

Customer Satisfaction Mobile Phone Services: An Empirical Study on Grameen Phone (GP) and Banglalink (BL) in Bangladesh

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Abstract: This study is to examine the satisfaction of customers towards the mobile phone services in Bangladesh based on the Merton Fishbein's multiattribute attitude model. Some important factors or attributes (i.e., services) of GP and BL that affect the satisfaction level of the customers have been identified where customers give special emphasis. Two leading companies (GP and BL) and nine factors out of 28 have been considered for the convenience of the study. It was examined from the study that customers of Banglalink are more satisfied than the Grameen Phone (GP). Means differences of different factors for the two companies are measured through t-test for test of significance. Outcomes of the study may be used as an index by the mobile phone service providers for improvement of their services to satisfy the customers.

Key words: Customer satisfaction, mobile services providers, GP, banglalink, special emphasis, Malaysia

INTRODUCTION

In the age of information technology, the mobile phone technology has dramatically changed the life style. It is argued by marketers that these new technologies have the capacity to enrich the lives and to improve it in many ways (Risto and Askegaard, 2002). This mobile has enriched the communication network without wire. Therefore, it is very popular among the people but the customer satisfaction over the operating company's are different. Satisfaction has been conceptualized as a combination of the valance and intensity of emotional response to product experience (Stewart, 2005). During the mid 1970's while the underlying satisfaction process continued to be debated, the focus partially shifted to the measurement of satisfaction as an outcome of (dis) confirmation.

For the example, Swan and Combs (1976) in what was probably the first attempt to use a direct measurement of satisfaction (Liljander, 1995) used the critical incident technique to identify the relationship between instrumental (i.e., functional) and expressive (i.e., Emotion) outcomes and satisfaction.

Oliver (1976) using a six item affective Likert scale measure was probably first to quantify satisfaction as an outcome (Vargo and Lusch, 2005). Customer satisfaction has become a well-studies construct in marketing given its

importance and established relationship with customer retention and firm profitability (Anderson *et al.*, 1994). Such studies focus upon the impacts of various response determinants on satisfaction judgments and within a specific product or service, the impact of these various determinants on satisfaction are heterogeneous (Wu *et al.*, 2002). In the customer, satisfaction service is primarily defined as a complex system of interfaces and exchanges and many researchers have stressed the nature and characteristics of the relations which link companies with the customers (Irons, 1993; Gronroos, 1994; Normann, 2001).

However, customer satisfaction or dissatisfaction is that it is a comparison of customer expectation with perception regarding actual service encounter (Hoffman and Bateson, 2002).

Here, customer expectations are beliefs about service delivery that function as standard or reference points against which performance is judged. Therefore when the customer expectation matches with the customer perception and products performance (i.e., attributes or services) then it is called the customer satisfaction and when it does not match then it is called the customer dissatisfaction.

However, mobile phone service is the name of silent reevaluation in Bangladesh. It is keeping important role in removing the digital device. Mobile phone is contributing

active role in receiving and sending information across the country. Bangladesh enters the mobile world through the City cell company in 1993. Later Grameen Phone (GP), Aktel, Banglalink, Teletalk and Warid telecom got license from the government. The mobile market of Bangladesh is very attractive now. The interest of the customers towards mobile phone is increasing day by day. Therefore, companies are trying to capture the maximum share of the market by providing various services to satisfy the customer. In this study, two leading mobile companies, i.e., Grameen Phone (GP) and Banglalink (BL) have been considered and the present study focuses on customers satisfaction towards these two mobile phone services providers of Bangladesh based on Mertin Fishben's multiattribute attitude model.

The context of the study: The mobile phone has changed the telecommunication system in Bangladesh. Due to increase, the mobility and the emerging complex business environment people are moving from one place to another and taking decision for the business and other purposes on the way of their movement. Therefore, they want to talk with the connected people for the right decision at the right time during their movement. People are interested to maintain communication with their business partners, friends and families round the clock. But these are very difficult by the fixed or land phone. Mobile or cell phone is such a vehicle that made the communication easier. Now-a-days, mobile is very necessary products for the daily communication.

Customers are mainly purchase this product for instant communication and various services provided by the companies. Services are mainly depends on some factors and customers are always try to buy that product which has many factors or attributes fulfilling their desire. A customer can be both satisfied and dissatisfied by a company's product or service with its different factors. For example in a restaurant setting, a customer may simultaneously be highly satisfied with the food but highly dissatisfied with the customer service provided (Wu *et al.*, 2002). However, the main factors that have been considered for this study are low call rate, good network coverage, internet and GPRS connection, SMS and voice mail service, access to the land phone, i.e., T and T facility, friends and family number, customer care service, pulse facility and free talk time and bonus facility. Grammen Phone (GP) and Banglalink, two leading mobile companies according to the number of total subscribers are considered for each factor. The customer satisfaction towards a specific mobile company depends on the factors by which relevant services are provided by the respective mobile company. We know, the main objective

of a company is to maximize long-term profit through customer satisfaction. Therefore, the satisfaction of a customer towards these factors or attributes, i.e., services is very important.

