

## **SERVICE QUALITY IN TELECOM SECTOR - A STUDY OF TELECOM SERVICE PROVIDERS OF CHANDIGARH, PANCHKULA AND MOHALI**

***Dr Sandhya Joshi, Assistant Professor, Graphic Era University, Dehradun***

***Parveen Khurana, Associate Professor, Department of Commerce, M L N College,  
Yamunanagar (Haryana)***

***Shashi Khurana, Associate Professor, Department of Commerce, S M S Khalsa  
Labhana, Girls College, Barara-Ambala (Haryana)***

### **Abstract**

*Telecom landscape has witnessed a major shift after 1996 with the advent of new technologies and is taking the lead in the market place. Increasing data communication speeds and decreasing cost for transmitting digital information have led to larger market penetration rates for broadband communications and related Internet applications, thus effectively transforming the traditional telecom industry structure. This transformation of telecom industry has enabled organizations in other industries to adopt new management infrastructures with more IT based applications like Enterprise Resource Planning (ERP), Supply Chain Management (SCM) and Customer Relationship Management (CRM), which are fundamentally driven by new telecom technologies. Internet technology along with telecom technologies is playing a big role in facilitating the transformation, in other words digitization, of several industries. .*

*The telecom services have been recognized the world-over as an important tool for socio-economic development for a nation and hence telecom infrastructure is treated as a crucial factor to realize the socio-economic objectives in India. Accordingly, the Department of Telecom has been formulating developmental policies for the accelerated growth of the telecommunication services.*

*The Indian Telecom sector is passing through a dynamic transitional phase, as it is clearly undergoing the operation of market forces of demand and supply. The sovereignty of consumers is quite evident through their revealed preference in favor of economically rational decisions.*

*Therefore, the task facing the managers in telecom sector is to focus on those activities that result in meeting or exceeding customer expectations. Moreover, the forces of liberalization and globalization of telecommunication market have pressurized the companies to maintain their market share by focusing on retaining their current customer. They are being increasingly confronted with the challenges to attract their subscribers by providing high quality of services. With the increase in the cost of acquisition of new customers, cellular mobile companies continually seek new ways to acquire retain and increase their subscriber base. Thus the ability to retain existing customer is increasingly crucial in this industry. This is possible only by providing quality of services to the customers. So in this article an attempt has been made to study the service quality in the selected regions. To find out the theoretical s related to the concepts of Service quality in Telecom Sector. The objective of this paper is to explore the key dimensions of service quality for mobile services in the telecom sector and to ascertain which aspect of service quality have significant impact on customer satisfaction and after analysis suggest remedial measures to the companies under study.*

**Key Words:** *Service Quality, Customer Satisfaction, Telecommunication, Tangibility, Assurance, Network Quality, Empathy, Reliability*

## **INTRODUCTION**

The telecom services have been recognized the world-over as an important tool for socio-economic development for a nation and hence telecom infrastructure is treated as a crucial factor to realize the socio-economic objectives in India. Accordingly, the Department of Telecom has been formulating developmental policies for the accelerated growth of the telecommunication services.

The Government of India recognizes that provision of world-class telecommunication infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the information Technology industry, but also has widespread ramifications on the entire economy of the country.

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Therefore, the task facing the managers in telecom sector is to focus on those activities that result in meeting or exceeding customer expectations. Moreover, the forces of liberalization and globalization of telecommunication market have pressurized the companies to maintain their market share by focusing on retaining their current customer. They are being increasingly confronted with the challenges to attract their subscribers by providing high quality of services. With the increase in the cost of acquisition of new customers, cellular mobile companies continually seek new ways to acquire retain and increase their subscriber base. Thus the ability to retain existing customer is increasingly crucial in this industry. This is possible only by providing quality of services to the customers. That is why this study has been taken and this study may provide the telecom manager useful guidelines to provide service quality to enhance their customer satisfaction level. The study uses a survey of Chandigarh, Panckhula and Mohali customers to investigate the service quality in telecom sector.

