

A COMPARATIVE ANALYSIS OF SERVICE QUALITY OF CELLULAR SERVICE OPERATORS IN KASHMIR VALLEY

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Abstract

Cellular services have become an increasingly needed service with a very high penetration rate in most of the countries. With the extensive mobile telecommunications usage, the cellular services market is now recognized as most competitive which has also led to lower prices, resulting in the widespread usage with greater variety with service operators finding it difficult to maintain a competitive advantage in their own target markets. Thus, in order to survive in future, cellular service operators have to attract, encourage and create strong corporate image and maintain strong relationships with their customers which can be ensured through service quality only. All telecommunication companies have realized the necessity of providing better quality services as the only viable service strategy for developing and maintaining a loyal customer base. In view of the strategic and growing importance of service quality for company's success and growth, an attempt has been made in the present paper to measure service quality in cellular service companies operating in Kashmir Valley. Based on data gathered from four cellular service companies, with the help of a self-developed and statistically-tested research instrument, from four hundred (400) respondents, the study concludes that respondents are overall satisfied with the cellular services but an overall improvement is needed in all the dimensions of cellular services in order to make the overall cellular services more effective and efficient.

KEY WORDS: Service Quality, Cellular Industry, SERVQUAL, SERVPERF, Customer Satisfaction and Kashmir Valley.

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INTRODUCTION

In dynamic business environment, the role of customers is changing continuously due to which the provision of quality of services has become the top priority for organizations. Also, the competitive scenario has made the customers rather more quality conscious; hence, there has been an increased demand for higher quality services. As a result, service-based companies are obligated to provide excellent services to their customers in order to have sustainable competitive advantage in the current trend of trade, liberalization and globalization. Excellent services provided to customers by their service providers on one hand will lead to customer satisfaction thereby cultivating trust and faith among them but on the other hand poor service quality will place a service company at a competitive disadvantage. Further, dissatisfied customers may stop buying the product, spread unfavorable word-of-mouth advertising and may avoid the product manufacturer and the retailer (Hirschman, 1970 and Day, et. al., 1981). Thus, it is clear that excellent service quality will offer a way of achieving success among competitors, particularly in case of firms that offer nearly identical services, such as cellular service companies, where establishing service quality may be the only way of differentiating oneself. There is also a general consensus among marketing practitioners that no business can survive without its customers (Oliver, 1980, 1999; Johnson, et. al., 2001; Anderson, et.al., 2004; McQuitty, et. al., 2000; Eshghi, et. al., 2008; Kotler and Keller, 2009). It is, therefore, critical that service providers form a close working relationship with their customers to ensure that they are satisfied with the services being provided to them as attention to service quality can make an organization different from other organizations and gain a lasting competitive advantage (Boshoff and Gray, 2004). In a competitive market, service providers are expected to compete on both price and quality of services and also to meet the consumers' requirements and expectations (Melody, 2001). The positive relationship of service quality with customer satisfaction (Danaher and Mattsson, 1994; Kim, et. al., 2004), customer preference (Ranaweera and Neely, 2003), profitability (Fornell, 1992; Danaher and Rust, 1996) and competitiveness (Rapert and Wren, 1998) are well proven in the academic literature. The fiercely competitive marketplace is characterized by similarly priced, look-alike services from a variety of mobile service providers and a big market share will be gained by the ones that provide excellent service quality.

Furthermore, it is commonly known that all businesses whose services depend on building long term relationship need to concentrate on maintaining customer's loyalty. In this respect, loyalty

is greatly influenced by service quality. As such, cellular service providers should often invest in managing their relationships with customers and maintaining quality to ensure that customers whose loyalty is in the short term will continue to be loyal in the long term (Philip, Kotler). Kandampully (2000) has emphasized that quality will steer cellular service provider firms to successfully encounter the competitive challenges of the future. In view of such growing importance of service quality for cellular service companies' success and growth, there is limited research evidence regarding the quality of cellular service in Kashmir valley. Present study, therefore, is aimed to fill up this research void by measuring the quality of cellular services of select cellular operators in Kashmir valley and to suggest ways and means, on the basis of study results, with a view to make the overall cellular services more effective and efficient.

Literature Review

Service Quality

Service quality is a critical pre-requisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Previous studies suggest that service quality is an important indicator of customer satisfaction (Spreng and Machoy, 1996). Attention to service quality can make an organization different from other organizations and gain a lasting competitive advantage (Boshoff and Gray, 2004). It has become a distinct and important aspect of the product and service offering (Caruana, 2002). The satisfaction of a customer from quality of services offered is usually evaluated in terms of technical quality and functional quality (Gronroos, 1984). Usually, customers do not have much information about the technical aspects of a service; therefore, functional quality becomes the major factor from which to form perceptions of service quality (Donabedian, 1982).

