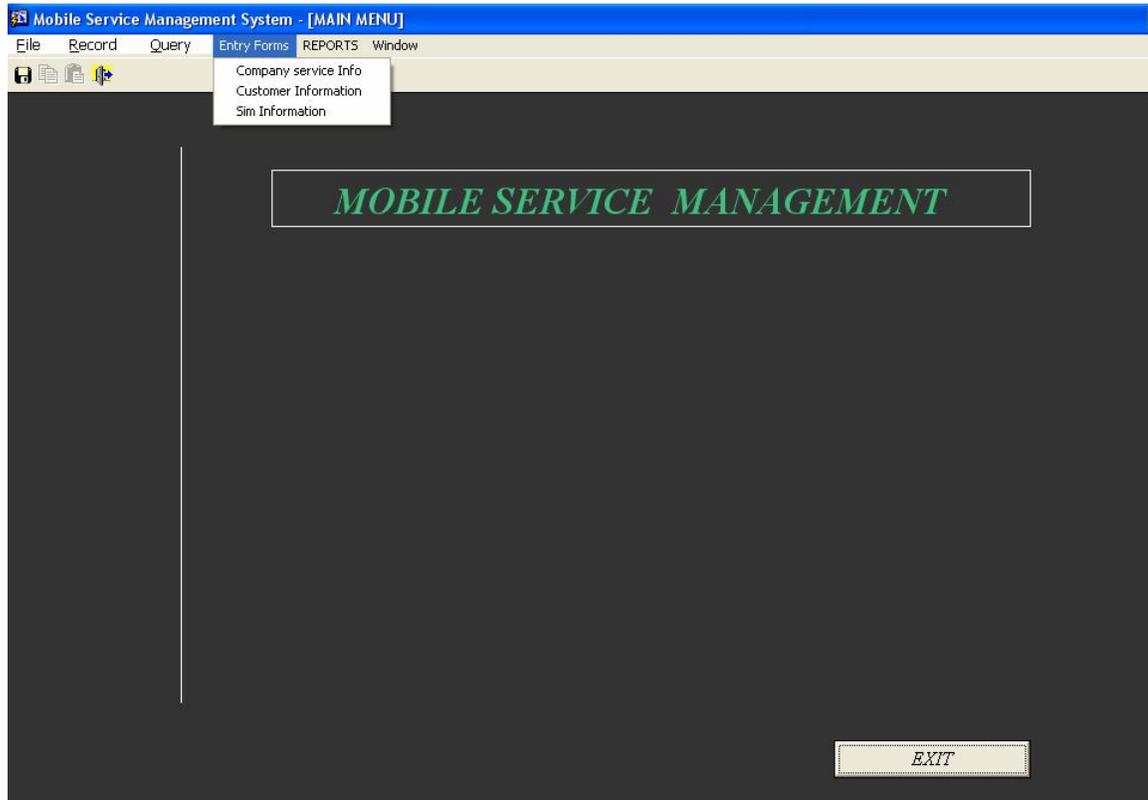


Figure 10.2: Front page of the software

### 10.1 Service Information Entry Form

This form contains the company information and the service detail. The company information contains the company name, service id, entry date, a comment about this package and the name of the user. Here the user is the dealer who is operating this software.

Under service detail there is a detail id, service type whether this service is pre paid or post paid, package type whether this is a mobile-to-mobile, mobile-to-mobile plus or standard package; date of entry, a time slot (this slot is depend on the company which time slot they are offering), the tariff of that slot which is the company tariff and a comment.

This form is for all the packages that are in the market at present. The dealer has to fill this form for all the companies post paid and pre paid packages. When the consumer comes to them and if the user want to compare with a particular package with his/her packages (the consumer is currently using) then the dealer will take the consumers time slot as a input and compare his/her package with the particular packages from this form.

The software will convert the entire time slot into a 24 hour unit and after compare it will give a report mentioning which package is less expensive.

**MOBILE SERVICE MANAGEMENT SERVICE**

**SERVICE INFORMATION ENTRY FORM**

**COMPANY INFORMATION**

Company Name: Aktel

Service ID: 0000000000000001

Entry Dt: 04-MAY-2006

Comment: NO COMMENT

User: MOB

GO DETAIL

**SERVICE DETAIL**

DTL ID	Service Type	Package Type	Date	From	To	Charge Money [per munite]	Comment
1	POST_PA	mobile plus	04-MAY-2006	8	24	3	NO COMMENT

SAVE    RESET    ADD    EXIT

Figure 10.1.1: Service Information Entry Form

## **10.2 Sim Information Entry Form**

The sim information entry form contain sim name, sim id, service id, service type, package type, date, sim price, comment and the user name or the dealer's name.