## **OBJECTIVES OF THE STUDY:**

**The study has the following objectives:**

1. To find out the theoretical framework related to the concepts of Service quality in Telecom Sector.
2. To explore the key dimensions of service quality for mobile services in the telecom sector.
3. To ascertain which aspect of service quality have significant impact on customer satisfaction.
4. To find results and suggest remedial measures to the companies under study.

## **HYPOTHESIS**

The hypotheses formulated for the present study are as follows:

- H1: Factors associated with service quality are significant drivers of overall customer perceived quality in Telecom Sector.
- H1a: Tangibles have a significant influence on customer perceived quality.
- H1b: Empathy has significant influence on customer perceived quality.
- H1c: Reliability has significant influence on customer perceived quality.

- H1d: Assurance has significant influence on customer perceived quality.  
H1e: Responsiveness has significant influence on customer perceived quality.  
H1f: Network Quality has significant influence on customer perceived quality.  
H1g: Others factors has significant influence on customer perceived quality.

## **RESEARCH METHODOLOGY**

### **Methods of Data Collection**

To collect enough data to test the hypothesis, a face-to-face survey was conducted. Respondents were asked to assess their perception of various items of different constructs, including factors viewed as antecedents of service quality. Assessment was based on a five point likert scale. The time period of conducting this study was 3 years i.e. from August 2005 to July 2008.

### **Sample Design and Sample Size**

To collect data, to test the hypothesis a survey was conducted after a pilot study had identified and refined measurement items used in this study. Primary data have been collected from customer's different telecom users in Chandigarh, Panchkula and Mohali, Systematic random sampling was used to select approximately equal no of customers from each type of telecom provider. The sampling has been done taking into consideration the type of telecom provider. The final sample consist of 720 individuals whose state that they were customers of one of the aforementioned service provider. Data was collected using the "Personal contact" after approaching the respondents personally and explaining in detail about the survey objectives and purpose of the study. Questionnaires were distributed to the customers and have been asked to contact the researcher whenever they encounter any difficulty in responding to the questionnaire. A total of 900-customer of 6 service provider have been approached, from whom 720 correctly completed questionnaires have been obtained.

### **Statistical Techniques Used**

To arrive at certain conclusions regarding the hypothesis advanced in the present investigation, the following statistical tools for the analysis of data were employed. Descriptive Analysis, Correlation Analysis T-test Kruskal-Wallis test: Multiple Regression Multicollinearity: Statistical calculations have been made, making extensive use of Microsoft Excel and SPSS Software Packages on the computer.

## **PROFILE OF THE RESPONDENTS TAKEN FOR THE STUDY**

This section of the study deals with the profile of the respondents and also the mean score and standard deviation for the items in the telecom SERVQUAL.

### **Customers Profile**

The success of telecom companies in formulating effective marketing strategies largely depends on maintaining up-to-date profile information of the customer in the form of customer-based data. The availability of such a comprehensive profile provides the telecom companies with a strong basis for designing effective plans and program's regarding the marketing of products and services. The questionnaire included a section on customer's profile. It included customer's age, income, education level, profession and other socio-demographic information.

Table No. 1 to 7 present a comprehensive profile of the telecom customers who had participated in this research study. A total of 800 questionnaires were sent out. After editing all returned questionnaire a total of 720 questionnaires were usable for analysis.

**Table 1****Age Profile of the Respondents**

Age	Frequency	Valid Percentage	Cumulative Percentage
Less than 25 years	323	44.9	44.9
25-34 years	189	26.3	7.1
35-44 years	136	18.9	90.0
45-54 years	42	5.8	95.8
Above 55 years	30	4.2	100.0
Total	720	100.0	100.0

The above table shows that 44.9% of the respondents are less than 25 years, while 26.3% of the respondents are between the age group of 25 to 34 years. 18.9% of the customers are between the age group of 35-44 years while the 5.8% of the customers lie in the 45-54 years range. 4.1% of the customers are above 55 years of age. These results indicate that customers who are in the above 45 age category may be using less mobile as compared to those who are in less age category.

**Table 2****Gender Profile of the Respondents**

Gender	Frequency	Valid %	Cumulative %
Male	455	63.2	63.2
Female	265	36.8	100.0
Total	720	100	

Above table 2 shows that male comprises of 63.2% of the total sample taken. It shows that female uses less mobile as compared to male in India.

