Determining Subscribers' Attitude And Satisfaction Towards Airtel And Citycell: An Empirical Assessment Of Martin Fishbein Multiattribute Model

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INTRODUCTION

We live in an era where telecommunication services hold a central role in every sphere of our lives (Came, 1984). Marketers argue with compact confidence that these emerging technologies have the ability to develop our lives and improve it in many ways (Risto, 2002). Moreover, it has facilitated the instantaneous cost reduction and quality improvement by offering different services by the companies (Douligeris and Pereira, 1984). The telecommunications industry at present is a much more competitive market and customers have a diversity of services, products, and sellers to choose from. Customers of telecommunications services stipulate a high quality from their suppliers. They have the chance to choose and purchase the excellence of communication services that they need, balancing their cost and value. It is, therefore, necessary that telecommunication companies offer the best quality of services available. Consequently, this growing industry has not only attracted the business community, but also academic researchers. A number of studies have been conducted in the cellular industry in different countries, ranging from engineering to marketing aspects. Detailed research has been conducted on attitude measurement towards a particular mobile operator to investigate their ultimate behavior. Traditional marketing research was done on the assumption that an understanding of consumers' attitudes would provide some guidance regarding expected behavior. Knowledge of attitudes, in contrast, will not guarantee a trustworthy forecast of a specific type of behavior. There has been a substantial research on the relationship between attitude and behavior (Day and Deutscher, 1982).

In developing the theory of measuring attitude, a new research was introduced by Fishbein and Ajzen (Fishbein and Ajzen 1975, 1980) who emphasized the difference between attitude and belief. They viewed attitude as a unidimensional concept based upon the amount of influence for an object and defined attitude as *"a learned implicit response that mediates evaluative behaviour."* They also argued that researchers need to study four variables to better comprehend consumer behavior - actual behavior, behavioral intentions, attitudes and beliefs. In the model, they hypothesized that generally, the behavior can be deduced from behavioral intention. From a marketing viewpoint, this model is very reverse, since it evaluates consumers' attitudes towards consuming or purchasing a product, rather than the attitude towards the product itself.

Through this study, the researchers focus on measuring consumer's attitude towards two operators of Bangladesh i.e. Airtel and Citycell . Airtel and Citycell are the well-known mobile operators providing different services to the consumers of Bangladesh. Citycell is Bangladesh's pioneering mobile communications company and the only CDMA mobile operator in the country. Citycell is a customer-driven organization, whose mission is to deliver the latest in advanced telecommunication services to Bangladesh. The company offers a full array of mobile services for consumers and businesses that are focused on the unique needs of the Bangladeshi community. Citycell's growth strategy is to integrate superior customer service, highest standards of technology and a choice of packages at affordable rates. The company operates a 24-hour call centre with well trained operators to respond to customers' queries. Citycell's customer service is open seven days a week to ensure that customers can access Citycell at any convenient time. In January 2010, Bharti Airtel Limited, Asia's leading integrated telecom service provider, acquired 70 percent stake in Warid Telecom, Bangladesh, a subsidiary of the UAE-based Abu Dhabi Group. Bharti Airtel is making a fresh investment of USD 300 million to rapidly expand the operations of Warid Telecom and to have the

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management and board control of the company. This is the largest investment in Bangladesh by an Indian company. Dhabi Group continues to be a strategic partner, retaining 30% shareholding and has its nominees on the Board of the Company.

The researchers generated the most important expected services from the mobile operators and also aimed to determine the subscribers' existing attitude and satisfaction towards these two leading companies in telecommunication industry based on Fishbein's Multiattribute Attitude Model to assist the companies in designing their marketing strategy.

LITERATURE REVIEW

Attitude of the consumer is often considered as a means to an end to behavioral aspects of marketing studies. While the everyday usage of the term is common, it has a more prominent and precise meaning in psychology. Research concerning attitude reveals several aspects about attitudes in general. One underlying assumption about attitudes is that they are learned. In other words, people are not born with attitudes. Rather, they learn or develop feelings, whether favorable or unfavorable through their experiences or the information that is available to them. Thus, an attitude is a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object, issue or behavior (Fishbein & Ajzen, 1975).

Thurstone (1928) was one of the first researchers to define attitudes. He defines an attitude as the sum of a person's feelings towards a given object. Allport extends the definition by considering *'attitude'* as a cerebral and neural state of promptness to react, which is structured through experience, and exerts a directive and vibrant manipulation on behavior. Thurstone focuses on the affective responses to various objects, whereas Allport stresses the importance of the cognitive system. Triandis (1971), on the other hand, combined the two previous definitions and proposed that attitudes, in fact, consist of three interrelated components :

(a) Cognition : The belief that consumers have regarding the attitude object.

