

Study of Satisfaction in Mobile Operators of GrameenPhone Network

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Abstract

The network quality leads to customers' satisfaction, which in turn leads to customer loyalty. Network is one of the ways for attracting and retaining customers to the organization. Customer perception is a very important factor to measure network quality and overall service quality. This paper is an attempt to assess the current network capacity like the Radio base station (RBS), Base transmission station (BTS) and Roll out control (ROC) systems that are used to provide services like Pre-Paid, Post Paid Recharge, Hardware and Value Added Services of GrameenPhone. This paper also aims to identify the gap between customers' perception about the GrameenPhone network on the one hand and the network quality provided by the company on the other hand. Through exploratory research, it has been identified different dimensions of consumers' satisfaction about the Grameenphone network and formulated hypotheses on the basis of focus group discussion. Then using conclusive research it has been proved the hypotheses. The result found that GrameenPhone provides the quality network and the company is improving their quality network day by day. Finally, some suggestions have been offered for improving the GrameenPhone's network quality.

Key words: Network, customer, quality, grameenphone, satisfaction.

1. Introduction

Bangladesh has currently six mobile phone operators in Mobile Telecommunication Industry, of which five are in operation and the sixth, Warid Telecom, is expected to begin operation in April, 2007 (Rahman, 2007). Though the industry is relatively new yet the growth is much faster in comparison to other industries due to aggressive market oriented business strategy (Yousuf et al., 2006).

According to GP's annual report 2004, GrameenPhone's Global System for Mobile or GSM technology is the most widely accepted digital system in the world, currently used by over 1.3 billion people in some 150 countries and GSM brings the most advanced developments in cellular technology at a reasonable cost by spurring severe competition among manufacturers and driving down the cost of equipment. Thus, consumers get the best for the least. GP has set up the largest network with the widest coverage around the country. The active support of the shareholders of GrameenPhone has enabled the company to make the necessary investments for this quick growth. The company is planning to increase the GP network coverage to 100 percent of the population. The

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GP's annual report 2004 also shows that GP presently has some 1750 base stations in operation around the country and more than 1000 additional base stations will be added to the network this year.

Bangladesh is presently one of the top 10 mobile phone markets in the Asia-pacific region in terms of the number of subscribers (Ratan, et al. 2007). Industry people said the number of mobile phone subscribers will top 50 million in the next three years as the start-up cost as well as call tariff will be constantly shrinking because of cutthroat competition among the operators to woo new customers (Rahman, 2007).

Table 1: Major Mobile Phone Networks in Bangladesh According to their Market Share

Name of the Companies	Technology Used	Subscribers (Approx.) at the end of 2006
GrameenPhone (GP)	GSM	10.76 million
Aktel (Telekom Malaysia)	GSM	6 million
Banglalink (formerly Shebatel)	GSM	3.64 million
Pacific Bangladesh Telecom (CityCell)	CDMA	1 million
Teletalk Bangladesh	GSM	4 lakh
Warid Telecom*	—	—

Source: <http://groups.google.com/group/banglaict/topics>. Accessed on 17-03-07

* Warid Telecom of the United Arab Emirates is expected to launch its service in Bangladesh in April, 2007.

As mentioned earlier GrameenPhone is the market leader with approximately 63% market share (<http://press.telenor.com>). From the market share and technical capability point of view, GP is clearly ahead of other competitors (Ratan, et al. 2007). GrameenPhone has always been a pioneer in introducing new products, services and technologies in the local market and for the first time in the country, GrameenPhone has started to deploy 1800 MHz frequency base stations from March this year.

GP along with the other GSM operators in the country have been using the 900 MHz frequency so far. This will greatly improve the quality and further enhance the call-handling capacity of the base stations and it will help improve the overall customer experience. It may be noted that GrameenPhone was the first mobile phone operator in the country to introduce value-added services like Voice Mail Service, Text Mail Service, Wireless Application Protocol (WAP) and fax and data transmission services

(GP's annual report 2004). Mobile telephones have been a tremendous success story. Although GSM was originally conceived as a pan-European system there are now over 400 operators in 157 countries worldwide. Since the launch of the first GSM systems in the early nineties, customer numbers have grown very quickly resulting in today's highly competitive mass market. In particular, the more recent development of 'pre-pay' packages has been very successful in attracting new customers (Harmer and Friel, 2001). Turel and Serenko (2004) said that while satisfaction and loyalty in regards to physical goods and some services have been studied to a great extent in marketing and information systems research, there is little research on these factors with respect to mobile telecommunications services. They also stated that there is no standard measure for satisfaction with these services. The use of the mobile Internet, which is defined as the use of Internet via handheld devices, has been increasing rapidly (Francis 1997, Davidson et al. 2000). The number of mobile Internet users is estimated to exceed 500 million until 2005 worldwide (ARC group 1999).

