

# A Study of factors Impacting Customer Loyalty and Customer Satisfaction in Telecom Services

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**Abstract.** The Telecommunication market in India is dominated by huge competition. The situation is such that all the telecom operators including Reliance JIO, the newest entrant, are busy to retain their existing customers as well as grabbing new ones by adopting various innovative measures. Hence identification of elements, which increases customer satisfaction and loyalty, is the need of the hour. The study analyzes the impact of service quality, trust, perception, brand image and switching cost on customer satisfaction on mobile users. The study further analyses the effect of customer satisfaction on customer loyalty. The research study is carried out among mobile users of 4 districts of Gujarat-Anand, Mehsana, Surat and Jamnagar. Different statistical analysis like factor analysis, reliability test and regression analysis have been applied to analyze the defined objectives.

**Keywords:** Loyalty, Service Quality, Customer Satisfaction, Trust, Perception

## I. INTRODUCTION

Telecommunication sector is the life line of modern day economy. The growth of Telecommunication in India started way back and especially when the sector was opened for private participation. Gradually with new policy evolutions and changes in mentality of the government and law makers the sector became vibrant with lots of scope of investment. It has impacted our economy and our society in all possible ways. In short, it has started a new wave of growth in India. The major carriers of all government projects in India in some way or the other are linked to telecom services. Digital India, a pioneer project of Government of India, is completely dependent on Telecom services. Now a day's digitization is felt in every aspects of our life and thus we are interconnected with telecommunication services day in and day out.

The telecom market in India is completely customer focused and thus customer satisfaction and customer loyalty are the focal points of all telecom service providers. Service quality, trust, perception, brand image and switching cost are the key elements of customer satisfaction. The study is thus quite important in this regard. Various mobile users from across length and breath of Gujarat State have been chosen as the survey respondents for identifying the various parameters of customer satisfaction like perception, trust, loyalty, service quality and switching cost. The data captured were analysed using factor analysis to determine the most important and relevant parameters. Further using regression analysis the impact of these parameters on customer satisfaction and their association on customer satisfaction were analysed. Gujarat is one of the major states of India which has a significant wireless customer base as per TRAI report.

**Table 1.** The Wireless Mobile Customer details (Upto Mar-19)

Source: Performance Indicator Reports TRAI

Particulars	Gujarat	India
Total Wireless customer base in millions	69.30	1161.81
Rural Wireless Customer base in millions	26.55	511.32
Urban Wireless Customer base in millions	42.75	650.49
Rural Wireless tele density (in Per cent)	70.63	57.13
Urban Wireless tele density (in Per cent)	151.61	155.49

Considering such wide presence of wireless mobile customer base, the analysis and results of wireless mobile customers of the state of Gujarat can give us a true picture of India as a whole.

## II. LITERATURE REVIEW

### 2.1 Customer Satisfaction

Customer satisfaction is a key element in marketing terminology. It is a major performance indicator and also included in business score card. Customer satisfaction is shown by consumers when they realize that their needs and desires are in sync with what is expected, opined Tjiptono (2012). Kotler defined Customer Satisfaction is as the behavioral response of the customer when they compare between the performances or the results and the expectations. If the results are below expectation level then the customer will be disappointed or even dissatisfied. However, if it according to the expectations, customers will be satisfied (Kotler, 2014). Ningsih and Segoro (2014) defined satisfaction as an emotional response shown by the consumer after completing the purchase process. It is an expression of being pleased with a product or a service. Yap, Ramayah and Shahidan (2012) depicted satisfaction as an attitude towards any service provider. Wong and Sohail (2003) highlighted that fulfillment of customer expectations during a service period produces a higher repurchase probability for any company. Customer satisfaction of mobile users in Gujarat are mainly dependent on various factors like Prompt service delivery, service provider

responses, high speed internet services, service provider's image, billing performance and customer support (Sukanta Saha & Yogesh C Joshi, 2019). High speed internet especially 4G services has ensured an enormous growth of data services in India and is a major contributor towards customer satisfaction (Sukanta Saha & Yogesh C Joshi, 2018). Opinion from satisfied customers about the company or company's products or services initiates the process of acquiring new customers (Çatı and Koçoğlu, 2008). Most of the studies have shown that contented customers are more prone to repurchase and spreading positivity toward an organization (Blodgett & Anderson, 2000; Maxham and Netemeyer, 2002). Customer satisfaction is of great importance for companies as it directly affects the intent to purchasing behaviour and positive publicity.

