

**SOME ASPECTS OF SUSTAINABLE  
MOBILE INFRASTRUCTURE GROWTH OF  
BANGLADESH**

A Thesis

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by

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## DECLARATION

I hereby 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

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Dr. Yousuf Mahbubul Islam

Signature of  
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Last but not the least, thanks to the Almighty for helping me in every step of this work.

*To my family, friends and well wishers*

## **ABSTRACT**

Bangladesh is a developing country. Like all other sectors, TELECOMMUNICATION is also weak compare to other countries telecommunication. But this sector is becoming the largest revenue earning area of our country.

Our goals are to search a better way to sustain with the present growth in telecommunication industry so that in near future further investments and burgeon in this industry in ensured.

So often Mobile companies of Bangladesh offer packages but people don't know which packages are beneficial for them. So we want to develop such guiding software that can be useful to the user to choose the better package.

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# Chapter 1: Survey Analysis

## 1.1 Introduction:

For our thesis we feel that we need user profile to know the category of users, why they use mobile, how long they use, how many SIM cards they keep, which time of the day they use mobile most, average call, SMS, talk time per day etc. By asking these question we will be able to find out a users profile easily. For better response we prepared a questionnaire containing 21 questions both in web and print media. We uploaded the questionnaire in the web so that every one can access this questionnaire and fill it up. For those who have no internet connection or don't use internet we gave them questionnaire to fill it up by hand.

Link of the questionnaire: <http://www.ulterious.com/thesis/subques.php>

## **1.2 Purpose of Questionnaire:**

We prepared our questionnaire in such a way that it answers two different results. Our first goal was find out **Category of Subscribers** and second goal was to find out **Ability of Subscribers**.

By category of subscriber we tried to find out that in Bangladesh which type of people use mobile most.

And by ability of subscriber we tried to find out that how much time and money they are spending in talking.

## **1.3 To whom we gave the questionnaire:**

In internet media we posted the link of our questionnaire in:

1. Different Bangladeshi Yahoo Groups
2. Different Bangladeshi Portals
3. Forums

We also email this link to our Friends, Family, Relatives etc.

We gave the printed version to our University students, Lectures, higher level authorities, staffs, friends, family, relatives, and office colleagues etc.



## Chapter 2: Screenshots of Questionnaire

1. Name:

2. Occupation:

3. Do you use mobile phone ?:

Yes  No

If no why?

4. How long have you been using Mobile :

5. How many sim cards do you use?

6. If you use more than one sim card then why:

7. Which package(s) do you use :

Grameen Phone	Aktel	Citycell	Teletalk	Banglalink
<input type="radio"/> GP Regular	<input type="radio"/> Aktel Post Paid	<input type="radio"/> Hello 0123	<input type="radio"/> Teletalk Prepaid	<input type="radio"/> Banglalink Standard
<input type="radio"/> GP National	<input type="radio"/> Aktel Joy	<input type="radio"/> Aalap Super Plus	<input type="radio"/> Teletalk Postpaid	<input type="radio"/> Banglalink M2M Plus
<input type="radio"/> Anytime 300	<input type="radio"/> Aktel Exceed	<input type="radio"/> Aalap Classic		<input type="radio"/> Banglalink M2M
<input type="radio"/> Anytime 500	<input type="radio"/> Aktel Prepaid	<input type="radio"/> Aalap Super		<input type="radio"/> Ladies First
<input type="radio"/> Easy Gold		<input type="radio"/> Aalap A		<input type="radio"/> be-linked
<input type="radio"/> Easy Prepaid		<input type="radio"/> Aalap B		<input type="radio"/> Prepaid M2M
<input type="radio"/> Dj Juice		<input type="radio"/> Aalap Call Me		<input type="radio"/> Prepaid Standard
		<input type="radio"/> Jono Phone		
		<input type="radio"/> CityCell 500		
		<input type="radio"/> Shobar Phone		
		<input type="radio"/> Amar Phone		
		<input type="radio"/> Cityell Premium		

