Impact of Service Quality on Customer Loyalty- A Study on Telecom Sector in India

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Abstract: *The objective of this paper is to identify the impact of service quality on customer relationship management and customer loyalty in the Indian telecom sector. Service quality has been considered as independent variable whereas customer relationship management and customer loyalty were considered as dependent variable. Five antecedents of service quality have been considered in this study viz. empathy, assurance, responsiveness, tangibility and reliability based on SRVQUAL model of Persuraman et al (1988). A survey-based exploratory and causal research design was used. A 29 items instrument was generated comprising of 18 items for the four antecedents of independent variables on the basis of the work of Persuraman et al (1988), 6 items for customer relationship management on the basis of the work of Sin, Tse and Yim (2005) and 5 items for customer loyalty on the basis of the work of Harsandaldeep Kaur and Harmeen Soch (2012). The data was collected from 262 customers using mobile service of various telecom operators of India through structured questionnaires distributed online. Exploratory factor analysis was conducted to check the validity and Cronbach's coefficient alpha was used to determine the reliability of the instrument. Multiple regression analysis was used to determine the causal relationship between both the independent & dependent variables. Results depicted that the service quality has significant and positive impact on customer relationship management and customer loyalty. Out of the four antecedents of service quality, tangibility and assurance has significant and positive impact on customer relationship management, while tangibility has a significant impact on customer loyalty. The study suggests that the service providers should put their endeavor to upgrade the technology and serve the customers with modern equipments. Besides, the staff should try to please the customers by their neat appearance.*

Keywords: *Service Quality, Customer Loyalty, CRM, Empathy, Assurance, Responsiveness, Tangibility, Reliability.*

I.   Introduction

There is wider scope and potential of growth of the services in the developing country like India. The Indian telecommunication sector is the second largest in the world after China. In this Scenario, if service providers would not put their endeavor in differentiating them from competitors, customers are more prone to switch to other competitor at almost zero cost. Services are deeds, processes and performances (Zeithaml and Bitner, 2003). Broadly speaking, "services are economic activities that creates value and provide benefits for customers at specific times and places as a result of bringing about a desired change in or behalf of the recipient of the services" (Christopher Lovelock, 1983).

Success of a service provider depends on the high quality relationship with customers (Panda, 2003) which determines customer satisfaction and loyalty (Jones, 2002 as cited by Lymperopoulos et al., (2006). For service marketing, service quality is an essential plank. (Kushwah and Bhargava, 2014). Building long term relationship becomes a necessity today due to fierce competition   in the market and hence customer loyalty is a growing concern of today. Indian Telecom industry has undergone a transformation change in past decade especially after the concept of privatization and strongly felt the need of customer loyalty. This need was felt due to availability of enormous number of market players in India. This stiff competition has compelled the service provider to compete in the market and to differentiate themselves on the basis of a factor other than price. Hence, this very concept of service quality has arises and gained attention. Better service quality provides competitive advantage to the organization. Any service organization can differentiate itself by providing high quality service.

Hence, this study is an attempt to analyze the impact of service quality on customer relationship management and loyalty and attract the attention of practitioners towards betterment of service quality to reduce the customer attrition, and to give suggestions to improve the service quality. The results of the study helps to determine the aspect of service quality (empathy, reliability, assurance, tangibility and responsiveness) to be

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focused while formulating customer relationship management strategies that influence the customers to retain for a longer period of time. This may also help to formulate strategies to retain the loyal customers.

II.   Review of Literature
The Literature review is a foundation based upon the various theories and the pertinent literature related with the present study conducted by researchers, scholars and academicians. It is the pre requisite to conduct a sound research and it provides an insight and direction to conduct the research in a prescribed manner. It consists of theoretical foundations of service quality followed by customer relationship management and customer loyalty. It also includes empirical studies discussing the relationship between service quality, customer relationship management and customer loyalty.