Objectives of the study: Objective means, the target for which certain efforts or works are done or performed. The overall objective of the study is to measure the comparative customer satisfaction towards the mobile phone services in Bangladesh based on Mertin Fishbein's multiattribute attitude model by considering some important factors. The specific objectives are:

- To determine the factors those influence the choice of a company by the customer
- To determine the level of satisfaction regarding various factors related in mobile phone services
- To measure the customer attitudes toward the various factors related in mobile phone services
- To measure the significant difference between Grameen phone and Banglalink for the particular factors

MATERIALS AND METHODS

In performing any applied research, a clear and specific methodology has to be followed where methodology is a set of methods used in a particular area of research. The present study is to measure the customer satisfaction level towards the mobile phone services in Bangladesh. This study examines the satisfaction level to a variety of factors involves in mobile phone services in Bangladesh. In this research, a set of methods such as sample size, sample selection procedure, process of collecting data, interpreting the data, analyzing the data, other relevant activities and combination of rules and techniques have been used. The research methodology of the study is discussed as follows:

Sample of data: At present, there are many mobile companies operating their business in Bangladesh. They are Grameen phones, Banglalink, Aktel, Citycell, Teletalk, One tell, Rangs tell, Jubok phone and Warid telecom. However to conduct the study, we have selected only two companies, Grameen Phone (GP) and Banglalink (BL). Therefore, the people who are only using GP and BL have been considered as a respondent for the study. The respondents have cited about 28 factors or attributes involved in mobile phone services through the pre-testing questionnaire but only nine factors or attributes have been taken into consideration for this study. It is evident from the customers opinion that the mentioned services

are the main attributes for their satisfaction. The attributes (up to 38% and above) have been selected for the convenience of this study. We have considered the students of Rajshahi University as a respondent because they are from different areas of Rajshahi metropolitan city and more conscious about the services of mobile companies.

Sample area: For the convenience of the study and due to time limitation, we have selected only Rajshahi metropolitan area for the study. We have considered the students of Rajshahi University to collect the data. Because students of Rajshahi University are come from different places of Rajshahi metropolitan area.

Sample size: Sample size is very important factor for getting expected result of research work. From the mentioned area, 50 respondents have been selected for pretesting one questionnaire, 25 is for Grameen phone users another 25 is for Banglalink users. Finally, 220 respondents have been selected for final questionnaire from the above mentioned sample area of the study. According to Rosco, sample sizes >30 and <500 are appropriate for most research (Sekaran, 2003). The sample units of the study are customer (100 for GP and 100 for BL) and two cell phone (10 for each) companies.

Sample selection method: We have classified the population as customer and company. Through purposive sampling, we chose two mobile companies for the study and cluster sampling method has been used for the customer at first and finally random sampling method has been used for the study.

Data collection method and procedures: Appropriate data collection is very important for conducting a good research. Though, the study is mainly based on primary data but both primary and secondary sources have been used for collecting data.

We have collected primary data directly from the mobile users and top executives of both mobile phone companies and small number of secondary data have been collected from various secondary sources like; company profile, journals, news study and to know the companies existing products and services we used the websites of the two companies.

We have collected primary data through pretest one questionnaire and finally through a set of final questionnaire. The pretest questionnaire was open ended and final questionnaire was close ended. In the pretest questionnaire, we have tried to know the factors or causes of using particular mobile company and what services

expect from them. In the final questionnaire, we wanted to know customers evaluation about the different factors and how strongly they believe these. To know, the overall evaluation (ei) regarding the selected factors for using mobile company we have chosen 7 points, Stapel scale ranging from extremely good to extremely bad (+3 to -3). On the other hand, the respondents were also asked through the 7 points, Likert scale ranging from very strongly believe to very strongly disbelieve (7-1) to know how strongly they believe (bi) regarding the selected factors for the using mobile company. These were done for satisfying requirements of Fishbein's multiattribute model. Paired sample test or t test has been conducted for measuring whether these mean differences are statistically significant or not.

Hypothesis development and design for the study: A hypothesis testing is needed for satisfying the requirement of t test or Paired test. Paired test has been shown in the Martin A. Fishbein multiattribute model ($A_o = \sum_{i=1}^n b_{ie_i}$) has been used to measure the consumers attitude towards the mobile phone services in Bangladesh. Selected two mobile companies and nine factors or attributes are briefly indicated like Grameen phone = X_{gp} and Banglalink = X_{bl} , low call rate = lcr, good network coverage = gnc, internet and GPRS connection = igc, SMS and voice mail service = svms, T and T facility = tf, friends and family number = ffn, customer care service = ccs, pulse facility = pf and free talk time and bonus facility = ftbf.

On the basis of pretesting result and taking the 38% as a standard of the result, we have selected nine factors or attributes (Table 1). There are two alternatives considered for hypothesis testing, either there is no significant differences among the mean value of two companies for a specific factor (like good network coverage), i.e., $X_{gp} = X_{bl}$ or there is absolutely differences, i.e., $X_{gp} \neq X_{bl}$ among the mean value of two companies for different factors. Table 1 shows symbol hypothesis for all factors of two companies. Here, H_o = Null hypothesis and H_a = Alternative hypothesis.