8. If you use more than one sim card which one remains active most of the time:

9. Do you feel that the package(s) is fit for you?

Yes  No

Why

Why

**10. How many mobile sets do you use?**

1  2  3  4  5+

**11. Which time of the day you use mobile most :**

- 8 am - 1 pm
- 1 pm - 3 pm
- 3 pm - 5 pm
- 5 pm - 8 pm
- 8 pm - 10 pm
- 10 pm - 8 am

**Any other time when you use mobile most (Please Specify)**

**12. How many calls have you made in the last one hour?**

1

**13. Average calls per day?**

1

**14. Average talk time per day?**

< 10 mins

**15. How many SMS have you sent in the last one hour?**

1

**16. Average SMS in a day**

1

17. Are you satisfied with the service of your operator ?

Yes  No

(In case of multiple sim cards, please specify the operators with your answers)

18. How many times you have to try for a call?

1

19. General problems during making a Call :

Network Busy	<input checked="" type="radio"/> None	<input type="radio"/> 1 - 2 times	<input type="radio"/> 3 - 5 times	<input type="radio"/> 6 - 9 times	<input type="radio"/> 9+ times
Call Disconnect	<input checked="" type="radio"/> None	<input type="radio"/> 1 - 2 times	<input type="radio"/> 3 - 5 times	<input type="radio"/> 6 - 9 times	<input type="radio"/> 9+ times
Error In Connection	<input checked="" type="radio"/> None	<input type="radio"/> 1 - 2 times	<input type="radio"/> 3 - 5 times	<input type="radio"/> 6 - 9 times	<input type="radio"/> 9+ times
Call does not connect for no reason	<input checked="" type="radio"/> None	<input type="radio"/> 1 - 2 times	<input type="radio"/> 3 - 5 times	<input type="radio"/> 6 - 9 times	<input type="radio"/> 9+ times

20. Are you satisfied with the present Call Tariff?

Yes  No

(In case of multiple sim cards, please specify the operators with your answers)

21. If you are not satisfied then what is your proposed tariff:

## **2.1 Result of Questionnaire:**

Total we got 243 responses for our project both in internet and print media. In our point of view it is a very good response. We differentiated the results in some different sections, so that we can reach our goal.

- 1. Occupation versus SIM**
- 2. Multiple Packages on Offer**
- 3. Distribution by Operators**
- 4. Distribution of Talk Time per day**

## Chapter 3: Analysis of survey outputs

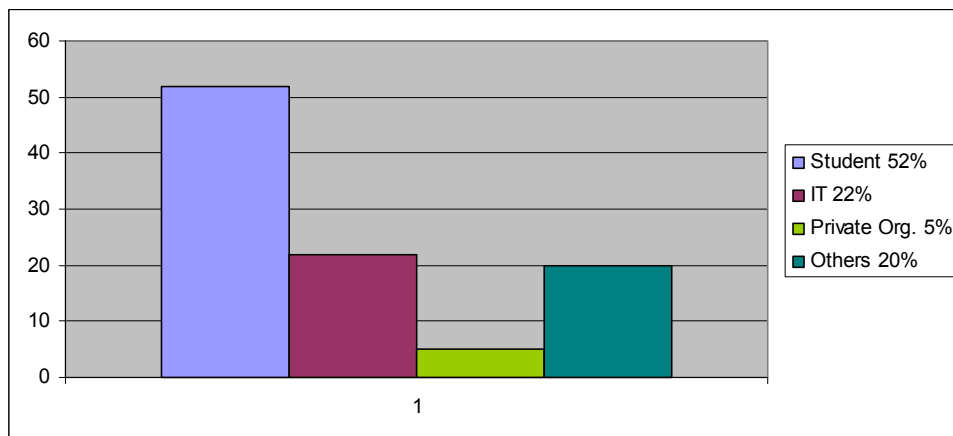
### 3.1 Occupation versus SIM

In this part we sorted out that how many SIM cards a user keep against their category or service level.