2.1 Service Quality
Though the term service quality emphatically applied for service industry (also implacable for goods) but, the concept and related studies in this field was germinated in the goods sector. The prevalent contribution was given by Persuraman, Ziethaml and Berry, (1985). They suggested that the implications of service quality will be different for goods and service sector and defined service quality as 'a global judgment, or attitude, relating to the superiority of the service'. Persuraman, Ziethaml and Berry (1988) proposed a model known as SERVQUAL for measuring customers' perception towards service quality. Gronroos (1984) developed a Nordiac model of service quality. This model proposed that two forms of qualities are provided by the service organizations i.e. technical quality and functional quality. The technical quality is what the customer actually receives (Fischer, 2012) and the functional quality refers to the manner in which services are delivered to customers or how the customer receives the services. Edwardsson et al (1989) proposed service quality as a multidimensional construct and identified technical quality, integrative quality, functional quality and outcome quality as the four attributes of service quality. Reichheld and Sasser (1990) emphasized that firms can profitably serve the customers by zero defection which may results into lesser customer defection and hence firms profitability. Boulding et. al. (1993) described that greater perception of service quality of customers leads to more behavioural benefits for the organization like recommendation and positive word of mouth. Patterson et al (1993) proposed an integral model, which suggests that service quality is an attitude. Hence customer satisfaction and dissatisfaction along with prior attitude helps to form the attitude regarding service quality. Johnston (1995) identified some satisfiers and dissatisfiers as determinants service quality. He discussed that interaction between staff and customers has a significant influence on customer loyalty. Zeithaml et. al. (1996) said that customer behavior is a mediating variable between service quality and financial performance of the firm and improved service quality may increase favorable behavioral intention. Brady and Cronin (2001) evaluated that customer form their perception towards service quality on the basis of evaluating outcome, interaction with the service employer and environmental quality. Suuroja (2003) found and prove that service quality should not be considered as a gap between perceived service quality and expected one, rather expectation may influence the perception of customers. Overall service quality can be seen as evaluation of services. Johnston C.T (2004) suggested that for satisfying and retaining the customers, effective service recovery is required on the part of organizations. Abdulla (2006) called service quality as a pervasive strategic force.

2.2 Customer Relationship Management
In the Indian market which is ever dynamic in nature to keep the existing customers is a huge challenge. Customer Relationship Management is an outcome to improve and maintain the relationships with the customers in this competitive edge. Many telecom companies have been building their organizational capacity in this regard. Customer Relationship Management emphasize upon the effective management of relationship with customers, hence it is focused upon customer retention (Light 2001) and this idea of Customer retention helps in maintaining the existing customer rather than creating new ones (Payne e.al.,1999 & Reichheld, 1996). Injazz and Popnich (2003) viewed Customer Relationship Management as combination of people process and technology, while Galbreath & Rogers (1999) seemed it as a combination of technology and business.

To develop endurable relationship, CRM directs towards marketing to each customer directly thorough he use of I.T. (Haridarsan & Venkatesh, 2011). Hence, the overall essence of Customer Relationship Management is to treat individual customers in a different way (Lawrence, 2010). Atul Parvatiyar & Sheth, (2001) pointed that company should select its appropriate and profitable customers and tailors its program and marketing strategy according because some customers are more profitable to the company and some are less. The two bases on which Customer Relationship Management implementation and Customer Relationship Management design depends are knowledge of customer and customer interaction. (Sharma et. al., 2003) They further continued that Customer Relationship Management starts with the deep knowledge of the customer

which further forms basis of developing and designing the marketing strategies to develop an endurable relationship with customer.