Much of the initial work in defining and assessing service quality has been conducted by Parasuraman, Zeithaml and Berry (1985). Parasuraman, et. al., (1985) asserted that service quality can be assessed by measuring the "discrepancies or gaps" between what the customer expects and what the consumer perceives he receives. In other words they mean that service quality as perceived by customers' stems from a comparison of what they feel service firms should offer (i.e., from their expectations) with their perception of the performance of the firm providing the services. In line with the above research, Gronroos (1982) developed a model in

which he contended that consumers compare the service they expect with perception of the service they receive in evaluating service quality. Similarly Johnston, (1995) defined service quality as customers' overall impressions of an organization's service in terms of relative superiority or inferiority. Lyord and Cheung (1998) asserted that service quality should not only meet but also exceed customers' expectation, and include continuous improvement process. As argued by Gronroos (1990) customers evaluate service quality mainly on the process of their interpersonal contacts and interactions. Service quality arises from a comparison of the difference between service expectations developed before an encounter with the service establishment and the performance perceptions gained from the service delivery process (Bloemer, et. al., 1998).

Further Gronroos (2007) suggested that the quality of service as perceived by customers is the result of an evaluation process in which they compare their perspective of service outcome against what they expected. Fogli (2006) defined service quality as a global judgment or attitude relating to a particular service, the customer's overall impression of the relative inferiority or the superiority of the organization and its services. Similarly, Bolton and Drew, (1991) described service quality as a form of attitude that results from the comparison of expectations with performance. In the same way, Berry, et. al., (1990) pointed out that since customers are the "sole judge of service quality", and an organization can build strong reputation for quality service when it can constantly meet customer service expectations. Likewise, Howcroft (1991) defined that service quality is about meeting customer's needs satisfactorily by matching to his expectations. Haddad, et. al., (1998) defined the service quality as the difference between the actual performances of service with the customer's expectation about it. The customers' perception of quality of service is based on the degree of agreement between expectations and experiences (Kandampully, 1998).

Similarly Lewis and Booms (1983) stated that service quality is a measure of how well the service level delivered matches customer expectation. Delivering quality service means confirming to customer expectation on a consistent basis. Previous researches on service quality support this notion that perceived service quality stems from customers' comparison of what they wish to receive from firms and what they perceive actual service performance to be – which

are formed on the basis of previous experience with a company, its competitors, and marketing mix inputs (Gronroos, 1982; Lehtinen and Lehtinen, 1982; Parasuraman, et. al., 1985; 1988 and Sasser, et. al., 1978).

From the above discussion it is clear that service quality revolves around customer expectation and their perceptions of service performances. Hence it is characterized by the customers' perception of service and the customers are the sole judges of the quality. Parasuraman, et. al., (1991) rightly explained that consistent conformance to expectations and perceptions begins with identifying and understanding customer expectation and only then the effective service quality strategies can be developed.

Sample Design

Keeping in the view the paucity of time and financial resources, the present study was limited to District Srinagar of Kashmir valley. The study was further restricted to four selective cellular service operators namely Airtel, Vodafone, Aircel and BSNL. The decision regarding sample organization has been made in view of the fact that among the best cellular service providers, Airtel, Vodafone, Aircel and BSNL have the maximum market share as per TRAI report as on 31st January, 2013. Also these service providers have maximum customer base, business operations, customer service centers and retail outlets than any other cellular service provider in district Srinagar. The size of the sample was limited to four hundred (400) respondents selected from four (4) cellular companies. Convenience sampling was, however, followed for the present study. All-important demographic characteristics like age, gender, level of education, time of network experience, connection type, was taken into consideration while seeking the response from the customers regarding their perception of service quality in cellular industry. All these aspects have an important bearing on the user's evaluation of cellular services. The effort was made to give a balanced representation to above demographic characteristics to make the sample representative. The present study constitutes a sample where majority of the respondents fall in the age group of up to 20 years (59.5%) followed by the age group of 21-30 years (26.5%) and above 30 years (14.25%). In terms of gender the sample comprises 57.5% males and 42.5% females. The data further shows that under-graduates were heavy participants (36.25%) followed by post- graduates (33%) and graduates (30.75%). Respondents with network experience of more

than a year were highest in number (75%) followed by the respondents having network experience of up to 7-12 months (14.5%) whereas respondents having network experience of up to 6 months were least in number (10.5%). As per connection type majority of the respondents in the sample belonged to prepaid category (79.5%) followed by postpaid category (20.5%).

Research Instrument

A self-administered questionnaire, an adapted version of SERVQUAL scale, was used in this paper to measure the level of service quality of the cellular customers. There are two widely models used by researchers to measure service quality i.e., SERVQUAL (Parasuraman, et. al., 1991) and SERVPERF (Cronin, et. al., 1992). SERVQUAL developed by Parasuraman, et. al., 1991 consists of 22 items for assessing customer perceptions and expectations regarding the quality of service. A level of agreement or disagreement with a given item is rated on a seven point Likert-type scale. The level of service quality is represented by the gap between perceived and expected service. Despite its wide usage, the model has been criticized by a number of researchers (Carman, 1990; Babakus and Boller, 1992; and Teas, 1994). Criticism was directed at the conceptual and operational base of the model mostly its validity, reliability, operationalization of expectations, and dimensional structure. In other words criticism against the SERVQUAL model was directed to the use of (P-E) gap scores, length of the questionnaire, predictive power of the instrument, etc. (Babukus and Boller, 1992; Cronin and Taylor 1992; Dabholkar, et.al., 2000; Teas, 1993, 1994).

