

# Determining the role of service quality, trust and commitment to customer loyalty for telecom service users: a PLS-SEM approach

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## Abstract

**Purpose** – The purpose of this paper is to determine the role of service quality (SQ), trust and commitment to customer loyalty (CL) for telecom service users. Further, the moderating role of gender, marital status and connection type within the model was tested.

**Design/methodology/approach** – A measurement model was created based on valid 615 responses from Indian TSUs for SQ, trust, commitment and loyalty with the help of partial least squares structural equation modeling (PLS-SEM). Multi-group analysis (MGA) was conducted to understand the moderating effect of marital status, gender and connection type within the model.

**Findings** – The results suggest that, out of five dimensions of SQ, only responsiveness, assurance and empathy have a significant positive relationship with both commitment and trust. Tangibility has a significant positive relationship with trust only. Both commitment and trust have a significant impact on loyalty. It was noticed that both commitment and trust act as mediators between three SQ dimensions (assurance, empathy and responsiveness) and CL. MGA revealed that empathy and responsiveness positively induce trust in telecom users who are single. Whereas, assurance increases commitment toward telecom service providers in married users. Assurance and empathy significantly contribute toward commitment and trust, respectively, in male users as compared to females. Empathy was found important for postpaid users for trust-building, whereas trust was found to be more important for prepaid users to stay loyal to the service provider.

**Originality/value** – This article contributes toward understanding the role of SQ, trust and commitment to CL moderated by marital status, gender and connection type in an integrated model concerning telecom service.

**Keywords** Service quality, Trust, Commitment, Customer loyalty, Telecom, India

**Paper type** Research paper

## Introduction

Technological advancements shifted the usage of landlines to mobile phones in the telecommunication sector for business, social and political purposes (Ngoma and Ntale, 2019). The telecommunication services have made significant infiltration in India over the years; mainly, during the past decade, there is an exemplary shift from the fixed line to mobiles (Barman *et al.*, 2018; Gupta and Jain, 2020; Kumar *et al.*, 2017). The telecommunication industry

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forms a vital part of the Indian service sector with 90.11% teledensity and the second-highest number of mobile subscribers in the world (1,176.02 million) after China (1,649.3 million) (Deogaonkar and Washimkar, 2014; TRAI, 2019). Further, the advent of broadband has re-energized and reinforced the wireline industry using existing infrastructure, thus creating a powerful competition among the service providers (Rajeswari *et al.*, 2017).

Managing customer value and service quality (SQ) is important to maintain customer loyalty (CL) (Slack *et al.*, 2020a; Slack and Singh, 2020). Companies should focus on CL, customer satisfaction and SQ in the telecommunication sector (Belwal and Amireh, 2018). For long-term sustainability in the market, the vital requirement is to win the loyalty of the customer in the telecommunication industry. Customer satisfaction affects CL and long-term customer relationships (Poulose *et al.*, 2018). CL is indicated through repurchase intentions, which majorly depend upon the quality of products and services offered by a company as compared to its competition (Ahmed *et al.*, 2010; Saroha and Diwan, 2020). Even when switching costs are low, a satisfied customer will remain loyal due to the swapping costs (Hadi *et al.*, 2019). Researchers have pointed out that loyal customers with lower switching tendencies do not try different connections frequently (Rahul and Majhi, 2014; Aslam and Frooghi, 2018; Jacob and Subramoniam, 2021).

CL is still an elusive dream for many companies despite making substantial investments for enhancing customer service in the telecommunication business (Karjaluo *et al.*, 2012). Parasuraman *et al.* (1985) considered trustworthiness as an important measure that defines the sensitivity of SQ. Jalili (2008) suggested that trust and SQ perceived by customers lead to a high level of CL. Additionally, customer trust impacts consumer reliability and commitment, which redefines the relationship with repurchase intentions (Shahbaz *et al.*, 2020).

While searching for literature focused on telecom service and CL in India, we found that previous studies invited examination of the effects of SQ and other variables on CL (Kaur and Soch, 2013). Moreover, in their future research directions, these studies called for an assessment of the relationship between SQ and CL influenced by mediators and moderators (Kaur and Soch, 2018). For mediation, we considered trust and commitment as important variables for two reasons; firstly, the literature review confirmed that both trust (Nelson and Kim, 2021; Purwanto *et al.*, 2020; Yousaf *et al.*, 2020) and commitment (Han *et al.*, 2019; Pool *et al.*, 2018) are powerful mediators; secondly, we found that no previous study has checked the mediating role of trust and commitment between SQ and CL. Similarly, previous studies urged to examine the moderating effects based on consumer characteristics and connection type (Kaur and Soch, 2013). We found adequate literature supporting gender (Sharma, 2014; Sharma *et al.*, 2012), marital status (Rice and Katz, 2003; Wickramasinghe and De Zoyza, 2008) and connection type (Chen *et al.*, 2017; Misra, 2012) as strong moderators. However, we noticed that none of the previous studies has tested the moderating effect of gender, marital status and connection type within the proposed model. Hence, we undertook this research to fill these gaps (Table 1). This article commences with a theoretical background of the concepts and hypotheses followed by the research methodology and results section. Discussion, theoretical and managerial implications, limitations and future directions constitute the concluding part.

