IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 20, Issue 7. Ver. III (July. 2018), PP 52-56
www.iosrjournals.org

Service Quality Dimensions in Mobile Telecommunication Sector

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Abstract: *Indian mobile telecommunication sector is passing through an interesting phase of data revolution. The entry of the new telecom operator Reliance Jio has brought significant reduction in the tariff structure of voice calls and data services. The competition has become so intense that each operator realizes that focussing merely on voice-calls will not be sufficient to generate revenue and hence there is a need to shift the focus on various mobile value added services and data services. Mobile telecom, being a service oriented sector, the pursuit of service qualityis an inevitable factor. As the market is getting saturated, the telecom service providers are faced with the challenge of acquiring new customers and preventing the customer churn in a highly volatile and competitive market. In this context it is extremely important for service providers to ensure the best service quality to the customers and to be customer centric in managing interactions. This research aims at identifying the service quality dimensions in telecom sector and analyse the influence of these dimensions on customer loyalty. This study uses a descriptive research design to study the demographic profile of the mobile subscribers and to identify the service quality dimensions in mobile telecom sector. The study was conducted by collecting responses from a sample of 766 customers of five major service providers in Northern and Central Kerala. Four dimensions of service quality like reliability, responsiveness, assurance and network quality were identified and their effect on customer loyalty is analysed.*

Key words:*Service quality, network quality, reliability, responsiveness, assurance, mobile telecommunication, customer loyalty.*

Date of Submission: 26-06-2018 Date of acceptance: 12-07-2018

I. Introduction

The Indian telecom sector has shown significant growth in the last few years. According to the reports of IBEF(2017), the sector provides lot of opportunities for growth as evident from increase in the number of subscribers, untapped rural market, rising internet penetration and development of telecom infrastructure. In spite of these, the sector faces certain challenges with the decline in the profit margin of the service providers. This is because the market is getting matured resulting in a reduction in the number of new subscriber addition and the subscribers are free to switch to any new operator due to the low switching cost due to Mobile Number Portability (MNP).

II. Recent developments in Indian telecom sector

Another significant development that revolutionized Indian mobile telecom sector was the entry of Reliance Jioin September 2016 that came up with promotional packages of free voice calls and data services. This resulted in sharp competition and a fierce mobile tariff war which has brought thetelecom industry to a new level in terms of tariffs, services and technology. The sudden decline in the voice call and data tariffs resulted in a decrease in Average Revenue per User (ARPU) and a decline in operator margins from one quarter to the other. Reliance Jio has proved to be a game changer in Indian mobile telecom sector as its pricing strategy has forced other telecom companies to revise their tariffs to face the stiff competition. As voice calls market has already reached a maturity stage in India and data business offers high growth potential,Reliance Jio's strategy is to focus on data business aggressively which is followed by other service providers also.

Apart from its low pricing strategy, Jio is offering technologically more sophisticated network for high speed data usage using Long Term Evolution (LTE) technology. Because of this, other top five players in the sector like Bharti Airtel, Vodafone, Idea, Reliance andBharat Sanchar Nigam Ltd or BSNL are also forced to upgrade their network and come up with competitive plans and consolidation strategies. One major development is the merger of Idea and Vodafone which was announced in March 2018.According to the study done by Kapil Kumar (2017) on challenges of telecom sector in India the telecom sector is facing key challenges like maintaining the sufficient spectrum, adoption of new technologies to provide faster and feature rich services to customers, constraints with handsets and content of the apps in regional languages. Another challenge is the

telecom sector's rising debt and falling revenues which will impact broadband penetration resulting in a drag in growth of the sector.

III. Need for the study

As the competition is becoming intense and the switching cost is low, it extremely important for service providers to ensure the best service quality to the customers and to be customer centric in managing interactions. After the launch of Reliance Jio, there has been tremendous increase in the mobile broadband internet subscription and all other service providers are struggling to upgrade their network to be in par with that of Jio's. Apart from the technological advancements, there is a personal factor involved in managing customer interactions. This study attempts to identify the service quality dimensions in mobile telecom sector and its influence on customer loyalty.

