Comparative Study of Cellular Network Operators in Pakistan using SERVQUAL Model

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Abstract

The purpose of this paper is to compare the service quality of two leading and competing cellular network brands of Pakistan, UFone and Mobilink using SERVQUAL model. Further, this study is aimed to explore the most quality oriented network in terms of customer satisfaction. Study is opted for a quantitative research design using close ended approach including 352 survey respondents with convenience and judgmental sampling technique. The participant of this study comprises of UFone and Mobilink subscribers. The data was collected using five point likert scale and analyzed using inferential and descriptive statistics i.e. independent samples t-test. The paper has extended the knowledge about cellular network service quality and empirically found that SERVQUAL dimensions of UFone are strong enough as compared to Mobilink. However SERVQUAL tangible dimension is common in both brands. Similarly, UFone customers are more satisfied than Mobilink customers. The paper extended empirical knowledge about how service quality contributes in customer satisfaction and which factors are most powerful. Therefore this study can help both cellular networks to create sustainable and competitive strategies that can manifest customer psychology in Pakistan

*Keywords: SERVQUAL Model, UFone Cellular Network, Mobilink Cellular Network,
Customer Satisfaction*

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1. Introduction

The concept of quality causes an immense challenge for all the corporations in this modern era. It is the quality through which companies attract and retain the customers for the future development. Quality is a focal point in both manufacturing and service oriented businesses, because through quality the businesses are fulfilling customers' needs and wants. Quality is being considered more important in the service sector due to the intangibility of service. Since past few years service quality has become an important issue for the companies. It has astrong impact on business performance, cost efficiency, improving customers' satisfaction and profitability (Kasiri, et al., 2017; Cronin and Taylor 1992).

In the light of these challenges, mobile phone operators consider customer satisfaction as a strategic priority. Customer satisfaction can be defined as customers overall evaluation of the performance of offerings to date (Johnson and Formell, 1991; Sadeh & Sadeh, 2017). Customers' satisfaction can be defined as when customer compares performance with its expectations before and after purchase (Westbrook and Oliver, 1991). It is considered that many times businesses fail to determine whether the customer is happy or not and how to make customers happy. Companies are also trying to find the reasons for customer's dissatisfaction and also trying to know what the needs of customers are. Finding new customers is costly than retaining existing customers (Muhammad, Jugwani, Rehman, 2016).

Service quality is related with customer satisfaction in any industry. If the company will provide effective service then customers will be more satisfied with that company. Satisfied customers will repurchase or re-use service (Anderson & Fomell, 1994). According to Zeithaml et al. (2000), high Service quality will lead to customers' loyalty which will reduce the customer complaints and improve the retentions of customers. Customersatisfaction is a major goal for all organizations. In Pakistan service sectors have always been criticized for poor quality. Among many service sectors, one important service sector is telecommunication. This industry has a greater amount of contribution in the economy and also in public. Because of this many transactions and activities takes place daily. It also helps in planning, decision making and exchange of information. Challenging environment has driven out telecommunication companies to follow defensive strategies to retain their subscribers (Al-Zu'bi et al. 2012). Just like other companies, telecommunication companies also consider their customers as their most important asset (Eshghi, and Ganguli, 2008). The performance of telecommunication is poor. For that, the government has to take the decision of privatization or divestiture.

The cellular network is an important part of telecommunication infrastructure. Cellular service helps every individual in remaining contact with their friends and family members. Pakistan is experiencing a growth in the mobile cellular industry (Eshghi, and Ganguli, 2008). The performance of cellular networks depends upon their service quality. In this era of competition service providers are competing with each other on the basis of price and service quality and it is important and necessary for them to fulfill customers' requirements (Anderson & Fomell, 1994). Past studies also show that increasing rate of cell phone industry has moved the hub of the mobile industry to the quality of services and competitive pricing. Cellular companies are trying to attract and retain the customers through effective service quality. Now the existing cellular companies are facing intense

competition due to market saturation, so for retention of customers, cellular companies are using those policies through which they can satisfy their customers.