Table 1: Developing hypothesis for different factors

Factors	Null hypothesis (H_o)	Alternative hypothesis (H_a)
Low call rate (\bar{x}_{lcrj})	0	$\neq 0$
Good network coverage (\bar{x}_{gncj})	0	$\neq 0$
Internet and GPRS connection (\bar{x}_{igc_j})	0	$\neq 0$
SMS and voice mail service (\bar{x}_{svmsj})	0	$\neq 0$
T and T facility (\bar{x}_{tff_j})	0	$\neq 0$
Friends and family number (\bar{x}_{ffnj})	0	$\neq 0$
Customer care service (\bar{x}_{ccsj})	0	$\neq 0$
Pulse facility (\bar{x}_{pf_j})	0	$\neq 0$
Free talk time and bonus facility (\bar{x}_{ftbf_j})	0	$\neq 0$

j = Two mobile companies

Model selection: There are quite a few models of attitude showing the connection between perception and preference of factors and attitudes. These models are often referred to as evaluative belief models of cognitive structure to emphasis that attitudes are the product or service of both evaluations of the factors and beliefs about how much of attributes or factors are possessed by the attitude objects (Fishbein, 1963). One of such models has been developed by Martin A. Fishbein which is widely used. According to this model, attitudes are viewed as having two basic components. One is the beliefs about the specific factors of an object. The factors could be the good network coverage, low call rate, pulse facility, etc. The other component is the evaluative aspect of consumers belief on different aspect of the attitude object. It implies how an individual evaluates the importance of each attribute of the object in satisfying his/her need. The Fishbein's model may be formulated as:

$$A_o = \sum_{i=1}^n b_i e_i$$

Where:

- A_o = Person's overall attitude towards the object
- b_i = The strength of one's belief about the attribute (i) or factor of that object
- e_i = The evaluation of feelings of the attribute (i) or factor
- n = The number of salient attributes (James *et al.*, 1990)

Analysis procedures: The collected data has been analysed using excel and SPSS (Statistical Package for Social Science) software. The analyses have been done in the light of the analysis procedures used by Fishbein for measuring satisfaction of customers towards objects. We calculated mean, standard deviation, variance and tested hypothesis through this software.

Findings of the study: The mobile companies GP and BL have been providing different types of services to satisfy the customer. Through pretesting, it has been identified that there should have various types of factor or attributes within the two mobile companies. We have identified 28 factors according to the customers opinion which have been providing by GP and BL. Table 2 shows the identified factors of two mobile companies.

Measuring customer satisfaction level: Different customers have mentioned different factors that should contain in a mobile company. We have taken nine factors that are top prioritised, at least 38% by the respondents. These are low call rate, good network coverage, internet and GPRS connection, SMS and voice mail service, T and

Table 2: Customers opinion regarding different factors

Factors/attributes	Total respondents	Actual respondents	Percentage
Low call rate	50	50	100
Good network coverage	50	47	94
Internet and GPRS connection	50	32	64
SMS and voice mail service	50	31	62
Connected with land phone (T and T facility)	50	26	52
Friends and family number (F and F)	50	25	50
Customer care service	50	21	42
Pulse facility	50	19	38
Free talk time and bonus facility	50	19	38
Flexi load and balance transfer facility	50	18	36
Image of the company	50	17	34
TV and radio facility	50	14	28
Ring tone, logo and down load facility	50	11	22
Low price of simcard	50	8	16
Bill payment system	50	8	16
Occasionally special offer	50	7	14
Customer care service station	50	7	14
ISD call and sms facility	50	6	12
Duration of card	50	5	10
Free important message	50	4	8
Medical service	50	4	8
Help line call rate	50	4	8
Package facility	50	2	4
Dynamic video connection	50	2	4
Sim replacement facility	50	2	4
EDEG facility	50	1	2
Welcome tone	50	1	2
New jobs news	50	1	2

T facility, friends and family number (F and F), customer care service, pulse facility and free talk time and bonus facility. These responses are the mental statement of customers that will help to show their attitude towards the service. Finally, it will affect the formation of purchasing intention and decision. Through the proper study on the existing customers of Grameen phone and Banglalink, we have calculated the below result regarding the satisfaction level of customer.

Table 3 shows that 91% customers favorably perceived the good network coverage of Grameen phone. Of whom, 35% customers are believed, 24% customers are strongly believed and 32% customers are very strongly believed. About 5% expressed their neutrality and 4% customers are disbelieved regarding the good network coverage of Grameen phone. That means, only 4% customers are dissatisfied on the good network coverage of GP.

On the other hand, 61% customers satisfactory perceived the good network coverage of Banglalink. Of whom, 12% customers are very strongly believed 17% are strongly believe and 32% believe. About 20% expressed their neutrality and rest 19% play the dissatisfaction level regarding the good network coverage of Banglalink. The mean value of customer response toward the good network coverage of Grameen phone is 5.750 which lies in very strong believe category while mean value of Banglalink is 4.760 which lies in strongly believe category.