## 2.2 Service Quality

Customer satisfaction Quality of service is a very important aspect that must be protected by the company to maintain and grow its business. Kotler (2012) mentioned five dimensions of service quality that must be met by an organization like Empathy, Tangibles, Reliability, Assurance and Responsiveness. Tjiptono (2011) depicted service quality as a function of eight dimensions of service quality namely performance, additional features, reliability, and conformity with specifications, durability, and aesthetics. Since Parasuraman et al. (1988) proposed service quality model SERVQUAL with a scale of 22 items, the model was used very frequently across various industries. The model suggested that service quality can be quantified using functional quality dimensions such as reliability, tangibility, empathy, assurance and responsiveness. Gowan et al. (2001), Straughan and Cooper (2002) and Zhao et al. (2002) used the SERVQUAL model to measurement and gauge the service quality which was provided by the service providers. However, many researchers have opposed the use of SERVQUAL model to measure service quality because of difference in industry characteristics. Components of service quality can also be known in depth from what Kotler and Keller, (2015) has written about them. Service quality frequently relies on SERVQUAL instrument to understand the service quality provided to the customers. The SERVQUAL scale was developed in the marketing context and this was supported by the Marketing Science Institute (Parasuraman et al., 1986). Five dimensions of service quality -reliability, responsiveness, tangible, assurance and empathy have specific service characteristic link to the expectation of customers. Service quality has a close association with perceptions and expectations. Customers analyze service quality by drawing a comparison with what they expect. This view was supported by other researchers with regards to service quality definitions (Grönroos, 2001; Parasuraman et al., 1988). For the service industries service quality means providing a variety of products and services that a customer wants. However, these customer's preferences

and choices varies between customers. These differences make it hard for the service providers to meet diverse demands. Thus, customer's preferences and knowledge of their choices is one of the most significant characteristic for meeting service quality. is a key element in marketing terminology.

## 2.3 Trust

Trust is a concept which includes cooperation and interdependence and has significant influences in all social fronts (Zaltman, G. & Moorman, C., 1988). Social relationships would fail without trust (Patrick, 2002). It is a characteristic that is based on expectation of achieving the desired result (Creed W. D. & Miles R. E., 1996). Patrick (2002) defined trust as a thought process, feelings, behaviours manifested when customers rely upon someone to act in their best interest. It is a faith that provides stimulus when consumers perceive uncertainty or risk (Wang, Sharon., 2004). Trust is reflected on the feelings or beliefs of the customers without any change in behavior or attitude. Trust thus is defined as expectancy of reliance held by an individual (Rotter, 1967).

## 2.3 Loyalty

Customer loyalty is a commitment to rebuy or repatronize a product or service for future, in spite of situational influence and marketing efforts which have potential to generate switching behaviour (Oliver, 1997). According to Griffin (2010), loyal customers have the following characteristics: Make regular or repeat purchases. Buy from different product lines. Recommend products or services to friends and family as well as outsiders. Shows immunity from the attractiveness of similar products or services, or in other words not easily attracted by competitors. Customer loyalty is analyzed by four indications like commitment; repurchase, more purchase and word of mouth publicity. Loyalty is a positive tendency for any company (Vinhas & Faridah, 2012). It is attitude rather than behaviour. However, lot of studies has defined loyalty as a behavioral intention or response. Bridson *et al.* (2008) and Vesel and Zabkar (2009) have shown a relationship although indirect between loyalty program and customer loyalty. However, studies by Virginie (2008) have found that quality of loyalty programs and company's image can some times have detrimental effect on customer behaviour. Some customers like a certain brand over another, which helps to ensure a sustainable competitive advantage. Researchers sometimes use price as a parameter to assess its effect on customer behaviors and brand loyalty.

## 2.4 Perception

Philip Kotler (2008) has suggested that satisfaction is one's individual feeling of pressure or disappointment which is derived from a product's perceived results with reference to expectations. If perceived expectations are in the same line with expectation, the customer is highly satisfied and that is how the brand loyalty of the customer towards the products

is achieved. Perception is also defined as the consciousness of a particular material present to sense (James Rowland Angell, 1996). Not only external stake holders, Perception is influenced by the individual and especially from past experiences, emotions, expectations, and intentions. These few internal variables are analyzed when the stimuli are unclear, confusing and unpredictable. Perception is, indeed, a direct process by which individuals receive and interpret various signals and stimuli according to thinking process, cultural knowledge and experiences (Valentine and Gastéran, 2016). Kotler and Dubois (1997) depicted perception as a process by which individuals selects, arranges and interprets external informations to form a coherent picture of the world.