Interestingly, however, the adoption or usage patterns of the mobile Internet are quite different among different countries (Pedersen 2001). In Asian countries, a mobile Internet-enabled phone has become recognized as a necessity in daily life, not just as a communication device. It is easy to find people to play games or to trade stocks anywhere and anytime via the mobile Internet (HCI Lab 2001, ECOM 2001). However, in North America, the mobile Internet is not as popular as in Asian countries (Scully 2001). In addition, popular mobile Internet services are greatly different by country. For example, download service is the most popular one in Korea, whereas email is the most popular one in Japan [Lee et al. 2002]. The Engineers' perception about the Sites maintenance and optimization of GrameenPhone rather than other mobile operators are good. But it has some problems about the sites because of the low concern of the higher authority. Some engineers also said corruptions are occurring. Because of corruption, it mainly creates the problem in the BTS room. The engineer said these types of problem hamper the network quality. The problems are sites maintenance lack of proper distribution of AC, Battery, Module, Generator and Civil work related problems, power problem and lastly Security Problem. Actually these problems mainly hamper the network quality. Grameenphone is the largest mobile operator of Bangladesh and it has the highest coverage of the country. Bangladesh has poor infrastructures and this is another problem for low quality network. For bad weather, problems occurred for the base station. Power is the common problem in our country so very early the equipments are damaging. For the low power, it needs lots of money for the stabilizer. Sometimes the cable, grounding cable, Power cables, Ac grille and other valuable equipments are stolen from the BTS room. Under the JSC, it has more than 300 sites and all sites have AC but the AC is not distributed properly. Some sites need 1.5 ton AC but the site has 3 ton AC. On the other hand it needs 3 ton AC but has 1.5 Ton AC. For the temperature the BTS room equipment becomes faulty very early. Some sites need 2 sets of batteries but have 1 set battery. Generators are not needed but some sites have generators. Civil work related problems occurred when the site is constructed. Some sites need the

voltages stabilizer but here is no Voltages stabilizer. According to the customer, the network quality of GP is satisfactory rather than mobile operators. But in some situations, the network is disheartening. Basically in different occasions the GP network is busy. So it creates communication problem for customers. Most of the time calls get hanged. Sometimes the voices are not understood because of the bad network. So the customers are sometimes unhappy. The GP internet is very costly. Sometimes the installation problems make the internet connection disconnected.

This paper, shows the existing network capacity of grameenphone and also recommends some engineering mechanisms that can best satisfy the customers. Customer satisfaction is related with perceived value i.e. the difference between the customer expectation and perceived quality. In this paper, the modern equipments of GP that are used to deliver quality network are assessed to find out customer satisfaction. The basic objective is “User Satisfaction survey about Mobile Operators’ Network: A case study of GrameenPhone”. And the specific objectives are mentioned below: (i) to know about whether GP provides quality network or not, (ii) to find out whether calls are disconnected or not, (iii) to know about the quality of GP internet network, (iv) to identify the network condition for easy load services and (v) to determine that in any where is it possible to talk through GP connection.

2. Methodology

Through exploratory research, different dimensions of consumers’ satisfaction has been identified about the Grameenphone network and formulated hypotheses on the basis of focus group discussion. Then I have applied conclusive research to prove the hypotheses. The information needed was clearly defined after the focus group session and the conclusive research was undertaken so that a proper solution to the problem could be obtained.

The sample size was of one hundred respondents from the different areas under the Jatrabari Sub Center like Comilla, Jatrabari, narayanganj and munshiganj. The samples gathered from the different parts under the JSC are mobile users. The sampling method was Non-Probability Sampling because the sample elements are externally homogeneous and internally heterogeneous and of accessibility, reliability, validity and of course availability of the time period.