## Literature review

### *Service quality (SQ) and its relationship with commitment and trust*

The competitive environment considers SQ as a vital source for growth, survival and success (Parasuraman *et al.*, 1988). Established on various dimensions and conceptualization of SQ, researchers discovered the dimensions that form the basis of SQ are tangibility, reliability, empathy, assurance and responsiveness (Li and Shang, 2020; Slack *et al.*, 2020a). The

Authors and year	Independent variables	Mediators	Moderators	Other endogenous variables	Outcome variables
Kaur and Soch (2013)	Customer satisfaction	Commitment, corporate image	–	Trust	CL
Reddy <i>et al.</i> (2014)	SQ, customer relation, customer satisfaction, customer value, inconvenience barrier, advantageous barriers	–	–	–	Customer retention
Rahul and Majhi (2014)	Satisfaction	–	–	–	Loyalty
Gupta and Sahu (2015)	Relationship marketing dimensions	–	–	–	CL
Mishra <i>et al.</i> (2016)	SQ	–	–	Advertisement, customer satisfaction, personal factors	CL
Rajini and Balaji (2017)	Customer satisfaction, end-user, technology, marketing	–	–	–	Customer loyalty based on mobile number portability
Kumar <i>et al.</i> (2017)	SQ, switching costs	–	–	–	Switching behavior
Kaur and Soch (2018)	Customer satisfaction, trust	Commitment, corporate image, switching costs	–	–	Customer loyalty
Poulose <i>et al.</i> (2018)	CL, consumer satisfaction, customer relationship management, alternative attractiveness	–	Switching cost	Switching barrier	Consumer retention
Saroha and Diwan (2020)	Customer touchpoints, price	–	–	Value, quality, image	CL
This study	SQ	Trust, commitment	Marital status, gender, connection type	–	CL

**Table 1.** Comparative review of studies focused on telecom service and customer loyalty in India to present research gap

Source(s): The authors

SERVQUAL scale relates to perceived quality, which serves as a base for understanding and measuring customer satisfaction (Parasuraman *et al.*, 1988). Customers need better services, and SERVQUAL dimensions predict it well (Mishra *et al.*, 2016; Ojo, 2010), making it an ideal

scale for SQ measurement in the service industry based on 22 items (Daniel and Berinyuy, 2010). Satisfied customers remain loyal to the company using the services (Aslam *et al.*, 2018; Singh and Slack, 2020; Slack and Singh, 2020), inducing positive customer attitude and behavioral intentions (Kalia *et al.*, 2016).

Commitment focuses to build customer relationships through psychological contracts and improve SQ (Kaur and Soch, 2012). SQ has a positive effect and is associated with commitment (Abdullah *et al.*, 2021). High SQ creates commitment and belongingness toward the service provider (Sharma *et al.*, 2016). Further, customer satisfaction results in customer loyalty through synergizing factors that contribute to the conversion of satisfaction into commitment (Wu *et al.*, 2012). Lee and Seong (2020) argued that good SQ always results in a committed customer. Kim *et al.* (2018) asserted that SQ enriches competitive intensity that increases commitment. Thus, we propose the following hypothesis:

*H1.* SQ (tangibility H1a, reliability H1b, responsiveness H1c, empathy H1d, assurance H1e) has a significant positive influence on customer commitment.

SQ is the best indicator of measuring customer satisfaction, which develops a level of trust in the mind of customers (Zubair *et al.*, 2019). Good and timely service by the service providers always creates a foundation of trust in the mind of customers (Lanin and Hermanto, 2019). Trust creates the feeling of safety, assurance and consistency towards the service provider (Garbarino and Johnson, 1999; Parasuraman *et al.*, 1985). The best quality services enhance the trust of customers (Kaur and Soch, 2018). Hence, we postulate that:

*H2.* SQ (tangibility H2a, reliability H2b, responsiveness H2c, empathy H2d, assurance H2e) has a significant positive influence on customer trust.

#### *Trust and its role as mediator*

Trust is viewed as a belief or sentiment that comes from reliability (Yousaf *et al.*, 2020; Zubair *et al.*, 2019). It is perceived to create confidence based on integrity and reliability (Morgan and Hunt, 1994). Trust is an essential driver to gain the loyalty of the customers (Reichheld and Schefer, 2000). Alkhurshan and Rjoub (2020) emphasized the role of trust to enhance customer loyalty and facilitate value creation (Sirdeshmukh *et al.*, 2002). Trust acts as a direct measurement and powerful mediator of CL (Purwanto *et al.*, 2020; Yousaf *et al.*, 2020). More trust with a service provider leads to less loyalty to another (Nelson and Kim, 2021). Researchers have confirmed a strong relationship between CL and trust (Sirdeshmukh *et al.*, 2002; Nelson and Kim, 2021; Purwanto *et al.*, 2020). Hence, we propose that:

*H3.* Trust has a significant positive influence on CL.