As a result of these criticisms, Cronin and Taylor (1992 and 1994) proposed an alternate scale to SERVQUAL what is referred to as the 'SERVPERF' scale. They argued that performance is the measure that best explains customers' perceptions of service quality, so expectations should not be included in the service quality measurement instrument. Besides theoretical arguments, Cronin and Taylor (1992) also provided empirical evidence across four industries (namely banks, pest control, dry cleaning and fast food) to corroborate the superiority of their "performance-only" instrument over disconfirmation based SERVQUAL Scale. Under the SERVPERF, a higher perceived performance implies higher service quality and customer satisfaction (Jain and Gupta, 2004). It eliminates the expectation on the twenty-two items and measures only performance on the original version of SERVQUAL dimensions i.e., tangibility, reliability,

responsiveness, assurance and empathy (Babakus and Boller, 1992; Bolton and Drew, 1991; Hartline and Ferrell, 1996). Several other authors were in line with Cronin and Taylor about the use of SERVPERF instrument like (Babakus and Boller, 1992; Dabholkar, et. al., 2000 and Teas, 1993, 1994).

Realizing the superiority of SERVPERF over the earlier models of service quality, a modified SERVPERF scale was used to suit the context of cellular services. The questionnaire was divided into two parts. The first part was designed to measure the service quality of cellular services and the second part of the questionnaire contained questions relating to socio-demographic data about the respondents. The researchers introduced the tool of measurement in such a way that it briefly illustrated the topic of the study and procedures of response. The measurement grades were placed according to the 10-point Likert scale. The scale was ordered regressively as Strongly Agree (10) to Strongly Disagree (0).

The study was conducted in district Srinagar of Kashmir valley for four months during the year of 2013. The target population selected for this study during the data collection period comprised cellular customers of district Srinagar. A convenience sampling approach was employed in which four hundred(400) questionnaires were distributed to the cellular customers who agreed to participate in the survey. The customers completed the questionnaires in the presence of the researchers.

The statistical package for the social sciences (SPSS-19) was used to analyze the data. Descriptive statistics analyses were used to measure service quality perception scores. To explore the dimensionality of the twenty-seven (27) item scale, the study used R-mode Principle Component-Analysis with a Varimax Rotation and Eigen value equal to or more than 1, which extracted six factors with explained variance of 55.921 percent in the data. The results are present in table 1.1. Most of the factor loading were greater than 0.50, implying a reasonably high correlation between extracted factors and the individual items. The communalities of a twenty-seven (27) items ranged from 0.397 to 0.691 indicating that a large amount of variance has been extracted by the factor solution. The six factors are labeled as **F1-'Network quality'**(excellent network coverage), **F2-'Pricing'**(providing all the benefits for the price paid),

F3-'Reliability'(ability to perform the promised service dependably and accurately), **F4-'Assurance'**(knowledge and courtesy of employee and their ability to inspire trust and confidence), **F5-'Empathy'**(caring, individualized attention the firm provides to its customers) and **F6 'Responsiveness'**(willingness to help customers and provide prompt service). The first factor (Network Quality) contains most of the items (8) and explains most of the variance (12.402 percent) and, hence, is the important determinants of perceived service quality dimensions in cellular services.

Table 1.1Factor Analysis using SERVEPRF (n=400)

Factor/ Dimension	Item no.	Elements	Factor loading	Communali- ties	Eigen Value	Explained variance
F1 Network Quality	V1	Enhancing the geographical coverage by setting up new network tower systems.	.544	.481	8.353	12.402
	V2	Up to date equipment's and facilities.	.417	.533		
	V3	Visually appealing physical facilities.	.476	.666		
	V4	Excellent network coverage.	.608	.499		
	V5	Successful completion of calls, SMS,MMS, line activation, credit reloading, etc.	.690	.528		
	V6	High voice quality.	.604	.578		
	V7	Easy access to information, SIM card (chip),reload cards etc.	.533	.488		
	V8	Providing disturbance free network.	.580	.481		
F2 Pricing	V9	Providing all the benefits for the price paid.	.639	.557	1.800	11.080
	V10	Providing attractive SMS and call rate packages.	.767	.645		
	V11	Providing best pricing plans as per need.	.742	.675		
	V12	Easy provision of changing pricing plans.	.664	.535		
F3 Reliability	V13	Your cell phone operator is dependable.	.496	.505	1.452	9.435
	V14	Promises to do something by a certain time.	.488	.478		

	V15	Well acquainted with regard to delivery.	.639	.580		
	V16	Providing prompt services.	.592	.481		
	V17	Insisting on error free records.	.425	.397		
	V18	Trust worthy employees.	.608	.563		
F4 Assurance	V19	Polite Employees	.658	.579	1.265	8.877
	V20	Adequate knowledge to answer questions.	.620	.653		
	V21	Sympathetic and reassuring employees.	.657	.547		
F5 Empathy	V22	Customer's best interest at heart.	.627	.616	1.221	7.893
	V23	Giving personnel attention.	.812	.691		
	V24	Actually knowing your needs.	.593	.432		
F6 Responsiveness	V25	Willing to help you.	.573	.623	1.007	6.233
	V26	Quick reply to any query.	.697	.542		
	V27	Good communication skills.	.484	.631		
TOTAL				15.09 2	15.09 9	55.921

In order to prove the internal reliability of the research instrument, the researcher performed Cronbach's Alpha Test of Reliability. The α -score on Table 1.2 on network quality dimension is 0.801, which is above 0.7 and is highly reliable to measure the construct to which it pertains. The α -scores on pricing, reliability, empathy and responsiveness dimensions are 0.791, 0.768, 0.737 and 0.730 respectively which are all above 0.7 and are highly reliable to measure the construct to which they pertain. The α -score on assurance dimension is 0.666, which is very close to 0.7, and can be regarded as pretty reliable. Also, the present generated scale achieved the overall Alpha scores of 0.911 which is highly acceptable reliability coefficient (Nunnally, 1978).