(b) Affect : The feelings that consumers have towards the attitude object and.

(c) Conation : The consumers' intentions and actual behavior with regard to attitude.

Arnould (2002) considered attitude as an overall, enduring evaluation of a concept or object, such as a person, a brand or a service. Further, Shiu (2009) added to this by stating that attitudes are state of-mind constructs that are not directly observable. Consumer's attitudes are formed on the basis of personal experiences with the product, brand or issue. Information is obtained through advertising and plays a critical role in the formation of attitudes. This is why marketers try very hard to determine consumer attitudes towards a particular brand and product to direct their marketing efforts to influence those attitudes. Because attitudes are learned, marketers can attempt to create or modify attitudes toward their brands through the use of marketing communication tools like advertising or product sampling. Awareness of consumer attitudes is such a significant concern for marketers that it is difficult to imagine any consumer research project that does not include the measurement of some aspect of consumer attitudes (Biehal et al., 1992). The choice of a certain telecommunications service or company needs to be based on a clear evaluation of the effect of certain factors on the decision to be made. Research on telecommunications was started at the inception of the industry, but most of the research work was conducted on mobile device and mobile technology. Researchers who work on the telecommunication industry consider *'branding'* as the foremost differentiating element (Erdem & Schait, 2004; Chernev, 1997). When all the attributes are somewhat equal, the brand comparison would be the most significant differentiating element and determinant of product selection (Mellers & Biagini, 1994; Tversky & Shafir, 1992; Meyer & Eagle, 1982). Some researchers found that along with the brand, reduction in monthly bill (the fee a subscriber has to pay when he/she wants to keep the old phone number when switching to a new operator), porting time (the time it takes for a subscriber to be able to use the same phone number on the new operator,) and 3G availability are the most important attributes which affect customers' mobile operator selection (Mitomo & Otsuka, 2006).

In spite of the availability of the same technology and advantages in mobile services, services offered by the companies vary considerably. Having a diverse culture, accessibility to various technologies and the economic situation of a country require some modifications of the model, which facilitate a company to identify attributes influencing consumers. A wide range of researchers from the Asia region have engaged themselves to outline the factors that determine the subscribers' attitude of the customers of Asia to consider an operating service. It is primarily because the

impact of the promotion of mobile operating services are comparatively tangible and measurable than those from other mediums (Mohan & Aranganathan, 2011). The fierce competition among the mobile phone operators to capture the actual and potential market has resulted in various tariff plans, group plans, life-long validity services and top-up plans (Mallikarjuna & Mohan, 2010). This eventually opens up the gateway to measure the attitudes towards the factors that are most important, and the least important. A bulk of modern day Asian customers of mobile phones are the students and their perspective on the different mobile services providers has become evidently important to be considered (Bhatt, 2008). While the flexibility and versatility of mobile phone devices are the common preferences (Kumar & Priya, 2006), *'Mobile Internet'* due to social networking has become one of the important value-added services by the mobile service providers (Mohan & Aranganathan, 2011). In Bangladesh's Context, building *'trust'* with an uninterrupted network, providing social services in times of natural calamities, and flexibility of switching cost in the competitive market are the crucial factors to develop a favorable attitude towards the service providers (Islam, 2010). There is a considerable effect of advertisement based SMS in formation of attitude towards cell-phone operators (Chowdhury et al., 2006). A study shows that SMS charges, voice SMS charges, SMS sending and helpline charges have no significant effect on the customer satisfaction of cell phones, on the contrary; regardless of age, sex, and occupation, customers' satisfaction with cell phones is significantly dependent upon call rate, different charges, strong network, customer-care centre services and smooth talking (Islam, 2011). Thus, which model of consumer behavior can be attributed a certain acceptable precision to determine the important factors from this wide range of behavioral components has become an important question to deal with.

A significant amount of consumer behavior research has focused on developing models for predicting the attitudes, such as the *'theory of planned behavior'*, *'expectancy-value theory'*, *'theory of reasoned action'*, *'multi-attribute attitude model'* and so forth. According to the theory of planned behavior (Ajzen, 1991), human behavior is guided by beliefs about the likely consequences or other attributes of the behavior. On the other hand, the expectancy-value theory and social cognitive theory were focused on different psychological phenomena where social learning originally was concerned with learning by observation and imitation (Miller & Dollard, 1941). The expectancy-value theory was originally concerned with the internal processes of human behavior, such as beliefs and attitudes (Fishbein, 1968; Fishbein & Raven, 1962) which eventually resulted in the theory of reasoned action (Fishbein & Ajzen, 1975), and by adding the concept of behavioral control, the theory of reasoned action was extended to the theory of planned behavior (Ajzen, 1991).