Here sim name means the company name. Every sim has a unique number which is the sim id. The dealer will input the service id from the service information entry form, which service the consumer is wanted to use. After taking the service id as the input, the service type and package type will be automatically fill up. These two fields value will be get from the service information entry form. Next the dealer has to entry the price of the sim card. This information is also being stored into our database.

The image shows a software interface for 'MOBILE SERVICE MANAGEMENT SERVICE'. The main window is titled 'SIM INFORMATION ENTRY FORM' and contains a table with the following columns: Sim Name, Sim ID, Service Id, Service Type, Package Type, Entry Date, Sim Price, Comment, and User. The first row contains the values 'pp007' and '000004' in the Sim Name and Sim ID columns, respectively. Below this table, a 'SERVICE COMPANY SELECT' dialog box is open. It features a search field with the text '%', a list box showing a table of company names and service IDs, and buttons for 'Find', 'OK', and 'Cancel'.

Sim Name	Sim ID	Service Id	Service Type	Package Type	Entry Date	Sim Price	Comment	User
pp007	000004							

Company Name	Service Id
pp	1
1	0000000000000002
1	0000000000000003
aktel	0000000000000004
	0000000000000000

Figure 10.2.1: Sim Information Entry Form

### 10.3 User Information Entry Form

This user information entry form contains all the information of the subscriber. This form contains the user name, user id; which will be given automatically as a serial number, user's current cell phone number and his/her residential address.

In the next field option the user has to input his/her user id and the service id of the desired package. This service id will be brought from the service information entry form. The service type and the package type field will be automatically filled from the service information form. Then the user has to put his/her convenient time slot; in which time s/he talks more. After giving the time duration the software will start compare between the user's current package with any particular package the user wants to use. Then a report will show

informing that if the desired package is convenient for the user or not; which means the user should keep his/her current mobile phone package or another package that the user might overlooked is a better option for the user.

**MOBILE SERVICE MANAGEMENT SERVICE**

### USER INFORMATION / UGASE ENTRY FORM

**USER INFORMATION**

User Name	Sadi
User ID	0000000001
Mobile Number	0184389
Address	Uttora
Land Phone No	7345690
E Mail	
User Company	

**GO DETAIL**

User Id	Service Id	Service Type	Package Type	From Time	To Time
0000000001	0000000000000001	post_paid	mobileplus	4	7