Numerous researches have been conducted in many countries of the world in the cellular industry regarding engineering and marketing aspects. According to many researchers that through customer satisfaction firm's financial performance can be improved. For example Feng, & Morrison, (2007); Anderson & Fomell, (1994) suggested that provision of better services is a tool to satisfy the customers. Hence, by considering all issues of importance, this study is structured to compare service quality of two leading cellular network brands in Pakistan.

2.   Research Gap

The entrance of many cellular network companies in Pakistan has occurred intense competition. The high competition in the cellular market in Pakistan has not only provided many options to customers but has also created a high level of awareness of this industry. Customers are more conscious about the rates they are offered and as a result, they should be addressed through intelligent methods that attract them and focus on their needs to form a positive image of company's services quality. Customer satisfaction is highly influenced by its quality of service. Therefore it is very important to address following questions:

1. To compare customer satisfaction and service quality between Ufone and Mobilink cellular networks in Pakistan
2. Do Ufone and Mobilink have any significant difference by using SERVQUAL in the cellular industry of Pakistan?

3.   Literature Review

3.1.   Service Quality:

Service is an activity which is offered to a customer and is consumed and formed at a time (Kothari, 2011). According to Gronroos (1984) that service is an activity or more activities which are offered through the interaction of customers and employees for solving the problem of customers. In Japanese philosophy meaning of quality is zero defect product or service (Kothari, 2011). Quality can be defined as when conformance of products meets with its standards (Crosby 1979; Padma, 2016). Research has proved that quality helps companies to get more market share and lowering production costs and develops a overall perceptions of customers when they use goods and services (Lien, & Zhou, 2017). Cronin and Taylor (1992) defined service quality as an attitude which is formed when customer compares the performance of goods and services with its performance. In the literature of service marketing service quality is an overall assessment of the service (Buswell, Williams, & Sutton, 2017; Eshghi, and Ganguli, 2008; Bolton, and Drew 1991). Lehtinen and Lehtinen (1982) considered service quality through three dimensions which are physical, interactive and corporate. Physical dimension is concerned with physical resources. Interactive dimension is concerned with the interaction between company and customer and corporate quality includes the image of the company in customers mind (Eshghi, and Ganguli, 2008; Wong, 2017; Subrahmanyam, 2017).

Service quality is the difference between expectations of the customer before and after usage of the service (Sriram, V. P. 2016; Asubonteng et al, 1996). Service quality is abstract in nature for that it is difficult to measure service quality (Cronin et al. 1992; Lien, & Zhou, 2017). Yoo and Park (2007) described that firm's sustainable competitive advantage depends upon the high level of service quality. Service quality regarded as customers impression about inferiority and superiority of service (Tsoukatos and Rand, 2006). There are sub-dimensions of the service quality which results in greater customers' satisfaction (Van & Geneidy, 2016). Providing high service quality is a major constituent of today's competitive edge. It is very important to measure service quality. For measuring the service quality many researchers gave many models. For example, one important model is SERVAUAL given by Parasuraman et al. (1988). This model is consisting of five dimensions of service quality these are reliability, tangibility, responsiveness, assurance and empathy. Many researchers have criticized this model because it is only concerned with the difference between the expectations and the performance. In general service quality is based on five dimensions which are reliability, tangibility, responsiveness, assurance and empathy (Cavana et al. 2007). SERVQUAL model which is used to measure the quality of service does not include the perception of customers' (Faranak and Behnaz 2011). In SERVQUAL perceived service quality can be determined by knowing inside breaks between the specifications of service quality and expectations of the customers (Duygun, & Menteş, 2016). If consumer's expectations are meeting with company's service quality then it will be perceived that service quality is satisfying customers' requirements and this will lead positive behavior of customer (Parasuraman et. al. 1988).