Table 3: Good network coverage

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	0	0.0	5.7500	1.0859	1.1792	1	1.0	4.7600	1.3934	1.9418
VD	0	0.0	-	-	-	5	5.0	-	-	-
D	4	4.0	-	-	-	13	13.0	-	-	-
N	5	5.0	-	-	-	20	20.0	-	-	-
B	35	35.0	-	-	-	32	32.0	-	-	-
SB	24	24.0	-	-	-	17	17.0	-	-	-
VSB	32	32.0	-	-	-	12	12.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

Table 4: Low call rate

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	16	16.00	3.4000	1.6205	2.6262	3	3.00	5.1800	1.4240	2.0278
VD	14	14.00	-	-	-	3	3.00	-	-	-
D	22	22.00	-	-	-	6	6.00	-	-	-
N	24	24.00	-	-	-	13	13.00	-	-	-
B	14	14.00	-	-	-	25	25.00	-	-	-
SB	6	6.00	-	-	-	36	36.00	-	-	-
VSB	4	4.00	-	-	-	14	14.00	-	-	-
Total	100	100.00	-	-	-	100	100.00	-	-	-

Table 5: Pulse facility

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	4	4.0	4.0000	1.3998	1.9596	3	3.0	4.5900	1.4431	2.0827
VD	12	12.0	-	-	-	7	7.0	-	-	-
D	18	18.0	-	-	-	9	9.0	-	-	-
N	28	28.0	-	-	-	25	25.0	-	-	-
B	25	25.0	-	-	-	29	29.0	-	-	-
SB	10	10.0	-	-	-	19	19.0	-	-	-
VSB	3	3.0	-	-	-	8	8.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

VSD = Very Strongly Disbelieve, VD = Very Disbelieve, D = Disbelieve, N = Neutral, B = Believe SB = Strongly Believe, VSB = Very Strongly Believe, F = Frequency

Table 4 shows that 24% customers favorably perceived the low call rate of Grameen phone. Of whom, 14% customers are believed, 6% customers are strongly believed and 4% customers are very strongly believed. About 24% expressed their neutrality. The 50% customers expressed the dissatisfaction level towards the low call rate of GP. On the other hand, 75% customers satisfactory perceived the low call rate of Banglalink. Of whom, 14% customers are very strongly believed, 36% are strongly believed and 25% believe. About 13% expressed their neutrality.

The rest 12% customers expressed dissatisfaction level towards the low call rate of Banglalink. The mean value of customer response toward the low call rate of Grameen phone is 3.400 which lies in believe category while mean value of Banglalink is 5.180 which lies in very strongly believe category.

Table 5 shows that 38% customers favorably perceived the pulse facility of Grameen phone. Of whom, 25% customers are believed, 10% customers are strongly

believed and 3% customers are very strongly believed. About 28% expressed their neutrality. The rest 34% expressed the dissatisfaction level towards the pulse facility of GP. On the other hand, 56% customers satisfactory perceived the pulse facility of Banglalink. Of whom, 8% customers are very strongly believed, 19% are strongly believed and 29% believe. About 25% expressed their neutrality.

The rest 19% expressed the dissatisfaction level of Banglalink. The mean value of customer response toward the pulse facility of Grameen phone is 3.400 which lies in believe category while mean value of Banglalink is 5.180 which lies in very strongly believe category. Table 6 shows that 40% customers favorably perceived the T and T facility of Grameen phone.

Of whom, 27% customers are believed, 9% customers are strongly believed and 4% customers are very strongly believed. About 23% expressed their neutrality. The rest 37% expressed the dissatisfaction level towards the T and T facility of GP. On the other hand, about 63% customers

Table 6: T and T facility

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	9	9.0	3.9200	1.5484	2.3975	1	1.0	4.9500	1.3734	1.8863
VD	10	10.0	-	-	-	4	4.0	-	-	-
D	18	18.0	-	-	-	8	8.0	-	-	-
N	23	23.0	-	-	-	24	24.0	-	-	-
B	27	27.0	-	-	-	26	26.0	-	-	-
SB	9	9.0	-	-	-	23	23.0	-	-	-
VS	4	4.0	-	-	-	14	14.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

Table 7: Friends and family number

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	8	8.00	3.9000	1.5209	2.3131	2	2.00	5.2900	1.4091	1.9857
VD	12	12.00	-	-	-	3	3.00	-	-	-
D	17	17.00	-	-	-	5	5.00	-	-	-
N	24	24.00	-	-	-	14	14.00	-	-	-
B	26	26.00	-	-	-	27	27.00	-	-	-
SB	10	10.00	-	-	-	28	28.00	-	-	-
VS	3	3.00	-	-	-	21	21.00	-	-	-
Total	100	100.00	-	-	-	100	100.00	-	-	-

Table 8: Internet and GPRS connection

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	3	3.0	4.6600	1.4922	2.2266	16	16.0	3.7800	1.6671	2.7793
VD	6	6.0	-	-	-	6	6.0	-	-	-
D	13	13.0	-	-	-	15	15.0	-	-	-
N	18	18.0	-	-	-	28	28.0	-	-	-
B	30	30.0	-	-	-	21	21.0	-	-	-
SB	20	20.0	-	-	-	10	10.0	-	-	-
VS	10	10.0	-	-	-	4	4.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

VSD = Very Strongly Disbelieve, VD = Very Disbelieve, D = Disbelieve, N = Neutral, B = Believe SB = Strongly Believe, VS = Very Strongly Believe, F = Frequency

satisfactory perceived the T and T facility of Banglalink. Of whom, 14% customers are very strongly believed, 23% are strongly believed and 26% believe.