#### 3.1.1 Single SIM card:

Among 243 inputs 110 user keep single SIM, which is 45% of total user. We see that near 50% users keep single SIM card. Among them

Student	<b>52%</b>
IT	<b>22%</b>
Private Organization	<b>5%</b>
Others	<b>20%</b>

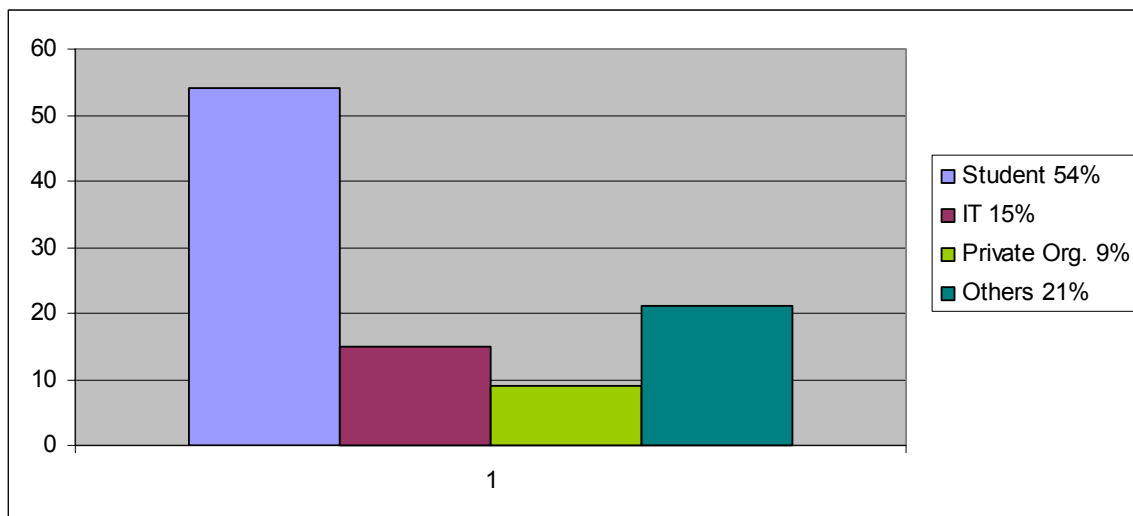


### 3.1.2 Double SIM cards:

Among 243 inputs 61 user keep double SIM card, which is 25% of total user.

Among them-

Student	<b>54%</b>
IT	<b>15%</b>
Private Organization	<b>9%</b>
Others	<b>21%</b>



We see that both in Single SIM and Double SIM the amount of students are more than 50%. Again the number of Double SIM against employee of private organization is slight higher. And we have found the reason. They keep more than one SIM because one is their personal purpose and another one is provided from their organization which is only use for official purpose.

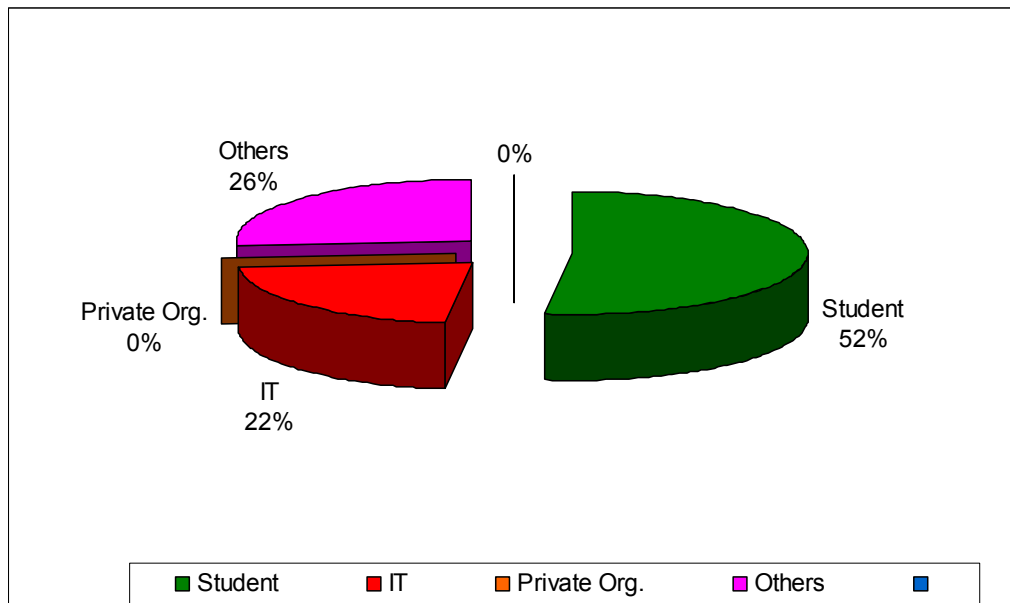
### 3.1.3 Three(3) SIM cards:

Among 243 inputs 63 user keep three SIM cards, which is 15% of total user.

Among them-

Student	<b>52%</b>
IT	<b>22%</b>
Private Organization	--
Others	<b>26%</b>

\* There was no input of Private Organization employees. So we consider it as a blank



### 3.1.4 Four(4) SIM cards:

Among 243 inputs 24 user keep three SIM cards, which is 10% of total user.

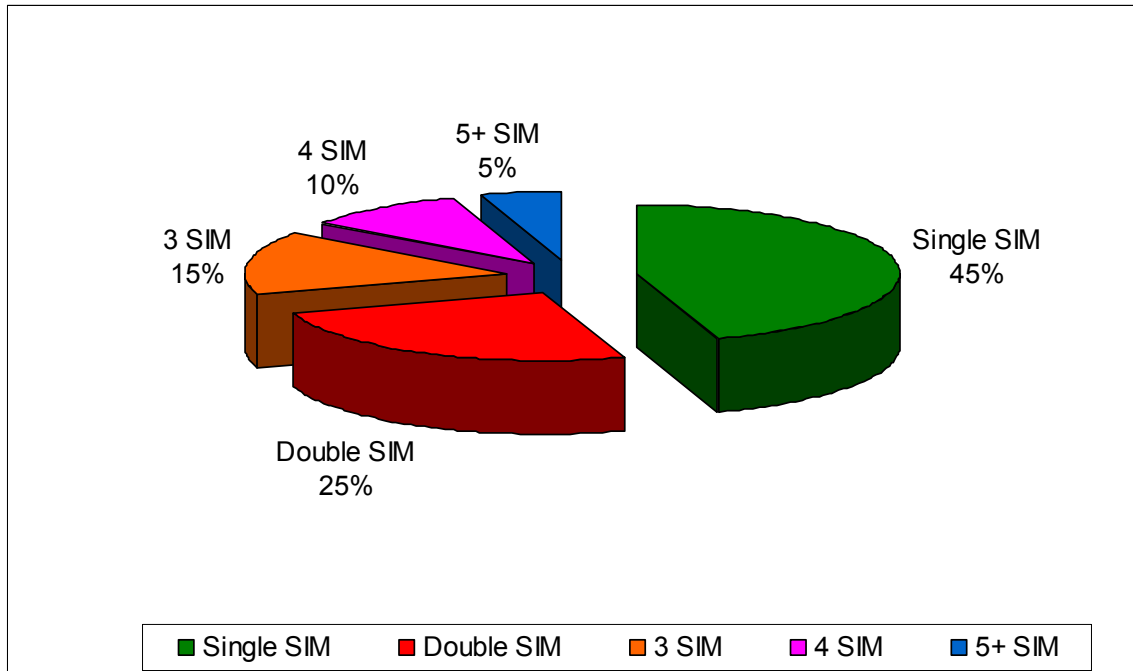
### 3.1.5 Five(5) SIM cards:

Among 243 inputs 12 user keep three SIM cards, which is 5% of total user.