Table 1.2 - Reliability Result Score

Scale	No. of items	Cronbach's Alpha Score
Network Quality	8	.801
Pricing	4	.791
Reliability	6	.768
Assurance	3	.666

Empathy	3	.737
Responsiveness	3	.730
Overall Reliability	27	0.911

The adequacy of the sample size was confirmed using both the Kaiser-Meyer Olkin (KMO) Test sampling adequacy and Bartlett's Test of Sphericity (Table 1.3). In fact, KMO for service quality (0.909) exceeded satisfactory value and revealed a Chi-square at 3731.731, ($P \leq 0.000$) which verified that correlation matrix was not an identity matrix, thus validating the suitability of factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy was performed which showed KMO = 0.909 is higher than the suggested 0.6 value (Tabachnik and Fidell, 2001).

Table: 1.3- KMO and Bartlett's test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin measure of sampling adequacy	0.909
Bartlett's Test of Sphericity (Approx. Chi- Square)	3731.731
p-value	0.000*

*Significant at 1% level.

Analysis

Service Quality in Cellular Service Companies

In the present study, the main area of questioning and analysis relates to measuring service quality (i.e., customers' perceptions) and its dimensions: network quality, pricing, reliability, assurance, empathy and responsiveness. Customers perceptions were measured on a ten point strongly disagree/strongly agree Likert's scale. In order to measure the overall service quality of services of sample organizations, mean service quality scores on all dimensions of service quality were calculated separately and averaged for each cellular company. The data on Table 1.4 presents information regarding the overall service quality in cellular service companies. The Table clearly shows that all service providers, under reference, are providing relatively better service quality to their respective customers, as overall service quality mean score is above 5. However, the overall service quality score of Aircel is relatively high (6.19) followed by Airtel

(6.02), whereas service quality score of BSNL (5.21) is relatively low followed by Vodafone (5.93).

Dimension Wise Analysis

Dimension wise introspection of the data (Table 1.4) clearly reveals relatively better service performance of Aircel on ***network quality*** dimension with high service quality score of (6.08) followed by Vodafone (5.83) while as BSNL'S service performance on the said dimension is relatively poor (5.15) followed by Airtel (5.78). Its element-wise brings to fore that BSNL is relatively very low on geographical coverage, physical facilities followed by network coverage. The respondents of Airtel reported relatively low services on geographical coverage, successful completion of calls, SMS, MMS, line activation and credit reloading followed by low voice quality. Relatively better service quality scores are reported on disturbance free network followed by updated equipment's and facilities (ranked 1st and 2nd respectively) by the respondents of Aircel and Vodafone. The data on ***pricing*** dimension reveals comparatively high service quality scores of Aircel followed by Airtel (6.24 and 5.96 respectively) while as Vodafone's and BSNL's performance on the said dimension is relatively poor (5.95 and 5.26 respectively). Element-wise analysis divulges relatively better service quality score on easy provision of changing pricing plans and attractive SMS and call rate packages (ranked 1st and 2nd respectively) of Vodafone and Airtel respectively. Aircel and BSNL, however, are reported comparatively high on provision of best pricing plans as per customer needs. On ***reliability*** dimension, the data (Table 1.4) shows that both Airtel and Aircell has outperformed all other service providers, under reference, with high service quality scores (6.40) whereas BSNL trailed by Vodafone has performed relatively low (5.24 and 6.10 respectively) on the said dimension. Item-wise analysis of the said dimension brings to fore high service quality score (ranked 1st) on dependable service operator of Airtel, Aircell and BSNL whereas low service quality score of Aircell and BSNL (ranked 6th) has been observed on prompt cell-phone services. The service quality score of Airtel on assurance dimension has been reported high (6.35) followed by Aircel (6.34), while as BSNL's performance on the said dimension is reported comparatively low (5.45) followed by Vodafone (6.31). All cell-phone service operators, under reference, have been reported relatively high (ranked 1st) on employees politeness. Sympathetic and reassuring of employees in case of a problem has been ranked 2nd by the respondents of all service operators

except BSNL. Service quality scores on *empathy* dimension substantiates that both Aircel and Vodafone has outperformed other service providers, under reference, with high service quality score of (6.38 and 6.19 respectively) while as Airtel and BSNL's performance on the said dimension is relatively low (6.07 and 5.40 respectively). Element-wise analysis of the said dimension reveals comparatively low service quality score (ranked 3rd) of all service operators on knowing of customer needs except Airtel (ranked 2nd). Providing individualized attention to customers has been ranked 1st by the respondents of all service operators, under reference, except the respondents of BSNL who reported the said element relatively low (ranked 2nd). The data on *responsiveness* dimension brings to light that the service quality score Aircel followed by Airtel are comparatively high (5.73 and 5.58 respectively) while as BSNL's scores followed by Vodafone are relatively low (4.79 and 5.25 respectively) on the same dimension. Its element-wise analysis reveals relatively better service quality score on willingness of employees to help their customers and employees reply to any query (ranked 1st and 2nd respectively) as reported by the respondents of all service operators except the respondents of BSNL who reported contrary to the said elements of responsiveness dimension.