The objective of the research is:

- To study the demographic profile of the mobile subscribers.
- To study the factors influencing service quality in telecom sector
- To analyse the influence of service quality dimensions on Customer loyalty

IV. Literature review

Service Quality

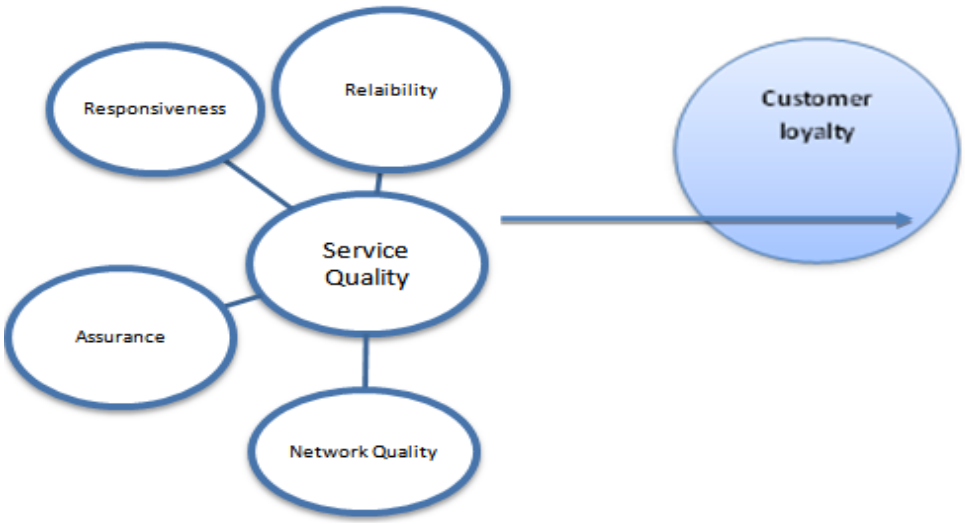
Service quality is the extent to which a service meets customer expectations upon which the customers form an impression about the superiority or inferiority of theservice offerings of an organization.(Asubonteng et al., 1996; Bitner et al., 1990). Several researchers argues that the high level of service quality provides a differential advantage for the firms over the competitors and is key to customer retention and hence delivering quality service has become a key element of their business strategy, (Heskett*et al.*,1997; Voss *et al*., 2004 ; Kotler and Keller, 2006). Parasuraman et al. (1998) developed a multi-item scale called SERVQUAL to measure service quality on the five dimensions of tangibility, responsiveness, reliability, assurance, and empathy.

Service Quality and Customer Loyalty

The relationship between service quality and customer loyalty in telecom sector has been empirically proven by many researchers.Service-quality dimensions in mobile telecom are identified as convenience, network quality, tangibles, assurance, responsiveness and empathy, (Khan 2010; Kothari, Sharma and Rathore, 2011).Chen & Cheng (2012) conceptualized service quality of mobile telecom sector in terms of interactive quality and core quality.Oyeniye and Joachim (2011) studied the relationship between service quality, value offer, satisfaction and loyalty in Nigerian telecom industry and found a positive impact of service quality on customer satisfaction and loyalty. Amin, Ahmed & Hui (2012 researched on factors contributing to customer loyalty in Malaysian Telecom sector and concluded that that customers' judgment about the overall services of the operator, corporate image and customers' trust will increase their commitment to prefer the service provider in the future.

Based on the literature review the below proposed research model is derived:

Figure: 1 PROPOSED RESEARCH MODEL



V. Research Methodology

A descriptive research design is used in this study as the research aims to describe the profile of the mobile subscribers and study the factors influencing service quality in mobile telecom sector and their influence on customer loyalty. Using stratified sampling method, the data were collected from the customers of five major service providers like Idea, Vodafone, Airtel, BSNL and Reliance Jio in Central and North Kerala. The research instrument was a questionnaire which was distributed personally to 1000 respondents, out of which 766 were returned completely filled. The data were collected through direct interactions with customers by providing necessary clarifications to ensure the accuracy and consistency of data. The collected data were entered manually in computer and the analysis was done using The Statistical Package for the Social Science (SPSS) for Microsoft Windows. Different tools of analysis like Mean, Median, Standard Deviation, Correlation, Regression, One - Way Analysis of variance and Factor analysis were used to analyze the data.
The profile of mobile subscribers is summarized in Table given below:

Type of mobile connection

	Frequency	Percent	Mean	Standard Deviation
Pre-paid	671	87.6		
Post-paid	95	12.4	1.1436	.40937
Total	766	100.0		

Name of Telecom service provider

	Frequency	Percent	Mean	Standard Deviation
Idea	242	31.6		
Vodafone	177	23.1		
Airtel	143	18.7	2.5013	1.34480
BSNL	129	16.8		
Others	75	9.8		
Total	766	100.0		

Length of relationship with service provider

	Frequency	Percent	Mean	Standard Deviation
Six months to one year	163	21.3		
Between one to two years	147	19.2		
Two to Three years	236	30.8	2.678	1.1233
Above 3 years	220	28.7		
Total	766	100.0		