The instrument has been designed under 5 point Likertscale where ‘1’ refers to ‘strongly disagree’ and ‘5’ refers to ‘strongly agree’. I have collected data through cross sectional survey method with a focus on mall intercept interview (Malhotra, 2004). Finally data have been analyzed under parametric research procedures to prove the hypotheses (Zikmund, 2003) regarding the customer satisfaction about grameenphone network.

3. Hypotheses Development

A number of hypotheses came out from the proposition built up after the primary and secondary qualitative research. These are following:

- H1: GrameenPhone provides the quality network.
- H2: GP is improving their network quality day by day.
- H3: Easy Load creates problem.
- H4: When people talk, sometimes calls are disconnected.
- H5: GP provides crystal clear sound.
- H6: When people talk with other mobile operators, it creates any problem.
- H7: In any where people can talk through the GP connection.
- H8: In different occasions, GP network becomes busy.
- H9: GP provides powerful internet.

4. Results and Discussions

This study attempts to investigate the users' perception about the GrameenPhone network quality. This paper also shows the technologies used by the GP like Radio base station (RBS), Base transmission station (BTS) and Roll out control (ROC) systems for providing services.

For investigating the customer's perception, I have identified different dimensions of consumers' satisfaction about the Grameenphone network and formulated hypotheses on the basis of focus group discussion. Then I have applied conclusive research to prove the hypotheses. After testing the hypotheses, the following findings came out:

Hypothesis testing 1

- H₀: GrameenPhone provides the quality network.
- H₁: GrameenPhone does not provide the quality network.

Table 2: Analysis Variance table of network quality

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.308	3	1.769	1.501	.219
Within Groups	113.132	96	1.178		
Total	118.440	99			

From the table, it is seen that the table value of F for (3, 96) d.f. and at 5% level of significance is 2.68. Since the computed value of F = 1.501 is less than the table value of F = 2.68, therefore, we accept our null hypothesis. Hence the difference is insignificant and we can infer that GrameenPhone provides the quality network.

Hypothesis testing 2

H₀: GP is improving their network quality day by day.

H₁: GP is not improving their network quality day by day.

Table 3: Analysis Variance table of Improving network quality day by day

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.236	3	.412	.441	.724
Within Groups	89.724	96	.935		
Total	90.960	99			

From the table, we see that the table value of F for (3, 96) d.f. and at 5% level of significance is 2.68. Since the computed value of F= .441 is less than the table of F= 2.68, therefore, we accept the null hypothesis. As the difference is insignificant, so it can be stated that the company is improving their quality network day by day.

Hypothesis testing 3

H₀: Flexi Load creates problem.

H₁: Flexi Load does not create problem

Table 4: Analysis Variance table of creating problem

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.471	4	.618	.572	.683
Within Groups	102.529	95	1.079		
Total	105.000	99			

The table value of F for (4, 96) d.f. and at 5% level of significance is 2.45. Since the computed value of F= .572 is less than the table of F= 2.45, therefore, we accept the null hypothesis. Hence the difference is insignificant, so it can be stated that Flexi load creates the problem.

Hypothesis testing 4

H₀: When people talk, sometimes calls are disconnected.

H₁: When people talk, sometimes calls are not disconnected.

Table 5: Analysis Variance table of Call disconnection

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.916	3	2.972	3.735	.014
Within Groups	76.394	96	.796		
Total	85.310	99			

In the above table, the table value of F for (3, 96) d.f. and at 5% level of significance is 2.45. Since the computed value of $F= 3.735$ is greater than the table of $F= 2.45$, therefore, we accept the alternative hypothesis. Hence the difference is significant, so it can be stated that when people talk, sometimes calls are not disconnected.

Hypothesis testing 5

H_0 : GP provides crystal clear sound.

H_1 : GP does not provide crystal clear sound.

Table 6: Analysis Variance table of crystal clear sound.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.551	3	.517	.555	.646
Within Groups	89.439	96	.932		
Total	90.990	99			

The table value of F for (3, 96) d.f. and at 5% level of significance is 2.45. Since the computed value of $F= .555$ is less than the table of $F= 2.45$, therefore, we accept the null hypothesis. Hence the difference is insignificant, so it can be stated that GP provides crystal clear sound.

Hypothesis testing 6

H_0 : When people talk with other mobile operators, it creates any problem.

H_1 : When people talk with other mobile operators, it does not create any problem.