2.3 Customer Loyalty

Customer loyalty can be defined as "customers loyalty is basically the customers overall affiliation or strong commitment to a service/product or company" (Oliver, 1999). Customer loyalty has three distinct approaches. Behavioral loyalty approach (Grahn 1969); attitudinal loyalty approach (Bennett and Rundle-Thiele 2002; Jacoby 1971; Jacoby and Chestnut 1978) but, Dick and Basu, (1994) defined customer loyalty as a relationship between relative attitude and repeat patronage; hence he integrated attitudinal and behavioural loyalty. Gremler & Brown, (1996) offers one definition of customer loyalty that serves the purpose of this study: the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service exists. Gremler and Brown, 1998) concluded that a loyal customer can create multiple effects like repeat purchase, positive word of mouth and personal recommendation to new customers. Uncles D., (2002) has given three popular models of Customer Loyalty in which he expressed loyalty as an attitude, loyalty in terms of revealed behavior and buying based on purchase situation or characteristics of individual. Gustavsson and Lundgreen, (2005) described that customers can be kept loyal by maintaining good relationship between customers and company. Based on a 20-80 principle, the top 20% of the customers may create 80% of profit for a company (Kotler and Keller, 2005). Rundle Thiele (2005) emphasized on multidimensionality of customer loyalty. He identified behavioral loyalty and seven types of attitudinal loyalty. Hence, it is concluded that there are various types of loyalty exists and customers Customer can be loyal in many ways. Bandhyopadhyaya and Martell (2007) categorized customers into three types on the basis of their behavioral and attitudinal characteristics as- single user, multiple users and non users and attitudinal loyalty acts as a base for customer loyalty. Loyalty is the most important goal of implementing relationship marketing activities (Zhang, Feng, 2009).

2.4 Relationship between Service Quality and Customer Relationship Management

Somasundaram and Krishnamoorthy (2013) conducted a study on impact of service quality on customer relationship management in banking sector in Erode. Study results showed a significant impact of Tangibility, Empathy and Responsiveness on customer relationship management. Statistical significant relationship was found between customer relationship management and perceived service quality in a study conducted by (Rootman, 2006) in banking sector. Similarly Arora (2013) found a positive role of service quality in customer relationship management in telecom sector in India .Service quality influence the intention of the customer to stay with the existing service provider (Chaddha and Kapoor, 2009). Long term relationship with the customers can be developed by a range of quality of services as network quality, voice calls, and fortnight calls etc.) Alfred, (2012). Momani and Noor (2010) found a significant relationship between e-service quality and customer relationship management.

2.5 Relationship between Service Quality and Customer Loyalty

Three parameters of service quality; reliability, empathy and service Quality was found positively correlated (Siddiqui, 2011). Positive relationship was found between all the attributes of service quality attributes and customer loyalty with mediating effect of customer satisfaction in a study in retail banking sector in Bangladesh. Tangibles, responsiveness and reliability were found directly related with customer loyalty in Telecommunication industry in Ghana in the study of (Idrissu, 2011) consistent with the result of (Kheng et. al., 2010). Empathy had highest positive correlation while assurance had least correlation with customer loyalty. In a study conducted by (Agyei and Kilika, 2013) in Kenyan mobile telecommunication sector, all the indicators of service quality (of SERVQUAL) model found to have positive correlation with customer loyalty. Empathy has the highest influence on customer loyalty. Impact of all the parameters of customers' perceived service quality was positive on customer loyalty except tangibility in the study of (Hassan et. al., 2013). All the five constructs of SERVQUAL was found strongly connected with customer loyalty in the study of (Poku et. al., 2014) in the Telecommunication industry of Ghana.

III.   Justification of the Study

Competition in Indian telecom industry is stiff and customers are trying to adapt numerous strategies to maintain existing customers and attract new ones. This intense competition has opened the options to customers to switch from one service provider to another at almost zero switching cost. Beside the concept of Mobile Number Portability (MNP) offered to the customers to port to other service provider without changing the number, even though there is slight improvement in the service quality provided by the companies. Poor network, high tariff, improper response in call centers is some of the common problems facing by customers

with almost every service provider. Therefore the necessity was felt to investigate the relationship between service quality and customer loyalty in the telecom industry in India. The study contributes to knowledge on service quality and customer loyalty and it is expected to be of great benefit to telecom operators, regulators as well as customers.