Fishbein and Ajzen (1975) developed a multi-attribute attitude model that focused on consumers' beliefs about several products and brand attributes. This model has been one of the most influential attitude models in marketing. The multi-attribute model is especially suitable for this research because the purpose of the model is to measure attitudes towards a certain product or service. According to this model, the consumers' attitude towards a product or service is a function of the presence or absence and evaluation of certain product-specific beliefs and attributes. In other words, consumers generally have a favorable attitude towards those products or services that they evaluate as positive and have unfavorable attitudes toward those products or services that they evaluate as having too many negative attributes. Simply stated, the model says that there is a relationship between product attributes and overall attitude towards that product; therefore, it is possible to predict behavior by measuring attitude. According to Dodd and Gustafson (1997), the rationale behind this approach has been that by understanding attitudes, researchers hope to be able to predict and, if possible, manipulate behavior since attitudes are considered to be strong predictors of the subsequent purchasing behavior. Thus, Fishbein and Ajzen's (1975) multi-attribute attitude model proposes the following formula :

$$A_0 \sum_{i=1}^{n} biei$$

Where,

Ao = Attitude towards the object;

bi = The strength of the belief that the object has attribute i;

ei = The evaluation of attribute i;

n = The number of salient beliefs about the object.

Using this attitude-measuring model, a new instrument was developed specifically for this study.

OBJECTIVES OF THE STUDY

The objectives of the study are given below:

1) To evaluate the subscribers' attitude toward the attributes of Airtel and Citycell;

2) To determine the factors that influence customers to choose a particular mobile operator ;

3) To measure the customer satisfaction level towards the attributes of Airtel and Citycell.

METHODOLOGY

Secondary Research : Although many researchers have worked on mobile phone and mobile operators, there is still a lack of research about attributes which affect customers to choose a mobile operator in Bangladesh. The present researchers had rigorously gone through different articles published in national and international journals to identify factors which customers recognize in case of choosing a cellular connection. Based on the literature review, the conceptual framework of Fishbein Model was selected to fulfill the research purpose.

Qualitative Research : The researchers arranged two focus group discussions consisting of employees from Airtel and Citycell. The employees were working in Banglalaink and Citycell as executives. Based on their discussions, 28 influential factors were identified, which were used in the questionnaire for further investigation. Later, the executives were given a questionnaire to signify the most important influential factors which affect customers to choose a mobile operator.

Questionnaire Design : To conduct the study, the primary data were collected through the personal interview with a structured questionnaire (Malhotra, 2005). To measure the customers' attitude towards the existing attributes of Airtel and Citycell in Bangladesh, a scale was formed, which was similar to the Likert 5 point scale, where 1 indicates *"Strongly Disagree"* and the number 5 indicates *"Strongly Agree"* . Again, to measure the customer satisfaction level towards the attributes of Airtel and Citycell in Bangladesh, a scale was formed similar to Likert's 7 points scale, where 1 indicates *"Completely Dissatisfied,"* and the number 7 indicates *"Completely Satisfied"*.

Sampling Method And Data Collection : The population of the research were all the subscribers who had been using Airtel and Citycell. It was difficult to find a total list of the subscribers as many users were inactive users, but had the ownership of the connection. Some, in addition, were not registered. Quota sampling was used to select the respondents and collect data. Because of time and resource constraints, only 220 respondents were chosen for the interview. Among 220 respondents, 20 were executives and the remaining 200 were the users who had been using Airtel and Citycell since 2007. Among the 200 respondents, 100 respondents were for Airtel, and the remaining 100 were for Citycell. Though the students of Bangladesh have no income, most of them use cell phones and hence, influence the buying decision. Mainly, the university and college students were interviewed to collect the primary data. The respondents were chosen from six divisions of Bangladesh, where 50 were from Dhaka, 20 were from Chittagong, 50 were from Rajshahi, 20 were from Khulna, 20 were from Sylhet, and the remaining 40 were from Barishal. Most of the respondents were selected from Rajshahi, Dhaka and Barishal as the researchers were residing there. To collect the data, students were sent to their home town in the semester vacations. Before sending them, the researchers arranged a training session for the students about the questionnaire and mode of discussion.

Data Analysis : A structured questionnaire that was designed in the light of the objectives of the study according to the pattern of Fishbein Multi Attribute Model, was used in tapping the information from 200 respondents . Mean score, standard deviation as well as variance was calculated on the basis of degree of evaluation by the respondents on Fishbein Multi Attribute Model. Chi-square test was taken to identify the perceived differences between Airtel and Citycell in Bangladesh. Moreover, if the calculated value (Z) is greater than the critical value, (Z_c) then the null hypothesis is rejected, and in an opposite situation, the alternative hypothesis is accepted. Co-efficient of correlation was used to calculate the relationship between the consumers' purchase decision of Airtel and Citycell and each attribute of them.