### 2.5 Switching Cost

Switching Cost includes the factors that make switching decision difficult and costly. Bruner et al. (2003) explained that procedural switching cost includes time and efforts, financial switching cost involves the financial cost, and relational switching cost involves psychological discomfort. That company which wants to win customers in competition can adopt measures of reduction of switching cost. Mobile operators use the switching costs to pull and portin customers. Some firms for new customers reduce perceived switching costs which pursue them to switch .They increase it for the old customers so that it deters them from switching.

### 2.6 Brand Image

Kotler and Armstrong (2014) defined Brand Image as a set of beliefs about a brand. Brand image is a impression caused by a brand (Tiasanty 2019) .Brand image dimensions as per Keller (2013) includes- Brand Association, Brand Identity, Brand Attitude Brand Personality, and Behavior, Thus, it can be concluded that brand image is a set of beliefs and impression generated by a brand in the customer's mind with dimensions that include brand identity, brand personality, brand associations, brand attitudes and behavior, and brand advantages and benefits.

### 2.7 Relationship between Service Quality and Customer Satisfaction

Service quality creates a positive impression on customer satisfaction (Caruana, 2002; Adeleke and Aminu,2012; Sabir et al., 2013; Kaura et al., 2015). Ruyter, Wetzels, and Bloemer (1998) and Jones et al. have observed that there is always a positive relation between repurchase intention, service quality and customer loyalty. Besides, the study done by Aydin et al., (2005), Sabir et al., (2013), Amin et al. (2012) have stated that service quality has positive relation with customer loyalty. Zeithaml and Bitner (1996) argue that service quality perception is an element of customer satisfaction. They extended the relationship of service quality and customer satisfaction is significant, satisfaction solely viewed as a wider perspective for service quality measurement. Thus, the first proposed hypothesis is:

**H1a:** There is significant statistical and positive association between Service Quality and Customer Satisfaction.

### 2.8 Relation between Trust and Customer Satisfaction

Trust increases loyalty to customers (Morgan, R. M. & S. D. Hunt, 1994). Irrespective of no previous purchasing experience in a particular shopping mall, the higher the level of trust, the greater the chances of future purchases, which leads to more satisfaction (Frazier, C. J. et al., 1998). Higher amount of trust leads to more favorable evaluation of the seller and more positive evaluation leads to more satisfaction (Singh, J. & D. Sirdeshmukh, 2000).

**H2a:** There is significant statistical and positive association between Trust and Customer Satisfaction

### 2.9 Relation between Switching Cost and Customer Satisfaction

Switching cost plays a vital mediation role between loyalty and customer satisfaction. The presence of switching cost means that few loyal customers are in true sense dissatisfied because it prevents them to switch operator in future. When there is no switching cost, customer feels free to experiment. Normally it is found that with no switching cost, purchasing decisions are not restricted.

**H3a:** There is a significant statistical and positive association between Switching Cost and Customer Satisfaction.

### 2.10 Relation between Perception and Customer Satisfaction

Many marketing researchers are of the belief that customer satisfaction is a result of positive perception. Cronin and Taylor (1992) assumed that better offers and service perception is a better measure to determine overall satisfaction than comparing expected quality and perceived quality.

**H4a:** There is a significant statistical and positive association between Perception and Customer Satisfaction.

### 2.11 Relation between Brand Image and Customer Satisfaction

Many marketing researchers are of the belief that brand image is a consequence of positive perception.

**H5a:** There is significant statistical and positive association between brand image and customer satisfaction.

### 2.12 Relation between Loyalty and Customer Satisfaction

Several researchers, Anderson 1996; Anderson et al. 1994; Fornell 1992; Fornell et al., 1996 have established a positive association between customer satisfaction and customer loyalty.