IV. Research Methodology

4.1 Research Objectives
Following objectives are formulated for the purpose of this study
1. To determine the antecedents of service quality as an independent variable of customer relationship management and customer loyalty.
2. To analyze the impact of those antecedents of service quality on customer relationship management and customer loyalty.
3. To suggest strategies to telecom operators of India to enhance their customer relationship management and in turn customer loyalty

4.2 Research Model
The present study is based on the SERVQUAL model proposed by Persuraman, Zeithaml and Berry (1988) for measuring customers' perception towards service quality. The model consisted of five antecedents of service quality i.e. Tangibility, Reliability, Responsiveness, assurance and empathy as independent variable and two dependent variable i.e. customer relationship management and customer loyalty as shown in figure 1.
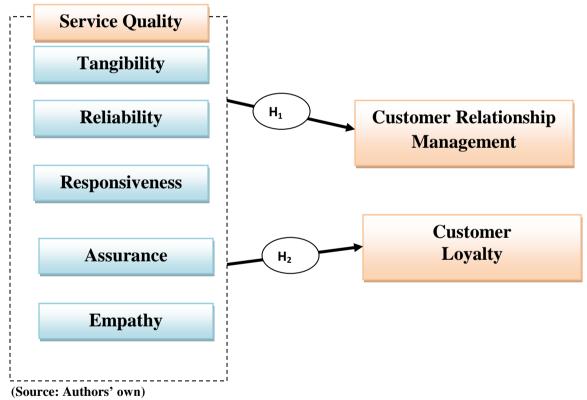

(Source: Authors' own)

Figure 1: Model of the Study

4.3 Research Hypothesis
On the basis of the independent and dependent variables under study following hypothesis were formulated-
1) Research Hypothesis 1 (H_1): Service Quality has a significant impact on Customer Relationship Management in telecommunication sector in India.
2) Research Hypothesis 2 (H_2): Service Quality has a significant impact on Customer loyalty in telecommunication sector in India.

4.4 Research Variables

The independent variable and dependent variables for the purpose of the study considered is mentioned in table 1 along with the various researchers who agree with the relationships between them.

Table 1: Research Variables		
Independent Variables	**Source**	**Dependent Variable**
Service Quality (SQ)	Somasundaram and Krishnamoorthy (2013) (Rootman, 2006)	Customer Relationship Management (CRM)
	(Siddiqui, 2011) (Agyei and Kilika, 2013)	Customer Loyalty (CL)

4.5 Research instrument

The present study is based on the SERVQUAL model proposed by Persuraman, Zeithaml and Berry (1988) for measuring customers' perception towards service quality. 29 items instrument was generated comprising of 18 items for the five antecedents of independent variables on the basis of the work of Persuraman et al (1988), 6 items for customer relationship management on the basis of the work of Sin, Tse and Yim (2005) and 5 items for customer loyalty on the basis of the work of Harsandaldeep Kaur and Harmeen Soch (2012) as shown in table 2.

Table 2: Research Instrument				
Variables	**Antecedents**	**Items**	**Scale**	**Source**
Service Quality (SQ)	Tangibility (SQ1)	SQ11	Physical facility	Persuraman et al.(1988)
		SQ12	Appearance of personnel	
		SQ13	Equipment used to provide service	
		SQ14	Physical representation of the service	
	Reliability (SQ2)	SQ21	Accuracy in billing	
		SQ23	Keeping records correctly	
		SQ23	Performing the services at designated time	
	Responsiveness (SQ3)	SQ31	Immediate male of a transaction slip	
		SQ32	Quick customer calling	
		SQ33	Prompt services	
	Assurance (SQ4)	SQ41	Easy accessibility of services	
		SQ42	Less waiting time to get the services	
		SQ43	Convenient hours of operations	
		SQ44	Convenient location for service facility	
	Empathy (SQ5)	SQ51	Comfortable services	
		SQ52	Good information for any change	
		SQ53	Good service for customer	
		SQ54	Good relationship between officer and consumer	
Customer Relationship Management (CRM)		CRM1	Customer-centric marketing	Sin, Tse and Yim (2005)
		CRM2	Key customer lifetime value identification	
		CRM3	Personalization	
		CRM4	Interactive co-creation marketing	
		CRM5	Utilizing technologies in building relationships	
		CRM6	linking technology to business activities	
Customer Loyalty (CL)		CL11	Intention of using current services in future	Harsandaldeep Kaur and Harmeen Soch (2012)
		CL12	More payment for the existing service provider	
		CL13	Encouraging others the services to the others	
		CL14	Positive word of mouth for existing service provider	
		CL15	Recommendation of this service provider to others	

