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INFLUENCE OF SERVICE QUALITY ON SATISFACTION OF CUSTOMERS OF TELECOM SECTORS IN CHENNAI

L. SRIDHARAN
RESEARCH SCHOLAR
DRAVIDIAN UNIVERSITY
KUPPAM

DR. N. THANGAVEL
PRINCIPAL (PG STUDIES)
JEPPIAR ENGINEERING COLLEGE
CHENNAI

ABSTRACT

Telecommunication Reforms in India revolutionized the telecom industries sector in India, which is an important factor for the growth of the Indian telecom sector and in turn helped the Indian economy to perform well for the past few years. Technological advancements and innovations contributed largely towards the reformation of the telecom sector in India. The data and information have been collected from 400 customers of Government telecom sector and 400 customers of private telecom sector by adopting stratified random sampling technique. The forgoing analysis shows that more than one-third of customers of Government telecom sector belong to the age group of 31-40 years, whereas, most of the customers of private telecom sector belong to the age group of 21-30 years. The results also indicate that about 42.25 per cent of customers of Government telecom sector belong to the monthly household income group of Rs. 10001-20000 and about 46.00 per cent of customers of private telecom sector belong to the monthly household income group of Rs. 20001-30000. The customers of Government telecom sector are satisfied with drop rate, converge, bill details, technology, calling rate, promotional offer, mode of payment, reliability and responsiveness. The customers of private telecom sector are satisfied with quality, free calls, number selection, entertainment, special features, promotional offer, mode of payment, complaint redressal system, complaint resolution, customer relation, innovativeness, reliability and responsiveness. The communication, services and customer care are positively influencing the overall satisfaction of customers of Government telecom sector. The communication, services, customer care and facility are positively influencing the overall satisfaction of customers of private telecom sector. Hence, it is suggested that lowering the tariff plans of service provider will increase more competition. In order to improve the service of number portability(service migration) to allow more free market conditions for fixed line customers, without taxing new entrants or customers for moving away from a monopoly service providers. The Value Added Services (VAS) for the betterment of the users should be up graded and also increase the accessibility of services through better network infrastructure in both Government and private telecom sectors. Besides, the service providers should also concentrate more on the attributes such as talk-time facility, network and voice clarity apart from SMS, VAS and schemes.

KEYWORDS

Regression, Satisfaction, Service Quality and Telecom Sector.

INTRODUCTION

The telecom services have been recognized the world-over as an important tool for socio-economic development for a nation. It is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. Indian telecommunication sector has undergone a major process of transformation through significant policy reforms, particularly beginning with the announcement of NTP 1994 and was subsequently reemphasized and carried forward under NTP 1999. Driven by various policy initiatives, the Indian telecom sector witnessed a complete transformation in the last decade. Such rapid growth in the communication sector has become necessary for further modernization of Indian economy through rapid development in IT.

Telecommunication Reforms in India revolutionized the telecom industries sector in India, which is an important factor for the growth of the Indian telecom sector and in turn helped the Indian economy to perform well for the past few years. The Telecommunication reforms in India were development and growth oriented. Technological advancements and innovations contributed largely towards the reformation of the telecom sector in India.

This rapid growth has been possible due to various proactive and positive decisions of the Government and contribution of both by the public and the private sector. The rapid strides in the telecom sector have been facilitated by liberal policies of the Government that provide easy market access for telecom equipment and a fair regulatory framework for offering telecom services to the Indian consumers at affordable prices. With this background, the present study was attempted to examine influence of service quality on satisfaction of customers of telecom sectors in Chennai.

METHODOLOGY

Among the different cities in Tamil Nadu, the Chennai city has been purposively selected for the present study. The customers of both Government and private sector telecom services have been selected by adopting stratified random sampling technique through pre-tested and structured interview schedule. The data and information have been collected from 400 customers of Government telecom sector and 400 customers of private telecom sector through direct interview method, thus, the total sample size for the present study is 800 and data and information pertain to the year 2010-2011.

STATISTICAL TECHNIQUES

In order to understand the socio-economic characteristics of Government and private telecom sectors, the frequency distribution and percentage analysis are worked out. In order to examine the difference between socio-economic characteristics of customers, the Chi-Square test has been applied. In order to study the difference between satisfaction of service quality dimensions of both Government and private telecom sectors, the ANOVA test has been adopted. In order to assess the influence of quality of services of Government and private telecom sector on satisfaction of customers, the multiple linear regression by Ordinary Least Square (OLS) estimation has been applied. The functional form of multiple liner regression model are given below:

$$Y = \alpha + \beta_i X_i + e$$

Where

Y = Customer's Satisfaction

X_i = Service Quality Dimensions

i = 1 to 6

α = Intercept

β_i = Partial Regression Coefficients

e = Random Error or Stochastic Disturbance Term

The α and β_i are the coefficients which are to be calculated through Ordinary Least Square (OLS) estimation.