**H6a:** There is a significant statistical and positive association between loyalty and customer satisfaction.

## III. RESEARCH OBJECTIVE

The purpose of this research is to determine the factors of customer satisfaction among the mobile users of four

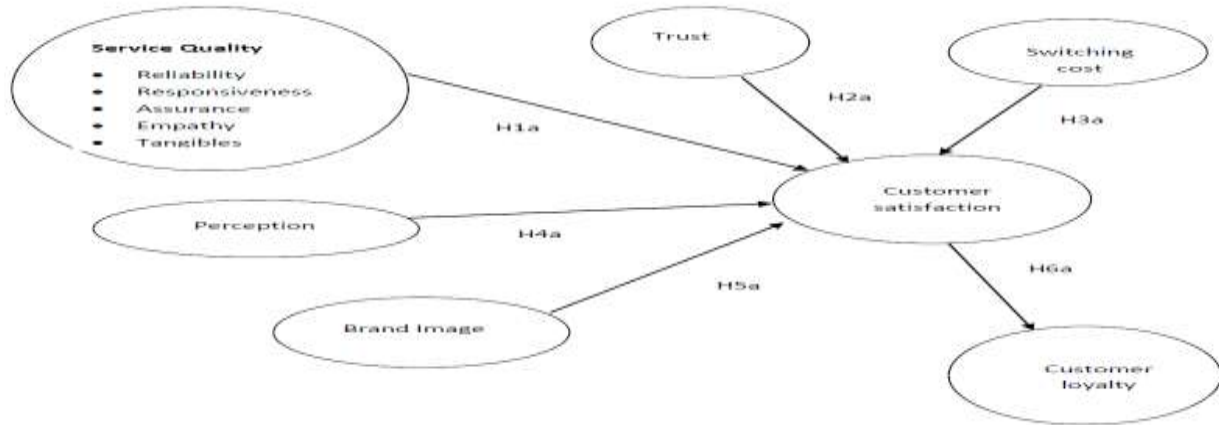


districts of Gujarat. Further the research also aims to determine the relationship between service quality-customer satisfaction, loyalty-customer satisfaction, perception-customer satisfaction, trust-customer

satisfaction and between switching cost and customer satisfaction among mobile customers of four districts of Gujarat.

### 3.1 Conceptual Model

The research model is as follows:



### 3.2 Research Methodology

Survey method was used for this study and questionnaire was used as data collection tool. The questionnaire was selected from previous studied literature. The questionnaires contained items related to dependent and independent variables related to the study, and were divided into Service Quality dimensions tangibles, reliability, assurance, empathy, responsiveness; Customer satisfaction and customer loyalty related aspects. To evaluate the service quality, SERVQUAL, a scale developed by Parasuraman et al. (1988) was used. It is considered as one of the reliable service quality measurement tool. We have taken 4 items for reliability, 3 items for responsiveness; 2 item each for assurance, empathy and tangibles. Further 3 items were chosen for dependent variable customer satisfaction. 4 items were identified for the other dependent variable customer loyalty. They have been adopted from Mohsan et al. (2011).

The items were measured on five-point Likert scale, where 5 indicates completely agree, 4 indicates agree, 3 can't say, 2 stands for disagree and 1 indicates strongly disagree. The second set of questions contained demographic characters of the respondents. Total 800 sample responses were collected from 4 districts of Gujarat- Anand, Mehsana, Surat and Jamnagar. The responses collected were analyzed using statistical tools like factor analysis and regression analysis. Regression analysis was used to determine the relationship and strength among the factors of customer satisfaction, customer loyalty and also prove the hypothesis formulated.

## IV. RESULTS AND DISCUSSION

### 4.1 Demographic Factors

The various demographic factors like age, gender, area, marital status and income of the respondents are shown in Table 2.

**Table 2.** Demographic factors of the respondents

Factors	Particulars	Frequency	Percentage
Gender	Female	450	56.25
	Male	350	43.75
Area	Urban	500	62.5
	Rural	300	37.5
Age	Less than 12 years	20	2.5
	13-25 Years	200	25
	26-40 Years	265	33.1
	41-60 Years	220	27.5
	>60 Years	95	11.8
Marital status	Married	450	56.25
	Unmarried	350	43.75
Annual Income	Less than Rs.1 lakh	125	15.6
	Rs.1 lakh-Rs.3 lakh	140	17.5
	Rs.3 lakh-Rs.5 lakh	330	41.25
	Rs.5 lakh-Rs.10 lakh	120	15
	Above Rs.10 lakh	85	10.62

Distribution of respondents from 4 different districts of Gujarat is shown in Table 3.