RESULTS AND DISCUSSION

1) Factors Influencing The Choice Of A Particular Mobile Operator : Airtel and Citycell provide different types of services to satisfy their customers, but all the factors do not persuade customers in the same manner. The researchers,

Table 1: Factors Influencing The Choice Of A Particular Mobile Operator				
SNo.	**Factors/ Attributes**	**Total Respondents**	**Actual Respondents**	**Percentage**
1	Low Call Rate	20	20	100%
2	Good Network Coverage	20	19	95%
3	Pulse Facility	20	13	65%
4	Connected with Land Phone (T& T Facility)	20	12	60%
5	Friends & Family's Number (F&F)	20	11	55%
6	Internet & GPRS Connection	20	10	50%
7	SMS & Voice Mail Service	20	8	40%
8	Flexiload and Balance Transfer Facility	20	7	35%
9	Image of the Company	20	7	35%
10	Mobile TV and Radio Facility	20	7	35%
11	Customer Care Service	20	6	30%
12	Ringtone, Logo and Download Facility	20	5	25%
13	Low Price of Sim card	20	4	20%
14	Free Talk Time & Bonus Facility	20	3	15%
15	Bill Payment System	20	3	15%
16	Special Offers	20	3	15%
17	ISD Call and SMS Facility	20	3	15%
18	Duration of Card	20	2	10%
19	Free Important Message	20	2	10%
20	Medical Service	20	2	10%
21	Help Line Call Rate	20	2	10%
22	Package Facility	20	2	10%
23	Dynamic Video Connection	20	1	5%
24	Sim Replacement Facility	20	1	5%
25	EDGE Facility	20	1	5%
26	Welcome Tone	20	1	5%
27	Bluetooth Facility	20	1	5%
28	New Jobs News	20	1	5%

therefore, asked 20 executives of Airtel and Citycell to identify the most influential factors which they perceive that the companies use to influence consumers' responses. The Table 1 presents the results of pre-testing and the researchers found that 100% customers were of the view that low call rates influence the choice of a particular mobile operator ; 95% opined for a good network coverage ; 65% were in favor of the pulse facility ; 60% favored T & T facility ; 55% said that if friends and family used the same service provider, this also greatly influenced the choice of a particular mobile operator ; 50% were in favour of internet and GPRS connection , 40% opined in favor of sms and voice mail services ; 35% opioned in favour of flexiload and balance transfer facility as well as the image of the company ; 35 % were in favour of mobile TV and radio facility ; 30% were in favour of customer care service and the remaining respondents expressed their views regarding different facilities, which are listed in the Table 1. The listed factors are the factors which are generally considered by the customers to choose a particular mobile operator, which was designed on the basis of the results of the pre testing questionnaire.

2) Measuring Customers' Attitude Towards The Existing Attributes of Airtel And Citycell : Consumers' overall attitude towards the existing attributes of Airtel and Citycell are measured by using the Fishbein model. This model is formulated as below:

$$A_0 \sum_{i=1}^{n} biei$$

Where,
Ao = Person's overall Attitude towards the object ;
bi = The strength of one's belief about the attribute(i) or factor of that object ;
ei = The evaluation of feelings of the attribute (i) or factor ;
n = The number of salient attributes.

To find out overall attitude of consumers towards the existing attributes of Airtel and Citycell, the researchers questioned the respondents regarding the evaluation and beliefs of 15 factors which the executives have rated as the most preferable factors to choose an operator. The overall attitudes are presented independently in the Table 2.

Table 2: Overall Attitude

SNo.	Factors/Attributes	Airtel			Citycell		
		Ei	bi	eibi	ei	bi	eibi
1	Good Network Coverage	0.95	3.7400	3.553	1.09	3.7500	4.0875
2	Low Call Rate	1.37	4.0200	5.5074	1.34	4.1200	5.5208
3	Pulse Facility	0.61	3.3300	2.0313	0.53	3.2500	1.7225
4	Connected with Land Phone	1.17	3.8200	4.4694	0.78	4.0000	3.12
5	Friends and Family's Number	1.24	4.0900	5.0716	1.3	4.0200	5.226
6	Internet and GPRS Connection	-0.01	2.7500	-0.0275	0.33	3.2300	1.0659
7	SMS and Voice Mail Service	0.94	3.6400	3.4216	0.59	3.3000	1.947
8	Flexiload & Balance Transfer Facility	1.33	4.0500	5.3865	0.89	3.5300	3.1417
9	Image of the Company	1.13	4.0100	4.5313	0.51	3.2900	1.6779
10	Mobile TV and Radio Facility	-0.25	2.3000	-0.575	-0.5	2.2100	-1.105
11	Customer Care Service	1.15	4.0100	4.6115	0.4	3.8600	1.544
12	R, L and S Download Facility	0.71	3.1900	2.2649	0.69	3.7700	2.6013
13	Low Price of Sim Card	0.3	3.0200	0.906	0.58	3.4500	2.001
14	Free Talk Time and Bonus Facility	1.55	4.2500	6.5875	0.33	3.1400	1.0362
15	Bill Payment System	0.68	3.5500	2.414	0.33	3.1900	1.0527
	Total	**12.87**	**53.77**	**50.1535**	**9.19**	**52.11**	**34.6395**