**Table 3****Educational Profile of the Respondents**

Education	Frequency	Valid %	Cumulative %
<i>Below Secondary level</i>	14	1.9	1.9
Secondary level	35	4.9	6.8
University Degree/ Bachelor degree	322	44.7	51.5
Master Degree (PG)	348	48.3	99.9
Others	1	1	100
Total	720	100	100

Above table shows that the sample which is taken for study is having either graduation degree or post graduation degree. It shows that the sample which is taken is well educated and they have given their views independently.



**Table 4**  
**Monthly Income Profile of the Respondents**

<b>Monthly Income</b>	<b>Frequency</b>	<b>Valid %</b>	<b>Cumulative %</b>
Up to Rs 5000	253	35.1	35.
Rs. 5000 1 to 1000	78	10.8	46.0
Rs 10001 to 1500	213	29.6	75.6
RS. 15001 to 20000	105	14.6	90.1
Rs. 20001 to 25000	36	5.0	95.1
Rs. 25001 and above	35	4.9	100.0
Grand total	720	100.0	100.0

Above table shows that even those having income upto Rs 5000 they are also having mobile. It show that it is affordable by all income groups.

**Table 5**  
**Professional Profile of the Respondents**

<b>Profession</b>	<b>Frequency</b>	<b>Valid %</b>	<b>Cumulative %</b>
Own Business	38	5.3	5.3
Student	234	32.5	37.8
Service Class	319	44.3	82.1
Others	129	17.9	100.0
Total	720	100.0	100.0

Professional profile of the respondents shows that 44.3% of the sample taken is among the service class and then student which comprises of 32.5% of the sample.

**Table 6**  
**Service Provider Profile of the Respondents**

<b>Company</b>	<b>Frequency</b>	<b>Valid %</b>	<b>Cumulative %</b>
Airtel	154	21.4	21.4
BSNL	116	16.1	37.5
Tata Indicom	91	12.6	50.1
Spice	132	18.3	68.5
Reliance	86	11.9	80.4
Hutch (Voda fone)	141	19.6	100.0
Total	720	100.0	100.0

Above table shows the no of respondent who have been taken for the study. As in the sample it was being mentioned that 150 respondent of each provider will be taken but when we surveyed we found less no than the no planned of each provider.

### **History of Relationship with the Service Provider**

In order to investigate the relationship between service quality and customer satisfaction, it was important to explore for how long respondents are the users of one of the above mentioned service providers. Table 7 present a historical perspective on the service providers' relationship for the surveyed customers.

**Table 7**  
**History of Relationship with Service Providers**

Duration of Relationship with service providers	Frequency	%	Cumulative %
Less than 2 years	286	39.7	39.7
2 to less than 3 years	202	28.1	67.8
3 to less than 4 years	110	15.3	83.1
4 to less than 5 years	57	7.9	91.0
Above 5 years	65	9.0	100.0
	720	100.0	100.0

The above table shows that 39.7% of the respondents had maintained a relationship with the service provider for less than 2 years, 28.1% for a period of 2 to less than 3 years 15.3% and 7.9% for a period of 3 to less than 4 years and 4 to less than 5 years. These results indicate that there was relatively higher degree of instability of the customers. Customer in case of Telecom Company does not maintain a long time relationship with the provider.

### **EXPLORING THE RELATIONSHIP BETWEEN SERVICE QUALITY AND ITS DIMENSIONS**

To explore the relationship between service quality and its key dimensions, the seven dimensions of quality were taken as seven independent variables in this study. The overall service quality for the telecom services as perceived and rated by customers is used as a dependent variable.

The mathematical representation of research model for the above relationship is displayed as.

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 \text{ terms}$$

Where y = overall quality

$x_1, x_2, x_3, x_4, x_5, x_6, x_7$ , = dimensions of quality

$\beta_1 \beta_2 \beta_3 \beta_4 \beta_5 \beta_6 \beta_7$  = coefficients of the dimensions of quality.

The relationship between service quality and its dimensions was first investigated using Pearson correlation. Preliminary analysis revealed that there were no violations of the assumption of linearity and homoscedasticity, and all associations were found to be significant at 95% level, with the strongest association between Service quality and Network quality.