**Table 3.** District wise distribution of the respondents

Sr No	District	Count	Per cent
1	Anand	200	25
2	Mehsana	200	25
3	Surat	200	25
4	Jamnagar	200	25

#### 4.2 Descriptive Statistics

**Table 4.** Mean and Standard Deviation scores of the variables in the study

	N	Mean	Std. Deviation
Reliability	800	3.1529	.60455
Responsiveness	800	3.1262	.45041
Assurance	800	3.0000	.58995
Empathy	800	3.2864	.65530
Tangibles	800	3.3107	.65348
Perception	800	3.1117	.51417
Brand Image	800	3.0583	.60215
Switching Cost	800	3.1456	.52221
Service Quality	800	3.0453	.44538
Trust	800	3.3544	.5030
Customer Satisfaction	800	3.2071	.47398
Customer loyalty	800	3.1068	.40210

To identify the relevant service quality factors related to customer satisfaction, factor analysis was performed. The first output from factor analysis is descriptive statistics of all the various variables that are under investigation

**Table 5.** Descriptive Statistics

Item Statistics	Mean	Std. Deviation	N
Complaints are resolved as promised	3.271	0.898	800
Billing process is transparent	3.116	0.718	800
Data speed is quite satisfactory	3.116	0.718	800
Very rarely has faced any major break down in service	3.106	0.698	800
Queries are immediately attended	3.017	0.656	800
Helpline service is efficient	3.145	0.549	800
Contact center response is quite fast	3.213	0.588	800
Regular customer awareness campaigns are organized	3.009	0.633	800
Brand visibility is top class	2.990	0.618	800
Customized plans are suggested	3.233	0.702	800
Regular feedback taken	3.339	0.707	800
Marketing executives are professional	3.233	0.688	800
All my queries are attended in a single window	3.388	0.689	800

#### 4.3 Reliability of the Factor Measurements

As factor analysis derives from a correlation matrix, the used variables should first of all be measured at an interval level. The variables should be normally distributed and thus generalization of the results of the analysis beyond the sample collected becomes possible. As a part of reliability analysis Cronbach alpha was obtained and it was 0.60, which suggests that the variables are reliable.

**Table 6.** Reliability Statistics of all the factors

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.60	0.617	13

#### 4.4 KMO Measure of Sampling Adequacy and Barlett's Test

The KMO test measures the sampling adequacy (which means whether samples are adequate or not) which should be close to 0.5 for a satisfactory factor analysis .Kaiser (1974) recommend 0.5 (value for KMO) as minimum, values between 0.7-0.8 acceptable, and values above 0.9 are excellent. Looking at the table below, the KMO measure is 0.615, which is acceptable. Bartlett's test highlights the strength of relationship among various variables. Null hypothesis and correlation matrix is tested using this test. From the same table, it is found that Bartlett's Test of Sphericity is significant (0.000), which suggests that correlation matrix is not an identity matrix.

**Table 7.** KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.615
Bartlett's Test of Sphericity	Approx. Chi-Square	989.79
	df	78
	Sig.	.000

#### 4.5 Communalities

How much of the variance is to be allowed for further analysis is derived using communalities. The variables with less than 0.5 needs to be removed from further factor analysis steps.

Communalities		
Complaints are resolved as promised	1	0.618
Billing process is transparent	1	0.910
Data speed is quite satisfactory	1	0.917
Very rarely has faced any major break down in service	1	0.857
Queries are immediately attended	1	0.708
Helpline service is efficient	1	0.862
Contact center response is quite fast	1	0.926
Regular customer awareness campaigns are organized	1	0.778
Brand visibility is top class	1	0.660
Customized plans are suggested	1	0.784
Regular feedback taken	1	0.784
Marketing executives are professional	1	0.880
All my queries are attended in a single window	1	0.897

#### 4.6 Total Variance Explained

Our analysis has 13 input variables .Principal component analysis is used here. Each element has a quality score called an Eigen Value. Variables with high Eigen values greater than one represent a real underlying factor. In the table below, 5 components are there which have greater than one Eigen value and have cumulative variance of 81.44 per cent.