*H4.* In the presence of trust, SQ (tangibility H4a, reliability H4b, responsiveness H4c, empathy H4d, assurance H4e) has a significant positive influence on CL.

#### *Commitment and its role as mediator*

For a long-term valued relationship, commitment is a necessary component (Morgan and Hunt, 1994). It is personal identification, concern for future welfare and the feeling of loyalty (Garbarino and Johnson, 1999). Commitment is viewed as a psychological attachment that results in CL (Wu *et al.*, 2012; Izogo, 2015). Pool *et al.* (2018) in their study reported that commitment has a strong effect on loyalty. Further, Han *et al.* (2019) indicated the association between commitment and customer loyalty. Expecting positive impact of commitment on CL in case of mobile services, we propose that:

*H5.* Commitment has a significant positive influence on CL.

H6. In the presence of commitment, SQ (tangibility H6a, reliability H6b, responsiveness H6c, empathy H6d, assurance H6e) has a significant positive influence on CL.

### *Customer loyalty (CL)*

Customers' intention to perform repeated purchases to a specific service is called CL (Zeithaml *et al.*, 1996). It is the buyer's deep commitment to any product or service (Jahanzeb *et al.*, 2011; Reddy *et al.*, 2014). The social exchange theory formulates the base for explaining CL (Yang, 2015). The association between SQ, trust and commitment acts as a substantial indicator of loyalty (Rajini and Balaji, 2017; Singh *et al.*, 2021). Researchers have reported a positive association between CL and SQ (Zhang *et al.*, 2014). Telecom companies need to develop a positive image of their products and services to hold and sustain loyal customers by developing a competitive edge in a challenging environment (Kaur and Soch, 2018).

### *Moderating effect of gender, marital status and connection type*

One of the important objectives of this research is to discover the moderating effect of marital status, gender and connection type within the model. To study the enormous diversity for attaining competency, the moderating effect provides a thorough understanding of how SQ, commitment, trust and loyalty differs in the case of male and female, married and unmarried, prepaid, and postpaid connection users. Past researchers have noticed that telecom services usage varies as per the gender difference (Sharma, 2014; Sharma *et al.*, 2012). Further, the SQ and CL differ as per prepaid and postpaid users (Chen *et al.*, 2017; Misra, 2012). Considering the marital status as a moderator, there is a plethora of studies that support the difference in SQ due to marital status (Rice and Katz, 2003; Wickramasinghe and De Zoyza, 2008). Given the background of the literature, we believe that its pertinent to study the moderating effect of the above-stated variables. Thus, we propose the following hypotheses:

- H7. Significant differences exist between married and unmarried respondents for the links in the tested structural model.
- H8. Significant differences exist between male and female respondents for the links in the tested structural model.
- H9. Significant differences exist between prepaid and postpaid users for the links in the tested structural model.

The theoretical background is summarized in Table 2, and the proposed model for the present research is given in Figure 1.

## **Methodology**

### *Research context*

The present research was carried considering mobile services in India. In the past decade, India has listed a robust growth, and the mobile economy is growing exponentially (Kalia, 2019; Kalia *et al.*, 2017). Indian mobile dissemination (density) has grown to 88.50% (in 2019) from 4% (in 1995) (Gupta and Jain, 2020). Out of total internet subscribers (665.31 million), 96.66% are on wireless (643.64 million), 3.26% are on wired (21.67 million) and merely 0.08% are on fixed wireless internet connections (TRAI, 2019). An increase in mobile users and service delivery by operators poses a major challenge to mobile services in India. By positioning the quality of services, companies strive to achieve CL, profitability and productivity (Belwal and Amireh, 2018).

Construct	Items	Adapted from source
SQ	Tangibility (4), reliability (4), responsiveness (4), empathy (5), assurance (5)	Parasuraman <i>et al.</i> (1985), Parasuraman <i>et al.</i> (1988), Zeithaml <i>et al.</i> (1996)
Trust	(1) I trust the telecom operator and its staff (2) The company is consistent in providing quality services (3) I feel very safe while dealing with the company (4) The staff of the company treats me fairly (5) If I share my problem with the staff, I know they would respond positively	Moorman <i>et al.</i> (1992), Pritchard (1999), Morgan and Hunt (1994), Kalafatis and Miller (1996), Pritchard <i>et al.</i> (1999), Zhang and Feng (2009)
Commitment	(1) The company provides individualized attention while solving customer complaints (2) If customer satisfaction requires more expenses, the company incurs them (3) The company offers price significantly lesser than other operators (4) Customer care ensures that problems will not arise in our relationship (5) The company takes proactive measures to avoid any future complaint situations	Moorman <i>et al.</i> (1992), Kalafatis and Miller (1996), Pritchard <i>et al.</i> (1999), Jalili (2008)
Loyalty	(1) I feel proud to tell others for using this network for telecommunication services (2) I would pay more than competitors' prices for the benefits I receive from the company (3) I feel very loyal to the company (4) The company contacts customers to find out their loyalty and commitment (5) The competitive strategies of the company are strong enough to make its market position	Jalili (2008), Zhang and Feng (2009), Jahanzeb <i>et al.</i> (2011), Chen and Cheng (2012)

