

# Antecedents of Customer Loyalty in The Telecommunications Industry -Evidence from Bangladesh

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**Abstract:** *This study primarily investigates the factors that impact customers' loyalty in the Bangladeshi context of the telecommunications industry. The Theory of Reasoned Action (TRA) is used as the underlying theory to explain customers' loyalty. A quantitative research strategy was employed, and data were collected through a self-administered questionnaire survey. With 360 out of 382 collected questionnaires being usable for analysis, resulting in a 94.24% usable data response rate. Partial Least Square Structural Equation Modeling (PLS-SEM) with the assistance of Smart PLS 4.0 was used to analyze the collected data. The study's findings indicate that price and consumers' trust significantly affect customer satisfaction and loyalty in telecommunications industry of Bangladesh, allowing telecommunications industry managers to identify the specific antecedents of loyalty and focus their policies on these, particularly in terms of price and consumers' trust in Bangladesh. While the validation of this model in the telecommunications sector provides a novel perspective on comprehending customer loyalty from both theoretical and practical standpoints, it is important to acknowledge that there might exist additional factors influencing customer loyalty that warrant inclusion in future research endeavors. This research is one of the few to conceptually underpin the theoretical concept of exploring customer loyalty in a developing country like Bangladesh. Similarly, these findings may be applicable to other similar developing countries.*

**Keywords:** *Customer Loyalty, Customer Satisfaction, Consumer Trust, Price Sensitivity, Telecommunication Industry, Service Quality, Smart PLS.*

## 1.0 Introduction

The telecommunications industry plays a crucial role in the economic progress of a nation. It has a significant impact on various sectors like education, healthcare, and banking. In Bangladesh, the telecommunications sector has experienced rapid growth in recent years (Rahman & Chowdhury, 2022), where it is imperative for businesses to understand the factors that impact customer loyalty (Morgan & Govender, 2017). Loyal customers are valuable as they can serve as

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brand advocates, spreading positive word-of-mouth about the brand (Narasimhan, 2004). However, effective strategies for customer retention rely on a comprehensive understanding of the factors that contribute to customer loyalty (Makurumidze et al., 2022). Bowen and Chen (2001) define loyal customers as those with favorable attitudes toward a company, committed to repurchasing, and recommending the product to others. Companies prioritize cultivating loyalty because of retaining existing customers is more cost-effective than acquiring new ones (Lee-Kelley et al., 2003).

Many companies employ loyalty programs as a means to retain customers and maintain competitiveness. Prior studies have thoroughly investigated the variables that influence consumer loyalty and happiness, utilizing theories such as Social Exchange, Expectancy, and Theory of Reasoned Action (TRA) to redefine loyalty. According to Iglesias et al. (2020), consumer loyalty is significantly influenced by trust and corporate social responsibility (CSR).

***1.1 Justification of the study***

Bangladesh's telecom sector, led by major players like Grameenphone, Banglalink and Robi, indulge in intense competition and high customer turnover. This industry significantly impacts other sectors like education and healthcare (Ahsan, 2017), driving the need to understand what drives customer loyalty to maintain their competitive edge. Its insights will aid telecom firms in bolstering retention strategies, expanding market share, and fostering economic growth (Dey et al., 2019). Policymakers can also use these findings to craft effective industry policies (Ali et al., 2018). Additionally, this study lays the groundwork for comprehending customer loyalty in Bangladesh's telecom industry, paving the way for future research.

The lack of research on customer loyalty in the telecommunications industry in Bangladesh necessitates this study's significance (Dey et al., 2019), as most existing research has primarily focused on developed countries, highlighting the need for context-specific studies (Kumar et al., 2021). This research also significant in enhancing current literature, guiding companies in enhancing their customer retention strategies, aiding policymakers in formulating industry-enhancing policies, and filling the research gap in customer loyalty within the Bangladeshi telecommunications sector.

***1.2 Objectives of the study***

The primary aim of this research is to thoroughly analyze the factors that exert influence on customer loyalty within the telecommunications industry of Bangladesh.

***Specific Objectives:***

- To investigate the factors that significantly impact customer loyalty through the lens of customer satisfaction in the telecommunications industry.
- To explore and assess the direct influence of customer satisfaction on customer loyalty in the telecommunications industry.

- To conduct a comprehensive analysis of control variables that may affect both customer satisfaction and customer loyalty in the telecommunications industry.

## 2.0 Literature Review

### 2.1 *The foundational framework - based on the Theory of Reasoned Action (TRA)*

Ajzen's (1991) Theory of Reasoned Action (TRA) forms the theoretical cornerstone of this study, highlighting the significant impact of individual intentions and motivation on behavior. TRA provides a robust framework for understanding the intricate relationship between consumer attitudes and behavioral intentions, making it well-suited for investigating the influence of factors like brand image, price, service quality, switching costs, and consumer trust on consumer satisfaction. Within the TRA framework, attitude towards the behavior and subjective norms play crucial roles in shaping the intention to engage in a specific behavior (Hansen et al., 2004).