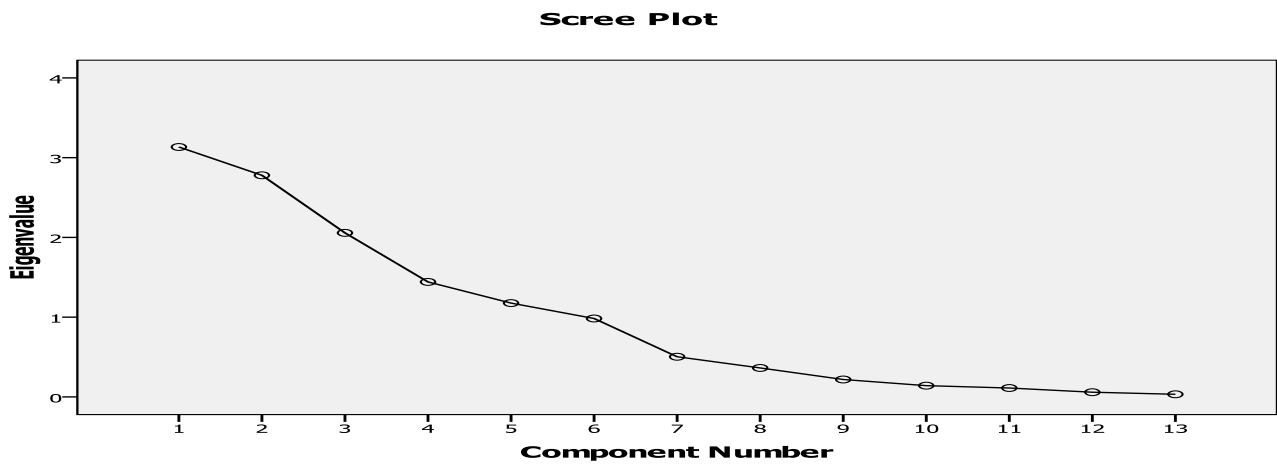
**Table 9.** Total variance explained

	Total Variance Explained								
	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.133	24.104	24.104	3.133	24.104	24.104	2.852	21.939	21.939
2	2.77	21.375	45.480	2.778	21.375	45.480	2.297	17.673	39.612
3	2.056	15.821	61.302	2.056	15.821	61.302	2.117	16.290	55.903
4	1.441	11.090	72.392	1.441	11.090	72.392	2.035	15.654	71.557
5	1.176	9.049	81.441	1.176	9.049	81.441	1.284	9.882	81.441
6	0.983	7.562	89.004						
7	0.503	3.873	92.878						
8	0.363	2.793	95.671						
9	0.218	1.679	97.350						
10	0.141	1.085	98.435						
11	0.111	0.857	99.293						
12	0.058	0.453	99.746						
13	0.032	0.251	100						

**Scree Plot**

A Scree plot is a graphical depiction of Eigen values. The table above points that first 5 components have Eigen values greater than 1. We consider them as “strong factors”. In case of factors beyond 5 Eigen values drops significantly.

**Figure 1 Scree Plot**



**4.7 Rotated component matrix**

To reduce the number factors with high loading rotated component matrix is used. Rotation makes the interpretation easier.

**Table 10 Rotated component matrix**

	Components				
	Reliability	Responsiveness	Empathy	Tangibility	Assurance
Complaints are resolved as promised					0.709
Billing process is transparent	0.943				
Data speed is quite satisfactory	0.954				
Very rarely has faced any major break down in service	0.917				
Queries are immediately attended					
Helpline service is efficient		0.915			
Contact center response is quite fast		0.955			
Regular customer awareness campaigns are organized					
Brand visibility is top class					

Customized plans are suggested			0.873		
Regular feedback taken			0.864		
Marketing executives are professional				0.904	
All my queries are attended in a single window				0.937	

#### 4.8 Reliability analysis of strong factors

After determination of strong factors, reliability of these factors was determined by finding Cronbach’s Alpha. The result suggests that Cronbach’s Alpha in all the cases is greater than 0.6, which suggests that the factors are reliable.

**Table 11 Reliability (Cronbach’s Alpha) of Other factors**

Sr No	Factors	Cronbach’s Alpha
1	Trust	0.701
2	Perception	0.805
3	Loyalty	0.604
4	Switching cost	0.914
5	Brand Image	0.670

**Table 12 Pearson Correlation between Service Quality, Perception, Trust, Brand Image, Switching cost with Customer Satisfaction**

		Customer Satisfaction
Perception	Pearson Correlation	-.237*
	Sig. (2-tailed)	.016
	N	800
Service Quality	Pearson Correlation	.734**
	Sig. (2-tailed)	.000
	N	800
Trust	Pearson Correlation	.429**
	Sig. (2-tailed)	.000
	N	800
Switching Cost	Pearson Correlation	-.344**
	Sig. (2-tailed)	.000
	N	800
Brand Image	Pearson Correlation	.644**
	Sig. (2-tailed)	.000
	N	800

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 12 provides the Pearson’s correlation coefficient between different customer satisfaction dimensions like perception, service quality, Trust, Switching cost, Brand Image with Customer satisfaction. Service quality, Trust and Brand Image has displayed strong positive correlation with customer satisfaction.

