Effect of Service Quality, Price Fairness, Justice with Service Recovery and Relational Bonds on Customer Loyalty: Mediating Role of Customer Satisfaction

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Abstract

Customer loyalty has gained foremost attention among the practitioners and the academic researchers because of its proximity to organizational growth, profit and survival. Based on existing literature, this study has highlighted a few critical issues related to the telecommunication sector in Pakistan such as the decline in subscriber growth, decrease in average revenue, and the increasing trend of users switching among the telecom operators. The objective of the present study is to analyze the impact of perceived service quality, price fairness; justice to service and relational bonds on customer loyalty with the mediating role of customer satisfaction .the framework of the present study is based on the expectancy confirmation model and the principles of reciprocity. Data for the current study was collected from 539 prepaid subscribers based in four major capital cities of Pakistan through questionnaires by adopting the proportionate stratified random sampling. The collected data was analyzed by using SPSS version 23 and the Smart PLS Structure Equation Modeling (PLS-SEM). Findings of the study revealed that perceived service quality and customer satisfaction are the main driving forces to customer loyalty. Moreover, customer satisfaction successfully mediates between exogenous and endogenous variables. The present study has also suggested some theoretical and practical contributions.

Keywords: price fairness, Justice with service recovery, relational bonds, telecom sector.

1. Introduction

Over the last two decades, the world's businesses have shifted its focus from the industrial to consumer services. In terms of growth, the business category with highest growth is Telecommunication and ICT followed by Banking and other services sector, which recorded a 6% annual growth rate between 2008 and 2016 (ITU, 2017).The

telecommunication sector is a distinctive industry in many ways, particularly as it has undergone tremendous changes since its inception in 1875. In fact, it is not exaggerating to state that the industry has played a vital role in many ways. It has contributed significantly towards the National GDP as it has become a major source of employment. Furthermore, ICT has also helped the preservations of social ties among people across the globe (Galperin & Mariscal, 2007; Nimako, 2012; Shrivastava & Israel, 2010). In this regard, Since the early 1990s, the global demand for mobile communication services, including voice telephony; text messaging and mobile internet access have grown substantially (Lange & Saric, 2016).This increasing global demand for MCS (Mobile Communication Services) has started a stiff rivalry between different mobile network providers (MNPs) as newcomers compete to break the long-standing monopoly of a particular service provider in the sector in countries (Savin, 2017).

Customer loyalty has occupied the most prominent place in marketing theories and practices (Berry, 1995; Oliver, 1999) and as a field of research, customer loyalty remains the major area of concerns for the marketing practitioners and academic researchers (Grönroos & Helle, 2012; Gummesson & Grönroos, 2012; Izogo & Izogo, 2017; Ravald & Grönroos, 1996; Toufaily et al., 2013) due to its close link to profitability (Hallowell, 1996; Pitta et al., 2006; Reichheld & Sasser, 1990), organizational survival and growth (Bennet & Bennet, 2004; Pitta et al., 2006). Marketing academicians and practitioners have mentioned that the strategic goal of the organization lies in the enrichment of customer loyalty (Han & Hyun, 2012; Harris & Goode, 2004; Shafei et al., 2016; Toufaily et al., 2013).

A deeper understanding of customer loyalty in the telecommunication sector is essential because it will ensure the long term business growth and survival of a firm. However, there is an apparent inconsistency among marketing researchers and academicians on the grounds of conceptualizing the most significant predictor of customer loyalty. Moreover, studies on customer loyalty in Pakistan have mainly conducted in the banking industry (Hafeez & Muhammad, 2012; Khan & Fasih, 2014; Rasheed et al., 2015), Hospitality (Ashraf & Manzoor, 2017; Khan, 2013; Saleem & Raja, 2014; Ullah et al., 2016), Air line (Baloch & Jamshed, 2017), Health Malik et al. (2012) and the FMCG industry (Ishaq et al., 2014; Zaman et al., 2012).

The fierce competition and the high rate of switching among telecom have clearly signified the lack of loyalty among the telecom subscribers which can be clearly seen from the increasing trend of customer switching through MNP facility. In this regard, PTA (2014) report has highlighted that approximately 30 Million Pakistani mobile subscribers have been switched to different networks during the 6 years (2008-2014). Moreover, similar phenomenon is rightly addressed by Anjum et al. (2017) in their study by affirming that "Churn is still the biggest issue of the competitive telecom market of Pakistan as none of the company surveys achieved 75% coverage of the churn. In Pakistan, more than 40 million subscribers go unpredicted". In a nutshell, Telecom operators have lost substantial market shares due to the customer switching in the telecom sector. These huge prevailing switching trends among subscribers and inconsistencies in the various market segments are reflecting the lack of customer loyalty among the mobile phone subscriber in Pakistan telecom sector.

Studies on the manifestation of various antecedents of loyalty, like satisfaction, brand image, switching cost, service quality, pricing structure, switching barriers, commitment, perceived value, corporate image, trust, relationship marketing, sales promotion, relationship quality, social pressure, brand reputation, call rate quality, network quality, customer service, trustworthiness, equity, corporate social responsibility and service value have demonstrated examinations of the antecedents and this large number of antecedents denote the lack of agreement among academic researchers (Yaqub, 2017). Moreover, it embodies the mixed trends in the customers' behavioral and attitudinal responses towards antecedents of loyalty in the telecom sector. The lack of consensus is confined to the most significant antecedent of loyalty while some antecedents of loyalty e.g., satisfaction, trust, value have been over-examined in various research. This shows that the power of these antecedents on loyalty is unassertive (Ball et al., 2004; Chen & Cheng, 2012; Kuikka & Laukkanen, 2012; Richard & Zhang, 2012), forcing researchers to incorporate the other antecedents of loyalty. To fill this gap, the current study has investigate the impacts of the least researched antecedents of loyalty i.e. price fairness, justice with service recovery and relational bonds on customer loyalty particularly in telecommunication sector (Lima & Fernandes, 2015; Nazari et al., 2014; Nikbin et al., 2012)

Service quality, relationship bonds, perceived price fairness and perceived justice with service recovery are the major antecedents of customer loyalty used to gain a competitive advantage in the highly competitive industries (Olatokun & Ojo, 2016; Piaralal et al., 2014). Same as Telecommunication Sector (Awa et al., 2014; Bassey, 2014; Cheung et al., 2016; Thakur & Singh, 2011) but majority of these studies revealed mixed findings (Iddrisu et al., 2015; Yaqub & Halim, 2018).