Aligned with TRA, the researchers have developed a conceptual model (Figure 1) emphasizing the influence of customer satisfaction on users' continuance intention, serving as a substitution for loyalty. The rationale for employing TRA in this context lies in its ability to elucidate the complexities of consumer attitudes and their subsequent impact on behavioral intentions, such as continued product or service usage (Lam & Hsu, 2006). Ajzen's (1991) extension of TRA into the Theory of Planned Behavior (TPB), incorporating 'Perceived Behavioral Control,' further underscores the ongoing applicability of TRA-related concepts in understanding and predicting consumer behavior.

The concept of perceived behavioral control within the TRA framework revolves around an individual's perception of their ability to perform a behavior (Ajzen, 1991). In this study, factors such as ease of use, accessibility, and personal capabilities may fall under perceived behavioral control. For instance, if a consumer perceives it as easy to continue using a product or service (low perceived behavioral control), this perception may influence his/her satisfaction and loyalty.

### 2.2 *Factors Affecting Customer Satisfaction and Loyalty*

Drawing upon the existing literature (Deng et al., 2010), this study primarily examines the influence of five key factors on customer satisfaction and loyalty within the telecommunications industry in Bangladesh. The factors under investigation include Brand Image, Price, Service Quality, Consumer Trust, and Switching Cost.

#### 2.2.1 *Brand Image*

The term "brand" encompasses distinctive features, such as a name, symbol, sign, term, or design, utilized to identify the origin of a product or service (Lai et al., 2014). In contrast, brand image involves a set of values and beliefs that enable consumers to form a comprehensive impression of a firm's offerings, which significantly influences consumer satisfaction and loyalty by fostering positive

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relationships (Kaur and Soch, 2013). According to Chen et al. (2022) and Wu et al. (2011), loyalty and satisfaction are likely to develop when consumers choose products or services from reputable companies. Conversely, a negative brand image has the opposite effect, leading to customer dissatisfaction and diminished loyalty (Yazid et al., 2020). Dam and Dam (2021) introduce a nuanced perspective, highlighting brand image as a multifaceted element crucial for consumer loyalty, demanding vigilant attention from customers to comprehend the evolving dynamics of a company. Despite existing findings, Hu et al. (2009) advocate for additional assessment and testing to further validate the relationship between brand image and customer satisfaction.

As Telecommunications companies' image is crucial for providing information, distinguishing among brands, and offering compelling reasons for consumer purchase decisions (Manzoor et al., 2020), the following hypothesis has considered for this study:

*H1: Brand image positively influences consumer satisfaction in the telecommunication industry.*

**2.2.2 Price**

Consumers see price as the cost of getting a product or service. In the competitive telecom industry, price hugely affects what consumers choose (Al-Hawary, 2013), though subscribers' usage habits or service bundles can affect their telecom costs (Ribeiro et al., 2023). Determining telecom prices involves legal rules, government policies, customer willingness to buy, profit margins, and competition levels (Khatibi et al., 2002). The link between price, satisfaction, and loyalty varies in research. Price matters for satisfaction and loyalty in places like Jordan (Al-Hawary, 2013) and Nigeria (Inegbedion & Obadiaru, 2019), but other studies haven't found a clear link (Uddin, 2019).

The ability to compare prices among providers (Al-Hawary, 2013) makes consumers more sensitive to price changes, a sensitivity that is mitigated by higher satisfaction with pricing. Melović et al. (2014) found that content customers with a company's pricing tend to exhibit higher loyalty. Consequently, this study posits the following hypothesis:

*H2: Price positively influences consumer satisfaction in the telecommunication industry.*

**2.2.3 Service Quality**

Service quality evaluation comprises technical quality, pertaining to tangible outcomes upon purchase, and functional quality, emphasizing service presentation and delivery. The alignment of provided service with customer expectations denotes high quality and satisfaction (Rashid & Rokade, 2019). Several studies consistently highlight service quality's profound impact on customer satisfaction, loyalty, and telecom providers' overall performance. For instance, Cronin et al. (2000) emphasize role of service quality in shaping satisfaction and loyalty in telecom industry, and Nsiah and Mensah (2014) on better customer retention. Thus, it can be posited that:

*H3: Service quality influences consumer satisfaction in the telecommunication industry.*

#### **2.2.4 Consumer Trust**

According to McKnight et al. (2002), trust involves both a belief in and an intention to trust which reflects the willingness and intention of individuals to rely on the service provider. In the era of electronic and mobile commerce, customers have little power over business agreements, therefore they must trust service providers not to be unfair or opportunistic (Gefen, 2002), which is essential for developing and sustaining relationships (Lee & Turban, 2001). During subscription, mobile phone users must provide their address, national ID number, and phone numbers to select telecommunication service providers. When consumers see no hazards or unexpected disruptions in service or provider communication, trust is established.