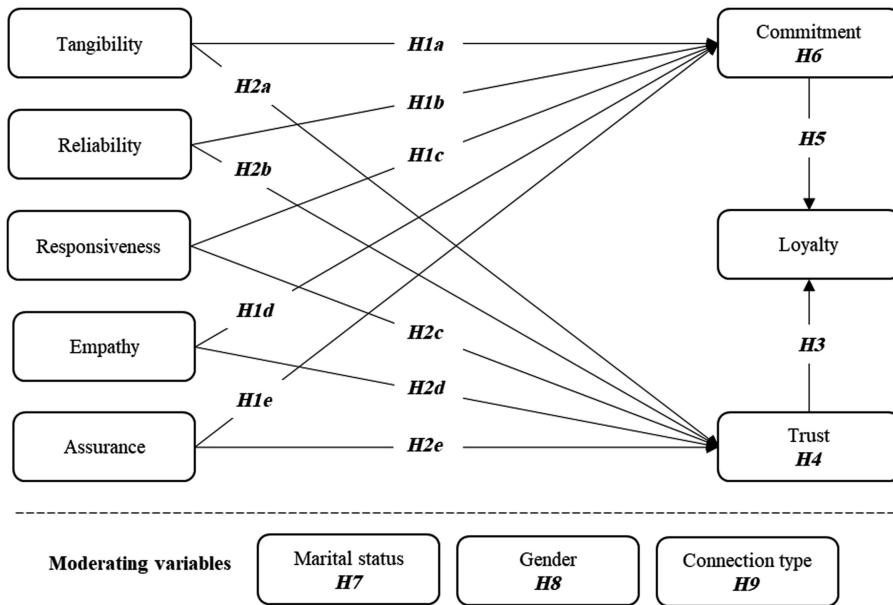
**Source(s):** The authors

**Table 2.**  
Literature review

#### *Data collection and sample response rate*

For the study, data were collected from non-corporate telecom service (both prepaid and post-paid) users residing in the North-western constituency of India, i.e. Punjab, Haryana and Rajasthan, through a structured questionnaire. Based on market share, we selected four telecom service providers (TSPs), namely, Vodafone Idea Ltd (32.34%), Reliance (27.92%), Bharti (27.36%) and BSNL (10.69%) (TRAI, 2019). The states were selected based on the operational functionality of the above-mentioned service providers along with the aggressive environment, population and concentrated industry. States of Jammu and Kashmir and Himachal Pradesh were excluded due to security issues, low population density, and difficult geographical terrain.

The data was collected during the period of September–December 2019 in the English language based on stratified random sampling. In total 650 customers were approached for their response out of which 615 were recorded, processed, and validated for further analysis. This equates to a response rate of 94.61%, which is quite high as per the recommended levels (Nulty, 2008; Slack *et al.*, 2020b). We adopted an *a priori* approach to calculate the sample size for our structural model (Soper, 2021). With a medium anticipated effect size of 0.23 (Cohen, 1992), the desired statistical power level of 0.8, eight latent variables and 32 observed



**Figure 1.**  
The proposed research model

Source(s): The authors

variables at 0.05 probability level, the recommended minimum sample size was 326. Our sample is quite larger than the recommended sample size. The questionnaire was designed on a five-point Likert scale because of its more adaptability in social science research (Babakus and Mangold, 1992). The descriptive analysis shows that the sample comprises more males (61.3%) than females (38.7%) and an almost equal number of respondents from Punjab (33.5%), Haryana (33.2%) and Rajasthan (33.3%). About marital status, 54% of respondents were unmarried, while 46% were married. The age groups of 20–30 years (45.5%) were the maximum subscribers of mobile services, followed by the 30–40 (29.8%) age group. A total of 56.9% of respondents used a prepaid connection, while 43.1% used postpaid (Table 3).

*Variables and measurement scales*

The scales that have been utilized to measure the SQ have been adapted from the SERVQUAL MODEL (Parasuraman et al., 1985). The model comprises 22 statements of tangibility (4), reliability (4), responsiveness (4), empathy (5) and assurance (5). To examine the trust statements, we included five statements adapted from Morgan and Hunt (1994) and Pritchard et al. (1999). The concept of commitment was measured through items developed by Pritchard et al. (1999) and Jalili (2008). The scale that has been utilized to measure CL is previously developed by Jalili (2008) and Chen and Cheng (2012).