To summarize, the prevailing switching trends in Pakistani telecommunication sectors signified the lack of customer loyalty among telecom subscribers. On contrary, a limited number of studies have addressed the most relevant determinants of loyalty in the telecom sector. Thus, this study has focus on the Pakistani telecom sector and incorporates the least researched constructs of loyalty like relational bonds, justice with service recovery, price fairness and examined the mediating role of customer satisfaction between various exogenous variables and endogenous variable.

Based on the problems stated in problem statement, the following questions will be answered to gain better understanding of research phenomenon. The main research question is:

RQ: what are the most authentic antecedents of customer loyalty in Pakistani sector?

Based on the preceding discussion, the research questions for the present study are as follows:

➢ What is the direct relationship between perceived service quality, perceived price fairness, relational bonds, and customer satisfaction to loyalty in the Pakistan telecom sector?

➢ What is the relationship between perceived service quality, perceived price fairness and relational bonds to customer satisfaction in the Pakistan telecom sector?

➢ To what extent does customer satisfaction mediate in the relationship between service quality, price fairness, justice with service recovery and relational bonds?

2. Literature Review

2.1 Customer Loyalty

Attainment of customer loyalty is the foremost important concern for the telecom operators due to sudden shift in paradigm from customer acquisition to customer retention. This phenomenon is well addressed Tidey (2018) by arguing that it's five times expensive to acquire new customer then to retaining the existing pool through customer loyalty. In view of some authors, customer loyalty has significant positive effect on organizational survivals and growth (Chadha & Kapoor, 2009; Cheng et al., 2010; Edvardsson et al., 2000). While, an array of few researchers linked customer loyalty with positive word of mouth (Wangenheim & Bayon, 2004), switching barrier (Balabanis et al., 2006) and willingness to recommend others (Keiningham et al., 2007).

Oliver (1999) defined loyalty as " deeply held commitment to a brand, product or service that customers wish to patronize a brand or service continuously and repeatedly in future without considering the factors urging them for switching and spreading positive word of mouth as well as willingness to recommend others" However, customer loyalty is lacking on conceptual and practical grounds despite of the enormous studies published in a volume of well rated journals (Pan et al., 2012). By following the same stream contemporary researchers has identified few critical issues that limit the generalizability and conceptualization of loyalty constructs. Kaur and Soch (2012) stated that The review of marketing literature contend that there is lack of consitencies found on the conceptulazation of loyalty. majority of the studies have concerted on the overall constructs loyalty i.e, (Chen & Cheng, 2012; Clottey et al., 2011; Jani & Han, 2014; Kumar & Srivastava, 2013; Lai et al., 2009; Muturi et al., 2013; Van Vuuren et al., 2012). While , Ball et al. (2004) stated that loyalty is more explained through communication than trust hereas, in view of some researchers customer satisfaction is the most significant construct of loyalty (Jani & Han, 2014; Kuikka & Laukkanen, 2012; Qayyum et al., 2013) but still few researchers stated that "satisfaction is necessaey but not the suffcent condition of loyalty" (Dixon et al., 2010; Izogo, 2013; Van Vuuren et al., 2012).

As of the lack of conformity on the conceptulization of customer loyalty, disparity also exist in the measurement of loyalty construct.an extensive review of past and contemporary studies have argued about the three methods of loyalty measurment; attitudinal loyalty, behavioral and composite loyalty. An array of past researchers (Bove et al., 2009; Fullerton, 2005; Kumar et al., 2006; Lam et al., 2004) opined that attitudinal and behavioral loyalty(Composite Loyalty) both are equally important and generate more comprehensive results when examine jointly. A behavioral loyal customer will show a repeated purchase and eager in the development of long term relationship with the firm (Jones et al., 2000). Moreover, in many studies attitudinal loyalty considered as the antecedent of behavioral loyalty (Bandyopadhyay & Martell, 2007; Carpenter, 2008; East et al., 2005; Pritchard et al., 1999; Reynolds & Arnold, 2000) but in view of others, attitudinal loyalty not an effective antecedent of loyalty, for example, Labeaga, Lado, and Martos (2007) recommended corporate image as compare to attitudinal loyalty as the more significant antecedent of behavioral loyalty. While, customer satisfaction was a significant antecedent of loyalty in view of (Reynolds & Beatty, 1999). Therefore, huge fragmentation exists among academic researchers towards loyalty conceptulization and measurement of loyalty construct.

2.2 Service Quality

Service quality has become a significant subject matter of debates in marketing literature. Service quality refers to the customer's overall perceptions about the services offered by the service provider (Zeithaml et al., 1996). Scholars argued that in order to achieve the desirable level, customer's expectations should be matched with the services delivered by the service providers (Parasuraman et al., 1985). Therefore, it is vital for the service provider to evaluate the service at every crucial stage of service delivery to improve their marketing strategies (Chen, 2016; Jain & Gupta, 2004; Tu et al., 2011).Many past works posited that service quality helps firms to compete successfully with their competitors (Dominic et al., 2010; Han et al., 2018; Johnson & Sirikit, 2002; Safari et al., 2017).This phenomenon is also evident in the competitive market like telecommunication (Al-Zoubi, 2013). As the customers are becoming harder to please due to their increasing exposures and abundance of alternative, the quest for the superior service quality is becoming more apparent. Therefore, accomplishments of superior service quality is gaining top priority in service marketing because it will bring about number of anticipated customer's actions such as positive word of mouth, decrease in customer complaints, improved customer satisfaction and loyalty, along with increasing firms performance (Karatepe, 2011; Lee, 2015; Mohtasham et al., 2017; Rostamy, 2009). Reviews of past and contemporary studies have revealed the service quality as the most significant predictor of customer loyalty in telecom and non-telecom sector. Besides, Numerous studies (Agyei & Kilika, 2013; Al-Zoubi, 2013; Hassan et al., 2013; Lee, 2015; Mokhtar et al., 2011; Nimako, 2012; Palamidovska-Sterjadovska & Ciunova-Shuleska, 2017) have confirmed the positive significant relationship between service quality and customer loyalty. Consequently, based on the above mentioned details researchers has drawn the following hypothesis.

➢ **H$_1$:** Service Quality has positive significant relationship with customer loyalty.