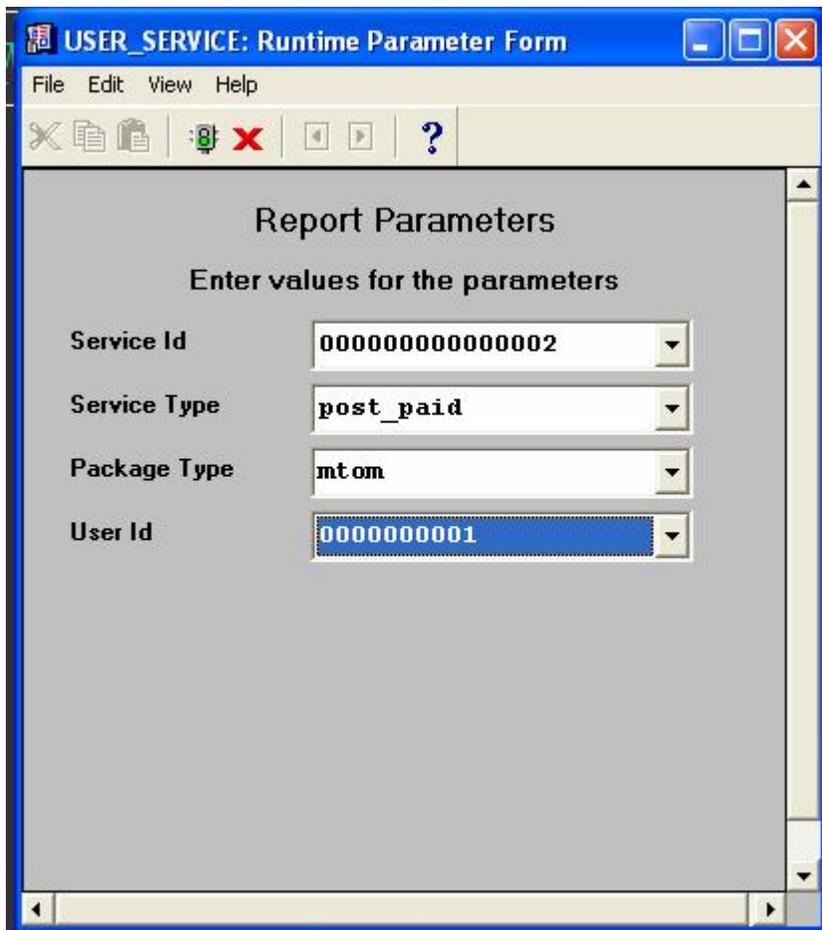
User Dtl Id: 1

**SAVE** **ADD** **RESET** **EXIT**

Figure 10.3.1: User Information Entry Form

## 10.4 Final Report

After taking all the parameter as input, the software will compare among the packages and give us two reports. One report will consider the price of the sim card and another report will not considering the price of the sim card. From the report the user will come to know which package is convenient to use for him/her.



The screenshot shows a software window titled "USER\_SERVICE: Runtime Parameter Form". The window has a menu bar with "File", "Edit", "View", and "Help". Below the menu bar is a toolbar with icons for a file, a printer, a red 'X', left and right arrows, and a question mark. The main area of the window is titled "Report Parameters" and contains the instruction "Enter values for the parameters". There are four dropdown menus for the following parameters:

Parameter	Value
Service Id	0000000000000002
Service Type	post_paid
Package Type	mtom
User Id	0000000001

Figure 10.4.1: Report Parameters

USER\_SERVICE\_WITHOUT\_SIM: Previewer

File View Help

Page: 1

**COMPARE WITHOUT SIM PRICE**

Report run on: May 3, 2006 8:30 AM

Service Id	Service Type	Package Type	Interval Cost	Rest Cost	Total Cost
0000000000000004	pre_paid	standard	2280	7380	9660
0000000000000002	pre_paid	gold	960	3300	4260

Figure 10.4.2: Report comparing without sim price

ALL\_COMPANY: Previewer

File View Help

Page: 1

**ALL COMPANY COST**

Report run on: May 4, 2006 12:57 PM

Service Id	Service Type	Package Type	Total
0000000000000002	post_paid	mtom	480
0000000000000004	pre_paid	Standard	1200
0000000000000003	pre_paid	gold	1500
0000000000000001	post_paid	mobileplus	2880
0000000000000005	pre_paid	Standard	3168

Company Confidential

Figure 10.4.3: Report comparing all the packages

## CHAPTER 11

### Mobile Phone Company Tariff

#### Tariff Plan:

There are currently five mobile operators in Bangladesh. These companies are offering several packages. I am showing some of the packages tariff plan.

#### 11.1 Aktel TM International (Bangladesh) Limited

##### 11.1.1 Post Paid Tariff:

1 second pulse from first minute

Up to '0' (zero) line rent based on your air-time usage

Reduced flat tariff; no roaming and inter-zonal charge

Convenient bill payment through [Pre-Paid scratch card or e-fill](#)

Tk.1.5/minute for 3 AKTEL Friends 'n' Family numbers

For All AKTEL Post-Paid Tariff				
All Figures in Taka per min*		Peak	Off Peak	NBTP
		8am-8pm	8pm-12am	12am-8am
Outgoing	To AKTEL Mobile	3.50	2.50	1.50
	Friends & Family**	1.50	1.50	1.50
	To other operator	4.00	3.00	1.50
	To BTTB	4.00+BTTB	3.00+BTTB	1.50+BTTB
Incoming	From Mobile	FREE	FREE	FREE
	From BTTB	First Seven(07) minute FREE		
		2.00	1.50	1.00

**Line Rent:**

Used Airtime*	Discount on Line Rent	Applicable Line Rent (in Taka)		
		Standard	Mobile Plus	Mobile Link
Tk.2000	100%	0	0	0
Tk.1500 - Tk.2000	50%	150	125	75
Tk.1500	0%	300	250	150

Airtime - Excluding line rent, BTTB charges, and VAT

**11.1.2 Pre Paid Tariff:****Aktel JOY**

1 for sorrow, 2 for JOY!

Now talk to your **AKTEL JOY** partner at **Tk. 1.50 per minute** only!!