**Table 13 Pearson Correlation between customer loyalty with Customer Satisfaction**

		Customer Loyalty
Customer Satisfaction	Pearson Correlation	.895**
	Sig. (2-tailed)	.000
	N	800



Table 13 highlights Pearson’s correlation coefficient between customer loyalty with customer satisfaction and has displayed strong positive correlation between them.

**Table 14 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.799 <sup>a</sup>	.638	.620	.29224	.638	34.261	5	97	.000

a. Predictors: (Constant), switching cost, trust, brand image, service quality, perception

Table 14 above provides the model summary of the model which specifies customer satisfaction as a function of switching cost, trust, brand image, service quality and perception. R-Square shows the variance of the dependent variable, customer satisfaction, which can be predicted from the various independent variables like Switching cost, Trust, Brand image, Service Quality and Perception. The value shows that 63.8% of the variance of customer satisfaction can be obtained from variables like Switching cost, Trust, Brand image, Service Quality and Perception. Customer satisfaction is accounted for by this model is good. This is an analysis to measure the overall strength of association. However, it does not predict the extent up to which any individual independent variable will be associated with the dependent variable. R-Square is also named as coefficient of determination.

**Table 15 Anova analysis**

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.630	5	2.926	34.261	.000 <sup>a</sup>
	Residual	8.284	794	.085		
	Total	22.915	799			

a. Predictors: (Constant), switching cost, trust, brand image, service quality, perception

Table 15 above provides the ANOVA test of the model which species customer satisfaction as a function of Switching cost, Trust, Brand image, Service Quality and Perception. ANOVA tells overall goodness of fit of the model. F-statistic of the model is 34.261 which is quite good and entails that model is a good fit at 1% level of significance.

**Table 16 Regression Coefficients**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.147	.403		.365	.716
	Trust	.243	.061	.258	3.990	.000
	Perception	-.198	.119	-.214	-1.660	.100
	Service Quality	.567	.097	.533	5.861	.000
	Brand Image	.187	.070	.238	2.680	.009
	Switching Cost	.178	.125	.196	1.421	.159

a. Dependent Variable: Customer Satisfaction

In table 16 the model column shows the independent variables or predictor variables like constant, Switching cost, Trust, Brand image, Service Quality and Perception. The very first variable is a constant, which is also termed as Y intercept i.e. the height when the regression line intersects the Y axis. It is the assumed value of Customer satisfaction if all other dependent variables are zero.

Unstandardized coefficient is the values of the regression equation for assuming the predicted variable from the independent variable. It is unstandardized coefficients because it is measured in natural units. Comparison of the coefficients with one another is not possible as they are measured in different scales.

$$Y_{\text{predicted}} = B_0 + B_1 \cdot x_1 + B_2 \cdot x_2 + B_3 \cdot x_3 + B_4 \cdot x_4 + B_5 \cdot x_5$$

The coefficients provide the values for B0, B1, B2, B3, B4 and B5 for this equation. The regression equation can be expressed as

$$\text{Customer Satisfaction} = 0.147 + 0.243 * \text{Trust} + (-0.198) * \text{Perception} + 0.567 * \text{Service Quality} + 0.187 * \text{Brand Image} + 0.178 * \text{switching cost}$$

These estimates show us the relationship between the various independent variables with dependent variables. The focus of the predictors tells about the statistically significance. Further it also tells about the direction of their relationships.

The unstandardized estimates tell us about the amount customer satisfaction scores increases that can be predicted from 1 unit increment in the predictor value.

Service Quality –Its coefficient is 0.567.It means that for one unit increment in service quality, a 0.567 unit increment in Customer satisfaction is reported, keeping all other variables constant.

Trust- Its coefficient is 0.243.It tells us that for increment of one unit of Trust leads to 0.243 unit increase in Customer satisfaction by holding other variables unchanged.

Switching Cost- Its coefficient is 0.178.It shows that increment of one unit in switching cost, a 0.178 unit increase in Customer satisfaction is assumed by holding other variables constant.

Perception- Its coefficient is -0.198. It suggests that increment of one unit in perception, -0.198 unit decrease in Customer satisfaction is assumed by holding all other variables fixed.

Brand Image- Its coefficient is 0.187.It suggests that for increment of one unit of brand image, a 0.187 unit increase in Customer satisfaction can be predicted by holding other variables unchanged.