4.6 Research Procedure

The exploratory and causal research design was adopted for the purpose of the study. The sampling design was non-probabilistic convenience sampling technique. Data was collect through primary and secondary data collection techniques. Primary data was collected online through structured questionnaires from 262 customers of mobile service provider companies. The current study is emphasized on five major telecom

companies namely Airtel, Reliance, Idea, BSNL, and Vodafone on the basis of their popularity and market share. Data was analyzed through descriptive Statistics i.e. mean values and standard was calculated, whereas exploratory factor analysis to check the validity and Cronbach's cofficient alpha to check the reliability was conducted. After reduction of items, the data for final instrument was analyzed through multiple regression analysis through SPSS version 21, to evaluate the impact of service quality on customer relationship management and customer loyalty.

V.   Data Analysis & Interpretation

5.1 Validity & Reliability of Instruments

Exploratory Factor Analysis (EFA) was conducted for the purpose of data reduction Exploratory Factor Analysis (EFA) was conducted for the purpose of data reduction. EFA was conducted on 29 items of the instrument developed inclusive of 5 items for Customer Loyalty and 6 items for Customer Relationship Management as dependent variable and 18 items for five antecedents of Service Quality viz. Tangibility (SQ1), Reliability (SQ2), Responsiveness (SQ3), Assurance (SQ4) and Empathy (SQ5) as independent variable with the help of SPSS (version 21). Maximum Likelihood method of extraction was chosen to extract the factors, with squared multiple correlations used as prior communality estimates. As suggested by Fabrigar, Wegener, MacCallum, and Strahan (1999), an oblique rotation using promax with Kaiser Normalization was at first performed to determine the size of the correlations between the extracted factors. When correlations existed between the factors, the oblique solution was retained.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic that indicates the proportion of variance in the variables that might be caused by underlying factors. For these data the value is 0.833, which is considered as good degree of common variance and so it can be considered that sample size of 305 is adequate for factor analysis.

The Bartlett's test of Sphericity is used to examine the hypothesis that the variables are uncorrelated in the population. In other words, the population correlation matrix is an identity matrix i.e. each variable correlates itself (r=1) but there is no correlation with the other variable (r=0). Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful for the data and the hypothesis is accepted (Field, 2000). For these data, Bartlett's test is highly significant (p $\square$ 0.001), and therefore factor analysis is appropriate and each variable correlates itself but there is no correlation with the other variable i.e. the data is free of multicollinearity as shown in table 3.

Table 3: KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.833
Bartlett's Test of Sphericity	Approx. Chi-Square	5196.980
	df	276
	Sig.	.000