<b>'AKTEL JOY' Revised Tariff Plan</b>				
All Figures in Taka per min*		Peak	Off Peak	NBTP
		8am-8pm	8pm-12am	12am-8am
<b>Outgoing</b>	<b>To AKTEL Mobile</b>	2.50	2.50	2.00
	<b>To AKTEL FnF</b>	2.00	2.00	2.00
	<b>To AKTEL JOY (same pack)</b>	<b>1.50</b>	<b>1.50</b>	<b>1.50</b>
	<b>To other operator</b>	4.50	4.50	2.50
	<b>To BTTB</b>	4.50+BTTB	4.50+BTTB	2.50+BTTB
<b>Incoming</b>	<b>From Mobile</b>	FREE	FREE	FREE
	<b>From BTTB</b>	1st min FREE then 2.00	1st min FREE then 1.50	1st min FREE then 1.00
<b>Pulse</b>	<b>Incoming</b>	30 sec pulse from 1st minute		
	<b>Outgoing</b>	30 sec pulse from 1st minute		

**Note:****SMS Charge**

-AKTEL - AKTEL: Tk 1.50

-AKTEL - Other operator: Tk 2.00

Connection price includes VAT and taxes

15% VAT applicable on all tariff

BTTB time band will be applicable for BTTB charges

Under Friends & Family Scheme (F&F), customers can call up to 3 AKTEL numbers any time of the day (24 hours)

Conditions apply

**Tariff plan of AKTEL exceed****Connection fee**

- **Mobile Link** (mobile to mobile) : **Tk 350**
- **Standard** (T&T Local, NWD & IDD Incoming & Outgoing): **Tk. 750**
- **50% savings** (from **2nd** minute)
- **Tk. 1/min** from **4am** - **6am** (from **2nd** min)
- **Lowest rate to 3 FnF numbers all day long**

<b>'AKTEL exceed' Tariff Plan</b>			
<b>Particulars</b>	<b>Peak Hour 8am - 8pm</b>	<b>Off Peak Hour 8pm - 12mn</b>	<b>Happy Hour 12mn - 8am</b>
<b>OUTGOING</b>	Tk/min	Tk/min	Tk/min
To AKTEL	1st min: Tk 4.00 from 2nd min: Tk. 2.00	1st min: Tk 3.50 from 2nd min: Tk. 1.75	1st min: Tk 2.60 from 2nd min: Tk. 1.30*
To FnF	1st min: Tk 2.50 from 2nd min: Tk. 1.25	1st min: Tk 2.50 from 2nd min: Tk. 1.25	1st min: Tk 2.50 from 2nd min: Tk. 1.25*
To Other Operators	1st min: Tk 4.80 from 2nd min: Tk. 2.40	1st min: Tk 4.80 from 2nd min: Tk. 2.40	1st min: Tk 2.70 from 2nd min: Tk. 1.35
To BTTB	1st min: Tk 4.80 + BTTB from 2nd min: Tk. 2.40 + BTTB	1st min: Tk 4.80 + BTTB from 2nd min: Tk. 2.40 + BTTB	1st min: Tk 2.70 + BTTB from 2nd min: Tk. 1.35 + BTTB
<b>INCOMING</b>			
From Mobile	FREE	FREE	FREE
From BTTB	1st min FREE then 2.00/min	1st min FREE then 1.50/min	1st min Free then 1.00/min
<b>PULSE</b>	20 Sec from 1st Minute		

- **4am - 6am: 1st min Tk. 2.00, from 2nd min Tk. 1.00**

**Note:**

VAT applicable to all charges

BTTB time band will be applicable for BTTB charges

Call to FnF numbers anytime (24 hours)

AKTEL exceed Mobile Link customers will enjoy the above facilities (without BTTB connections)

SMS charge:

AKTEL-AKTEL : Tk. 1.50

AKTEL-Others : Tk. 2.00

Conditions apply

### AKTEL Revised Pre-Paid Tariff

Revised Pre-Paid Tariff				
All Figures in Taka per min*		Peak	Off Peak	NBTP
		8am-8pm	8pm-12am	12am-8am
Outgoing	To AKTEL Mobile	4.30	4.00	2.00
	AKTEL FnF**	2.00	2.00	2.00
	To other operator	4.90	4.90	2.50
	To BTTB	4.90+BTTB	4.90+BTTB	2.50+BTTB
Incoming	From Mobile	FREE	FREE	FREE
	From BTTB	First minute FREE		
		2.00	1.50	1.00

All charges are exclusive of VAT

For BTTB charges, BTTB time band will be applicable

Under Friends & Family (F'nF) Scheme, customers can call upto 3 AKTEL numbers at any time of the day (24 hours)