**Data analysis and findings**

*Measurement model*

As the facts and figures were composed of single customers (mobile users), there could be a problem of common method bias. This problem can be identified and verified with the help of Harman’s single-factor test. The results reveal the first factor is accounting for 40.55%, which is

TQM 33,7	Characteristics	<i>N</i>	%
	<i>Gender</i>		
	Male	377	61.3
	Female	238	38.7
	<i>Marital status</i>		
<b>384</b>	Married	283	46
	Unmarried	332	54
	<i>Connection</i>		
	Prepaid	350	56.9
	Postpaid	265	43.1
	<i>State</i>		
	Punjab	206	33.5
	Haryana	204	33.2
	Rajasthan	205	33.3
	<i>Age</i>		
	Below 20	81	13.2
	20–30	280	45.5
	30–40	183	29.8
	40–50	52	8.5
	Above 50	19	3.1
	<b>Source(s):</b> Authors' calculations		

**Table 3.**  
Demographic characteristics of the sample

less than the edge limit of 50%, as acclaimed by Endara *et al.* (2019). Hence, the study is free from biases in the response data. The measurement model includes the assessment of reliability and validity (convergent and discriminant) of first-order constructs, which specifies the robust methods used to examine the projected model (Hair *et al.*, 2011). In the present research, trust, commitment, CL and SQ dimensions are modeled as first-order reflective constructs. Five dimensions of SQ lead to trust and then to CL, as evidenced by Liu *et al.* (2011) and Ofori (2018). Izogo (2017), also reflected the impact of SQ and customer commitment on CL.

In the beginning, the convergent validity was tested. It contains the indicator such as Cronbach's alpha, average variance extracted (AVE), loadings and composite reliability (CR) (Table 4). While checking, the factor loadings six items (Tan4, Rel4, Ass5, Emp3, Emp5) were deleted because of the low cut-off value than the threshold limit of 0.5 (Hair *et al.*, 2019). AVE, CR and Cronbach alpha values were found to be greater than the advised value of 0.50, 0.70 and 0.70, respectively (Babin *et al.*, 2008; Hair *et al.*, 2019).

Discriminant validity was checked based on two methods after checking for convergent validity. The initial criterion was cross-loadings of indicators wherein the loadings on the related construct were required to be larger than others (Dey *et al.*, 2020). The second criterion was Fornell–Larcker (1981), which is based on the squared values of AVE, and higher value of each indicator diagonally (Table 5) indicated that the essential discriminant validity has been achieved (Endara *et al.*, 2019).

### *Structural model*

For testing the paths in the structural model, we used SmartPLS 3. As per the results, responsiveness ( $\beta = 0.233, p < 0.01$ ), assurance ( $\beta = 0.221, p < 0.01$ ) and empathy ( $\beta = 0.353, p < 0.01$ ) positively influence commitment. By contrast, no support was found for tangibility and reliability. Commitment had a positive influence on loyalty ( $\beta = 0.620, p < 0.01$ ). Further, the results revealed that tangibility ( $\beta = 0.248, p < 0.01$ ), responsiveness ( $\beta = 0.187, p < 0.01$ ), assurance ( $\beta = 0.390, p < 0.01$ ) and empathy ( $\beta = 0.128, p < 0.01$ ) also have considerable



Constructs	Item	Loading	VIF	Cronbach	CR	AVE
Tangibility	TAN1	0.825	1.582	0.721	0.843	0.642
	TAN2	0.8	1.506			
	TAN3	0.779	1.292			
Reliability	REL1	0.811	1.333	0.693	0.829	0.618
	REL2	0.786	1.397			
	REL3	0.762	1.326			
Responsiveness	RES1	0.755	1.457	0.768	0.851	0.59
	RES2	0.666	1.317			
	RES3	0.828	1.647			
	RES4	0.813	1.647			
Empathy	EMP1	0.784	1.281	0.652	0.812	0.59
	EMP2	0.795	1.353			
	EMP4	0.724	1.222			
Assurance	ASS1	0.7	1.296	0.743	0.838	0.566
	ASS2	0.696	1.344			
	ASS3	0.799	1.606			
	ASS4	0.806	1.6			
Trust	TRU1	0.791	1.933	0.869	0.905	0.657
	TRU2	0.817	2.077			
	TRU3	0.823	2.08			
	TRU4	0.83	2.218			
	TRU5	0.79	1.885			
Commitment	CM1	0.764	1.558	0.811	0.869	0.571
	CM2	0.747	1.586			
	CM3	0.636	1.347			
	CM4	0.808	1.886			
	CM5	0.81	1.835			
Loyalty	LOY1	0.801	1.801	0.814	0.87	0.573
	LOY2	0.724	1.52			
	LOY3	0.753	1.639			
	LOY4	0.755	1.651			
	LOY5	0.749	1.612			

Source(s): Authors' calculations

**Table 4.**  
Results of the  
measurement model

	ASS	COM	EMP	LOY	REL	RES	TAN	TRU
ASS	<i>0.752</i>							
COM	0.637	<i>0.756</i>						
EMP	0.695	0.678	<i>0.768</i>					
LOY	0.607	0.733	0.633	<i>0.757</i>				
REL	0.778	0.552	0.659	0.575	<i>0.786</i>			
RES	0.771	0.668	0.765	0.596	0.712	<i>0.768</i>		
TAN	0.708	0.555	0.638	0.525	0.694	0.726	<i>0.801</i>	
TRU	0.758	0.661	0.666	0.581	0.641	0.729	0.705	<i>0.81</i>

Note(s): Diagonals (in italic) represent the square root of AVE and other entries represent the correlations  
Source(s): Authors' calculations

**Table 5.**  
Discriminant validity:  
Fornell-Larcker  
criterion

association with trust. Further, we observed a significant influence of trust on CL ( $\beta = 0.172$ ,  $p < 0.01$ ). The  $R^2$  value for commitment is 0.659, which indicates that a 65.9% discrepancy in commitment is defined by five dimensions of SQ, while 53% variance in the trust is explained by SQ dimensions. Finally, a 55.4% variance in CL is explained by trust and commitment (Table 6).