2.3 Price Fairness

Price perceptions have long being studied in diverse field of social sciences such as marketing and economics. It is generally agreed upon that a customer's perception of price can be evaluated in two ways: either it increases or it decreases customer satisfaction, which leads in turn to significant behaviors (Leinsle et al., 2018). For example, Konuk (2018) studied the impact of price perceptions on the customer satisfaction and their purchasing behavior. The results of the study confirms that price fairness perception positively affect their willingness to pay more upon their satisfactory experiences. Xia et al. (2004) defined Price fairness as "a consumer's assessment and associated emotions of whether the difference (or lack of difference) between a Seller's price and the price of a comparative other party is reasonable, acceptable, or justifiable". However, consumer recognize price unfairness when they pay higher prices than competitors (Ting, 2013). As of other elements of marketing mix, price is one of the most important element and has significant impact on customer buying decision (Kotler et al., 2017).

Hossain et al. (2017) Ascertain the significant positive association between perceived price fairness and customer retention in Bangladeshi telecommunication sector. Nazari et al. (2014) conducted a study in Iranian telecom sector and found a significant positive association of price fairness with price satisfaction and customer loyalty. In another

study, price fairness perceptions positively coupled with the word of mouth WOM and repurchase intentions (Nazwirman, 2015). Likewise Masih and Helmi (2017) found significant impact of price fairness on brand switching behaviors. While, contemporary researchers like Zietsman et al. (2019) establish price fairness as the most significant relational building tool in financial sector. in the similar vein , price fairness revealed the most significant predictor of customer satisfaction in Indian retail banking sector (Kaura et al., 2014). In a nutshell, we can assume that price fairness perceptions have significant impact on the consumer buying behaviors particularly in the formation of customer loyalty.

Consequently, the above details lead researchers to draw the following hypothesis.

➢ **H₂:** Price fairness has positive significant relationship with customer loyalty.

2.4 Justice with Service Recovery

Ha and Jang (2010) defined justice in service recovery as the equitable and rationale based response to service failures. Regardless of the firms' continuous efforts in providing the prompt services, service failure can occurred at any time. This phenomenon is more evident in telecom sector where telecom operators have to coupled with dual challenges; improvement in network quality and network extension simultaneously (Atta, 2016). But the growing numbers of complaints have clearly signified the inappropriateness of the initiatives took by the telecom operators (Atique, 2017). A justice based service recovery will reduce the intensity of customer satisfaction and will assist service provider to recover the intensity of damage caused from the service failure at initial stage, which in turn converted the dissatisfaction into satisfaction and therefore build the foundation for the attainment of customer loyalty in the long run (DeWitt et al., 2008b). In addition, subsequent studies (Abbas et al., 2015; Awa et al., 2014; DeWitt et al., 2008a; Mostafa et al., 2014) have also affirmed significant positive relationship between justice in service recovery and customer loyalty. Hence, in lieu of above details following hypothesis is proposed:

➢ **H₃:** justice in service recovery has the significant impact on customer loyalty.

2.5 Relational Bonds

Turner (1978) defined relational bonds as "the psychological, emotional, economic or physical attachment in a relationship that is fostered by association and interactions, and that serve to bind parties together under a relational exchange". Reviews of past and contemporary studies have revealed relational bonds as the most effective tool of relational development. The dominating role of relational bonds is rightly addressed Roberts, Varki, and Brodie (2003) by acknowledging that "one strategy that has gained the considerable attention is the relationship marketing strategy in which company invest in relational bonds to foster the loyalty in customers". Cited authors have further maintained that apart of attainment of customer loyalty, relational bonds also foster the long term relationship with customer. In the similar vein et al. (2015) has also affirmed the role of relational bonds as the most significant predictor of customer loyalty and long term relationship development. In addition, several contemporary studies have also affirmed relational bonds as an effective relational tools in various diverse industries (Kim & Kim, 2018). Likewise, Shammout (2018) study has reveals significant impact of relational bonds on attitudinal and behavioral loyalty in Jordanian hotel industry. While, Ragel and Newton (2017) conducted a study in Sri Lankan telecommunication

sector and affirmed a significant association between relational bonds and customer loyalty. In the similar vein, subsequent studies Abubakar & Mokhtar (2015a) & Anil Bilgihan et al. (2015) also established relational bonds as the most significant of customer loyalty.

Hence, the following hypothesis can be concluded on the basis of above scenario:

> **H₄:** Relational bonds have the significant impact on customer loyalty.

2.6 Customer Satisfaction

Customer satisfaction refers to the ability of product or service to meet or surpass the customers' expectation. Attainment of customer satisfaction is the ultimate objective of firms because this will serve as the baseline for the affirmation of customer loyalty and long term relationship development (Oliver, 1981). Customer satisfaction can be high or low and it's solely depends upon the ability of products or services to meet with the customer expectations (Alam et al., 2016; Gerpott et al., 2001). However, customer expectation fluctuate at rapid pace so meeting with the changing customer expectations is one of the most significant challenge for the firm (Hutcheson & Moutinho, 1998) . Therefore, firms must track the changing customer expectations in order to meet them appropriately (Santouridis & Trivellas, 2010). Numerious marketing reserchers such as (Aydin & Özer, 2005; Deng et al., 2010; Lai et al., 2009; Morgan & Govender, 2017; Nasir et al., 2014; Yeboah-Asiamah et al., 2016) has found the significant association between cusromer satisfaction and loyalty in the telecom sector.

2.7 Mediating Role of Customer Satisfaction

Since, service quality, price fairness, service recovery and relational bonds depends on the customer satisfaction if the customer will be satisfied then they may feel some sort of psychological or emotional attachments with the firm which will lead towards loyalty and retention. Similarly, customer satisfaction heavily depends upon the quality of services, customer fairness perceptions about prices and perception of justice in service recovery and relational bonds. So, based on this reciprocal relationship, customer satisfaction will be treated as a mediating variable to loyalty. Furthermore , several studies (Abubakar & Mokhtar, 2015a, 2015b; Alireza et al., 2011; Antón et al., 2007; Gu et al., 2016; Han & Ryu, 2009; Kandulapati & Bellamkonda, 2014; Mansori et al., 2014; Rashid et al., 2014; Rothenberger, 2015; Sarkindaji et al., 2015; Thakur & Singh, 2011) have confirmed mediating role of customer satisfaction between service quality, price fairness, justice in service recovery and relational bonds and customer loyalty. Hence, based on the above mentioned contexts, the hypothesis can be concluded as:
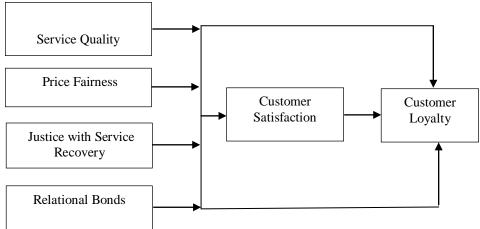
> **H₅a:** Customer satisfaction mediates the relationship between service quality and customer loyalty.