Table 7: Analysis Variance table of creating any problem

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.918	3	1.639	1.305	.039
Within Groups	120.642	96	1.257		
Total	125.560	99			

From the table, we see that the table value of F for (3, 96) d.f. and at 5% level of significance is 2.68. Since the computed value of $F=1.305$ is less than the table of $F= 2.68$, therefore, we accept the null hypothesis. As the difference is insignificant, so we can infer that when people talk with other mobile operators, it creates any problem.

Hypothesis testing 7

H_0 : In any where people can talk through the GP connection.

H_1 : In any where people can not talk through the GP connection.

Table 8: Analysis Variance table of GP connection.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.563	3	.521	.670	.572
Within Groups	74.627	96	.777		
Total	76.190	99			

The table value of F for (3, 96) d.f. and at 5% level of significance is 2.45. Since the computed value of F= .670 is less than the table of F= 2.45, therefore, we accept the null hypothesis. Hence the difference is insignificant, so it can be stated that in any where people can talk through the GP connection.

Hypothesis testing 8

H₀: In different occasions, GP network becomes busy

H₁: In different occasions, GP network does not become busy.

Table 9: Analysis Variance table of network busy.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.160	4	.290	.179	.949
Within Groups	153.830	95	1.619		
Total	154.990	99			

From the table, we see that the table value of F for (4, 95) d.f. and at 5% level of significance is 2.45. Since the computed value of F=.179 is less than the table of F=2.45, therefore, we accept the null hypothesis. As the difference is insignificant, so we can infer that in different occasions, GP network becomes busy.

Hypothesis testing 9

H₀: GP has powerful internet.

H₁: GP does not have powerful internet.

Table 10: Analysis Variance table of GP internet.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.196	4	3.299	.202	.046
Within Groups	1550.044	95	16.316		
Total	1563.240	99			

From the table, we see that the table value of F for (4, 95) d.f. and at 5% level of significance is 2.45. Since the computed value of $F=2.202$ is less than the table of $F=2.45$, therefore, we accept the null hypothesis. As the difference is insignificant, so we can infer that GP has powerful internet.

4. Recommendations

GrameenPhone is the largest mobile operator in Bangladesh. They provide the quality network although the customers are not satisfied. They want to provide more authentic network services. Although GP has been providing quality network for their customers, for better network services they can take the following steps:

- Sometimes the GP network is busy because one RBS at a time can not take more than 500 calls. In case of more than 500 calls, network becomes busy. So GP should install more RBS in every BTS room. GP also can use the strong optical fibre connection.
- GP easy load service is the standard balance transferring services among the mobile operators. Although the easy load sometimes creates problem in case of balance transfer. So GP should install dTRU (Digital transmission radio unit) for easy load services.
- On different occasions, customers make more calls; as a result, the network becomes busier, so GP should set up small BTS in different parts of the crowded places. On the other hand GP can use more mobile BTS in different parts of the crowded places.
- In the present time many customers are using the GrameenPhone internet. So as soon as possible, they should improve the speed of the internet by using different RBS for internet services with strong optical fibre connection.
- Sometimes the subscribers can not understand voices clearly. GP can use RBS version 3300 instead of 2202.
- GP is the largest mobile operator. They can use the satellite network.
- At present GP has one main BTS room, so if they set up at least 3 main BTS stations, then it will improve the whole network quality.

These suggested service quality will satisfy the users and it will make the users loyal. If GP improves the whole network system, then users will become satisfied and ultimately they will be loyal to the company.

5. Conclusions

Grameen Phone Ltd is still a growing company, in spite of all the success it has achieved so far. It holds one kind of monopoly position in the mobile telecommunications market. However, it cannot afford to get complacent. Particularly, the degrees of perceived quality and perceived value are the key factors affecting a person's perception of the quality of provided services. The perception of quality influences the extent of loyalty. As such, highly satisfied customers tend to demonstrate a high likelihood of repurchase and higher tolerance to price increases by providers or price decreases by competitors (Turel and Serenko, 2004). Competition is always on the look out for new ideas and schemes. In order to maintain its number one position in the market, the company should install more RBS in every BTS room with latest version 3300 as well as use strong optical fiber connection. They should install dTRU (Digital transmission radio unit) for easy load services. If they set up at least 3 main BTS stations, then it will improve the whole network quality and ultimately they will be able to satisfy the customers.

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