**Table 6.**  
Results of the  
structural model

Hyp	Variables	Path coefficients	SE	<i>t</i> -statistics (O/STDEV)	<i>p</i> -values	<i>R</i> <sup>2</sup>	Results
H1a	TAN → COM	0.032	0.05	0.676	0.499		NS
H1b	REL → COM	-0.04	0.05	0.828	0.408		NS
H1c	RES → COM	0.233	0.06	4.087	0		S
H1d	EMP → COM	0.353	0.05	6.665	0		S
H1e	ASS → COM	0.221	0.05	4.092	0		S
H2a	TAN → TRU	0.248	0.04	5.739	0		S
H2b	REL → TRU	-0.05	0.05	1.089	0.276		NS
H2c	RES → TRU	0.187	0.05	3.722	0		S
H2d	EMP → TRU	0.128	0.04	3.139	0.002		S
H2e	ASS → TRU	0.39	0.04	8.747	0		S
H3	TRU → LOY	0.172	0.04	3.989	0	0.5	S
H5	COM → LOY	0.62	0.04	17.413	0	0.7	S

**Source(s):** Authors' own findings, S = Supported, NS = Not supported

*Mediation analysis*

We checked for any mediation effect of commitment and trust between SQ and CL (Table 7). We noticed significant mediation by commitment between three dimensions of SQ, i.e. assurance ( $t = 3.890, p < 0.01$ ), empathy ( $t = 6.15, p < 0.01$ ) and responsiveness ( $t = 3.997, p < 0.01$ ) and CL. By contrast, no mediation effect of commitment was observed for reliability ( $t = 0.823, p > 0.01$ ) and tangibility ( $t = 0.823, p > 0.01$ ). Further, we observed that trust mediates between four dimensions of SQ, i.e. assurance ( $t = 3.493, p < 0.01$ ), empathy ( $t = 2.466, p < 0.01$ ), responsiveness ( $t = 2.886, p < 0.01$ ) and tangibility ( $t = 3.190, p < 0.01$ ) and CL. However, no significant mediation by trust was observed between reliability and loyalty.

*Multigroup analysis*

Several previous studies have suggested an investigation of the moderating role of demographic variables (Ofori et al., 2018) and other important variables like the connection type (prepaid vs postpaid) on CL (Kaur and Soch, 2018). Therefore, in the second stage, we conducted the partial least squares multigroup analysis (PLS-MGA) test. The sample was separated based on gender, marital status and type of connection. Rather than relying on distributional assumptions, the PLS-MGA is based on the observed distribution of the bootstrap, making it capable to cover small and different sample sizes (Hair et al., 2019; Henseler et al., 2009).

**Table 7.**  
Results of mediation  
effect of commitment  
and trust

Hyp	Variables	Original sample (O)	Sample mean (M)	St. dev	<i>t</i> -statistics (O/ St.dev)	<i>p</i> -value	Results
H4a	TAN → TRU → LOY	0.043	0.043	0.013	3.19	0	S
H4b	REL → TRU → LOY	-0.009	-0.008	0.008	1.057	0.29	NS
H4c	RES → TRU → LOY	0.032	0.032	0.011	2.886	0	S
H4d	EMP → TRU → LOY	0.022	0.022	0.009	2.466	0.01	S
H4e	ASS → TRU → LOY	0.067	0.067	0.019	3.493	0	S
H6a	TAN → COM → LOY	0.02	0.02	0.029	0.673	0.5	NS
H6b	REL → COM → LOY	-0.025	-0.025	0.03	0.823	0.41	NS
H6c	RES → COM → LOY	0.145	0.145	0.036	3.997	0	S
H6d	EMP → COM → LOY	0.218	0.219	0.035	6.157	0	S
H6e	ASS → COM → LOY	0.136	0.137	0.035	3.89	0	S

**Source(s):** Authors' own findings, S = Supported, NS = Not supported

For marital status (Table 8), we observed that assurance increases commitment toward TSPs in married users at a 1% level of significance. Empathy increases trust for those who are single, whereas it does not have any significant effect on married users. It is pertinent to note that reliability in services has no significant influence on the commitment and trust of both users. Further, responsiveness increases commitment for both married and unmarried but at a 5 and 1% level of significance, respectively. The results further reveal that responsiveness increases trust at a 1% level of significance for unmarried users, whereas it is insignificant for married users.

In the case of gender (Table 8), we noticed that assurance increases trust, commitment increases loyalty and empathy increases commitment in both males and females at a 1% level of significance. However, empathy leads to trust only in the case of males than females. Reliability does not have any influence on commitment trust for both males and females. Similarly, tangibility also has no influence on commitment for both genders. Tangibility increases trust for males at 1% and females at a 5% level of significance.