SMS outgoing Tariff (excluding VAT):

AKTEL to AKTEL: Tk. 1.50

AKTEL to other Operators: Tk. 2.00

10 second pulse from first minute

Other Services:

## 11.2 Banglalink TM

### An ORASCOM TELECOM Company GSM

#### Sheba Telecom (Pvt.) Ltd.

#### 11.2.1 Post Paid Tariff

Package price without handset:

Package Name	Call Facility	Package price *	Credit limit
M2M	Mobile To Mobile	1,500	500
M2M Plus	Mobile To Mobile & T&T Incoming	1,500	500
Standard (NWD)	Mobile To Mobile & T&T (Local, NWD)	2,500	1,500
Standard (ISD)	Mobile To Mobile & T&T (Local, NWD, ISD)	4,400	2,500

\* All prices include VAT and other Taxes

**Monthly fees:**

Airtime Usage* (Tk./month)	% Discount on Monthly Fee	Monthly Fees after Discount (Tk.)		
		M2M	M2M Plus	Standard
< Tk. 1,400	0%	150	200	250
Tk. 1,400 ~ Tk. 1,900	50%	75	100	125
> Tk. 1,900	100%	0	0	0

\*Airtime usage excludes Monthly Fees, T&T charge, other charges and VAT

**made to measure tariff plan :**

Call Type		Peak Hour ( 8:00- 20:00 )	Off Peak Hour ( 20:00 - 23:00 )	Late Night Hour ( 23:00 - 8:00 )
Outgoing calls to	Banglalink	1st 30 sec. 1.74 then 0.87/15 sec.	1 st 30 sec. 1.13 then 0.57/15 sec.	1 st 30 sec. 0.48 then 0.24/15 sec
	Other mobiles	1 st 30 sec. 1.74 then 0.87/15 sec.	1 st 30 sec. 1.13 then 0.57/15 sec.	1 st 30 sec. 0.74 then 0.37/15 sec
	T&T	1 st 30 sec. 1.74 then 0.87/15 sec. + T&T charge	1 st 30 sec. 1.13 then 0.57/15 sec. + T&T charge	1 st 30 sec. 0.74 then 0.37/15 sec + T&T charge
Incoming call from	Mobile	Free	Free	Free
	T&T	First 5 minutes free then 1.00/min.	First 5 minutes free then 1.00/min.	First 5 minutes free then 1.00/min.
SMS	SMS to Banglalink	1.00/message		
	SMS to others	1.50/Message		
	Push Pull SMS	2.00/Message		
	International SMS	2.00/Message		
	Premium SMS	9.00/message		

**Note:**

- The above prices are VAT exclusive.
- Off peak rate will be applicable for the Peak hours on Fridays and National Holidays.

### 11.2.2 Pre Paid Tariff:

#### be-linked tariff:

<b>"be-linked" tariff plan</b>	
<b>Outgoing</b>	
<b>Your Morning (07am -10 am)</b>	
Banglalink to Banglalink	Tk.1.25/30 sec
Banglalink to Others	Tk.1.50/30 sec
<b>Peak (10 am - 11 pm)</b>	
Banglalink to Banglalink	Tk.1.25/30 sec
Banglalink to Others	Tk.2.2/30 sec
<b>Off Peak (11 pm - 07am)</b>	
Banglalink to Banglalink	Tk.0.98/30 sec
Banglalink to Others	Tk.0.98/30 sec
<b>FRIENDS &amp; FAMILY (1 Banglalink Number)</b>	
Your Morning ( 07am -10am)	Tk 1.1/30Sec
Peak (10 am -11pm)	Tk 1.1/30Sec
Off Peak (11pm- 07 am)	Tk.0.98/30 sec
<b>SMS</b>	
Banglalink to Banglalink	Tk.0.99/SMS
Banglalink to Others	Tk.1.75/ SMS
<ul style="list-style-type: none"> <li>● Cricket</li> <li>● News</li> <li>● Joke</li> </ul>	Tk.1.00/SMS