3.2   Customer Satisfaction

Customers' satisfaction is a psychological state which is the outcome of the situation when customers compare expectations with performance before and after purchase (Westbrook and Oliver1991; Guzman, & Stern, 2016). Customers make these comparisons for each part of the product and service or for the total product and service. Satisfaction of customers is the condition of mind that customer possesses about companies when that companyhas met with expectations or exceed the expectations of customers over the lifetime of products and services (Duygun, & Menteş, 2016). According to Elbeltagi & Agag (2016), the definitions of customers' satisfaction is a psychological response by the consumer to buying and using a product of product which results from a condition when customer compare cost versus benefit of the purchase concerned to his or her expectations.

Customers' satisfaction can be described as subsequent evaluation of purchase (Parasuraman et. al. 1988). The impression in customer mind after evaluation of the use of product or service can also be customer satisfaction (Westbrook and Oliver1991; Guzman, & Stern, 2016). Therefore it is emotional response associated with a specific transaction in which customer compare product result to some set of the standard before purchase. Satisfaction of customer has been widely deliberated in marketing arena (Westbrook and Oliver1991; Anderson and Fomel, 1994). Customer satisfaction can also be measured for public and private sectors (Johnson and Fomell 1991). According to Johnson and Sirikit (2002) that researchers have developed two broad types of evaluations about customer satisfaction: (1) satisfaction at the time of the transaction

(2) overall customers' satisfaction. The description of customer satisfaction in cumulative satisfaction concept is customers overall experience with the company. Customer satisfaction is an important factor in formulating customer desires for future purchases (Parasuraman et. al. 1985).

3.3.   Customer Satisfaction and Service Quality

In spite of the high growth of mobile communication the substantial researches have been conducted over the past years (Eshghi, and Ganguli, 2008). For example, Arthur et, al., (2016) conducted researches about customer satisfaction in mobile services in Canada. Lee & Ritzman (2005), concluded that call quality, customer care have a notable impact on the satisfaction of customers for cellular network companies and also create faithful buyers (Gerpott, Rams and Schindler, 2000). A survey has given much Importance to transmission quality and network coverage (Woo and Fock, 1999). According to Sharma and Ojha (2004), that network performance, retailer process performance, and performance of operators are the three major constituents of customers' satisfaction. Satisfied customers of telecommunication use more services and have intentions to repurchase service in future (Henkel et al., 2006; Ishfaq et, al., 2010). In cellular mobile market customer possess higher expectations about communication from its service providers and if companies are not fulfilling those expectations then customers will switch to another service provider (Boccardi, et. al., 2016). Wang et al. (2004) conducted research on the impact of quality related factors on customer value and customer satisfaction. In china, they used structural equation modeling (SEM) and they also used the service quality dimensions model (SERVQUAL) given by Parasuraman et al. (1988) which is based on five factors which are reliability, tangibility, responsiveness, assurance and empathy.

Results showed that service quality is significantly and positively related to customers' satisfaction. Johnson and Sirikit (2002) investigated their study on landline and mobile users of Thai communication industry and they used service quality dimensions in their research. Empathy and effective attitude of service provider will create customer satisfaction and in this way, customers recommend to others to use devices of organization (Baumann et al. 2006). They showed the short run relation of responsiveness with customer satisfaction and the long-run relation of empathy and effective attitude with customer satisfaction and customer repurchase intentions. Bases on above literature review following research hypothesis can be formulated as:

3.4. Hypotheses:
H1: Tangibility services offered by UFone cellular network are significantly different from the tangibility services of Mobilink cellular network.
H2: Assurance services offered by UFone cellular network are significantly different from the assurance services of Mobilink cellular network
H3: Reliability services offered by UFone cellular network are significantly different from the reliability services of Mobilink cellular network.
H4: Responsiveness services offered by UFone cellular network are significantly different from responsiveness services of Mobilink cellular network

H5: Empathy services offered by UFone cellular network are significantly different from the empathy services of Mobilink cellular network

H6: Customer satisfaction of Ufone cellular network is significantly higher than customer satisfaction of Mobilink cellular network