The Likert five point scale (highly satisfied to highly dissatisfied) was used to measure the service quality dimensions of both Government and private telecom sectors.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Customers

Gender

The frequency distribution of gender of customers of telecom sector in Chennai city was analyzed and the results are presented in **Table1**. The results show that out of 800 customers of telecom sector, about 54.63 per cent of customers are males, while the rest of 45.37 per cent of the customers are females. Out of 400 customers of Government telecom sector, about 57.50 per cent of customers are males and the rest of 42.50 per cent of customers are females. Out of 400 customers of private telecom sector, about 51.80 per cent of customers are males and the rest of 48.20 per cent of customers are females.

TABLE - 1: FREQUENCY DISTRIBUTION OF GENDER OF CUSTOMERS OF TELECOM SECTOR

Gender	Government	Private	Total	Chi-Square Value	Significance
Male	230 (57.50)	207 (51.80)	437 (54.63)	0.03	0.01
Female	170 (42.50)	193 (48.20)	363 (45.37)		
Total	400 (100.00)	400 (100.00)	800 (100.00)		

Note: The figures in the parentheses are per cent to total.

The chi-square value of 0.03 is significant at one per cent level indicating that there is a significant difference between gender of customers of Government and private telecom sector.

Age

The frequency distribution of age of customers of Telecom sector in Chennai city was analyzed and the results are presented in **Table 2**. The results indicate that out of 800 customers of telecom sector, about 31.50 per cent of customers belong to the age group of 21-30 years followed by 31-40 years (29.25 per cent), less than 20 years (17.38 per cent), 41-50 years(13.87 per cent) and more than 50 years(8.00 per cent).

TABLE - 2: FREQUENCY DISTRIBUTION OF AGE OF CUSTOMERS OF TELECOM SECTOR

Age(Years)	Government	Private	Total	Chi-Square Value	Significance
< 20	62 (15.50)	77 (19.25)	139 (17.38)	0.09	0.01
21-30	105 (26.25)	147 (36.75)	252 (31.50)		
31-40	127 (31.75)	107 (26.75)	234 (29.25)		
41-50	68 (17.00)	43 (10.75)	111 (13.87)		
>50	38 (9.50)	26 (6.50)	64 (8.00)		
Total	400 (100.00)	400 (100.00)	800 (100.00)		

Note: The figures in the parentheses are per cent to total.

Out of 400 customers of Government telecom sector, about 31.75 per cent of customers belong to the age group of 31-40 years followed by 21-30 years (26.25 per cent), 41-50 years (17.00 per cent), less than 20 years (15.50 per cent) and more than 50 years (9.50 per cent). Out of 400 customers of private telecom sector, about 36.75 per cent of the customers belong to the age group of 21-30 years followed by 31-40 years (26.75 per cent), less than 20 years (19.25 per cent), 41-50 years (10.75 per cent) and more than 50 years (6.50 per cent). The chi-square value of 0.09 is significant at one per cent level indicating that there is a significant difference between age of customers of Government and private telecom sector.

Educational Qualification

The frequency distribution of educational qualification of customers of Telecom sector in Chennai city was analyzed and the results are presented in **Table.3**. From the table, it is clear that out of 800 customers of telecom sector, about 33.75 per cent of customers are under graduates followed by up to higher secondary (33.00 per cent), post graduation(21.63 per cent), no formal education(6.37 per cent) and professionals(5.25 per cent). Out of 400 customers of Government telecom sector, about 47.25 per cent of customers are educated up to higher secondary followed by under graduation (23.25 per cent), post graduation (15.25 per cent), no formal education (8.75 per cent) and professional qualification (5.50 per cent). Out of 400 customers of private telecom sector, about 44.25 per cent of the customers are undergraduates followed by post graduates (28.00 per cent), up to higher secondary (18.75 per cent), professionals (5.00 per cent) and no formal education (4.00 per cent).

TABLE - 3: FREQUENCY DISTRIBUTION OF EDUCATIONAL QUALIFICATION OF CUSTOMERS OF TELECOM SECTOR

Educational Qualification	Government	Private	Total	Chi-Square Value	Significance
No Formal Education	35 (8.75)	16 (4.00)	51 (6.37)	0.08	0.01
Up to Higher Secondary	189 (47.25)	75 (18.75)	264 (33.00)		
Under Graduation	93 (23.25)	177 (44.25)	270 (33.75)		
Post Graduation	61 (15.25)	112 (28.00)	173 (21.63)		
Professionals	22 (5.50)	20 (5.00)	42 (5.25)		
Total	400 (100.00)	400 (100.00)	800 (100.00)		

Note: The figures in the parentheses are per cent to total.