Further the table mentioned above provides the t-value and 2 tailed p-value. They are used in testing the null hypothesis. Coefficients with p-values less than alpha are called statistically significant. Here alpha value is 0.05.The table above suggests about positive statistical association between service quality and customer satisfaction and hence alternate hypothesis H1a is accepted. Further there is positive statistical association between trust and customer satisfaction is also found and hence alternate hypothesis H2a is accepted. However, there is no significant statistical association is reported between switching cost and customer satisfaction and hence alternate hypothesis H3a is rejected. Further, perception and customer satisfaction doesn't have any positive statistical association and thus alternate hypothesis H4a is rejected .However, Brand Image and Customer satisfaction shows positive significant statistical association and thus alternate hypothesis H5a is accepted.

**Table 17 Results of Hypothesis**

Path	Unstandardized coefficient	t-test	Sig	Hypothesis
Service Quality -- Customer Satisfaction	0.567	5.861	0.000	H1:Accepted
Trust --- Customer Satisfaction	0.243	3.990	0.000	H2:Accepted
Switching cost --- Customer Satisfaction	0.178	1.421	0.159	H3:Rejected
Perception --- Customer Satisfaction	-0.198	-1.660	0.100	H4:Rejected
Brand Image --- Customer Satisfaction	0.187	2.680	0.009	H5:Accepted

**Table 18 Model2 Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.895 <sup>a</sup>	.800	.798	.15050	.800	404.931	1	101	.000

a. Predictors: (Constant), Customer Satisfaction

The R-Square value suggests that 80% of variance of Customer loyalty can be explained by customer satisfaction and rest may be predicted by other variables.

**Table 19 Anova Analysis**

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.171	1	9.171	404.931	.000 <sup>a</sup>
	Residual	2.288	798	.023		
	Total	11.459	799			
a. Predictors: (Constant), Customer Satisfaction						
b. Dependent Variable: Customer Loyalty						

Table 19 above provides the ANOVA test of the model which species customer satisfaction as a function of customer loyalty. ANOVA tells overall goodness of fit of the model. F-statistic of the model is 404.931 which is quite good and entails that model is a good fit at 1% level of significance.

**Table 20 Regression Coefficients**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.112	.102		10.910	.000
	Customer Satisfaction	.633	.031	.895	20.123	.000
a. Dependent Variable: Customer Loyalty						

In table 20 the model column shows the independent variables or predictor variables like constant, Customer satisfaction .The very first variable is a constant, which is also termed as Y intercept. It is the assumed value of Customer satisfaction if all other dependent variables are zero.

The regression equation can be expressed as Loyalty =1.112+0.633\*Customer satisfaction.

Customer satisfaction –Its coefficient is 0.633,Which means that for one unit increment in customer satisfaction, a 0.567 unit increment in loyalty is reported, keeping all other variables unchanged.

Table 21 shows that there is positive statistical association found between customer satisfaction and customer loyalty. Hence alternate hypothesis H6a is accepted.

**Table 21 Result of the hypothesis**

Path	Unstandardized coefficient	t-test	Sig	Hypothesis
Customer Satisfaction --- Customer Loyalty	0.633	20.123	0.000	H6:Accepted

## V. CONCLUSION AND FUTURE SCOPE

Today telecom sectors are facing several challenges i.e. increase in expectation and customer demands followed by need to maintain uninterrupted service quality. Further, customers are behaving more critically to the service qualities. Increase in customer demand and cut throat competition in Telecom sector in India are forcing the telecom service providers to devise strategic and innovative measures to increase customer satisfaction and loyalty.

Evidence has been found that service quality is a prime ingredient of customer satisfaction and customer satisfaction is the prime element of building customer loyalty. From the study, it is quite evident that customer satisfaction and customer loyalty in Telecom sector are dependent on various factors. Customer satisfaction in Telecom sector was analyzed with reference to various dimensions like Service Quality, Trust, Perception, Brand Image and Switching Cost. Service Quality has shown significant statistical and positive association with customer satisfaction. Significant statistical and positive association have also been found between Trust and Customer Satisfaction as well as Brand Image and Customer Satisfaction .However, no significant positive statistical association is observed between Customer satisfaction and Perception as well as Customer Satisfaction and Switching cost. It has also been witnessed from the study that customer satisfaction is a major element for creating customer loyalty. The study has also given evidence that customer satisfaction and customer loyalty are statistically significant and positively associated. The major need of the hour is thus to find ways to create satisfied and loyal customer base. The associations derived in this study can be quite handy for the telecom service operators to design strategic measures for customer retention and build on new customer base. The study was mainly focused on mobile users of four districts of Gujarat because of time resource constrains. However, with addition of more samples catering to various demographic strata results could have been more hollistic.

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