H7: Service quality dimensions namely tangibility, empathy, responsiveness, assurance and reliability, has significant positive influence on customers satisfaction

4. Methodology

4.1. Sample size and data collection

This research is quantitative in nature with survey design approach. Researchers have used non-probability approach using convenience and judgmental sampling techniques. The sample unit of analysis for this study is subscribers of Ufone and Mobilink cellular network. Total 352 sample size was selected based on sample selection criteria suggested by Zikmand et. al, (2010) and Hair et. al., (2010). Out of total sample size total,Ufone users were 177 and remaining 175 were users of Mobilink. In order to measure service quality, a scale developed by Parasuraman et al. (1988) was used to collect the data from the respondents. Similarly, a scale developed by Brady (2005) was used to measure customer satisfaction. All constructs were measured by using five points likert scale from 1 for strongly disagree to 5 for strongly agree. Moreover, primary data was collected from Sukkur and Khairpur cities of Sindh province of Pakistan. Following the procedure of data screening and refining, sample t-test and regression analysis was performed using SPSS-v-20.

5. Analysis and Results

Respondent profile

The instrument was composed of individual demographic data i.e. gender, age, occupation and material status. Approximately, a total of 75.5 percent respondents were male and 24.4 percent female respondents from the 100 percent responded questionnaire. Moreover, 43.3 percent respondents were from age bracket of 18-24 followed by 29.5 percent from 25-28 and 13.6 percent from the age group of 29 and above. In other words, the majority of respondents were youngsters who recorded their responses in this study. However, 34.3 percent students and 46.3 percent business man and 10.3 percent with other occupation participated. Respondents belonged to their respective ethnicities i.e. Sindhi 43.0, Panjabi 30.0, Pakhtoon 12.8, Baloch 8.1 and others 5.5 percent respectively. Since the majority of students were unmarried i.e. 74.3 percent and only 25.7 percent married students recorded their responses as shown in table no. 1.

Table No. 1.   Respondent's Profile.

Category	Profile	Total Number	(%)
Gender	Male	161	75.5
	Female	52	24.4
Age	18 – 24	93	43.6
	25 - 28	63	29.5
	29 +	29	13.6
occupation	Students	153	34.3
	Businessman	115	46.3
	Other	84	10.3
Ethnicity	Sindhi	233	43.3
	Punjabi	67	30.0
	Pakhtoon	27	12.8
	Balouch	15	8.15
	Other	10	5.57
Marital Status	Married	135	25.7
	Single	217	74.2

6.   Reliability Analysis

The purpose of reliability analysis is to identify the consistency among used items. In this research, the reliability of variables is the alpha value of .807 or 81 percent for all 25 items. Similarly, the individual reliability of dependent variable (customer satisfaction) has an alpha value of .774 or 77 percent for 3 items and independent variable (service quality) has an alpha value of 76 percent for 22 items were found.

7.   Regression Analysis

In table no. 2: the model fitness is shown. It indicates that there is the positive relationship between service quality and customer satisfaction at r=.67. However the model is moderate fir at r²=.52. it suggest that the model that is used in this research contributes in customer satisfaction by explain to 52 percent while reaming portion of 48 percent could be those elements or factor which are not the part of this research.

Table No. 2.   Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677[a]	.528	.524	.62278
a. Predictors: (Constant), SERVQUAL				

In table no. 3, analysis of variance (ANOVA) shows the significance variance of independent variable on dependent variable. This model has a statistical significance at Sig.=0.000 which means p<0.05. This result shows that significance variance is explained the predictors (SERVQUAL) on dependent variable (customer satisfaction). Moreover, null hypothesis has been rejected that service quality has no positive and significant

(impact on customers' satisfaction at value of p is 0% which is less than 5% p<0.05). Similarly, values r² = .528 which is in the range of F=65.517.