(R= Ringtone, L= Logo and S= Screen Saver)

Table 3: Customers' Overall Satisfaction Level Towards The Existing Attributes

Satisfaction Level	Airtel					Citycell				
	F	Percent	Mean	SD	Var	F	Percent	Mean	SD	Var
CD	4	4.0	4.6400	1.21039	1.465	4	4.00	4.5300	1.13222	1.282
MD	6	6.0				2	2.00			
D	1	1.0				5	5.00			
N	17	17.0				30	30.00			
S	56	56.0				45	45.00			
MS	15	15.0				13	13.00			
CS	1	1.0				1	1.00			
Total	**100**	**100.00**				**100**	**100.00**			

CD= Completely Dissatisfied, MD= Moderately Dissatisfied, D= Dissatisfied, N= Neither Satisfied nor Dissatisfied, S=Satisfied, MS=Moderately Satisfied, CS=Completely Satisfied, F= Frequency, SD= Standard Deviation, Var= Variance

According to this model, customers' overall attitude towards the existing attributes of Airtel was :

Ao = 50.1535

and customers' overall attitude towards the existing attributes of Citycell was :

Ao = 34.6395

The Table 3 shows that customers' overall attitude towards the existing attributes of Airtel regarding good network coverage was 3.553; low call rate was 5.5074 ; pulse facility was 2.0313 ; connection with land phone (T & T facility) was 4.4694 ; friends and family's number was 5.0716 ; Internet and GPRS Connection was -0.0275 (negative) ; SMS and Voice Mail Service was 3.4216 ; Flexiload & Balance Transfer Facility was 5.3865 ; Image of the Company was 4.5313 ; Mobile TV and Radio Facility was -0.575 (negative) ; Customer Care Service was 4.6115 ; ringtone , logo and screen sever download facility was 2.2649 ; Low Price of Sim Card was 0.906 ; Free Talk Time and Bonus Facility was 6.5875 ; and Bill Payment System was 8.1356 ; whereas customers' overall attitude towards Citycell regarding the afore - mentioned factors was, 4.0875, 5.5208, 1.7225, 3.12, 5.226, 1.0659, 1.947, 3.1417, 1.6779, -1.105, 1.544, 2.6013, 2.001, 1.0362 and 1.0527 respectively.

Good Network Coverage, Low Call Rates, Connected with Land Phone, Friends and Family's Number, SMS and Voice Mail Service, Flexiload & Balance Transfer Facility, Image of the Company, Customer Care Service, Free Talk Time and Bonus Facility held a better position in the consumers' mind in selecting a particular mobile operator,