**3.1.6 Here it is the table of Occupation versus SIM:**

	<b>Single SIM 110 (45%)</b>	<b>Double SIMs 61 (25%)</b>	<b>3 SIMs 36 (15%)</b>	<b>4 SIMs</b>	<b>5+ SIMs</b>
<b>Student</b>	<b>52%</b>	<b>54%</b>	<b>52%</b>	<b>24 (10%)</b>	<b>12 (5%)</b>
<b>IT</b>	<b>22%</b>	<b>15%</b>	<b>22%</b>		
<b>Private Organization</b>	<b>6%</b>	<b>10%</b>	--		
<b>Others</b>	<b>20%</b>	<b>21%</b>	<b>26%</b>		

**3.1.7 Occupation versus SIM chart:**





## 3.2 Multiple Packages on Offer

### 3.2.1 GrameenPhone

After analyzing the packages part of the survey we found total 87 users use GrameenPhone among 243 inputs. And the breakdown of the different package is

Easy prepaid:	28
Easy gold:	15
GP National:	06
Djuice:	21
GP Regular:	17
-----	
Total GP user:	87

### 3.2.2 Aktel

After analyzing the packages part of the survey we found total 62 users use ALTEL among 243 inputs. And the breakdown of the different package is

Aktel Exceed:	14
Aktel Prepaid:	16
Aktel Joy:	13
Aktel Post Paid:	19
-----	
Total Aktel:	62

### 3.2.3 Bangla Link

In BangleLink we found total 37 users use BanglaLink among 243 inputs. And

the breakdown of the different package is

Pre paid standard:	5
Standard:	8
Be Linked:	4
M2M:	6
M2M Plus:	4
Ladies First:	10
-----	
Total	37

### 3.2.4 Citycell

From Citycell operator we found total 11 users use Citycell among 243 inputs.

And the breakdown of the different package is

Alap B:	2
Alap Super plus:	1
Jono phone:	1
Shobar Phone:	1
Hello 0123:	3
Citycell Premium:	2
Amar phone:	1
-----	
Total Citycell:	11

### 3.2.5 Teletalk

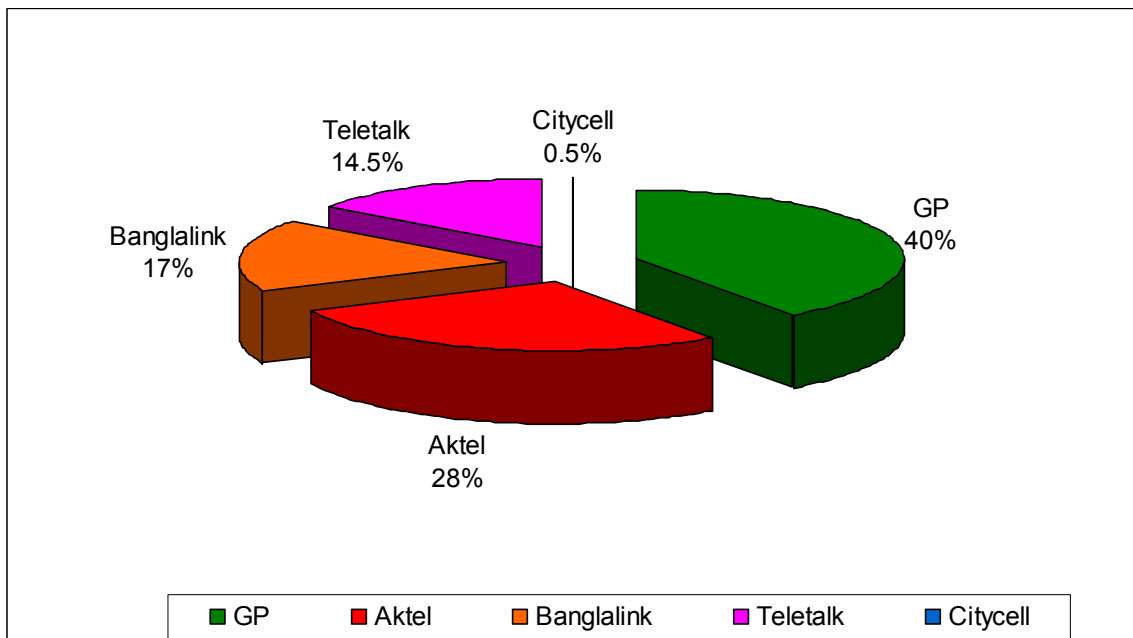
From Teletalk operator we found total 34 users use Teletalk among 243 inputs.