Conclusion and Managerial Implications

In view of the growing importance of service quality for companies' success and growth present study was undertaken to measure the quality of services of cell-phone service operators in Kashmir Valley. In this study, a scale for measuring the quality of cellular services was proposed through exploratory factor analyses which resulted in identifying six cellular service quality dimensions namely, network quality, pricing, reliability, assurance, empathy and responsiveness all of which comprise the criteria customers use to evaluate the quality of cellular services. Network Quality followed by Pricing and Reliability are the three important determinants of perceived service quality dimensions in cellular services as they contain most of the elements (8, 4 and 6 respectively) and explain most of the variance (12.402 percent, 11.080 percent and 9.435 percent respectively). These research findings are in harmony with the research findings of Cavana, et. al., (2007), Khan (2010), OluOjo (2010), Rakumar and Harish (2011), Siew-Phaik, et. al., (2011), Shahzad and Saima (2012), and Ode Egana (2013). The findings of this study also suggest that among the six dimensions of service quality, network quality emerged as the best predictor of cellular service quality. The questionnaire developed

through this study is suitable for use for cellular service companies allowing them to confidently identify the areas of services which require action. At the same time, the modified questionnaire could also provide indicators through which managers and planners can plan service policies that would result in satisfied customers.

The analysis of service quality scores across all dimensions of service quality reveals that all service providers, under reference, are providing relatively better service quality to their respective customers, as their overall service quality mean score is above 5. However, the overall service quality score of Aircel is relatively high (6.19) followed by Airtel (6.02) whereas service quality score of BSNL is relatively low (5.21) followed by Vodafone (5.93). In other words, the overall analysis of the study revealed that the service quality of Aircel is relatively better (ranked 1st) followed by Airtel while as BSNL is relatively poor (ranked 4th)followed by Vodafone.

Service quality helps in cementing the relationship between customers and the organization and it is a two-way flow of value. This means that customer derives real value from the relationship which translates into value for the organization in the form of enhanced profitability and sustainability over a long period of time. Therefore, for improvisation of service quality, the cellular company's management should:

- ❖ Make realistic and accurate promises that reflect the services delivered rather than idealized version of services and use market research to determine sources of derived customer expectation and their requirements.
- ❖ Cellular service providers should invest in ongoing employee training and support employee with appropriate technology and information systems as employees play an important role in service delivery process.
- ❖ Regular surveys and inspections must be ordered to verify the quality of services being delivered to customer. Thus, it is suggested that management should form a committee of experts to keep a regular watch on the performance of officials who are directly/indirectly responsible for delivering services.

❖ Lastly, customer forms the pivotal of the service delivery process. Customers' knowledge and awareness about the cellular services and its offerings is of prime importance in the whole delivery process. Therefore, service providers should organise workshops, contests, and other mass awareness programmes on regular basis to update customer knowledge in addition to satisfy and delight their valuable customers.

able: 1.4- Comparative Service Quality Scores of Cellular Service Providers

Quality Dimension	Elements of Service Quality	Airtel N=(100)	Vodafone N=(100)	Aircel N=(100)	BSNL N=(100)
Network Quality	1. Your cell phone operator enhances the geographical coverage by setting up new network tower systems.	4.92 (8)	4.95 (8)	5.73 (7)	4.45 (8)
	2. Your cell phone operator has up to date equipment's and facilities	6.24 (2)	6.06 (2)	6.34 (2)	5.22 (4)
	3. The physical facilities of your cell phone operator are visually appealing	5.63 (5)	5.52 (6)	5.64 (8)	5.08 (7)
	4. Your cell phone operator provides excellent network coverage.	6.17 (3)	5.98 (3)	5.93 (6)	5.10 (6)
	5. Your cell phone operator provides successful compilation of calls, SMS, MMS, line	5.28 (7)	5.80 (5)	5.94 (5)	5.20 (5)
	6. Your cell phone operator provides high voice quality	5.45 (6)	5.47 (7)	6.33 (3)	5.51 (1)
	7. Your cell phone operator gives quick access to information, SIM card (chip), reload cards etc.	5.81 (4)	5.88 (4)	6.17 (4)	5.28 (3)
	8. Your cell phone operator provides disturbance free network backed by the state-of-the art customer service set up.	6.75 (1)	7.00 (1)	6.62 (1)	5.38 (2)
	Overall Service Quality on Network Quality (Averaged on all elements)	5.78	5.83	6.08	5.15
	Rank	3	2	1	4
Price	1. Your cell phone operator provides all the	5.90	5.75	6.09	5.11