Figure 1 : Line Chart

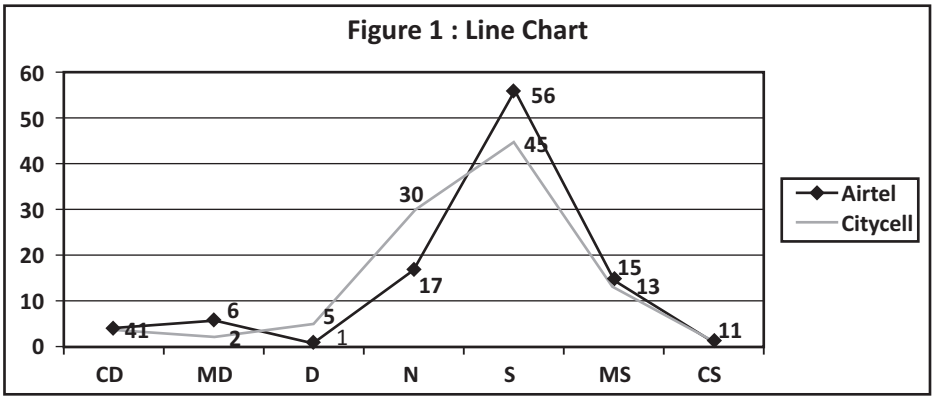

Table 4: Calculation of The Relationship Between Consumers' Purchase Decision

		Airtel			Citycell	
Variables/ Attributes	$\Sigma(X-\bar{X})(Y-\bar{Y})$	$\sqrt{\Sigma(X-\bar{X})^2\Sigma(Y-\bar{Y})^2}$	**r**	$\Sigma(X-\bar{X})(Y-\bar{Y})$	$\sqrt{\Sigma(X-\bar{X})^2\Sigma(Y-\bar{Y})^2}$	**r**
Good Network Coverage	-8.86	54.29	-0.1632	39.00	83.9807	0.4643
Low Call Rate	7.0746	54.5175	0.12976	-48.96	334.2525	-0.1464
Pulse Facility	20.63	62.0949	0.33223	-1.00	94.7347	-0.0105
Connected with Land Phone (T & T Facility)	2.02	60.6217	0.03332	118	400.5999	0.2945
Friends & Family's Number	-2.01	54.5888	-0.03682	26.88	92.2421	0.2914
Internet and GPRS Connection	11.25	62.8090	0.17911	4.12	86.7784	0.0474
SMS and Voice Mail Service	10.04	57.8494	0.17355	27.20	76.3832	0.3560
Flexi Load & Balance Transfer Facility	1.55	49.5804	0.03126	1.32	82.3964	0.0160
Image of the Company	6.89	57.2476	0.12035	12.76	89.4580	0.1426
Mobile TV and Radio Facility	17.853	64.9903	0.27470	18.24	91.7310	0.1988
Customer Care Service	0.11	54.5161	0.00201	61.84	436.2027	0.1417
Ringtone, Logo and Screen Saver Download Facility	14.09	61.3503	0.22966	32.72	95.0277	0.3443
Low Price of Sim Card	16.22	71.6570	0.22635	39.80	113.2189	0.3515
Free Talk Time and Bonus Facility	-10.25	62.8090	-0.16319	26.16	84.5062	0.3095
Bill Payment System	8.05	54.7618	0.147	24.36	75.6563	0.3219

whether it was Airtel or Citycell and the scores show the differences between them.

By posing direct questions regarding the overall satisfaction level to the respondents regarding the existing attributes of Airtel and Citycell, the researchers found (see Figure 1 and Table 3) that out of the total respondents, overall, 72% of the customers were satisfied with all the existing facilities provided by Airtel. Out of the 72 % satisfied customers - 56% customers were satisfied, 15% customers were moderately satisfied, and only 1% customers were completely satisfied. 17% expressed a neutral position. The remaining 11% expressed their dissatisfaction towards the existing facilities provided by Airtel. Out of the 11% dissatisfied customers, 1% were dissatisfied, 6% were moderately dissatisfied, and 4% were completely dissatisfied. On the other hand, 59% of the customers were satisfied with the existing facilities provided by Citycell. Out of the 59% satisfied customers, 45% customers were satisfied, 13% customers were extremely satisfied, and only 1% customers were completely satisfied. 30% expressed that they were neutral - which implies that they were neither satisfied nor dissatisfied. The remaining 11% expressed their dissatisfaction towards all the existing facilities provided by Citycell, where 4% said that they were completely dissatisfied, 2% were moderately dissatisfied ; and the remaining 5% said that they were dissatisfied. The mean value of all the factors of Airtel is 4.6400, which lies in the neither satisfied nor dissatisfied category, while a mean value of Citycell is 4.5300, which also lies in the neither satisfied nor dissatisfied category. This means that the satisfaction level of the customers of Airtel and Citycell was not so different, though the customers of Airtel were a little more satisfied in comparison to the customers of Citycell. Moreover, customers' overall satisfaction level towards the existing attributes of Airtel and Citycell is shown in the Figure 1.

3) Calculating The Relationship Between The Consumers' Purchase Decision Of Mobile Operators On Each Attribute : The data of the Table 4 is calculated by using the formula of Coefficient of Correlation. The formula is as followed:

$$r = \frac{\sum(X-\bar{X})\,(Y-\bar{Y})}{\sqrt{\sum(X-\bar{X})^2 \sum(Y-\bar{Y})^2}}$$

Table 5 : Chi-square Test

	Airtel			Citycell		
	5% level of significance and 4 df			5% level of significance and 4 df		
Variables	**Calculated z value**	**Critical z value**	**Result (Ho)**	**Calculated z value**	**Critical z value**	**Result (Ho)**
Good Network Coverage	83.200	14.860	Rejected	62.700	14.860	Rejected
Low Call Rate	70.700	14.860	Rejected	68.800	14.860	Rejected
Pulse Facility	60.500	14.860	Rejected	21.300	14.860	Rejected
Connected with Land Phone (T & T Facility)	39.900	14.860	Rejected	63.560	14.860	Rejected
Friends and Family's Number	70.300	14.860	Rejected	57.500	14.860	Rejected
Internet and GPRS Connection	25.300	14.860	Rejected	32.300	14.860	Rejected
SMS and Voice Mail Service	38.800	14.860	Rejected	57.200	14.860	Rejected
Flexiload & Balance Transfer Facility	36.240	14.860	Rejected	11.440	14.860	Accepted
Image of the Company	71.900	14.860	Rejected	30.000	14.860	Rejected
Mobile TV and Radio Facility	27.200	14.860	Rejected	36.100	14.860	Rejected
Customer Care Service	70.700	14.860	Rejected	70.520	14.860	Rejected
Ringtone, Logo and Screen Saver Download Facility	31.700	14.860	Rejected	45.200	14.860	Rejected
Low Price of Sim Card	11.900	14.860	Accepted	11.300	14.860	Accepted
Free Talk Time and Bonus Facility	97.000	14.860	Rejected	36.400	14.860	Rejected
Bill Payment System	52.700	14.860	Rejected	59.500	14.860	Rejected
Ho = Null Hypothesis						