And the breakdown of the different package is

Teletalk Prepaid:	33
Teletalk Postpaid:	01
-----	
Total Teletalk:	34

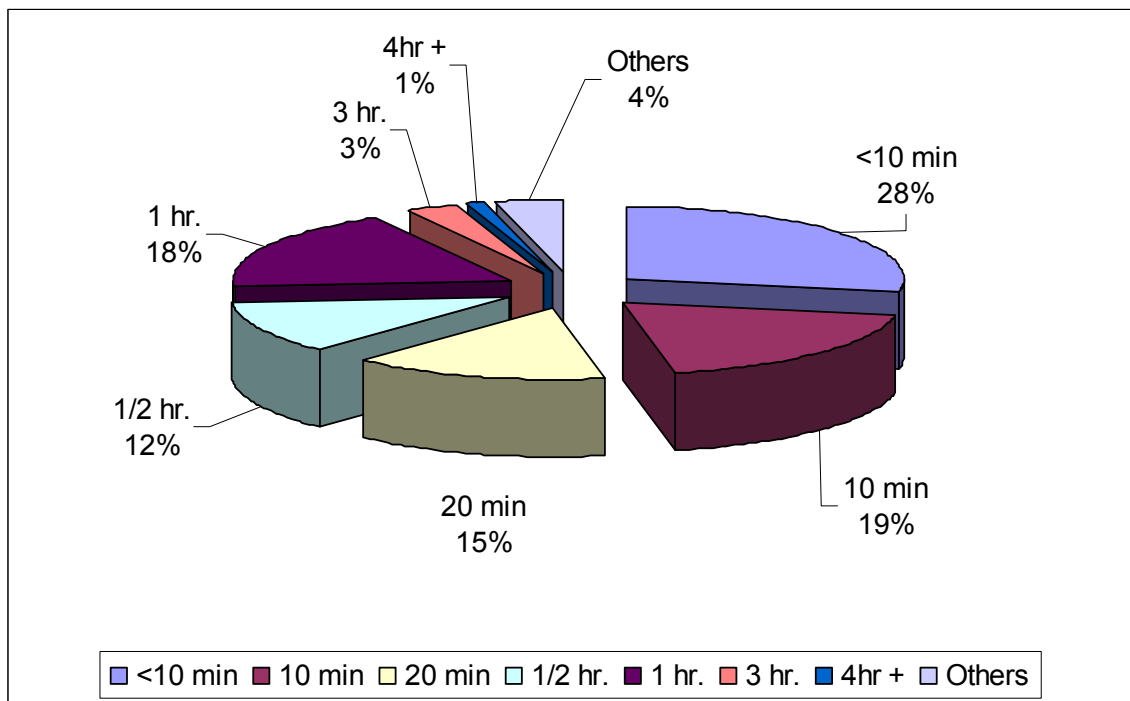
### 3.3 Distribution by Operators

If we calculate the percentages of above amounts we will see that 40% is GrameenPhone, 28% is AKTEL, 17% is BanglaLink, 14.5% is Teletalk and 0.5 % is Citycell. And if we plot a pie chart with these percentages the chart will be like this:



### 3.4 Distribution of Talk Time per day

From our survey we got 243 inputs, and we got 243 user profiles of users. Every one who uses mobile they fill the time slot according to their talk time and also their talk time duration. With all of these data we plotted a pie chart to give a quick overview:



## **Chapter 4: Conclusion**

After analyzing the whole questionnaire we found which categories of people use mobile most and also found that how much time and money they spend in talking. We also found that why people keep more than one SIM. People are basically confused about different packages. We see that different types of packages are introduced everyday by different operators. There are lots of hidden costs in those packages. Same types of offers are given by different operators. And these packages are very complex. People don't have enough time to calculate these. This is why they buy same type of packages of different operators. Moreover the prices of SIM's are low now 250 Tk. - 500 Tk. But few years ago these SIM's were high price 2500 Tk. – 3000 Tk.

So we try to develop a software prototype which will help users to buy best package for them. This software is described detail in next chapter.