For connection type (Table 8), we found that assurance increases commitment, assurance increases trust, commitment increases loyalty and empathy increases commitment at a 1% level of significance for both prepaid and postpaid connections. Further, the results show that empathy increases trust only in postpaid connections at a 5% level, whereas it is not relevant in prepaid connections. The results indicate that responsiveness can significantly increase trust and commitment. Lastly, trust increases loyalty in the case of prepaid users as compared to postpaid connection users.

### Discussion

This research explores the relationships between SQ and CL for telecom service users (TSUs), with trust and commitment as mediators and gender, marital status and connection type as moderators in the proposed model. This study brings out some interesting contradictions and novel findings to the existing research on telecom services.

Based on the literature, we hypothesized that SQ has a significant positive influence on customer commitment (H1) and trust (H2). We found that empathy, assurance and responsiveness are important dimensions of SQ that can positively impact both commitment and trust. This result is concurrent to the results of past studies, which proposed that said dimensions can positively affect customer pleasure and arousal (Alsaggaf and Althonayan, 2018). But, it contradicts earlier research that emphasizes the importance of “all” the five SQ dimension for customer satisfaction and retention (Ahmed *et al.*, 2010). Our results suggest

Indicators/ <i>p</i> -value	Married	Single	Male	Female	Prepaid	Postpaid
ASS → COM	0.000***	0.154	0.000***	0.118	0.000***	0.000***
ASS → TRU	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
COM → LOY	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
EMP → COM	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
EMP → TRU	0.053	0.013**	0.003**	0.316	0.254	0.001**
REL → COM	0.401	0.887	0.357	0.536	0.123	0.796
REL → TRU	0.963	0.054	0.105	0.626	0.444	0.404
RES → COM	0.023**	0.001***	0.004**	0.001**	0.002***	0.012**
RES → TRU	0.071	0.001***	0.003**	0.033**	0.024**	0.002**
TAN → COM	0.467	0.812	0.227	0.648	0.377	0.904
TAN → TRU	0.000***	0.000***	0.000***	0.004**	0.000***	0.011**
TRU → LOY	0.001***	0.014**	0.039**	0.000***	0.000***	0.157

Source(s): Authors' own findings, \*\*\* significant at 1%, \*\* significant at 5%

**Table 8.**  
Results of PLS-MGA  
for marital status,  
gender and  
connection type

that TSUs will have trust, commitment and loyalty toward the TSPs if they are responsive, i.e. provide strong customer and technical support service that is prompt and accessible. TSUs also expect empathy from TSPs in the form of care, understanding, interactive fairness, human touch, communication and personalization. Further, TSUs will stay with a TSP if the company can assure that user information is secure and private. We also observed that tangibility has a significant positive influence on trust, which is contrary to the previous research, which demeaned the importance of tangibility for a mobile service provider (Alsaggaf and Althonayan, 2018). This finding indicates that a customer does consider tangible resources like design, décor, equipment, communication facilities, well-dressed frontline personnel at the outlet, recharge, card availability, etc. (Zeithaml *et al.*, 2017). In a virtual environment, a mobile service provider can give tangible cues through the appearance of the website (navigation, content, ease of use, aesthetics, etc.) (Kalia, 2017).

Further, we hypothesized that trust (H3) and commitment (H5) have a significant positive influence on customer loyalty. In the current study, we noticed a positive influence of commitment and trust on loyalty. This corroborates the results of past studies, establishing commitment as a stronger predictor of attitudinal loyalty (Izogo, 2016) and trust as an antecedent of positive word-of-mouth behavior (Oraedu, 2020).

A significant contribution of this research is ascertaining the mediating roles of trust (H4) and commitment (H6) between SQ and loyalty. We noticed that both commitment and trust act as mediators between three SQ dimensions (assurance, empathy and responsiveness) and CL. Additionally, trust mediates between tangibility and CL. We believe, there is no earlier research on this specific effect in the context of telecom service in India. However, there are few studies where researchers have reported trust (Kaur and Soch, 2012, 2018) and commitment (Kaur and Soch, 2013) as antecedents of loyalty.

Based on the marital status, we found significant differences in the structural model at assurance–commitment (H1e), empathy–trust (H2d) and responsiveness–trust (H2c) links. Similarly, we noticed differences in assurance–commitment (H1e) and empathy–trust (H2d) links between the two genders. Differences were also observed between empathy–trust (H2d) and trust–loyalty (H3) links based on the connection type. Together, these differences provide support for H7, H8 and H9. These differences due to marital status, gender and connection type are concerning, especially to the empathy–trust (H2d) path, which is common to all. It indicates that married–unmarried, male–female, prepaid–postpaid users evaluate the elements and links of the proposed structural model differently. These results corroborate previous submissions related to marital status (Omotayo *et al.*, 2020), gender (Sharma *et al.*, 2012) and connection type (Nazareth and Correa de Mattos, 2018).