	benefits for the price you pay.	(3)	(3)	(3)	(4)
	2. Your cell phone operator provides attractive SMS and call rate packages.	5.97 (2)	5.93 (2)	6.04 (4)	5.29 (2)
	3. Your cell phone provides best pricing plans as per your need.	5.81 (4)	5.74 (4)	6.44 (1)	5.43 (1)
	4. Your cell phone provides easy provision of changing pricing plans.	6.18 (1)	6.39 (1)	6.39 (2)	5.21 (3)
	Overall Service Quality on Pricing	5.96	5.95	6.24	5.26
	Rank	2	3	1	4
Reliability	1. Your cell phone operator is dependable	7.35 (1)	6.21 (2)	6.93 (1)	5.49 (1)
	2. When your cell phone operator promises to do something by a certain time, it does so.	7.01 (2)	6.11 (3)	6.46 (3)	5.38 (2)
	3. Your cell phone operator keeps you well acquainted with regard to delivery of services.	6.62 (3)	6.87 (1)	6.73 (2)	5.30 (3)
	4. Your cell phone operator provides prompt services.	5.84 (4)	5.81 (5)	5.75 (6)	4.93 (6)
	5. Your cell phone operator insists on error free records.	5.78 (6)	5.99 (4)	6.27 (4)	5.17 (5)
	6. You can trust employees of your cell phone operator.	5.82 (5)	5.62 (6)	6.26 (5)	5.20 (4)
	Overall Service Quality on Reliability (Averaged on all elements)	6.40	6.10	6.4	5.24
	Rank	1	2	3	4
Assurance	1. Employees of your cell phone operator are always polite to you.	6.80 (1)	6.80 (1)	6.56 (1)	5.53 (1)
	2. Employees of your cell phone operator have adequate knowledge to answer to your questions.	5.81 (3)	5.67 (3)	6.07 (3)	5.40 (2)
	3. When you have a problem, employees of your cell phone operator are sympathetic and	6.45 (2)	6.48 (2)	6.41 (2)	5.43 (3)

	reassuring.				
	Overall Service Quality on Assurance (Averaged on all elements)	6.35	6.31	6.34	5.45
Empathy	Rank	1	3	2	4
	1. Your cell phone operator has the customer's best interest at heart.	5.65 (3)	6.20 (2)	6.43 (2)	5.60 (1)
	2. Employees of your cell phone operator give personal attention to you.	6.56 (1)	6.52 (1)	6.81 (1)	5.34 (2)
	3. Your cell phone operator knows actually what your needs are	6.00 (2)	5.86 (3)	5.92 (3)	5.28 (3)
	Overall Service Quality on Empathy (Averaged on all elements)	6.07	6.19	6.38	5.40
	Rank	3	2	1	4
Responsiveness	1. Employees of your cell phone operator are always willing to help you.	6.40 (1)	5.89 (1)	6.21 (1)	4.99 (2)
	2. Employees of your cell phone operator reply to any query of yours.	5.40 (2)	5.51 (2)	5.94 (2)	5.00 (1)
	3. Employees of your cell phone operator have	4.95 (2)	4.37 (2)	5.06 (2)	4.40 (2)
	Overall Service Quality on Responsiveness (Averaged on all elements)	5.58	5.25	5.73	4.79
	Rank	2	3	1	4
	Overall Service Quality (Averaged on all dimensions)	6.02	5.93	6.19	5.21
	Rank	2	3	1	4

Note: Figures within parenthesis are ranks to each element/dimension across all service providers

References

1. Anderson, E. W., Fornell, C., and Mazvancheryl, S., (2004), "Customer Satisfaction and Shareholders Value", *Journal of Marketing*, 68 (October), Pp. 172-185.
2. Bloemer, J., Ruyter, K. D., and Peeters, P., (1998), "Investing Drivers of Bank Loyalty: The Complex Relationship between Image, Service Quality and Satisfaction", *International Journal of Bank Marketing*, Vol. 16, No. 7, Pp. 276-286.
3. Bolton, R. N., and Drew, J. H., (1991), "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes", *Journal of Marketing*, Vol. 55, Pp. 1-9.
4. Berry, L. L., Parasuraman, A., and Zeithaml, V. A., (1990), "Five Imperatives for Improving Service Quality", *Sloan Management Review*, Vol. 31, (summer), Pp. 29 -38.
5. Babukus, E., and Boller, G. W., (1992), "An Empirical Assessment of SERVQUAL Scale", *Journal of Business Research*, Vol. 24, No. 3, Pp. 253-268.
6. Boshoff, C., and Gray, B., (2004), "The Relationships between Service Quality, Customer Satisfaction and Buying Intentions in the Private Hospital Industry", *South African Journal of Business Management*, Vol. 35, No. 4, Pp. 27-37.
7. Carman, J. M., (1990), "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions", *Journal of Retailing*, Vol. 66, (spring), Pp. 33-35.
8. Caruana, A., (2002), "Service Loyalty: The Effects of Service Quality and the Mediating Role of Customer Satisfaction", *European Journal of Marketing*, Vol. 36, No. 7/8, Pp. 811-828.
9. Cronin and Taylor, S. A., (1992), "Measuring Service Quality: A Re-Examination and Extension", *Journal of Marketing*, Vol. 56 (July), Pp. 55-67.
10. Cronin, J. J., and Taylor, S. A., (1994), "SERVPERF versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectation Measurement of Service Quality" *Journal of Marketing*, Vol. 58, (January), Pp. 125-131.
11. Cavana, R.Y., Corbett L. M., and Lo, Y.L. (2007), "Developing Zones of Tolerance for Managing Passenger Rail Services Quality", *International Journal of Quality and ReliabilityManagement*, Vol. 24, No.1, Pp.7-31.
12. Day, R., Grabicke, K., Schaetzle, T., and Staubach, F., (1981), "The Hidden Agenda of Consumer Complaining", *Journal of Retailing*, Vol. 57 (fall), Pp. 86-106.