> **H₅b**: Customer satisfaction mediates the relationship between perceived price fairness and customer loyalty.

> **H₅c:** customer satisfaction mediates the relationship between perceived justice in service recovery and customer loyalty.

> **H₅d:** customer satisfaction mediates the relationship between relational bonds and customer loyalty.

2.10 Theoretical Framework

In the light of the literature review and following the insights from Oliver (1999) four stage loyalty model expectation confirmation model (Oliver, 1980) and principles of reciprocity (Falk & Fischbacher, 2006) this study has develop the following theoretical frame work (referred to figure 1) to test the mediating role of customer satisfaction between service quality, price fairness, justice in service recovery , relational bonds and customer loyalty.

Figure 1: Theoretical Framework

3. Research Methodology

3.1 Sampling & Data Collection

Current study has applied positivist approach of research methodology, in which data was collected through questionnaires (Hair Jr et al., 2016). The respondents of current study were all the prepaid subscribers located in four major cities of Pakistan i-e., (Karachi, Lahore, Peshawar and Quetta) the data was collected from the prepaid mobile subscribers from customer care centers of all the telecom operators located in these cities. Researcher was accompanied by ten enumerator in different composition in each city. More than 98 % of telecom subscribers are prepaid users. Furthermore, unlike postpaid subscribers they are not bound by any contract and therefore enjoy the more freedom then the postpaid subscribers. In addition to that, prepaid mobile subscribers have the major contribution in Pakistani telecom sector revenue as well as they are most taxed paid customers (PTA, 2017). More importantly, switching is most evident prepaid users' because of having the access to Mobile network portability (MNP) facility. Hence, based on the above mentioned grounds prepaid mobile subscribers were selected as the target population for the current study. In addition, proportionate stratified random sampling was employed to collect data from the respondents. The rationale behind proportionate stratified random sampling is that the sample size of each stratum is proportionate to the population size of the stratum. Furthermore, it will provides the likelihood of maximum representation of every member in each unit of strata in the population (Sekaran & Bougie, 2016). Moreover, five point Likert scale was used to measure the items of the questionnaires as proposed by Likert (1932).

The sample size for the current study was determine by following the basic guideline of Krejcie and Morgan (1970). Therefore, 384 initial sample size was determined because

population exceeds one million. However, due to the poor response of the previous studies (Chattha et al., 2016; Irfan et al., 2016). Therefore, 40% sample size was increased based on the recommendations of Salkind and Rainwater (2003) which is resulted into the working sample of 539.

3.2 Study Instruments

As stated earlier, current study has adopted positivist approach and therefore the focus of the researchers was just limited to analyze the data collected from the validated items adapted from the previous well known studies. The details of the items adapted are presented in the following table 1

Table 1: Summary of Constructs and Items

Variable	Source	No. of items	Cronbech,s Alpha
CL	Hassan et al. (2013)	04	0.80
CS	Lim et al. (2006)	05	0.89
SQ	Muturi et al. (2013), Aydin and Özer (2005)	07	0.98
PF	Srikanjanarak et al. (2009)	04	0.84
JSR	Nikbin et al. (2012)	14	0.89
RB	Lima and Fernandes (2015)	16	0.82

4. Data Analysis

Current study has used SPSS V.23 and PLS-SEM in conjunction with SmartPLS Software to test the hypothesized relationship between all the exogenous and endogenous variables. SPSS was used to perform the basic diagnostics tests like demographic profiles, test for non-biased, independent t- test, common method bias, data screening and preliminary analysis through missing value detection, assessment and removal of outliers and descriptive statistics of latent constructs. Furthermore, PLS-SEM was used by using SmartPLS software (Ringle et al., 2015) to analyze the data about the constructs and hypothesized relationship. There are several reason for choosing the PLS-SEM like it can examined the multiple relationship (Hair Jr et al., 2016). PLS-SEM is more better approach then CB-SEM approach (Hair et al., 2017). Moreover, PLS-SEM is a strong. flexible and more sophisticated tool for the model assessment as well as for predicting and testing the theory (Lowry & Gaskin, 2014; Ringle et al., 2014).While, Afthanorhan (2013) argues that PLS-SEM has the ability to bring up the best score for the confirmatory factor analysis (CFA) test. Moreover, Henseler et al. (2009) argue that PLS-SEM is more productive in handling of non-normal data because of its flexible assumptions about normality distributions of the variables.

4.1 Demographic Analysis

Following Table is detailing the information about the demographic profiles like, gender, age, income, city, occupation and education. Results revealed that out of 396 valid responses, 259 i.e. 65.4 percent are male and rest of 137 i.e. 34.6 percent female respondents. Moreover, Most of the respondents are from the age bracket of 21-35. This revealed that generation Y is actively engaged in the telecom sector which support the statistics reported in global telecom indicator (ITU, 2017). Further, subscriber's city wise break down is also reported i.e. Karachi is leading with 40.4 percent telecom subscribers followed by Lahore, Quetta and Peshawar. In addition to that, students were leading in

the occupation segment with 27.5 followed by professional and govt. employees with 2.15 and 21 percent. This shows those students (Generation Y) are actively involved in telecom industry. While, majority of respondents i.e. 38.90 percent are having master level education followed by undergraduates and MS/M.phil with 27.80 percent and 16.40 percent respectively. Finally, majority of the respondent fall into 25000-50000 income bracket i.e. 28.5 percent followed by 10,000-25,000 i.e. 24.0 percent and above 50,000 i.e. 24.2 percent respectively.