#### Calls to BTTB:

BTTB charge will be added for standard

BTTB incoming rate for standard and M2M plus

1st minute free

Tk.0.996/30 second from 2nd minute onwards

**ladies, first tariff:**

<b>LADIES TARIFF PLAN</b>	
<b>Outgoing</b>	
<b>Peak (7am-12pm &amp; 3pm-11pm)</b>	
Banglalink to Banglalink	Tk.1.25/30 sec
Banglalink to Others	Tk.2.25/30 sec
<b>Off peak (11pm-7am)</b>	
Banglalink to any mobile	Tk.0.98/30 sec
<b>Your Time</b>	
<b>12pm-3pm</b>	
Banglalink to Banglalink	Tk.1.25/30 sec
Banglalink to others	Tk.1.50/30 sec
<b>FRIENDS &amp; FAMILY (1 NUMBER)</b>	
Banglalink to Banglalink	Tk.0.98/30 sec
<b>SMS</b>	
Banglalink to Banglalink	Tk.1.00/SMS
Banglalink to others	Tk.1.75/ SMS
Ladies first! 616	
<ul style="list-style-type: none"> <li>■ Horoscope</li> <li>■ Beauty Tips</li> <li>■ Cooking Tips</li> <li>■ Health Tips</li> <li>■ Home Management Tips</li> <li>■ Child Care Tips</li> <li>■ Cinema &amp; Drama Schedule</li> <li>■ First Aid</li> </ul>	Tk.1.00/SMS

### Calls to BTTB:

BTTB charge will be added for standard

BTTB incoming rate for standard and M2M plus

- 1st minute free
- Tk.0.996/30 second from 2nd minute onwards.

## 11.3 Pacific Bangladesh Telecom Limited

### City Cell

#### 11.3.1 Post Paid Tariff:

##### Jono Phone (Post Paid Mobile-to-mobile)

Post-Paid Mobile-to-Mobile	Jono Phone Economy	Jono Phone Saver	Jono Phone Super Saver
<b>Line Rent</b>	100	100	0
<b>Outgoing</b> (to Any Mobile)	Tk. 2.00 per min	Tk. 2.00 per min	Tk. 2.00 per min
<b>Incoming</b>	Free	Free	Free
<b>Pulse</b> ( <i>Outgoing &amp; Incoming</i> )	30 second from start	30 second from start	30 second from start
<b>Monthly Bundle Fee</b>	900	1400	2,500
<b>Bundle Minutes</b>	450	700	1,250
<b>Security Deposit (refundable)</b>	Tk. 2,000	Tk. 2,500	Tk. 3,500

- Excluding VAT

Package Price	
Handset	Package Price*
Samsung N356	Tk. 2,000
Nokia 2280	Tk. 2,000
Huawei C218	Tk. 2,299
UTStarcom C1160	Tk. 3,299
Nokia 2112	Tk. 4,299

\*Subscriber has to pay the specified Security Deposit for the respective packages along with the package price.

Existing Amar Phone subscribers can migrate to this product. To migrate, they have to pay only the Minimum Security Deposit (SD) amount of the respective Jono Phone package. They can pay the SD to any CityCell Zonal Offices or the nominated banks/branches for collection of bill.

The existing “Amar Phone PCO” subscribers will be treated as “Jono Phone Super Saver” subscribers. All the related aspects and operating procedures regarding the Jono Phone package will be similar to that of Amar Phone PCO

### Amar Phone

Line Rent: Tk 100			
Call Type		Call Charge	
		Peak (8AM-11PM)	Off Peak (11PM-8AM)
Outgoing	To Any Mobile	Tk. 3.00/min	Tk. 1.50/min
Incoming	From Any Mobile	Free	Free

Discount on Monthly Bill	
Usage	Discount (%)
Below Tk. 500	0%
Tk. 500 - Tk. 750	5%
Tk. 751 - Tk. 1000	10%
Tk. 1000+	15%

<sup>1</sup>Usage includes line rent and airtime excluding VAT

**Notes:**

\*15 second pulse after first minute

\*For One2One calls to 3 CityCell numbers, talk for 50% of the above tariffs

\*VAT applicable

**Terms Of Payment Of Monthly Bill:**

CDMA monthly Billing period is 27th to 26th of the following month. Full payment of monthly bill should be made by due date specified on the invoice. Failure to make payment by due date will result in disconnection of your line without any further intimation. No reconnection fee will be charged if payment is made within 3 working days of disconnection. A reconnection fee of Tk. 500 will be charged thereafter if payment is made within the last working Day of the month. Bill payments made the following month(s) will require a reconnection fee of Tk. 1000. Out standings after three months will result in the forfeiture of Airtime Deposit.

**Credit Limit:** For Local -Tk.2, 500, Local + NWD+ IDD - Tk.7, 500

If set is lost or stolen, reporting the incident to PBTL customer service will deactivate the set (rendering the set useless).

\*Warranty for Hardware 6 months, Battery 3 months.