The factor analysis as shown in table 4 yielded six components corresponding to the seven variables including independent and dependent variables both. The result of factor analysis shows that 4 items of Tangibility (SQ1) i.e. SQ11, SQ12, SQ13 and SQ14 with loading values of 0.585, 0.857, 0.543 and 0.911 respectively will be retained. All the 3 items of Reliability (SQ2) i.e. SQ21, SQ22, SQ23 will be eliminated due to low and scattered loading value. 3 items of Responsiveness (SQ3) i.e. SQ31, SQ32 and SQ33 will be retained with high loading values of 0.886, 0.716 and 0.914 respectively. 4 items of Assurance (SQ4) i.e SQ41, SQ42, SQ43 and SQ44 will be retained due to high loading values of 0.92, 0.888, 0.840 and 0.752 respectively. 4 items of Empathy (SQ5) i.e SQ51, SQ52, SQ 53 and SQ54 will be retained due to high loading values of 0.936, 0.944, 0.695 and 0.650 respectively. 4 items of Customer Relationship Management i.e. CRM1, CRM2, CRM5 and CRM6 will be retained due to high loading values of 0.845, 0.865, 0.944 and 0.868, whereas 2 items will be eliminated due to low and scattered loading values. 5 items of Customer Loyalty i.e. CL1, CL2, CL3, CL4 and CL5 will be retained due to high loading values of 0.789, 0.892, 0.896, 0.919 and 0.804 respectively. Hence, total 24 items will be considered for further multivariate analysis to test the hypothesis formulated under study.

Table 4: Exploratory Factor Analysis							
	Factor						
% of variance explained after eliminating other factors after rotation	22.8	16.2	12.5	7.08	6.06	3.9	h² (communality coefficient)
Items	1	2	3	4	5	6	
SQ11					0.585		0.304
SQ12					0.857		0.763
SQ13					0.543		0.364
SQ14					0.911		0.822

SQ31					0.886	0.734
SQ32					0.716	0.708
SQ33					0.914	0.817
SQ41			0.892			0.758
SQ42			0.888			0.811
SQ43			0.840			0.718
SQ44			0.752			0.569
SQ51		0.936				0.820
SQ52		0.944				0.826
SQ53		0.695				0.557
SQ54		0.650				0.512
CRM1				0.845		0.692
CRM2				0.655		0.526
CRM5				0.944		0.841
CRM6				0.868		0.770
CL1	0.789					0.636
CL2	0.892					0.781
CL3	0.896					0.814
CL4	0.919					0.854
CL5	0.804					0.647
Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.						

The coefficients of the inter factor correlations among the variables indicates that the independent and dependent variables are not correlated with each other as all the values are below 0.7 as shown in table 5.

Table 5: Inter-Factor Correlations						
Factor	1	2	3	4	5	6
1	1.000					
2	0.092	1.000				
3	-0.006	-0.063	1.000			
4	-0.076	0.257	-0.358	1.000		
5	-0.008	-0.075	0.258	-0.360	1.000	
6	-0.112	-0.559	0.111	-0.389	0.236	1.000
Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.						

Finally, internal consistency reliability to test unidimensionality was assessed by Cronbach's alpha. Maximum likelihood estimated matrices were used, because they do not have to be inverted prior to the computation of Cronbach's alpha (van Horn, 2003). The resulting alpha values ranged from 0.70 to 0.87, which were above the acceptable threshold 0.70 suggested by Babbie (1992). According to Babbie (1992), the value of Cronbach Alpha is classified based on the reliability index classification where 0.90-1.00 is very high, 0.70-0.89 is high, 0.30-0.69 is moderate, and 0.00 to 0.30 is low. The analysis showed the Cronbach's Alpha value, higher than 0.70, falls into the classification of high.

The table 6 indicates that the total 24 items will be considered comprising of both independent and dependent variables after factor reduction (exploratory factor analysis). The mean and standard deviation of the data for each variable were also estimated. The mean values for all the four antecedents of service quality is less than 4 (i.e. less than average), which depicts that customers are not satisfies with the Service Quality of the brand, whereas mean for CRM and Customer Loyalty is greater than 4, which depicts that CRM of the brand is good and customers are loyal towards brand, it means there are other factors which are affecting the CRM and CL more than service quality. Standard deviation depicts that the data are not very much deviated from the mean.