4.2 Assessment of PLS-SEM Path Model

By following the guidelines of Henseler et al. (2009), two step procedure of PLS-SEM were applied to report and evaluate the outcomes of PLS-SEM. Likewise, Hair et al. (2011) and Wilson (2010) have recommended to perform outer model assessment and inner model assessment for PLS-SEM path model assessment as proposed by Henseler et al. (2009).

The first step of using PLS-SEM analysis is the assessment of model, or also known as the outer model. Main activates carried out in assessment of measurement model consisting of indicator reliability, internal consistency reliability , convergent validity and discriminate validity (Hair, 2010; Hair et al., 2011; Hair Jr et al., 2014).The main objective of this step is to determine the goodness of measure through validity and reliability tests (Hair et al., 2013; Ramayah et al., 2011).

Current study has employed PLS structural equation modeling while using the software application SmartPLS (Ringle et al., 2015) for estimating the theoretical model. This software is based on two multivariate techniques; factor analysis and multiple regressions (Hair, 2010). It is very imperative to configure the model for the easily recognition and understanding before conducting SEM-PLS analysis. In order to do this, constructs nature must be clearly mentioned in terms of reflective or formative. It is very important to note that determination of the nature of construct is very important because the measurement model of reflective constructs and formative constructs are different in nature (Hair et al., 2013; Lowry & Gaskin, 2014). In this study, price fairness was reflective while perceived service quality and relational bonds were formative followed by perceived justice in service recovery as reflective formative construct. Furthermore, the analysis is based on the combinations of first order and second order constructs. In terms of the sequence of relationship among the construct used in this study, there are five exogenous latent variables including four independent variables (service quality, price fairness, perceived justice in service quality and relational bonds) , one mediating variable (customer satisfaction) while customer loyalty as the dependent variable.

4.2.1 Individual Items Reliability or Indicator Reliability

Current study has measured the individual items reliability or indicator reliability trough the assessment of outer loading of each construct consistent with PLS-SEM procedure (Hair Jr et al., 2014). Hair Jr et al. (2014) argued that "indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when deleting the indicator leads to an increase in the composite reliability or the average variance extracted above the suggested threshold value". A total 10 indicators (PF1,DJ2,PJ3,IJ4,SBI,CB1,CB3,CS4,CL1,CI1) were deleted because of the poor loading as per the above mentioned criteria. Therefore, 42 items were retained in the model because they had loadings between 0.612 and 0.897 as shown in the table 5 and Figure 2.
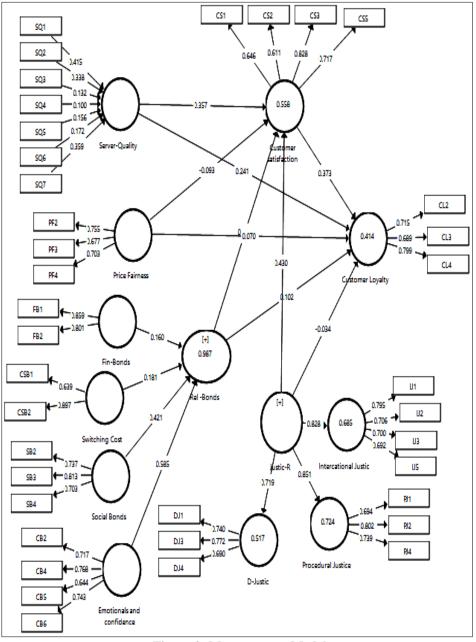
Figure 2: Measurement Model

4.2.2 Internal Consistency Reliability

Internal consistency reliability statistic are used to for the measurements of reflective constructs only (Chin, 1998) In organizational research, Cronbach's alpha and composite reliability are employed to measure the internal consistency reliability(Bacon et al., 1995; McCrae et al., 2011). However, composite reliability is considered the most reliable tool

then Cronbach;s alpha .Therefore, in the current study internal consistency reliability was measured through composite reliability (CR). Moreover, CR varies between the ranges of 0 and 1; and the threshold value preferred to be not less than 0.60 (Henseler et al., 2009) , but values fall between range of 0.70 and above is more appropriate (Hair et al., 2012). As shown in table 4, the CR values of all the constructs used in this study fall between the range of 0.75 and 0.86 and therefore falling above the acceptable range of 0.70 (Hair et al., 2012). Hence, it is indicating that there is adequate internal consistency reliability between the latent constructs of this study (Bagozzi & Yi, 1988; Hair et al., 2011).

4.2.3 Convergent Validity

Carlson and Herdman (2012) define convergent validity as "the extent to which two measures capture a common construct". By following the recommendations of Henseler et al. (2009)&Hair et al. (2012).In this study, we have examined the convergent validity through average variance extracted (AVE) of each latent construct. in order to ascertain the convergent validity through AVE value, the recommended threshold value of AVE is 0.50 and above (Hair et al., 2012; Henseler et al., 2009) . The AVE value of 0.50 or above shows the ability of the latent variable to explain the half of the variance of its indicators and therefore confirmed the adequate convergent validity (Hair et al., 2012; Henseler et al., 2009). Consequently, the values of AVE of all the constructs of this study fall between 0.50 to 0.69 (table 2). Therefore, based on these results convergent validity is confirmed in all the constructs of this study.

Table 2: Items loadings, Composite Reliability and AVE Values

First Order	2nd Order	Item	Loading	CR	AVE
Emotional and confidence		CB2	0.717	0.811	0.518
		CB4	0.768		
		CB5	0.644		
		CB6	0.743		
Switching Cost		CSB1	0.638	0.749	0.606
		CSB2	0.897		
Social Bonds		SB2	0.737	0.796	0.566
		SB3	0.812		
		SB4	0.703		
Fin-Bonds		FB1	0.859	0.816	0.689
		FB2	0.801		
D-Justice		DJ1	0.739	0.779	0.540
		DJ3	0.772		
		DJ4	0.690		
Interactional Justice		IJ1	0.795	0.815	0.525
		IJ2	0.706		
		IJ3	0.700		
		IJ5	0.692		
Procedural Justice		PJ1	0.694	0.790	0.557
		PJ2	0.802		
		PJ4	0.739		
	JSR	D-j	0.719	0.843	0.642
		I-J	0.828		
		P-J	0.851		
		CI5	0.723		
Customer Loyalty		CL2	0.695	0.779	0.541
		CL3	0.697		
		CL4	0.809		
Customer satisfaction		CS1	0.645	0.796	0.500
		CS2	0.612		
		CS3	0.828		
		CS5	0.717		
Price Fairness		PF2	0.756	0.755	0.508
		PF3	0.677		
		PF4	0.703		