Where,

Xi= The value of purchase decision of Airtel and Citycell ;

X = The mean value of consumer decision of Airtel and Citycell ;

Yi= The value of all the attributes of Airtel and Citycell ;

Y= The mean value of all the attributes of Airtel and Citycell ;

r = The coefficient of correlation between the consumer purchase decision of Airtel and Citycell and each attribute of Airtel and Citycell.

The Table 4 presents that there is a positive correlation between the consumer purchase decision of Airtel and each attribute of Airtel except good network coverage, friends and family's number and free talk time and bonus facility. These three factors have a negative correlation with the purchase of an Airtel Sim card (Mobile Operator). It indicates that consumers who are using an Airtel Sim card, they do not consider these factors while making the purchase decision. Mainly, they are deprived of these three facilities. On the other hand, in case of Citycell, there is a positive correlation between the consumers' purchase decision of Citycell and each attribute of Citycell, apart from the low call rates and pulse facility. These two factors have a negative correlation with the purchase of the Citycell Sim card (Mobile Operator). Therefore, consumers of Citycell never purchase the Citycell Sim card on the basis of the afore-mentioned attributes.

TESTING OF THE HYPOTHESES THROUGH CHI-SQUARE

The hypotheses are tested by using the technique of chi square. The calculated z values of the table are determined by using the following formula:

$$\chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{j}\frac{(O_{ij}-E_{ij})^2}{E_{ij}} \; or \; \sum\frac{(O-E)^2}{E}$$

Where,

χ^2 = Value of Chi square ;

O = The Observed Value ;

E= The Expected Value.

At 5% level of significance and 4 degrees of freedom, the critical Z value of chi- square test is 14.860. According to the rules of chi square , if $\chi^2 < \chi^2_{1-\alpha/2}$, null hypothesis is accepted and if, $\chi^2 > \chi^2_{1-\alpha/2}$, null hypothesis is rejected.

From the Table 5, we can infer that among the 15 variables, 14 variables are rejected in case of Airtel. It means that the purchase decision of Airtel depends on the mentioned 14 factors and the remaining 1 variable does not affect the buying decision of Airtel. On the other hand, among the 15 variables, 13 variables are rejected in case of Citycell. This means that the purchase decision of Citycell depends on the mentioned 13 factors (see Table 5) and the remaining 2 variables do not affect the buying decision of Citycell. Therefore, the purchase decision of Airtel and Citycell (Mobile operator) depend on these factors.

CONCLUSION

Customers' satisfaction is the key factor to choose the best alternative for the customers and to increase the market share in the competitive business environment of Mobile Service Providers. This study was conducted for measuring customers' satisfaction and attitudes towards attributes on the basis of Fishbein's Multiattribute Attitude Model towards two leading mobile companies on the basis of fifteen factors. Research indicates that overall, customers' beliefs are different towards Airtel and Citycell and the test results support it fairly. The researchers found that the choice of Airtel and Citycell is influenced by thirteen factors out of fifteen. The differences between the satisfaction for Airtel and Citycell are, to some extent, significant in respect of fifteen factors. The customers showed the maximum satisfaction towards Airtel, and it achieved a comparatively better position than Citycell. It was found that low call rates, good network coverage, pulse facility, connected with land phone and friends & family's number are the most influential factors in choosing a particular company's mobile connection. The outcome of this study might be used as an index for further improvement in quality of the services of mobile service providers for wider satisfaction and for formulating suitable marketing strategies.