13. Danaher, P. J., and Mattsson, J., (1994), "Customer Satisfaction during the Service Delivery Process", European Journal of Marketing, Vol. 28, No. 5, Pp. 5-16.
14. Danaher, P. J., and Rust, R. T., (1996), "Indirect Financial Benefits from Service Quality", Quality Management Journal, Vol. 3, No. 2, Pp. 63-75.
15. Donabedian, A., (1982), "Explorations in Quality Assessment and Monitoring: The definition of Quality and Approaches to its Assessment", Ann Arbor, Michigan: Health Administration Press.
16. Dabholkar, P. A, Shepherd, D. C and Thorpe, D. I., (2000), "A Comprehensive Framework of Service Quality: An Investigation of Critical, Conceptual and Measurement Issues through a Longitudinal Study", Journal of Retailing, Vol. 76, No. 2, Pp. 139-173.
17. Eshghi, A., Kumar, S., and Gangui, H., (2008), "Service Quality and Customer Satisfaction: An Empirical Investigation in Indian Mobile Telecommunications Services", Journal of Marketing Management, fall, Pp. 119-144.
18. Fornell, (1992), "Customer Satisfaction: The Fundamental Basis for Business Survival", Siebel Magazine, Vol. 51, Pp. 19-25.
19. Fogli, L., (2006), "Customer Service Delivery", Research and Best Practice, San Francisco: Jossey-Bass.
20. Gronroos, C., (1982), "Strategic Management and Marketing in the Service Sector", Swedish School of Economics and Business Administration, Helsinki.
21. Gronroos, C. A., (1984), "Service Quality Model and its Marketing Implications", European Journal of Marketing, Vol. 18, No. 4, Pp. 36-44.
22. Gronroos, C., (1990), "Service Management Focus for Service Competition", International Journal of Service Industry Management, Vol. 1, No. 1, Pp. 6- 10.
23. Gronroos, C., (2007), "Service Management and Marketing: Customer Management in Service Competition", third Edition, West Sussex: John Wiley and Sons, Ltd.
24. Hartline, M. D. and Ferrell, O. C., (1996), "The Management of Customer Contact Service Employees: An Empirical Investigation", Journal of Marketing, Vol. 69, (October), Pp. 52-70.
25. Howcroft, J. B., (1991), "Customer Satisfaction in Retail Banking", Journal of Service Industry, (Jan), Pp. 11-17.

26. Hirschman, A. O., (1970), "Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States", Harvard University Press, Cambridge, MA.
27. Haddad, S., Fournier, P., and Potvin, L., (1998), "Measuring Lay People's Reception of the Quality of Primary Health Services in Developing Countries: Validation of 20-Item Scale", International Journal for Quality in Health Care, Vol. 10, Pp. 93-104.
28. Johnston, R., (1995), "The Determinants of Service Quality: Satisfiers and Dissatisfiers", International Journal of Service Industry Management, Vol. 6, No. 5, Pp. 53-71.
29. Johnson, M. D., Gustafsson, A., Andreassen, T., Lervik, L., and Cha, J., (2001), "The Evolution and Future of National Customer Satisfaction Index Models", Journal of Economic Psychology, Vol. 22, Pp. 217-245.
30. Jain, S. K., and Gupta, G., (2004), "Measuring Service Quality: SERVQUAL V/s SERVPERF Scales", Vikalpa, Vol. 29, No. 2, Pp. 25-37.
31. Kim, M., Park, M., Jeong, D., (2004), "The Effects of Customer Satisfaction and Switching Barrier on Customer Loyalty in Korean Mobile Telecommunication Services", Telecommunications Policy, Vol. 28, Pp.145-159.
32. Kilam, I. K., (2006), "Customer Focus", PNB Monthly Review, Vol. 28, No. 7, Pp. 8- 15.
33. Kotler, P., and Keller, K., (2009) "Marketing Management (13th ed.)", London, Prentice Hall 789.
34. Kandampully, J., (1998), "Service Quality to Service Loyalty: A Relationship which Goes Beyond Customer Services", Total Quality Management, Vol. 9, No. 6, Pp. 431-443.
35. Kandampully, J., (2000), "The Impact of Demand Fluctuation on the Quality of Service: A Tourism Industry Example", Managing Service Quality, Vol. 10, No. 1, Pp. 10-18.
36. Khan, M, A., (2010), "An Empirical Assessment of Cellular Mobile Operators in Pakistan", Journal of Asian Social Sciences, Vol. 6, No. 10, Pp. 164-177.
37. Lyord, W., Beverley, and Cheung, Y. P., (1998), "IT to Support Service Quality Excellence in the Australian Banking Industry", Managing Service Quality, Vol. 8, No. 5, Pp. 350-358.
38. Lewis, R. C., and Booms, B. H., (1983), "The Marketing Aspects of Service Quality", In Berry, L., Shostack, G. and Upah, G., (Edition), Emerging Perspectives on Services Marketing, American Marketing Association, Chicago, Vol. 2, Pp. 99-107.