About 24% expressed their neutrality. The rest 13% expressed the dissatisfaction level of Banglalink. The mean value of customer response toward the T and T facility of Grameen phone is 3.920 which lies in believe category while mean value of Banglalink is 4.950 which lies in strongly believe category.

Table 7 shows that 39% customers favorably perceived the friend and family number of Grameen phone. Of whom, 26% customers are believed, 10% customers are strongly believed and 3% customers are very strongly believed. Total 24% expressed their neutrality. The rest 37% expressed the dissatisfaction level towards the friends and family number of GP. On the other hand, 76% customers satisfactory perceived the friends and family number of Banglalink. Of whom, 21% customers are very strongly believed, 28 are strongly believed and 27% believe. About 14% expressed their neutrality. The rest 10% expressed the dissatisfaction level of Banglalink. The

mean value of customer response toward the friend and family number of Grameen phone is 3.900 which lies in believe category while mean value of Banglalink is 5.290 which lies in strongly believe category. Table 8 shows that 60% customers favorably perceived the internet and GPRS connection of Grameen phone. Of whom, 30% customers are believed, 20% customers are strongly believed and 10% customers are very strongly believed. About 18% expressed their neutrality. The rest 22% expressed the dissatisfaction level towards the internet and GPRS connection of GP. On the other hand, 35% customers satisfactory perceived the internet and GPRS connection of Banglalink. Of whom, 4% customers are very strongly believed, 10% are strongly believed and 21% believe. About 28% expressed their neutrality. The rest 37% expressed the dissatisfaction level of Banglalink. The mean value of customer response toward the internet and GPRS connection of Grameen phone is 4.660 which lies in strongly believe category while mean value of Banglalink is 3.780 which lies in believe category. Table 9 shows that 50% customers favorably perceived the SMS

Table 9: SMS and voice mail service

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	4	4.0	4.2700	1.4554	2.1182	2	2.0	4.3900	1.2463	1.534
VD	9	9.0	-	-	-	6	6.0	-	-	-
D	16	16.0	-	-	-	13	13.0	-	-	-
N	21	21.0	-	-	-	28	28.0	-	-	-
B	32	32.0	-	-	-	35	35.0	-	-	-
SB	13	13.0	-	-	-	13	13.0	-	-	-
VSB	5	5.0	-	-	-	3	3.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

Table 10: Customer care service

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	3	3.00	5.0000	1.6696	2.7878	2	2.00	4.6300	1.2843	1.6496
VD	9	9.00	-	-	-	5	5.00	-	-	-
D	7	7.00	-	-	-	7	7.00	-	-	-
N	13	13.00	-	-	-	30	30.00	-	-	-
B	22	22.00	-	-	-	32	32.00	-	-	-
SB	26	26.00	-	-	-	18	18.00	-	-	-
VSB	20	20.00	-	-	-	6	6.00	-	-	-
Total	100	100.00	-	-	-	100	100.00	-	-	-

VSD = Very Strongly Disbelieve, VD = Very Disbelieve, D = Disbelieve, N = Neutral, B = Believe SB = Strongly Believe, VSB = Very Strongly Believe, F = Frequency

and voice mail service of Grameen phone. Of whom, 32% customers are believed, 13% customers are strongly believed and 5% customers are very strongly believed. About 21% expressed their neutrality. The rest 29% expressed the dissatisfaction level towards the SMS and voice mail service of GP.

On the other hand, 51% customers satisfactory perceived the SMS and voice mail service of Banglalink. Of whom, 3% customers are very strongly believed, 13% are strongly believed and 35% believe. About 28% expressed their neutrality. The rest 21% expressed the dissatisfaction level of Banglalink.

The mean value of customer response toward the SMS and voice mail service of Grameen phone is 4.270 which lies in strongly believe category while mean value of Banglalink is 4.390 which lies also in strongly believe category. Table 10 shows that 68% customers favorably perceived the customer care service of Grameen phone.

Of whom, 22% customers are believed, 26% customers are strongly believed and 20% customers are very strongly believed. About 13% expressed their neutrality. The rest 19% expressed the dissatisfaction level towards the customer care service of GP. On the other hand, 56% customers satisfactory perceived the customer care service of Banglalink. Of whom, 6% customers are very strongly believed, 18% are strongly believed and 32% believe. About 30% expressed their neutrality. The rest 14% expressed the dissatisfaction

level of Banglalink. The mean value of customer care service of Grameen phone is 5.000 which lies in very strongly believe category while mean value of Banglalink is 4.630 which lies in strongly believe category. Table 11 shows that 39% customers favorably perceived the free talk time and bonus facility of Grameen phone. Of whom, 29% customers are believed, 7% customers are strongly believed and 3% customers are very strongly believed. About 17% expressed their neutrality.

The rest 44% expressed the dissatisfaction level towards the free talk time and bonus facility of GP. On the other hand, 63% customers satisfactory perceived the free talk time and bonus facility of Banglalink. Of whom, 15% customers are very strongly believed, 21% are strongly believed and 27% believe. About 23% expressed their neutrality.