**Table 8**  
**Correlation: Service Quality and its Dimensions**

	Assurance	Reliability	Tangibles	Responsiveness	Empathy	Network quality	Other factors
Service Quality	0.334	0.282	0.216	0.364	0.370	0.424	0.254

Correlation significant at 0.05 level

To examine the fit of the regression model and to discover the best predictors of service quality, stepwise regression was used with the dimensions of service quality as the predictors. Preliminary analysis revealed no violation of the assumption regarding sample size, multicollinearity. As shown in table no 10 Network quality, Responsiveness, Other factors, Empathy and Assurance are also statistically significant. s In addition Network Quality had the greatest effect and influence on service quality followed by Responsiveness and Others factors. Table 10 also shows the values of the variance inflation factor and tolerance value (TV) for the linear stepwise regression. The proportion of the variance in the dependent variable that explained by independent variable.

**Table 9**  
**Regression Model Summary Quality**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std Error of estimate
5	0.524	0.275	0.270	0.755

1. Independent Variable :- dimensions of Service quality
2. Dependent Variable :- Service Quality

**Table 10**  
**Stepwise Regression Analysis: - Service Quality**

Variable	Beta	t-Value	Significance level	Tolerance Value	Variance Inflation
<b>Constant</b>		1.771			
Network Quality	0.276	7.516	0.000	0.755	1.325
Responsiveness	0.171	4.357	0.000	0.660	1.515
Others	0.112	3.356	0.001	0.909	1.101
Empathy	0.100	2.475	0.14	0.622	1.608
Assurance	0.090	2.353	0.19	0.693	1.443

### Hypothesis Testing

From the above results, it can be concluded that the hypotheses H1b i.e. Empathy has significant influence on customer perceived service quality ,H1d i.e. Assurance has significant influence on customer perceived service quality., H1e i.e. Responsiveness has significant influence on customer perceived service quality, H1f i.e. Network quality has significant influence on customer perceived service quality, H1g i.e. other factors have significant influence on customer perceived service quality are supported. It was also revealed that dimension of Network Quality was the best predictor of service quality in the telecom sector and is followed by Responsiveness and others factors. Network quality had the most important positive impact on customer perceived Services quality.



## IMPLICATIONS FOR MANAGERS

No study is complete without suggestions. The empirical findings of the present research have also practical implications for telecom manager whose strive to organize their service offering in order to accomplish their corporate goals. Following are some of the suggestions which telecom companies should take into account to enhance service quality so as to induce greater service quality and to attain higher level of favorable outcome and to alleviate negative outcomes.

1. It provides the managers with the comprehensive model of the factors which influence the perception of service quality and consequently with the specific priorities so as to increase customer satisfaction.
2. Network quality, Responsiveness and Other factors seem to be most important dimensions influencing customer satisfaction with the telecom providers.
3. Network quality has been found to be very important factor in determining service quality. So every telecom provider should give emphasis on improving the Network coverage so that more and more customers can be retained. So emphasis should be on strong Network Coverage.
4. As per the study, strong differences were found regarding service quality perception and different age groups, gender, education and income level. Thus the telecom managers can embark upon a strategy of targeting specific customers with specific educational and income levels. They can also make special packages for different age group, for different income group, etc.

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**PROFESSOR SATISH KAPOOR (Ph.D, M.B.A., S.U.N.Y., New York)** is Ex Chairman of the UBS Panjab University Chandigarh. An advisor to Panjab University under the centre for Industry Institute Interface Program, Prof. Kapoor has been consultant to a number of organisations. Besides, he has also contributed extensively to reputed journals in India and abroad.

**Dr. SANDHYA JOSHI (M.Com, M.Phil, Phd UGC NET JRF)** is an Assistant Professor in Graphic Era University Dehradun. She has been a Junior Research fellow in the UBS since August 2004 to July 2008. She taught Sales and Distribution and Product Management to MBA students in UBS PU Chandigarh. She has presented a papers in various national and international conference sponsored by UGC. Now she has been teaching Consumer Behaviour and Logistics Management in graduate and Post Graduate Classes.