The chi-square value of 0.08 is significant at one per cent level indicating that there is a significant difference between educational qualification of customers of Government and private telecom sector.

Monthly Household Income

The frequency distribution of monthly household income of customers of Telecom sector in Chennai city was analyzed and the results are presented in **Table 4**. It is apparent that out of 800 customers of telecom sector, about 34.75 per cent of customers belong to the monthly household income group of Rs. 10001-20000 followed by Rs. 20001-30000(30.75 per cent), less than Rs. 10000(15.38 per cent), Rs. 30001-40000(11.12 per cent) and more than Rs. 40000(8.00 per cent).

Out of 400 customers of Government telecom sector, about 42.25 per cent of customers belong to the monthly household income group of Rs. 10001-20000 followed by less than Rs. 10000(26.75 per cent), Rs. 20001-30000(15.50 per cent), Rs. 30001-40000(10.75 per cent) and more than Rs. 40000(4.75 per cent).

TABLE - 4: FREQUENCY DISTRIBUTION OF MONTHLY HOUSEHOLD INCOME OF CUSTOMERS OF TELECOM SECTOR

Monthly Household Income(Rs)	Government	Private	Total	Chi-Square Value	Significance
< 10000	107 (26.75)	16 (4.00)	123 (15.38)	0.08	0.01
10001-20000	169 (42.25)	109 (27.25)	278 (34.75)		
20001-30000	62 (15.50)	184 (46.00)	246 (30.75)		
30001-40000	43 (10.75)	46 (11.50)	89 (11.12)		
>40000	19 (4.75)	45 (11.25)	64 (8.00)		
Total	400 (100.00)	400 (100.00)	800 (100.00)		

Note: The figures in the parentheses are per cent to total.

Out of 400 customers of private telecom sector, about 46.00 per cent of customers belong to the monthly household income group of Rs. 20001-30000 followed by Rs. 10001-20000(27.25 per cent), Rs. 30001-40000(11.50 per cent), more than Rs. 40000(11.25 per cent) and less than Rs. 10000(4.00 per cent). The chi-square value of 0.08 is significant at one per cent level indicating that there is a significant difference between monthly household income of customers of Government and private telecom sector.

Customer's Satisfaction

The customer's satisfaction of service quality of telecom sector was analyzed and the results are presented in **Table 5**. The mean values of quality of services provided by Government telecom sector to the customers are varying from 3.39 for mode of payment to 2.74 for entertainment. The customers of Government telecom sector are satisfied with drop rate, converge, bill details, technology, calling rate, promotional offer, mode of payment, reliability and responsiveness. Besides, the customers are neutral with quality, free calls, number selection, entertainment, special features, complaint redressal system, complaint resolution, fault restoration time, customer relation and innovativeness.

The mean values of quality of services provided by private telecom sector to the customers are ranging from 4.44 for quality to 2.74 for technology. The customers of private telecom sector are satisfied with quality, free calls, number selection, entertainment, special features, promotional offer, mode of payment, complaint redressal system, complaint resolution, customer relation, innovativeness, reliability and responsiveness. Besides, the customers are neutral with drop rate, coverage, bill details, technology, calling rate and fault restoration time. The F- value for between groups of 1.457 and within groups of 1.432 are statistically significant at one per cent level indicating that there is a significant difference in customer's satisfaction between services and service providers of telecom sector.

TABLE – 5: CUSTOMER'S SATISFACTION OF SERVICE QUALITY OF TELECOM SECTOR

Service Quality	Government		Private		F Value			
	Mean	SD	Mean	SD	Between Groups	Significance	Within Groups	Significance
Communication					1.457	0.01	1.432	0.01
Quality	3.21	0.7542	4.44	0.7451				
Drop Rate	3.88	0.7836	3.12	0.7260				
Coverage	3.62	0.8218	3.01	0.8539				
Service								
Bill Details	3.96	0.8218	3.42	0.7284				
Free Calls	3.19	0.8362	4.23	0.7786				
Number Selection	2.76	0.9162	3.86	0.8835				
Facility								
Entertainment	2.74	0.9210	3.73	0.8763				
Technology	3.63	0.9210	2.74	0.8532				
Special Features	3.43	0.8923	3.71	0.8785				
Price								
Calling Rate	3.74	0.9210	2.95	0.8102				
Promotional Offer	3.64	0.9132	3.82	0.8272				
Mode of Payment	3.99	0.8510	3.97	0.8019				
Customer Care								
Complaint Redressal System	2.85	0.7886	3.98	0.8434				
Complaint Resolution	2.94	0.9009	3.75	0.7366				
Fault Restoration Time	3.02	0.9021	2.84	0.8373				
Service Providers								
Customers Relation	2.82	0.7743	3.89	0.7774				
Innovativeness	2.88	0.8469	3.84	0.7644				
Reliability	3.78	0.8361	3.83	0.7442				
Responsiveness	3.82	0.7943	3.81	0.8115				

Note: The figures in the parentheses are per cent to total.