The rest 14% expressed the dissatisfaction level of Banglalink. The mean value of the free talk time and bonus facility of Grameen phone is 3.740 which lies in believe category while mean value of Banglalink is 4.900 which lies in strongly believe category. Table 12 shows that 63% customers have favorably attitude towards all the factors discussed in above of Grameen phone. Of whom, 33% customers are believed, 19% customers are strongly believed and 11% customers are very strongly believed.

About 17% expressed their neutrality. The rest 20% expressed the dissatisfaction level towards all the factors of GP. On the other hand, 61% customers satisfactory perceived all factors of Banglalink. Of whom, 4%

Table 11: Free talk time and bonus facility

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	10	10.0	3.7400	1.5674	2.4569	1	1.0	4.9000	1.4599	2.1313
VD	14	14.0	-	-	-	8	8.0	-	-	-
D	20	20.0	-	-	-	5	5.0	-	-	-
N	17	17.0	-	-	-	23	23.0	-	-	-
B	29	29.0	-	-	-	27	27.0	-	-	-
SB	7	7.0	-	-	-	21	21.0	-	-	-
VSB	3	3.0	-	-	-	15	15.0	-	-	-
Total	100	100.0	-	-	-	100	100.0	-	-	-

Table 12: Customers overall evaluation about all the factors

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
VSD	11	11.00	4.5800	1.7243	2.9733	6	6.00	4.5400	1.4243	2.0286
VD	4	4.00	-	-	-	3	3.00	-	-	-
D	5	5.00	-	-	-	11	11.00	-	-	-
N	17	17.00	-	-	-	19	19.00	-	-	-
B	33	33.00	-	-	-	37	37.00	-	-	-
SB	19	19.00	-	-	-	20	20.00	-	-	-
VSB	11	11.00	-	-	-	4	4.00	-	-	-
Total	100	100.00	-	-	-	100	100.00	-	-	-

VSD = Very Strongly Disbelieve, VD = Very Disbelieve, D = Disbelieve, N = Neutral, B = Believe SB = Strongly Believe, VSB = Very Strongly Believe, F = Frequency

Table 13: Customers overall satisfaction level

Satisfaction level	Grameen phone					Banglalink				
	F	Percent	Mean	SD	Var.	F	Percent	Mean	SD	Var.
NS	5	5.00	4.3700	1.2525	1.5687	2	2.00	4.5900	1.2640	1.5978
VD	4	4.00	-	-	-	5	5.00	-	-	-
D	11	11.00	-	-	-	11	11.00	-	-	-
N	21	21.00	-	-	-	21	21.00	-	-	-
S	48	48.00	-	-	-	40	40.00	-	-	-
VS	10	10.00	-	-	-	17	17.00	-	-	-
HS	1	1.00	-	-	-	4	4.00	-	-	-
Total	100	100.00	-	-	-	100	100.00	-	-	-

NS = Not at all Satisfy, VD = Very Dissatisfy, D = Dissatisfy, N = Neutral, B = Satisfy VS = Very Satisfy, HS = Highly Satisfy, F = Frequency

customers are very strongly believed, 20% are strongly believed and 37% are believed. About 19% expressed their neutrality. The rest 20% expressed the dissatisfaction level of Banglalink.

The mean value of all the factors of Grameen phone is 4.5800 which lies in strongly believe category while mean value of Banglalink is 4.5400 which also lies in strongly believe category. That means the overall attitude or satisfaction level of GP and BL are not so different. By asking the direct question regarding, the over all satisfaction level to the respondents about the Grameen phone and Banglalink we have found the previous result. Table 13 shows that 59% customers are satisfied regarding all the factors of GP. Of whom, 48% customers are satisfied, 10% customers are very satisfied and 1% customers are highly satisfied.

About 21% expressed their neutrality. The rest 20% expressed the dissatisfaction level towards all the factors of GP where 5% expressed not at all satisfied. On the other hand, 61% customers are satisfied regarding all the

factors of BL. Of whom, 40% customers are satisfied, 17% customers are very satisfied and 4% customers are highly satisfied. About 21% expressed their neutrality. The rest 18% expressed the dissatisfaction level towards all the factors. Of BL where 2% expressed not at all satisfied. The mean value of all the factors of Grameen phone is 4.3700 which lies in very satisfy category while mean value of Banglalink is 4.5900 which also lies in very satisfy category. That means the satisfaction level of customers toward the Grameen phone and Banglalink are not so differences. Though, BL has more beneficial factors but GP covered it by its major important factors good network coverage. We can show the customers overall satisfaction level about GP and BL through the line chart which has been shown in the Fig. 1.