4.2.4 Validation of Formative Constructs

The formative constructs are validated through the convergent validity, the valuation of co linearity among the construct items and the significance along with the relevance of formative items to formative construct. Perceived service quality and financial bonds are formative constructs of this study. Perceived service quality is based on 7 items ranging from SQ1 to SQ7. Whereas, Relational bonds were consisting of 4 broad dimensions including Emotional and confidence bonds, switching cost bonds, financial bonds and social bonds consisting of 11 items. In order to assure the significance of formative

constructs (Relational Bonds and service quality) to the latent construct, Hair Jr et al. (2014) has purposed two conditions. Firstly, is to examine the non-linearity in the constructs through VIF. Whereas, the acceptable range is either 0.20 or more or less than 5 (Hair Jr et al., 2014). Secondly, to determine the significance of statistical contribution of all the items and constructs with the main concerning construct.

Table 3: Outer Weights, VIF, T-Values of Formative Constructs

Variable	Items	Weight	VIF	T-Value
Relational Bonds	Emotional and confidence Bonds	0.422	1.444	15.389
	Financial Bonds	0.180	1.343	6.592
	Social Bonds	0.585	1.419	17.820
	Switching Cost Bonds	0.160	1.331	5.297
Service Quality	SQ1	0.416	1.361	5.432
	SQ2	0.336	1.344	4.814
	SQ3	0.135	1.613	1.607
	SQ4	0.102	1.495	1.379
	SQ5	0.156	1.381	2.129
	SQ6	0.169	1.269	2.394
	SQ7	0.358	1.154	6.466

Table 3 demonstrated the formative scales of relational bonds and service quality along with their weighted item scores, VIF scores and results of T Statistics-values. Since, VIF values (depicted in table 5) are less than 5 indicated the non-linearity issues in both formative constructs (i-e, Relational bonds and Service Quality). Moreover, the outer Weight values of both formative construct referring enough contribution to the main construct. Admittedly, outer weights of all the formative constructs are above 0.1 threshold level as determined by Hair Jr et al. (2014), this surely confirmed their relative contribution towards the main construct (Hair Jr et al., 2014). Therefore, based on the above findings both the reflective and formative constructs used in this study are empirically valid and reliable for the further analysis.

4.2.5 Discriminate validity

Ab Hamid et al. (2017) define "Discriminate validity is referring to the extent in which the construct is actually differing from one another empirically". The differences between overlapping constructs can also be measured through discriminate validity (Hair Jr et al., 2014). Discriminate validity is evaluated through items comparison in cross loading and Fornell & Lacker criterion. Under the cross loading approach, the factor loading of the items of the assigned constructs must be higher than the factor loading score of the other constructs while maintaining the threshold value of 0.60 or above (Hair et al., 2011; Hair Jr et al., 2014). The second criterion for the measurement of discriminate validity is Fornell & Lacker criterion. Discriminate validity is affirmed when the AVE square route of every single construct is higher than the construct's highest correlation with any other latent construct(Hair et al., 2013; Henseler et al., 2009). As a rule of thumb, the AVE score of square root of each construct must be higher than 0.50 (Fornell & Larcker,

1981). Therefore, the discriminate validity has been affirmed because the contracts and items (in bold) have dully justified the threshold requirements of both the tests (see table 4).

Table 4: Fornell-Larcker Criterion

	CL	CS	JSR	PF	RB	SQ
Customer Loyalty	**0.736**					
C. Satisfaction	0.592	**0.705**				
J Serv. Recov.	0.498	0.693	**0.800**			
Price Fairness	0.367	0.367	0.533	**0.712**		
Relational Bonds	0.482	0.582	0.735	0.571	**Formative**	
Service Quality	0.562	0.661	0.669	0.487	0.613	**Formative**

4.3 Assessment of Significance of the Model

The next step after the measurement of structural model was the valuation of structural model. By following the recommendations of Chin (2010), standard bootstrapping procedure was employed with 5000 bootstrap samples and 396 data cases to examine the significance of path coefficient.

4.3.1 Coefficient of Determination (R^2)

Coefficient of determination (R^2) of endogenous latent variable is amongst the most adopted criteria for the assessment of structural model (Hair et al., 2013). Furthermore , Cohen (1988) argued that (R^2) values of 0.02, .13 and 0.27 indicate weak, moderate and substantial (R^2) values. Nevertheless, Results (R^2) value customer satisfaction to customer loyalty 0.558 which is also highly substantial as per the criteria of (Cohen, 1988). The (R^2) value is higher than the reported values of the other relevant studies (Muturi et al., 2013) and (Ahmad et al., 2010; Irfan et al., 2016). The obtained (R^2) values specifies that the entire four exogenous variable combined together explains 55 % variance In mediating variable of customer satisfaction to customer loyalty in the model which are highly substantial. Therefore, R^2 values confirmed that the model of current study has the substantial predictive validity.

4.3.2 Assessment of Effect Size (f^2)

Hair et al. (2013) Stressed upon the need to assess the effect size (f^2) after the assessment of coefficient of determination (R^2) of endogenous variable. Effect size refers to the difference in (R^2) between the main effects after elimination or presence of any particular exogenous variable in the model. The main purpose of assessment of effect size is to determine the impact of omitted exogenous variable on the latent endogenous variable. More particularly, to determine whether omitted exogenous variable has the substantial effect on the latent endogenous variable (Hair et al., 2013). The following formula has been employed to calculate the effect sizes of the entire constructs in order to determine the effect sizes in terms of no, small and large effect sizes ranging from 0.02, 0.15 and 0.35 respectively as proposed by (Cohen, 1988). However, Chin (2003) argued that even the smallest f^2 can have a substantial effect on the endogenous latent variable.

$$f^2 = (R^2 included - R^2 Excluded)/ 1- (R^2 included)$$

Likewise, the effect sizes of the entire constructs of this study are substantial.

4.4 Hypothesis Testing

The confidence intervals of path coefficients were determined though the bootstrapping technique. The bootstrapping techniques uses the repeated random sampling with replacement from the original sample in order to create a bootstrap sample which eventually obtains standard errors for hypothesis testing. Consequently, bootstrapping was run on 5000 sample sizes by following the recommendations of previous researchers. Therefore, eleven out of fifteen hypotheses support the formulated hypothesis by using a significant level of $p < 0.01$ as shown in the table 5 and presented in figure 2.