Table 6: Mean, SD and Cronbach's Alpha					
Variables	Sample Size	Items	Mean	SD	α
SQ1	262	4	3.85	0.7	0.589
SQ3	262	3	3.11	0.9	0.896
SQ4	262	4	3.41	1.0	0.912
SQ5	262	4	3.39	0.9	0.900
CRM	262	4	5.44	1.2	0.887
CL	262	5	5.60	1.0	0.871
SD - Standard Deviation α – Cronbach's Alpha					

The chi-square test for Goodness-of-fit was estimated for the data and the result shows that the P-value (sig,) is 0.000 (<0.05) which is significant, hence the model is fit for the data collected as shown in table 7.

Table 7: Goodness-of-fit Test

Chi-Square	df	Sig.
362.313	147	0.000

5.2 Hypothesis Testing
5.2.1 Hypothesis 1 - Impact of Service Quality on Customer Relationship Management

The Statistical Package for the Social Sciences (SPSS) (Version 21) was used to facilitate the analysis. The regression analysis was conducted to determine the impact of four antecedents of service quality on Customer Loyalty and Customer Relationship management.

Regression statistics in table 8 shows that correlation value R is 0.368, which depicts that there is week relationship between Service Quality and Customer Relationship Management. The value of R Square is 0.13 i.e. the model explains only 13% of variables and there may be many other parameters of Customer Relationship Management. The value of Durbin Watson test (2.079) depicts that the model is good as the value is near to 2.

Table 8: Regression Statistics

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.368	0.136	0.122	1.099	2.079
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CRM				

Table 9 reveals that Service Quality has a significant impact on Customer Relationship Management as F (calculated value) (10.271) is greater than F (table value) (2.184), moreover, the p value (significant value) is 0.000 which is less than 0.05 significance level. Therefore, research hypothesis H_1 is accepted.

Table 9: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	49.596	4	12.399	10.271	0.000
Residual	316.290	262	1.207		
Total	365.887	266			
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CRM					

Among all the four antecedents of Service Quality only two antecedent i.e. Tangibility (SQ1) and Assurance (SQ4) have significant impact on Customer Relationship Management with p values of 0.000 and 0.004 respectively as shown in table 10.

Table 10: Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.436	0.633		5.428	0.000
SQ1	0.654	0.112	0.406	5.860	0.000
SQ3	0.015	0.091	-0.012	-0.167	0.867
SQ4	0.215	0.075	-0.174	-2.880	0.004
SQ5	.079	.092	.058	.851	.395
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CRM					

The beta coefficients for significant antecedent of Service Quality i.e. Tangibility (SQ1) and Assurance (SQ4) are 0.654 and 0.215 respectively. It depicts that if Tangibility of brand is increased by 0.654 units, the customer Relationship Management will be increased by 1 unit and if Assurance is increased by 0.183 units, the customer Relationship Management will be increased by 1 unit.

5.2.2 Hypothesis 2. Impact of Service Quality on Customer Loyalty

Regression statistics in table 11 shows that correlation value R is 0.257, which depicts that there is week relationship between Service Quality and Customer Loyalty. The value of R Square is 0.066 i.e. the model explains only 6% of variables and there may be many other parameters of Customer Loyalty. The value of Durbin Watson test (2.238) depicts that the model is not so good as the value is greater than 2.

Table 11: Regression statistics				
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
0.257	0.066	0.052	0.958	2.238
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CL				

Table 12 reveals that Service Quality has a significant impact on Customer Loyalty as F (calculated value) is 25.019, which is greater than F (table value) (2.184), moreover the p value (significant value) is 0.000 which is less than 0.05 significance level. Therefore, research hypothesis H$_2$ is accepted**.**

Table 12: ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	16.944	4	4.236	4.618	.001
Residual	240.335	262	.917		
Total	257.279	266			
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CL					

Among all the four antecedents of Service Quality only one antecedent i.e. Tangibility (SQ1) has significant impact on Customer Loyalty with p value of 0.004 (p<0.05) as shown in table 13.