4= Satisfied 3=Neutral

Influence of Service Quality on Satisfaction of Customers of Government Telecom Sector

In order to assess the influence of quality of services of Government telecom sector on satisfaction of customers, the multiple linear regression by Ordinary Least Square (OLS) estimation and the results are presented in **Table 6**. The results indicate that the coefficient of multiple determination (R^2) is 0.63 and adjusted R^2 is 0.59 indicating the regression model is moderately fit.

TABLE – 6: INFLUENCE OF QUALITY OF SERVICES OF GOVERNMENT TELECOM SECTOR ON CUSTOMER'S SATISFACTION -MULTIPLE REGRESSION

Quality of Service	Regression Coefficients	t-value	Significance
Intercept	1.214	1.526	.162
Communication(X_1)	.583**	3.671	.012
Service(X_2)	.542**	3.882	.013
Facility(X_3)	.326	0.211	.033
Price(X_4)	-.352*	2.989	.018
Customer Care(X_5)	.326**	4.412	.013
Service Providers(X_6)	.198	0.930	.354
R^2	0.63		
Adjusted R^2	0.59		
F	5.647		0.034
N	400		

Note: ** Significance at one per cent level

* Significance at five per cent level

The results show that communication, services and customer care are positively influencing the overall satisfaction of customers at one per cent level of significance, while price is negatively influencing the customer's satisfaction at five cent level of significance in Government telecom sector.

Influence of Service Quality on Satisfaction of Customers of Private Telecom Sector

In order to assess the influence of quality of services of private telecom sector on satisfaction of customers, the multiple linear regression by Ordinary Least Square (OLS) estimation and the results are presented in **Table 7**. The results indicate that the coefficient of multiple determination (R^2) is 0.64 and adjusted R^2 is 0.61 indicating the regression model is moderately fit.

TABLE – 7: INFLUENCE OF QUALITY OF SERVICES OF PRIVATE TELECOM SECTOR ON CUSTOMER'S SATISFACTION -MULTIPLE REGRESSION

Quality of Service	Regression Coefficients	t-value	Significance
Intercept	1.648**	2.964	.012
Communication(X_1)	.642**	3.782	.011
Service(X_2)	.620**	3.869	.012
Facility(X_3)	.564*	3.029	.036
Price(X_4)	-.536*	3.026	.019
Customer Care(X_5)	.592**	3.922	.010
Service Providers(X_6)	.362	0.895	.096
R^2	0.64		
Adjusted R^2	0.61		
F	6.285		0.02
N	400		

Note: ** Significance at one per cent level

* Significance at five per cent level

The results shows that communication, services and customer care are positively influencing the overall satisfaction of customers at one per cent level of significance, while facility is also positively influencing the overall satisfaction of customers at five per cent level of significance. Besides, the price is negatively influencing the customer's satisfaction at five cent level of significance in private telecom sector.

CONCLUSION AND RECOMMENDATIONS

The forgoing analysis shows that about 57.50 per cent of the customers of Government telecom sector are males, while 51.80 per cent of the customers of private telecom sector are also males. More than one-third of customers of Government telecom sector belong to the age group of 31-40 years, whereas, most of the customers of private telecom sector belong to the age group of 21-30 years. Nearly half of the customers of Government telecom sectors are educated up to higher secondary level, while the majority of the customers of private telecom sector are undergraduates. The results also indicate that about 42.25 per cent of customers of Government telecom sector belong to the monthly household income group of Rs. 10001-20000 and about 46.00 per cent of customers of private telecom sector belong to the monthly household income group of Rs. 20001-30000.

The customers of Government telecom sector are satisfied with drop rate, converge, bill details, technology, calling rate, promotional offer, mode of payment, reliability and responsiveness. The customers of private telecom sector are satisfied with quality, free calls, number selection, entertainment, special features, promotional offer, mode of payment, complaint redressal system, complaint resolution, customer relation, innovativeness, reliability and responsiveness. The communication, services and customer care are positively influencing the overall satisfaction of customers of Government telecom sector. The communication, services, customer care and facility are positively influencing the overall satisfaction of customers of private telecom sector.

Hence, it is suggested that lowering the tariff plans of service provider will increase more competition. In order to improve the service of number portability(service migration) to allow more free market conditions for fixed line customers, without taxing new entrants or customers for moving away from a monopoly service providers. The Value Added Services (VAS) for the betterment of the users should be up graded and also increase the accessibility of services through better network infrastructure in both Government and private telecom sectors. Besides, the service providers should also concentrate more on the attributes such as talk-time facility, network and voice clarity apart from SMS, VAS and schemes.

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