4.4.1 Direct Relationship

As stated earlier, researchers have employed PLS-SEM for analyzed the hypothesized relationship through bootstrapping technique. First, of all direct relationship between four exogenous variables (SQ, PF, JSR & RB) with endogenous variable (Customer loyalty) was measured. The hypothesized relationship between the construct are measured through beta-coefficient β, standard deviation, t- value and p- value (table 5).Beta-coefficient is used to assess the intensity and the nature of relationship between the constructs of the study. The output values of beta-coefficient signified the direction of relationship i.e. positive or negative. Consequently, the beta values fall between i.e. SQ→CL, 0.133 to -0.080 for JSR→CL. Moreover, t-values and p-values define the significance of hypothesized relationship. Out of four direct hypothesized. Only, H_1 (service quality and customer loyalty) is found supported (table 5).

Table 5: Hypothesis Results in Direct Relationship

Hypot hesis	Path	β	S.D	t-value	p-value	Results	5.0 %	95 %
H_1	PSQ →CL	0.133	0.07	1.95	0.03	Supported	0.08	0.23
H_2	PP F → CL	0.059	0.05	1.10	0.14	Not Supported	-0.03	.015
H_3	JSR → CL	0.012	0.07	0.17	0.43	Not Supported	-0.19	0.04
H_4	RB → CL	-0.080	0.07	1.11	0.13	Not Supported	-0.11	0.13
H_5	PSQ →CS	0.361	0.05	7.65	0.000	Supported	0.26	0.42
H_6	PP F → CS	0.093	0.04	2.12	0.017	Supported	0.17	0.03
H_7	JSR → CS	0.430	0.06	7.31	0.000	Supported	0.01	0.19
H_8	RB → CS	0.100	0.06	1.72	0.043	Supported	0.34	0.53
H_9	CS →CL	0.327	0.07	4.83	0.000	Supported	0.22	0.44
H_{10}	CI → CL	0.355	0.05	6.341	0.000	Supported	0.26	0.45

Next, the hypothesized relationship between four exogenous variables (SQ, PF, JSR & RB) with the mediating variable i.e. customer satisfaction have been examined. As described in the above table, the entire four construct were found supported into their relationship with customer satisfaction (Reported in table 5).

4.5 Mediation Analysis

Mediation tests in PLS-SEM are evaluated through measuring the significance of path coefficients through bootstrapping. Whereas, according to Hair et al. (2013) actual mediation is performed through comparing the means of bootstrap analysis in tandem along with formulated hypothesis. Specifically, mediation tests of this study are performed to ascertain that whether customer satisfaction will mediate between the relationship of four exogenous variables (SQ, PF, JSR, and RB) and endogenous variable (LOY). Results of the mediation test are presented the following table 6.

Table 6: Results of Mediation Tests

Hypothesis	Path	S.Beta	St. Dev.	T Stat.	P- Values	2.50%	97.50%	Result
H_9	PSQ→CS→CL	0.190	0.033	5.825	0.000	0.124	0.255	Supported
H_{10}	PF→CS→CL	0.055	0.026	2.103	0.036	-0.102	-0.006	Supported
H_{11}	JSR→CS→CL	0.284	0.042	6.687	0.000	0.184	0.360	Supported
H_{12}	RB→CS→CL	0.057	0.040	1.428	0.154	-0.013	0.134	Not-Supported

$P > 0.1*$, $P > .05**$, $P > 0.01***$

Furthermore, the mediation test is performed by following the Preacher and Hayes (2004) approach (depicted in table 6). According to this approach, the direct and in-direct relationships are assessed by flowing the smartPLS through bootstrapping technique see figure 3. Results (displayed in table 6) confirm the significant indirect relationship between service quality and customer loyalty (S.D= 0.033, t = 5.825, p <0.000) confidence interval value (UL 0.124 and UP 0.255).Therefore, Hypothesis H_9, which predicted the meditational role of customer satisfaction in the relationship between service quality and customer loyalty is accepted. While hypothesis H_{10} which was based on the mediation role of customer satisfaction on the relationship between price fairness and customer loyalty is also accepted based on the results (S.D= 0.026, t = 2.103, p <0.036) with confidence interval value (UL -0.102 and UP -0.006). Regarding hypothesis H_{11}, which was about the mediation effect of customer satisfaction on the relationship between justice with service recovery and customer loyalty, the results (S.D= 0.042, t = 6.687, p <0.000) with confidence interval value (UL 0.184 and UP 0.360). Hence, this confirmed significant indirect relationship between justice with service recovery and customer loyalty. In light of these results, H_{14} is supported. Moreover, H_{12} was about the mediation of customer satisfaction between relational bonds and customer loyalty is rejected (S.D= 0.040, t = 1.428, p <0.154) with confidence interval value (UL -0.013 and UP 0.134). Therefore, results of H_{12} counteract indirect relationship between relational bonds and customer loyalty through customer satisfaction.
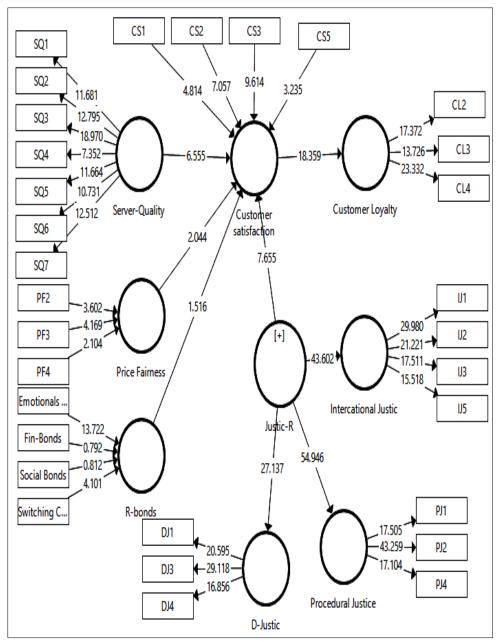
Figure 3: Mediation Results