Respondents having Mobile internet facility

	Frequency	Percent	Mean	Standard Deviation
Yes	678	88.5		
No	88	11.5	1.1337	.35929
Total	766	100.0		

Table1: Profile of Mobile subscribers

VI. Analysis and Results

The primary data were collected using a structured questionnaire and the reliability and validity of the instrument were analysed using a series of tools and procedures. The construct validity was assessed using Exploratory Factor Analysis (EFA) which tests the degree to which the items are tappingthe same concept.Cronbach's alpha was used to test the reliability of the items and the internalconsistency of the items for all dimensions of service quality is measured.

a. Reliability Coefficients for the constructs of Service Quality (α Value)

S No.	Dimensions	Alpha Value
1	Reliability	.750
2	Responsiveness	.798
3	Assurance	.703
4	Network Quality	.735
	αValue for Service Quality	.786

Table: 2Reliability Coefficients for the constructs of Service Quality

In this study the Reliability analysis shows that all the factors have shown alpha value greater than 0.7, indicating the evidence of reliability. So the items constituting each variable under study have reasonable

internal consistency and shows that all the dimensions of factors influencing of service quality have a positive reliability.The alpha value for customer loyalty is .801.

b. Kaiser-Meyer-Olkin Measure of Sampling

Kaiser Meyer Olkin and Bartlett`s Test for factors influencing Service Quality

Kasier-Meyer-Olkin Measure of Sampling Adequacy	.921
.Bartlett's Test of Approximate Chi-Square	3397.615
Sphericity (Df)	153
Sig.	.00

Table : 3 KMO and Bartlett's Test of Service Quality

From the Table 3, it can be seen that KMO values and Bartlett's test results for Service quality are acceptable. Four factors comprising eighteen items, all having eigen values of unity and above were extracted and the results are shown in Table Further, in order to assess the appropriateness of the data for factor analysis, the communalities derived from the factor analysis were reviewed.

The extraction of all the 18 variables are >.6. It clearly shows that each variable contributes 60% of the variance. The cumulative variance is 63.562%, which means 64% of the measured variables are contributing positively towards the study. But still there is an error that 36 % of the sample variance is not measured. However with reference to the earlier researches in telecom sector, even 60% is acceptable.

c. Exploratory Factor Analysis for factors influencing Service Quality

	Factor loadings	**Percent Variance Explained**
Factor1: Service Quality Dimensions –Reliability		17.908
REL 1	.748	
REL 2	.646	
REL 3	.754	
REL 4	.691	
REL 5	.635	
Factor 2: Service Quality Dimensions –Responsiveness		16.343
RES 1	.748	
RES 2	.785	
RES 3	.712	
RES 4	.688	
Factor 3: Service Quality Dimensions –Assurance		15.977
ASS 1	.717	
ASS 2	.741	
ASS 3	.602	
ASS 4	.648	
Factor 4: Service Quality Dimensions –Network Quality		13.334
NQ 1	.638	
NQ 2	.708	
NQ 3	.753	
NQ 4	.767	
NQ 5	.667	

Table: 4Exploratory Factor Analysis for factors influencing Service Quality

Factor analysis of the 18 items revealed a 4-factor structure that explained 63.562% of total variance. The criteria for retaining the 4 factors were eigenvalues greater than one and the ability to describe and label each factor. *Factor 1* was labelled as *Reliability* explained the service provider's ability to perform the promised service dependably and accurately. It explained 17.908% of the variance in customer's response to the factors influencing service quality in telecom sector. *Factor 2* was labelled as *Responsiveness* which measured the service provider's willingness to help and provide accurate services. It explained 16.343 % of the variance in customer's response .*Factor* was labelled as *Assurance*refers to the customer service employees' knowledge and behaviour and ability to convey trust and confidence. It explained 15.977% of the variance in customer's response .*Factor 4* was labelled *Network Quality*which measured the core service quality and interactive quality of the service providers. This factor explained 13.334% of the variance in customer's response to the factors influencing service quality in telecom sector.

VII.Findings and Conclusion

Reliability analysis shows that items constituting each variable under study have reasonable internal consistency and shows that all the dimensions of factors influencing of service quality have a positive reliability. The results of the factor analysis show that factors and dimensions identified for the study carry a good degree of reliability and have significant relationships and hence it is concluded that the data collected is reliable.

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IOSR Journal of Business and Management (IOSR-JBM) is UGC approved Journal with Sl. No. 4481, Journal no. 46879.

K.R .Rashmi"Service Quality Dimensions in Mobile Telecommunication Sector." IOSR Journal of Business and Management (IOSR-JBM) 20.7 (2018): 52-56.