**REQUIREMENTS FOR NEW SUBSCRIPTION:**

1. Two attested photograph &

2. Mailing address verification documents (any one): Photocopy of Passport, Bank statements, Driving license, Chairman/Ward commissioner certificate, Telephone/ Gas/ Electric bill, voter ID card etc

### 11.3.2 Pre Paid Tariff:

#### Hello 0123:

**Hello 0123**

- 0 Any one preferred CityCell number @ **Tk. 0\***
- 1 Other two preferred CityCell numbers @ **Tk. 1/min**
- 2 Any other CityCell number @ **Tk. 2/min**
- 3 Any other mobile number @ **Tk. 3/min**

- One Tk. 300 Aalap card FREE with each connection with handset.
- To activate preferred numbers: SMS- SFNF<space>011XXXXXXXX (1 CityCell number) to 1111 to avail 0, SMS-FNF<space>011XXXXXXXX<space>011XXXXXXXX (2 CityCell numbers) to 1111 to avail 1. Activation time maximum 48 hours. 0123 tariff will be valid till October 31, 2006.
- 30 seconds pulse from the first minute.
- Migration charge from any pre-paid package (conditions apply) Tk. 300 (VAT applicable).  
Type "HELLO" and send to 1111 for migration.
- This is a pre-paid mobile to mobile package.
- One year handset warranty.

\* First 3 minutes (thereafter 75 paisa/minute)

- Conditions apply
- VAT applicable

## Alap Super

Call Type		Rate/Pulse		
		Peak (8am-8pm)	Off Peak (8pm-11pm)	Super Off Peak (11pm-8am)
Outgoing	To any CityCell Mobile	Tk 1.50	Tk 1.50	Free*
	To other mobile	Tk 2.00	Tk 2.00	Tk. 1.00
	One2One	Tk .75	Tk .75	Free*
Incoming	From Any Mobile	Free		

(VAT applicable)

- Lowest Price Pre-Paid Mobile to Mobile package with handset
- Call to preferred three CityCell numbers (One2One) at half rate

\* Call Free to any CityCell phone from Aalap Super till March 31, 2006 only during super off-peak hours. Tk. 1/pulse from April 01, 2006 and Tk. .50/pulse to One2One numbers during Super off peak hours.

- 30 sec. pulse from the start
- Handset warranty for 1 year, Battery and Charger for 6 month (condition apply)
- Conversion fee from Aalap-B package to Aalap Super only at Tk. 300 (VAT applicable)

<sup>1</sup> Talk time validity 7 days after activation & SMS till March 31, 2006

## 11.4 Grameen Phone:

### 11.4.1 Post Paid Tariff:

#### GP Regular:

#### GP Regular

Monthly Fee	Outgoing						Incoming		Friends & Family (24 Hrs.)
	Mobile to Mobile			Mobile to BTTB			From Mobile	From BTTB	
	Peak	Off-Peak	Super off-peak	Peak	Off-Peak	Super off-peak			
Tk. 350	8am-8pm	8pm - 11 pm	11pm - 8am	8am-8pm	8pm -11 pm	11pm - 8am	Free	1st 5 min. free & Tk. 1/min. from 6th min. onwards	Tk. 1.5/min. for 3 GP nos.
	Tk. 4	Tk. 3	Tk.2	Tk. 4/min. + BTTB Local/ NWD/ ISD charge	Tk. 3/min. + BTTB Local/ NWD/ ISD charge	Tk. 2/min. + BTTB Local/ NWD/ ISD charge			

- 30 sec pulse in the 1st min
- 15 sec pulse after 1st min
- During Friday, 24 hours Off-Peak rate applicable
- For ISD & NWD calls: BTTB's Peak (8am - 10pm) & Off-peak (10pm - 8am) rate will be applicable for BTTB charge

**GP National:****GP National**

Monthly Fee	Outgoing			Incoming		Friends & Family (24 Hrs.)
	GP - Any mobile			From mobiles	From BTTB	
	Peak 8am-8pm	Off- Peak 8pm -11 pm	Super off-peak 11pm -8am			
Tk. 150	Tk. 4/min.	Tk. 3/min.	Tk. 2/min.	Free	1st 5 min. free & Tk. 1/min. from 6th min. onwards	Tk. 1.5/min to 3 GP nos.