Table No. 3.   ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.411	1	25.411	65.517	.000[a]
	Residual	86.104	222	.388		
	Total	111.515	223			
a. Predictors: (Constant), SERVQUAL						
b. Dependent Variable: Satisfaction						

In table no. 4, the coefficients results are shown. These results clearly supports the H7 which is service quality dimensions namely tangibility, empathy, responsiveness, assurance and reliability, has significant positive influence on customers satisfaction. It represents the coefficients beta value of tangibility, assurance, reliability, responsiveness and empathy at 0.477, 492, .424, .419, and .476 respectively which indicates that SERVQUAL dimensions have a normal contribution. The alpha value is 0.038 in the regression equation and value of beta of all SERVQUAL Dimensions tangibility, assurance, reliability, responsiveness and empathy is .843, .851, .826, .791, and .882 respectively. Hence the regression equation is *CS=0.038+0.843+0.851+0.826+0.791+0.882 (SERVQUAL).* This equation can help the managers in decision making and in formulating strategy regarding the improvement of service quality.

Table No. 4.   Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.038	.248		.155	.877
	Tangibility	.843	.104	.477	8.094	.000
	Assurance	.851	.121	.492	7.380	.000
	Reliability	.826	.114	.424	8.038	.001
	Responsiveness	.791	.159	.419	9.429	.000
	Empathy	.882	.128	.476	8.724	.000
a. Dependent Variable: Satisfaction						

Independent Sample T- Test
Table no. 5 and 6 shows results of group statistics of independent sample t-test. These results indicate that the mean values of all SERVQUAL dimensions. Specifically, the mean results of SERVQUAL dimension tangibility for Ufone customers at M = 12.19, SD = 2.60 and Mobilink customers at M = 12.93, SD = 2.49 are not much significantly different for both cellular networks. It indicates that Ufone and Mobilink tangible services like sim cards, broachers, cellphones, equipment, staff members, and another type of communication materials are common and have no major difference.

Table No. 5.   Independent Sample T-test - Group Statistics

Dimensions	Customers	N	Mean	Std. Deviation	Std. Error Mean
Tangibility	Ufone Subscriber	177	12.19	2.60	.04112
	Mobilink Subscriber	175	12.93	2.49	.07853
Assurance	Ufon Subscriber	177	21.17	4.59	.04016
	Mobilink Subscriber	175	12.07	5.57	.09065
Reliability	Ufone Subscriber	177	17.21	1.69	.04709
	Mobilink Subscriber	175	2.07	.62	.09839
Responsiveness	Ufone Subscriber	177	15.35	4.76	.05146
	Mobilink Subscriber	175	7.07	2.69	.11018
Empathy	Ufone Subscriber	177	18.28	1.72	.04902
	Mobilink Subscriber	175	11.33	8.60	.09501
Customer Satisfaction	Ufone Subscriber	177	8.19	1.60	.04112
	Mobilink Subscriber	175	2.92	.49	.07853

Moreover, the results of Levene's test for equality of variance do not support H1 at M = -.482, t value = 11.02, p = .090, F= 1.326. Similarly, the mean results of SERVQUAL dimension assurance for Ufone customers at M = 21.17, SD = 4.59 and Mobilink customers at M = 12.07, SD = 5.57 are significantly different for both cellular networks. Therefore H2 is supported at M=2.191, t value = 19.16, p = .000, F= 23.159. It indicates that both cellular networks are competing to deliver the assured services to their customers based on their best capabilities.

Table No. 6.   Independent Sample T-test - Hypothesis Testing

Hypothesis	Constructs	Mean Difference	t-value	F	P-Value	Results
H1	Tangibility	-.482	11.02	1.326	.090	Rejected
H2	Assurance	2.191	19.16	23.159	.000	Accepted
H3	Reliability	13.68	4.17	14.231	.000	Accepted
H4	Responsiveness	11.16	7.36	11.197	.000	Accepted
H5	Empathy	9.26	12.15	23.291	.000	Accepted
H6	Customer Satisfaction	3.17	17.17	18.102	.000	Accepted