Measurement of customer attitudes towards the various factors of mobile phone services: Through the asking question, regarding the evaluation and belief of previous nine factors to the customers, we have found their overall

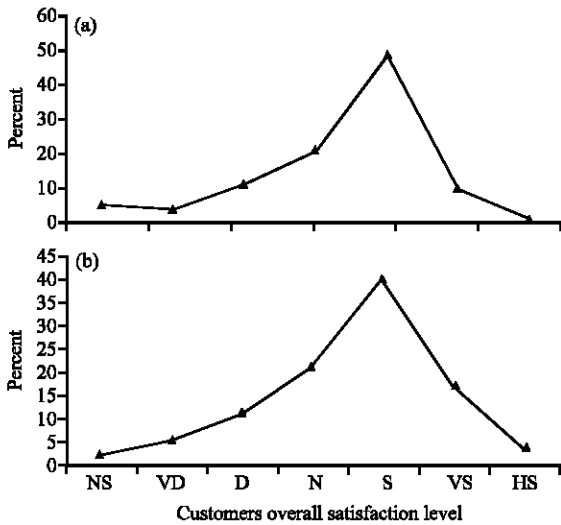


Fig. 1: Customers overall satisfaction level; a) towards GP and b) towards BL

attitude toward the mobile phone services of Grameen phone and Banglalink separately. We can present these overall attitude separately through Table 14. Table 14 shows that customers attitude toward the Grameen phone regarding low call rate 0.034, good network coverage is 11.73, internet and GPRS connection 4.427, SMS and voice mail service 2.6474, T and T facility 1.2544, friends and family number 1.365, customer care service 5.6, pulse facility 0.28 and free talk time and bonus facility 0.6732.

Whereas, customers attitude towards the Banglalink regarding these factors are 7.77, 4.8552, 0.1512, 4.5217, 7.6725, 11.1619, 3.9818, 4.7736 and 7.0070. So, we can say that low call rate, good network coverage, T and T facility, friends and family number and free talk time and bonus facility hold the better position in consumers mind in selecting particular mobile company whether, it is GP or BL.

Model regarding customers attitude toward the mobile phone services of GP and BL: From Fig. 2, it has been found that customers overall attitude towards the Grameen phone is 28.011 and attitude towards the Banglalink is 51.8949. The study proves that customer attitude towards the Banglalink is favorable than that of Grameen phone. The study further reports that Banglalink stands favorably in achieving customers favorable perceptions on low call rate, SMS and voice mail service T and T facility friends and family number, pulse facility and free talk time and bonus facility. Grameen phone stands favorably in achieving customers perception on good network coverage, internet and GPRS connection

Table 14: Overall attitude

Factors/attributes	Grameen phone			Banglalink		
	ei	bi	eibi	ei	bi	eibi
Low call rate	0.01	3.4000	0.034	1.50	5.1800	7.7700
Good network coverage	2.04	5.7500	11.730	1.02	4.7600	4.8552
Internet and GPRS connection	0.95	4.6600	4.427	0.04	3.7800	0.1512
SMS and voice mail service	0.62	4.2700	2.6474	1.03	4.3900	4.5217
T and T facility	0.32	3.9200	1.2544	1.55	4.9500	7.6725
Friends and family number (F and F)	0.35	3.9000	1.3650	2.11	5.2900	11.1619
Customer care service	1.12	5.0000	5.6000	0.86	4.6300	3.9818
Pulse facility	0.07	4.0000	0.2800	1.04	4.5900	4.7736
Free talk time and bonus facility	0.18	3.7400	0.6732	1.43	4.9000	7.0070
Total	-	-	28.0110	-	-	51.8949

Attitude towards the Grameen phone, $A_0 = 28.011$; Attitude towards the Banglalink, $A_0 = 51.8949$

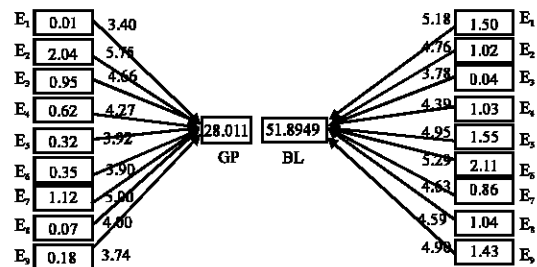


Fig. 2: Customers attitude toward the mobile phone services of GP and BL

and customer care service. So, we can say that mean score of customer beliefs on various factors show different customer perception. Some of the factors, contribute favorably to show customer attitude towards GP and some of them contribute in favor of BL.

RESULTS

Table 15 shows customers perception on good network coverage of the company, low call rate, pulse facility, T and T facility, friends and family number customer care service are statistically different at 0.01 level factors discussed in above of Grameen phone. Of whom, of significance. While only SMS and voice mail service and free talk time and bonus facility are statistically different at 0.05 level of significance. By using the test result, the researcher conclude the hypothesis testing as:

- H_{01} rejected, H_{a1} accepted ($t = 5.716, p < 0.01$)
- H_{02} rejected, H_{a2} accepted ($t = -8.610, p < 0.01$)
- H_{03} rejected, H_{a3} accepted ($t = -3.423, p < 0.01$)
- H_{04} rejected, H_{a4} accepted ($t = -4.743, p < 0.01$)
- H_{05} rejected, H_{a5} accepted ($t = -6.580, p < 0.01$)
- H_{06} rejected, H_{a6} accepted ($t = 3.994, p < 0.01$)

Table 15: Paired samples test between GP and BL (t-tst)