Table 13: Coefficients					
Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	4.073	0.552		7.381	0.000
SQ1	0.279	0.097	0.207	2.871	0.004
SQ3	0.146	0.080	0.138	1.831	0.068
SQ4	-0.118	0.065	-0.114	-1.812	0.071
SQ5	0.119	0.080	0.105	1.477	0.141
Predictors: SQ1, SQ3, SQ4, SQ5; Dependent Variable: CL					

The beta coefficients for significant antecedent of Service Quality i.e. Tangibility is 0.279. It depicts that if Tangibility of brand is increased by 0.279 units, the Customer Loyalty will be increased by 1 unit.

VI. Result And Discussion

The study was conducted to examine the impact of service quality on customer relationship management and customer loyalty. The study thoroughly examined the impact of each antecedent of service quality on customer relationship management and customer loyalty through SERVQUAL model of Persuraman et. al, (1988). The result showed a positive impact of service quality on Customer relationship management and customer loyalty. The result coincides with Sabir et. al. (2013), Poku et. al. (2014) Abdul Majeed Iddrisu (2011) Saravankumar and Jyothijaykrishnan (2014) but the impact of each dimension of service quality was different on customer relationship management and customer loyalty. This study shows a significant impact of tangibility (p= 0.000) and assurance (p=0.004) on customer relationship management. Similarly, tangibility (p=0.004) has a significant impact on customer loyalty and is consistent with previous studies of Lymperopoulos et al. (2006); Ndubisi (2006) and Kheng et. al. (2010).

VII. Suggestions

Today, several telecom players are operating in India, which give rise to a stiff competition in Indian telecom sector. They should determine the role of factors other than the pricing strategy. Service Quality is one of the major antecedents of customer relationship management and customer loyalty that differentiate each competitor from others. Above results showed the direct impact of tangibility and assurance on customer relationship management and impact of tangibility as an antecedent of service quality on customer loyalty. Hence, following are the suggestions given to the telecom service providers.

Telecom service providers should emphatically focus on the location and ambience of the stores so that the customers can feel pleased enough to revisit the store of the service provider and results in repurchase intentions. Service equipments should be updated and modern which helps to get prompt services to customers to enhance the relationship with them. Customers may get impressed with the neat appearances of frontline employees, which further attract the customers to interact with the employees which again helps in employee retention and hence loyalty. Technologically upgraded organisation and user friendly technology will win the trust of the customers this simplification and updation will attract many new customers to join the organisation as well helps the old ones to retain. These are some tangible aspect which may help the customers to become loyal towards service providers.

An Easy accessibility of service in the service counter alongwith prompt services will acts as an icing on the cake for customers to maintain a good and relationship. Service providers should try to provide convenient hours for operations to the customers which are a part of customization. The customization is an integral part of customer relationship management. Location of service centers for service facility should also be convenient enough so that the customers would get easy servicing and hence assured that this service provider is a better option. These strategies will heps the service provider to maintain a durable relationship with customers which will further leads to customer loyalty.

VIII.   Conclusion

This study examined the impact of service quality on customer loyalty and customer relationship management in Indian telecom sector and found a significant influence of the same. Five antecedents of service quality were tested and tangibility and assurance are significantly influencing customer relationship management and tangibility was found as important and significant antecedents of customer loyalty. It provided insights to the marketers for focusing on constructs of service quality in the organization. A proper understanding of requirement of customers will help the marketer to formulate a strategy to maintain a long lasting relationship with the customers which will helps to retain the existing customers and reduce the customer churn and hence attain customer loyalty.

IX.   Limitation and Scope for Further Research

The study exhibits some limitations that should be considered. The limitations are as follows:
a. The sample size of the study was comparatively small. Though this sample size fulfils the minimum requirement for research. A larger sample size will be quiet helpful to explore more about service Quality and customer loyalty in telecom sector in India.
b. Apart from the factors considered in this study, other factors such as switching cost, personalised services, etc. might have significant impact on customer loyalty.
c. The study was limited to telecom sector of India, so that it has limited implications for practitioners. It may include other service sector to make the service comprehensive and generalised.

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