### Theoretical contributions

Firstly, this research confirmed that SQ has a significant positive influence on customer commitment and trust and an indirect effect on loyalty. However, “all fingers are not equal” as empathy ( $t = 6.66$ ) has the highest influence on commitment followed by assurance ( $t = 4.09$ ) and responsiveness ( $t = 4.08$ ). Whereas, assurance ( $t = 8.74$ ) has the highest influence on trust followed by tangibility ( $t = 5.74$ ) and responsiveness ( $t = 3.72$ ). The second important contribution of this research is establishing the direct and mediating influence of trust and commitment between SQ and loyalty. Here, the current study testifies that customer commitment ( $t = 17.41$ ) has a higher influence on loyalty than customer trust ( $t = 3.989$ ). Thirdly, the study confirmed that “the same size does not fit all” since differences based on the marital status, gender and connection type were observed.

### Managerial implications

Based on the findings of this study, several practical implications emerge for marketers. We recommend telecom companies for higher attention to responsiveness, assurance and

empathy dimensions. We highly recommend improving empathy and assurance to enhance customer commitment and trust, respectively. These dimensions are extrapolated in the telecom service context in Table 9. An important contribution of this study is decrypting differences in the examined model based on the marital status, gender and connection type. We found that assurance can lead to commitment in the case of married users than unmarried users. Therefore, we recommend TSPs give more assurance to married customers by increasing the accuracy of billing, records and timely service to win their commitment. On the other hand, the results of empathy–trust (H2d) and responsiveness–trust (H2c) links were significant for unmarried customers only. It signifies that unmarried customer seek empathy and responsiveness from the TSPs for trusting them. Companies can induce trust among unmarried customers through empathy (offering individualized attention, reducing waiting time and providing comparatively better services than competitors) and responsiveness (task accuracy, less waiting time, prompt and helpful staff). In the case of gender, we found that assurance–commitment (H1e) and empathy–trust (H2d) links are significant for male customers than female customers. Therefore, we can suggest TSPs acquire the trust of the male customers through assurance (security, credibility, believability, honesty, privacy) and empathy. Based on the connection type, we observed that the empathy–trust (H2d) link is only significant for postpaid users. Based on this finding, we advise TSPs to stay empathetic with their postpaid customers to gain their trust. By contrast, the trust–loyalty (H3) link was found to be significant for prepaid users only; hence, we suggest TSPs inculcate a feeling of trust in prepaid users to win their loyalty.

### Conclusion

This study determined the role of SQ, trust and commitment to CL for TSUs. We also checked the moderating role of gender, connection type and marital status in this model. A structural model was created based on 615 responses received from TSUs in India. We found that

Traditional*	Analogous dimension in the context of telecom service
<i>Responsiveness</i> , willingness to help customers and provide prompt services	Customer service (customer problems and answering inquiries) Technical support Service performance Processing speed (interactive, prompt response to customer requests and queries) Access (availability of alternative communication channels)
<i>Empathy</i> , caring and individualized attention a firm provides its customers	Understanding the customer Interactive fairness Sensation (e.g. human touch instead of automated responses) Communication (through the helpline, mobile application, chat room, e-mail, frequently asked questions, bulletin board, etc.) Personalization (e.g. multiple-language options)
<i>Assurance</i> , knowledge and courtesy of employees and their ability to inspire trust and confidence	Security (e.g. online transaction) Credibility, i.e. believability, trustworthiness and honesty of the service provider Confidence and trust in the service provider Privacy (e.g. sensitive information)

Source(s): Adapted from [Kalia \(2017\)](#), \*given by [Parasuraman et al. \(1988\)](#).

**Table 9.**  
Extrapolating  
traditional SQ  
dimensions in the  
telecom service context

responsiveness, assurance and empathy are important dimensions of SQ that can positively impact both commitment and trust. Whereas, tangibility had a significant positive influence on trust only. Further, a positive influence of commitment and trust on loyalty was observed. While checking the mediation effects, we noticed that both commitment and trust act as mediators between three SQ dimensions (assurance, empathy and responsiveness) and CL. Additionally, trust mediates between tangibility and CL as well. The MGA revealed the moderating effect of marital status, gender and connection type within the model. The customer data are drawn from India; therefore, the results can be generalized to TSUs in India (which is the second-largest telecom market) and other developing countries with similar market situations.

### Limitations and future directions

Despite the significant findings in the present study, there are some limitations. First, the data were collected from respondents in Northern India; future researchers can collect data from other regions of India to check for any differences. Second, a major classification used by the Telecom Regulatory Authority of India for reporting the data is based on urban and rural subscribers. Hence, a future study can use this classification to see the behavioral difference between the two. Third, the study is limited to a specific country, i.e. India, an emerging economy from the Asian region. There may be generalization issues due to the cultural and economic context. In the future, researchers can collect data from users of different continents to understand the similarities and dissimilarities. Fourth, a longitudinal study can better explain the actual consumer behaviors like loyalty and commitment than a cross-sectional analysis. Fifth, future researchers may include other variables like value cautiousness, brand reputation, customer switching behavior, customer experience, etc. Sixth, more demographic moderators like age, income, occupation and education can be included in the model. Seventh, this study has considered loyalty and commitment as a single-order construct. Future studies can explore loyalty (attitudinal and behavioral) and commitment (affective and calculative) in the second order.

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### Further reading

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