Further, the mean results of SERVQUAL dimension reliability for Ufone customers at M = 17.21, SD = 1.69 and Mobilink customers at M = 2.07, SD = .62 are significantly different for both cellular networks. Therefore, H3 is supported at M=13.68, t value = 4.17, p = .000, F=14.231.It also indicates that Ufone and Mobilink networks quite reliable in delivering their service to customers in Pakistani market. It means that both networks are consistently providing the service to customers in shape of call/SMS packages and plans, signal consistency etc are the mean results of other SERVQUAL dimension responsiveness for Ufone customers at M = 15.35, SD = 4.76 and Mobilink customers at M = 7.07, SD = 2.69 are significantly different for both cellular networks. Therefore, H4 is also supported at M= 11.16, t value = 7.39, p = .000, F=11.197. It means that Ufone and Mobilink are ready to help their customers to deliver quick services such as query handling, online system support, billing and other prepaid client issues. The mean value of empathy dimension of SERVQUAL model for Ufone customers at M = 18.28, SD = 1.28 and Mobilink customers at M = 11.33, SD = 8.60 are significantly different for both cellular networks. Hence, H5 is also supported at M=9.26, t value =12.15, p =.000, F=23.291. It indicates that both cellular networks provide different empathy services to their customers in Pakistani market. These services include courtesy, respect, value and other customized services that are offered to the customers. Further, the mean results of customer satisfaction for Ufone customers at M = 8.19, SD = 1.60 and Mobilink customers at M = 2.92, SD = .49 are significantly different for both cellular networks. Therefore, H6 is accepted at M=3.17, t value =17.17, p =.000, F=18.102.

8.   Conclusion and Implication

In this study, it is proved that there is significance difference between service quality offered Ufone and Mobilink cellular networks in Pakistan. The tangible service provided by both networks are same but however other SERVQUAL dimensions namely, assurance, responsiveness, reliability and empathy offers uncommon services to their customers. In addition, the customer believes that Ufone service assurance is much stronger than Mobilink in Pakistani market. Although, over all influence of SERVQUAL dimension assurance on customer satisfaction of both networks was β=0.851. Likewise, customers also believe that Ufone offers reliable services like signal quality, voice quality or stream of consistent quality service than Mobilink. Influence of reliability on customer satisfaction by both networks was β=0.826. It was also found that Ufone offers more

responsiveness services than Mobilink in terms of prompt service delivery, quick problem solution or any other help. However, influence of SERVQUAL responsiveness on customer satisfaction was β=0.791 which is the least influence as compare to other dimensions. In addition, it was also found that Mobilink is weak in providing courteous services to their customers where Ufone`was found stronger in this regard. The influence of empathy on customer satisfaction by both brands was β=0.882 which is the highest influence as compared to other SERVQUAL dimensions. Further, overall influence of service quality dimensions on customer satisfaction was positive and significant. Most importantly, it was found that Ufone customers are more satisfied than Mobilink customers in light of SERVQUAL dimensions. Therefore, this study supports that Ufone is providing quality services in Pakistani market and customers are satisfied with this cellular network. On another side, Mobilink claims to have the largest network in Pakistan but it has to work on these dimensions to increase customer satisfaction in customers of Khairpur and Sukkur markets.

In addition, this study had empirically proved the strongest hold of Ufone in terms of quality service network in Pakistan. It is also proved that customers are strongly satisfied with service offered by Ufone. The strongest area of Ufone is an assurance in their marketing offerings. However, it has to sustain this position by continuous improvement, innovation in technology and with the help of other tools in competitive markets. On another side, Mobilink is weaker in offering quality services against its major competitor, Ufone. Mobilink has to improve its position by enhancing SERVQUAL dimensions in Pakistani market.

9.   Future research directions

Other potential researchers can use this model to compare all networks operating in Pakistan. However, researchers could use cross-cultural comparison of other country based cellular networks with current Pakistani networks. The potential researchers could also use other industries like tobacco, education or FMCG brands to compare the satisfaction level of customers. Researchers can also investigate switching factors and their role in perception generation etc.

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