Factors	Paired differences			95% confidence interval of the difference		t	df	Sig. (2-tailed)
	Mean	SD	SE mean	Lower	Upper			
	Good network coverage	0.9900	1.73202	0.17320	0.6463			
Low call rate	-1.7800	2.06745	0.20674	-2.1902	-1.3698	-8.610	99	0.000
Pulse facility	-0.5900	1.72384	0.17238	-0.9320	-0.2480	-3.423	99	0.001
T and T facility	-1.0300	2.17170	0.21717	-1.4609	-0.5991	-4.743	99	0.000
Friends and family number	-1.3900	2.11247	0.21125	-1.8092	-0.9702	-6.580	99	0.000
Internet and GPRS connection	0.8800	2.20321	0.22032	0.4428	1.3172	3.994	99	0.000
SMS and voice mail service	-0.1200	1.91896	0.19190	-0.5008	0.2608	0.625	99	0.533
Customer care service	-1.1600	1.96289	0.19629	-1.5495	-0.7705	-5.910	99	0.000
Free talk time and bonus facility	0.3700	2.02836	0.20284	-0.0325	0.7725	1.824	99	0.071

H₀₇, accepted H_{a7} rejected (t = -.625, p>0.05)

H₀₈, rejected, H_{a8} accepted (t = -5.910, p<0.01)

H₀₉, accepted H_{a9} rejected (t = 1.824, p>0.05)

The figure bears result of the hypothesis shows that seven variables are accepted and rest two are rejected.

DISCUSSION

The findings show that customers have different satisfaction towards the two mobile companies in Bangladesh. They behave to some degree interestingly for the both. The measurement of satisfaction reveals that the customers have favourable satisfaction towards BL than GP.

Through research, it has been found that customers perception towards good network coverage, internet and GPRS connection and customer care service are satisfactory and favourable to GP than BL but towards low call rate, pulse facility, T and T facility, friends and family number, SMS and voice mail service and free talk time and bonus facility, i.e., six factors out of nine are favourable to BL than GP. Considering the mean value, the overall customer satisfaction for the GP is 38.64 and for the BL is 42.47 (Table 16). That means, the position of BL is better than GP.

Fishbein's multiattribute attitude model refers overall customers attitude (Table 14) towards BL is higher than GP and these are 51.8949 and 28.011, respectively. The overall test result support the significant difference between GP and BL for the all considered factors except two. The paired sample test result shows customers satisfaction on good network coverage, low call rate, pulse facility, T and T facility, friends and family number, internet and GPRS connection and customer care service in between BL and GP are statistically different at 0.01 level of significance and here, it is found that p< 0.01 for all the factors where p = 0.000 and 0.001 (Table 15).

Table 16: Discription of customers satisfaction, the mean and SD

Customer satisfaction variable	Mean			SD	
	GP	BL	Differences	GP	BL
Good network coverage	5.750	4.760	0.99	1.085	1.393
Low call rate	3.400	5.180	-1.78	1.620	1.424
Pulse facility	4.000	4.590	-0.59	1.399	1.443
T and T facility	3.920	4.950	-1.03	1.548	1.373
Friends and family number	3.900	5.290	-1.39	1.520	1.409
Internet and GPRS connection	4.660	3.780	0.88	1.492	1.667
SMS and voice mail service	4.270	4.390	-0.12	1.455	1.246
Customer care service	5.00	4.630	0.37	1.669	1.284
Free talk time and bonus facility	3.740	4.900	-1.16	1.484	1.501
Overall customer satisfaction	38.640	42.470			

In these case null hypothesis, i.e., H₀₁₋₀₆ and H₀₈ are rejected and alternative hypothesis, i.e., H_{a1-a6} and H_{a8} are accepted in respect of customers belief. So, it could say that the customers have thought that there are significant difference between the above seven provided services (factors or attributes) by BL and GP while SMS and voice mail service and free talk time and bonus facility are different at 0.05 level of significance and here, it is found that p>0.05 for the two factors, where p = 0.533 and 0.071 (Table 15).

In these case, null hypothesis, i.e., H₀₇, H₀₉ are accepted and alternative hypothesis, i.e., H_{a7}, H_{a9} are rejected in respect of customer belief. So from this result, it can be said that the customers do not find significant different between the two.

CONCLUSION

At present, customers satisfaction is the main factor to choose the best alternative and increase the market share in the complex business environment of mobile phone. This study has been conducted for measuring customers satisfaction on the basis of Fishbein's multiattribute attitude model towards two leading mobile companies (i.e., GP and BL) in Bangladesh. This model has been applied for nine factors or attributes for each. The analysis has provided a clear picture of comparative

customer satisfaction for the nine factors. By this research, we can find that the overall customers beliefs are different towards BL and GP and the test result support it fairly. We found both satisfaction and dissatisfaction of customers towards the mobile companies. The differences between the satisfaction for GP and BL are to some extent significant in respect of seven factors or attributes out of nine. The customers have shown the maximum satisfaction towards BL and it achieved comparatively better position than GP.

It has been found that GP has only three positive factors among the nine. Therefore, they have to rearrange the factors or add more positive factors to maintain the customer satisfaction for long time and they should reduce the call rate and make balance with other operators so that customers do not switch over the other company. Considering the result, we can say that the respective mobile companies should give proper attention to those factors or attributes which are affecting the level of customers satisfaction. The outcome of this study might be used as an index for further improvement of their service quality for wide satisfaction and formulating marketing strategies accordingly.

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