5. Discussion and Conclusion

The basic objective of this study was to examine the antecedents of loyalty among prepaid mobile subscribers in Pakistani telecom sector. The empirical results show the direct positive association between service quality and customer loyalty. While, rest of the three predictors of customer loyalty (price fairness, justice with service recovery and relational bonds) have revealed in-significant in the direct relationship with customer

loyalty. Therefore, based on the results, out of four hypothesis in direct relationship (H_1, H_2, H_3, H_4), only H_1 was accepted. The empirically result have clearly figure out the importance of service quality as the most significant predictor of customer loyalty in the telecom sector. This shows that if telecom operators will delivered the service quality through prompt network quality, superior value added service as well as improving the ambiance of their service centers along with ensuring the careful and individualized attention of the customer care center staff backed up by the fastest responses against the subscriber's queries then it will enhanced the customer loyalty. The result of this study is also in tandem with previous studies (e.g., Al-Zoubi, 2013; Liu, Guo, & Lee, 2011; Muturi et al., 2013; Nazari et al., 2014; Tabaku & Çerri, 2015) On Contrary, the empirical results of indirect relationship of all the independent variables with the customer satisfaction revealed significant positive association i.e. service quality price fairness Justice in service recovery and relational bonds previous studies i.e. (e.g., Angelova & Zekiri, 2011; Joosten, Bloemer, & Hillebrand, 2017; Nazari et al., 2014; Olatokun & Ojo, 2016; Ragel & Newton, 2017) also revealed the significant positive association between service quality , price fairness , justice with service recovery , relational bonds and customer satisfaction in the telecom sectors of various countries. Therefore, based on the empirical results all the hypotheses i.e. H_5, H_6, H_7, H_8 were supported. The results reflected that the indirect relationship of the entire construct are positively significant that shows their ability to satisfy the customers through maintaining the adequate service quality , maintaining fair prices , justified or equitable service recovery and delivering the appropriate bonds. Moreover, the findings of the study confirm the meditating role of customer satisfaction between service quality, price fairness, justice with service recovery and customer loyalty relationship. While, customer satisfaction set out no mediation between relational bonds and customer loyalty relationship (see table 11 and figure 3). Hence, hypothesis H_9, H_{10}, H_{11} are supported and H_{12} was not supported based on the statistical results i.e. The meditational results of current study are in line with the past and contemporary studies conducted in diverse telecom sectors (Adeleke & Suraju, 2012; Gu et al., 2016; Nikbin, Marimuthu, Hyun, & Ismail, 2015) . Moreover, the four predictor i.e. service quality, price fairness, justice with service recovery and relational bonds revealed good predictors of customer loyalty i.e. R-square = 55.80 percent.

5.1 Theoretical Contribution

In Pakistan, researchers pay less attention to incorporating the contemporary determinants of loyalty like relational bonds, justice with service recovery and price fairness perception. However, all of studies have been conducted in determining the loyalty constructs but majority of the studies revolved around the most common constructs like satisfaction, perceived value, commitment and trust. Moreover, the influencing powers of these constructs were unassertive. Further, current study is amongst the pioneer for examining the complex relationship between various least considered construct through mediation analysis. Current study will enriched the existing literature of customer relationship management while incorporating the Oliver's 4 stage model, Expectancy confirmation model and Reciprocity theory. The outcome of the study has enriched the existing body of knowledge on customer satisfaction, and customer loyalty while reinforcing the perceived service quality as the main predictor of customer satisfaction and loyalty in Pakistani telecom sector. In addition to that, current study has

followed the suit in the continuum as proposed by the Oliver's 4 stage model as the formation of customer loyalty (action loyalty) through the in-direct association between service quality & price fairness (cognitive loyalty), customer satisfaction (formative loyalty) and conative loyalty (Oliver, 1999). Furthermore, the study has dully verdict the basic principles of expectancy confirmation model (Oliver, 1980) and reciprocity theory (Falk & Fischbacher, 2006).

5.2 Practical Contribution

This study has offer several managerial contributions. The outcome of the study will provides strong foundations for the planning and execution of loyalty initiatives for the practitioners, especially to the cellular mobile operators in Pakistan. Nevertheless, service quality is revealed as the most significant predictor of customer satisfaction loyalty. The result is in line with the argument of Santouridis and Trivellas (2010) more focus on service quality mainly in the telecommunication sector because of the having the high teledency and penetration rate as of Pakistan i.e. 73 %. Therefore, cellular mobile operators should strategize and invest more on service quality. Likewise, study has also highlighted the importance of customer satisfaction as a bridge between exogenous variables (service quality, price fairness, justice in service recovery & relational bonds) to form the endogenous variable i.e. customer loyalty. This result is in line with the argument given by Irfan et al. (2016) that telecom operator must take the customer satisfaction as the focal point concern because of having the significant positive association with customer loyalty and being the significant intervening variable between exogenous and endogenous variables. In light of the above findings, telecom operators must think out of the box and implement the proven based strategies as highlighted by the findings of the study.

5.3 Limitations and Future Research Directions

Despite of the enormous contribution addressed earlier, current study has some limitation. Customer loyalty is very complex and dynamic in nature. Therefore, the factors or predictors that shaped the customer loyalty out to change under various situations. Particularly, the advents of OTT players and MNP facilities have substantially affected the telecom sector. It therefore, factors shaping the customer loyalty may change considerably under the various situations. The cross sectional nature of data also represents some limitation, because the data was collected from the prepaid mobile subscribers during a prescribed time period which will probe about the customer's evaluations sticking to that period of time period and therefore, characterizes the possibility of different findings under different time frames. The context of the study also represents another limitation; as such the study is conducted in Pakistan so the findings from the study cannot be generalized for the other part of the world. Hence, provides a room for future researchers in any other part of the world for the better generalizabilty. In addition to that, the R-square value of latent constructs i.e. 52 percent indicated that rest of the 48 percent loyalty can be explained through other variables. Therefore, future studies can include the additional predictors like switching costs, switching barrier, commitment, trust, value etc. There is also room for the studies to be conducted in other sectors like banking, restaurant, airline, B2B with additional variables and suitable theories. Finally, in this study data was collected from the prepaid mobile subscribers only future studies can include the insights of postpaid mobile subscribers for observing the variations among them. More particularly as argued by Moreira, Silva, and Moutinho

(2016) to investigate the difference between two emerging groups i.e. stayers and switchers(stayers are those subscribers who never switched while switchers are those who have joined the operator through MNP facility or voluntary churn out) as the research in this area is still at infancy.

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