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Appendix 1: Customers' Overall Evaluation About The Attributes of Airtel and Citycell									
Key Issues	**Company**	**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Mean**	**SD**	**Variance**
Good Network Coverage	Airtel	17	55	15	11	2	3.7400	.93873	.881
	Citycell	22	49	13	14	2	3.7500	1.01876	1.038
Low Call Rate	Airtel	33	46	13	6	2	4.0200	.94259	.888
	Citycell	47	31	11	9	2	4.1200	1.05677	1.117
Pulse Facility	Airtel	7	48	26	9	10	3.3300	1.07360	1.705
	Citycell	13	34	26	19	8	3.2500	1.14922	1.321
Connected with Land Phone	Airtel	30	36	23	8	3	3.8200	1.04813	1.099
(T & T Facility)	Citycell	18	34	34	8	5	3.5000	1.06837	1.141
Friends and Family's Number	Airtel	38	42	13	5	2	4.0900	.94383	.891
	Citycell	42	34	13	6	5	4.0200	1.11898	1.252
Internet and GPRS Connection	Airtel	4	24	28	31	13	2.7500	1.08595	1.179
	Citycell	10	35	27	24	4	3.2300	1.05270	1.108
SMS and Voice Mail Service	Airtel	21	37	29	11	2	3.6400	1.00020	1.000
	Citycell	10	29	45	13	3	3.3000	.92660	.859
Flexiload & Balance Transfer Facility	Airtel	33	45	16	6	0	4.0500	.85723	.735
	Citycell	17	39	24	20	0	3.5300	.99955	.999
Image of the Company	Airtel	34	46	9	9	2	4.0100	.98980	.980
	Citycell	13	31	35	14	7	3.2900	1.08521	1.178
Mobile TV and Radio Facility	Airtel	2	16	22	30	30	2.3000	1.12367	1.263
	Citycell	5	6	26	31	32	2.2100	1.11278	1.238
Customer Care Service	Airtel	32	46	16	3	3	4.0100	.93738	.879
	Citycell	11	36	28	18	7	3.2600	1.09747	1.204
Ringtone, Logo and Screen Sever	Airtel	10	30	36	17	7	3.1900	1.06073	1.125
Download Facility	Citycell	20	24	36	13	7	3.3700	1.15168	1.326
Low Price of Sim Card	Airtel	15	22	23	30	10	3.0200	1.23893	1.535
	Citycell	29	27	16	16	12	3.4500	1.37345	1.886
Free Talk Time and Bonus Facility	Airtel	55	28	7	9	1	4.2700	1.00358	1.007
	Citycell	9	27	39	19	6	3.1400	1.02514	1.051
Bill Payment System	Airtel	16	36	38	7	3	3.5500	.94682	.896
	Citycell	7	28	46	15	4	3.1900	.91778	.842

Appendix 2 : Characteristics of The Respondents

Profession (Airtel)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Student	37	37.0	37.0	37.0
Private Service	17	17.0	17.0	54.0
Public Service	15	15.0	15.0	69.0
Business	28	28.0	28.0	97.0
Others	3	3.0	3.0	100.0
Total	**100**	**100.0**	**100.0**	

Profession (Citycell)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Student	44	44.0	44.0	44.0
Private Service	20	20.0	20.0	64.0
Public Service	10	10.0	10.0	74.0
Business	23	23.0	23.0	97.0
Others	3	03.0	03.0	100.0
Total	**100**	**100.0**	**100.0**	

Monthly Income (Airtel)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Less than 10000	15	15.0	15.0	15.0
10000-20000	56	56.0	56.0	71.0
20000-30000	18	18.0	18.0	89.0
More than 30000	11	11.0	11.0	100.0
Total	**100**	**100.0**	**100.0**	

Monthly Income (Citycell)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Less than10000	28	28.0	28.0	28.0
10000-20000	43	43.0	43.0	71.0
20000-30000	16	16.0	16.0	87.0
More than 30000	13	13.0	13.0	100.0
Total	**100**	**100.0**	**100.0**	

Education (Airtel)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Primary School	1	1.0	1.0	1.0
High School	4	4.0	4.0	5.0
College	18	18.0	18.0	23.0
University	77	77.0	77.0	100.0
Total	**100**	**100.0**	**100.0**	

Education (Citycell)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Primary School	1	1.0	1.0	1.0
High School	1	1.0	1.0	2.0
College	24	24.0	24.0	26.0
University	74	74.0	74.0	100.0
Total	**100**	**100.0**	**100.0**	

Location (Airtel)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Dhaka	25	20.00	20.00	20.00
Chittagong	10	10.00	10.00	30.00
Rajshahi	25	20.00	20.00	50.00
Khulna	10	10.00	10.00	60.00
Sylhet	10	20.00	20.00	80.0
Barishal	20	20.00	20.00	100.0
Total	**100**	**100.0**	**100.0**	

Location (Citycell)				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Dhaka	25	20.00	20.00	20.00
Chittagong	10	10.00	10.00	30.00
Rajshahi	20	20.00	20.00	50.00
Khulna	10	10.00	10.00	60.00
Sylhet	20	20.00	20.00	80.0
Barishal	20	20.00	20.00	100.0
Total	**100**	**100.0**	**100.0**	