- 30 sec pulse in the 1st min
- 15 sec pulse after 1st min
- During Friday, 24 hours Off-Peak rate applicable

**11.4.2 Pre Paid Tariff:****Easy:****Easy PrePaid**

Outgoing		Easy Hour 12am - 6am	Incoming	My EASY (24 Hrs.)	My Time 6am-9am or 1pm-4pm
Peak 6 am-12 am	GP to other mobiles				
Tk. 4.40	Tk. 4.80	Tk. 3	Free	Tk. 3/min. to 1 GP no.	Tk. 3/min. to any GP no.

- 30 sec pulse in the 1st min
- 20 sec pulse after 1st min

**Easy gold:****EASY Gold**

Outgoing								Incoming		My EASY (24 Hrs.)	My Time 6am-9am or 1pm-4pm
Mobile to Mobile			Mobile to								
Peak 6am-12am	Easy Hour 12 am-6 am		BTTB Local/ISD	BTTB NWD			From Mobile	From BTTB			
GP to GP	GP to other mobiles		Peak 8am-12am	Easy Hour 12am-6am	Peak 8am-12am	Easy Hour 12am-6am					
Tk. 4.40	Tk. 4.80	Tk. 3	Tk. 4.80/min. + BTTB charge	Tk. 3/min. + BTTB charge	Tk. 4.80/min. + BTTB charge	Tk. 3/min. + Tk. 3/min. (Flat)	Free	Tk. 2/min. from 2nd min. onwards	Tk. 3/min. to 1 GP no. Tk. 3/min. to 1 GP no.	Tk. 3/min. to any GP no.	

- 30 sec pulse in the 1st min
- 20 sec pulse after 1st min. (for mobile to mobile)
- For BTTB outgoing (ISD) the pulse is 30 sec after the 1st minute. For NWD calls pulse is 60 sec. after 1st min.
- For ISD calls: BTTB's Peak (8am - 10pm) /Off-peak (10pm - 8am) rate will be applicable for BTTB charge.

**My Choice**

Type of call	Tariff/min in BDT for EASY and EASY GOLD	
	Peak Hour(8am to 12 am )	EASY Hour(12 am to 8am)
GP to GP calls	4	2
GP to other mobile operator calls	4.8	2
Incoming from mobile	Free	Free
GP to BTTB local and ISD	4.8 + BTTB charges	2+ BTTB charges
GP to BTTB NWD	4.8 + flat 3/min	2+ flat 3/min
Incoming from BTTB	2 (after first minute)	2 (after first minute)

- 30 sec pulse in the 1st min
- 20 sec pulse after 1st min. (for mobile to mobile)

### 11.4.3 D-juice Tariff:

#### **Tk 0.80/pulse**

With 20 sec pulse throughout djuice offers improved affordability

- Call any djuice number during Peak hours only @ Tk 0.80/pulse
- Call any mobile during Peak hours only @ Tk 1.55 /pulse
- Call any mobile during Off-Peak hours only @ Tk 0.66 /pulse.

*Peak hours - 6 am to 12 am, Off-peak hours - 12 am to 6 am*

#### **SMS only @ Tk.1**

- djuice to djuice or djuice to GP @ Tk 1/SMS
- Push Pull content- Tk 1.5/SMS
- Premium Content- Ringtone and Logo @ Tk 10
- Aktel, CityCell & Banglalink @ Tk 1.5/SMS

Also enjoy first **50 SMS** to any djuice or GP number absolutely free.

- *All tariffs are subject to change without assigning any reason*
- *15% VAT applicable to all charges*

## **CHAPTER 12**

### **LIMITATIONS**

In our software we are forcing the user to give a time slot in which time s/he talks more, but if the user have not use any cell phone before then it will be difficult for him to mention the suitable time slot. In our software if the user does not give his/her current cell phone service id then our software will not run. That means the user must have to have a cell phone.

It is our future plan to make our software more efficient, so that the user who is new to the mobile telephone world can get benefit from this software.

## **CHAPTER 13**

### **CONCLUSION**

Despite of being a developing country Bangladesh has made significant progress in the telecommunication sector. When the first mobile company sprouted in 1993 only a handful of people have the ability to use a mobile phone. But the present scenario reflects the ten out of every hundred people are using mobile phone, which is a commendable progress. Though the telecom sector has flourished rapidly and there are five fully established companies are operating at the moment these companies do not operate on the basis of a strict policy. Recently some policies have been introduced by BTRC, there is doubt of how strictly these policies are hardly followed and how beneficial is it for the government. The policies proposed in this thesis paper are likely to be effective for BTRC and the government in terms of obtaining higher revenue and also for the consumers as it will enhance and protect consumer sovereignty.

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