39. Lehtinen, U., and Jarmo, R. L., (1982), "Service Quality: A Study of Quality Dimensions," Unpublished Working Paper, Helsinki: Service Management Institute, Finland OY.
40. MacStravic, S., (1997), "Questions of Value in Health Care", Marketing Health Services, Chicago, Vol. 18, No. 4, Pp. 50-3.
41. McQuitty, S., Finn, A., and Wiley, J., (2000), "Systematically Varying Consumer Satisfaction and its Implications for Product Choice", Academy of Marketing Science Review, Vol. 10, Pp. 1-16.
42. Melody, W. H, (2001), "Introduction", Telecom Reform Principles, Policies and Regulatory Practices, Chapter 1, Edited by William H. Melody, Den Private Ingeniorfond, Technical University of Denmark, Lyngby, Pp. 421-439.
43. Nunnaly, J. C., (1978), "Psychometric Theory", 2nd edition, New York, NY: McGraw-Hill.
44. OluOjo, (2010), "The Relationship between Service Quality and Customer Satisfaction in the Telecommunication Industry: Evidence from Nigeria", Broad Research in Accounting, Negotiation, and Distribution, Vol. 1, No.1, Pp. 88-100.
45. Ode Egena, (2013), "Customer Satisfaction in Mobile Telephony: An Analyses of Major Telecommunication Service Providers in Nigeria", Asian Journal of Management Research, Vol. 4, No. 1, Pp. 1-11.
46. Oliver, R. L., (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions, Journal of Marketing Research, 17 (November), Pp. 460-469.
47. Oliver, R. L., (1999), "Whence Consumer Loyalty?" Journal of Marketing, Vol. 63, Pp. 33-44.
48. Parasuraman, A., Zeithaml V. A., and Berry, L. L., (1988), "SERVQUAL: A Multiple - Item scale for Measuring Consumer Perceptions for Service Quality", Journal of Retailing, Vol. 64, No.1, (spring), Pp. 12-40.
49. Parasuraman, A., Berry, L. L., and Zeithmal, V. A., (1991), "Refinement and Reassessment of the SERVQUAL Scale", Journal of Retailing, Vol. 67, Pp. 420-450.
50. Parasuraman, A., Zeithaml, V., and Berry, L, L., (1985), "A Conceptual Model of Service Quality and its Implications for Future Research", Journal of Marketing, Vol. 49 (fall), Pp. 41- 50.

51. Philip,Kotler, "Marketing Management:Analysis, Planning, Implementation and Control", 9th Edition, Prentice Hall, New Jersey.
52. Rajlumar and Harish.,(2011), "Service Quality and Customer Preferences of Cellular Mobile Service Providers", Journal of Technology and Innovation, Vol. 6, No. 1, Pp. 40-45.
53. Ranaweera, C., Neely, A., (2003), "Some Moderating Effects on the Service Quality: Customer Retention Link", International Journal of Operations and Production Management, Vol. 23, No. 2, Pp. 230-248.
54. Rapert, M., and Wern, B., (1998), "Service Quality as a Competitive Opportunity", Journal of Services Marketing, Vol. 12, No. 3, Pp. 223-235.
55. Shahzad, andSaima., (2012), "Determinants of Customer Satisfaction in Telecom Industry, A Study of Telecom industry Peshawar KPK Pakistan", Journal of Basic and AppliedScientific Research, Vol. 2, No. 12, Pp.12833-12840,
56. Sasser, W. E., Olsen, R. P., and Wyckoff, D. D., (1978), "Understanding Service Operations", in Management of Service Operations Boston: Allyn and Bacon.
57. Spreng, R. A., and MacKoy, R. D., (1996), "An Empirical Examination of a Model of Perceived Service Quality and Satisfaction, Journal of Retailing, Vol. 72, No. 2, Pp. 201-214.
58. Sachdev, S. B., and Verma, H. V., (2004), "Relative Importance of Service Quality", Journal of Services Research, Vol. 4, No. 1, Pp. 93-116.
59. Siew, P., L., Ayankule, A., T., Hanisah, M., S., and Alan, G., D., (2011), "Service Quality and Customer Satisfaction in a Telecommunication Service Provider, International Conference on Financial Management and Economics, Vol. 11, Pp. 24-29
60. Teas, K. R., (1993), "Expectations, Performance Evaluation, and Consumers Perception of Quality," Journal of Marketing, Vol. 57 (October), Pp. 18-34.
61. Teas, K. R., (1994), "Expectations as a Comparison Standard in Measuring Service Quality: An Assessment of Re-Assessment", Journal of Marketing, Vol. 58, (January), Pp. 132-139.