Consumer trust reduces transactional risks and boosts sales by building long-term connections Sarkar et al. (2020). The telecommunications industry exhibits numerous customer-trust inducing characteristics, which include security and privacy, product authenticity, and companies' positive attitudes and behaviors towards customers (Kalia et al., 2021). Moreira et al. (2017) established the association between consumer trust, loyalty, and satisfaction. Based on these arguments, the following hypothesis is proposed:

*H4: Consumer trust positively influences customer satisfaction in the telecommunication industry.*

#### **2.2.5 Switching Cost**

Switching cost, encompassing both monetary and psychological aspects of transitioning service providers (Kim et al., 2003), serves as a barrier to switching, fostering customer satisfaction and loyalty (Dick & Basu, 1994). It directly influences customers' loyalty, reducing sensitivity to price and satisfaction with alternative brands (Fornell, 1992), which enables customers to distinguish brands with similar features (Klemperer, 1987). When individuals perceive high switching costs associated with changing mobile service providers, they tend to experience greater satisfaction as customers. Therefore, the following hypothesis is formulated:

*H5: Perceived switching cost positively influences consumer satisfaction in the telecommunication industry.*

### **2.3 Customer satisfaction and Loyalty**

Customer satisfaction, the psychological outcome of meeting or missing expectations in prior consumption experiences (Sirgy, 1984), significantly influences repurchase intent (Liao et al., 2009) and loyalty (Eggert & Ulaga, 2002). Research categorizes satisfaction into transaction-specific and overall satisfaction, representing singular purchases and cumulative brand evaluations, respectively (Fornell & Johnson, 1993). In mobile commerce, perceiving and managing customers' emotions towards service providers becomes crucial.

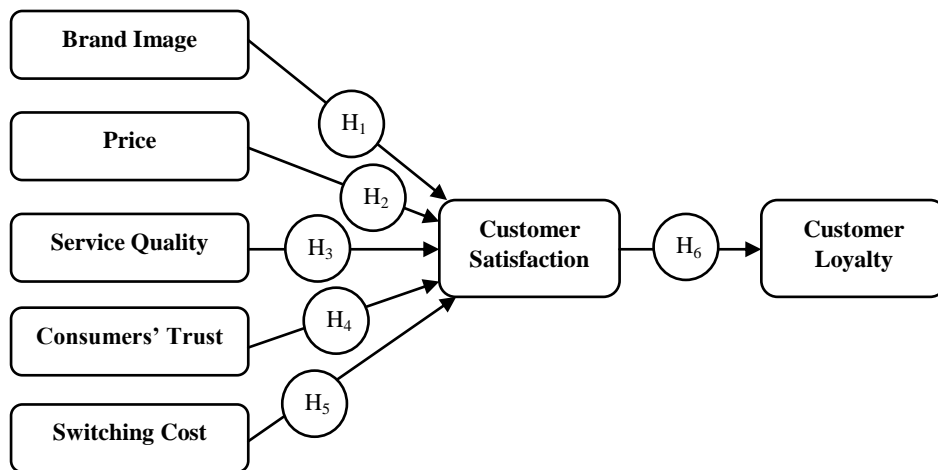
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Moreover, heightened satisfaction strongly correlates with increased customer loyalty (Mittal et al., 1998).

The five key factors—brand image, price, service quality, switching cost, and consumer trust—are interconnected and collectively influence customer satisfaction, impacting consumer loyalty. Studies by Chen et al. (2022) and Morgan and Govender (2017) in Malaysia and South Africa, respectively, demonstrate a positive link between satisfaction and loyalty. In the telecom industry, loyalty tends to rise with satisfied customers making repeat purchases and spreading positive experiences. Rasheed and Abadi (2014) found a weaker link between satisfaction and loyalty in Nigerian consumers. Rizan et al. (2014) argue that trust and commitment wield a stronger influence on loyalty, suggesting that mere satisfaction doesn't guarantee loyalty—satisfied customers might switch for better quality and value elsewhere. Consequently, the following hypothesis is formulated:

*H<sub>6</sub>: Customer satisfaction positively influences consumer loyalty in the telecommunication industry.*

Based on the aforementioned literature, the proposed conceptual framework is as follows:



**Figure 1: Conceptual Framework**

### 3.0 Research Methodology

#### 3.1 Sampling and data collection

To ensure Structured Equation Model (SEM) estimation adequacy, Austin and Calderón (1996) recommend a minimum of 100 samples, with 200 samples for reliable estimation. This study collected data from 360 respondents, surpassing these criteria. Convenience sampling was chosen for its effectiveness in reaching the target respondents.

Table 1 outlines respondents' demographic characteristics. Of the participants, 63% were male, and 37% were female. The majority (73%) fell between 20 and 25 years old. Respondents below 20 and those aged 35 and above constituted only 1%. However, those aged 25 to 30 and 30 to 35 accounted for 17% and 8%, respectively. In terms of education, 58% held a bachelor's degree, 24% had completed Higher Secondary Certificate (HSC), and 18% possessed a master's degree. No respondents had a PhD. Regarding mobile phone usage duration, 33% had used services for 3 to 6 years, 28% for less than 3 years, 18% for 6 to 9 years, 13% for over 12 years, and 9% for 9 to 12 years.

**Table 1: Demographics of the respondents**

Variable	Categories	Frequency	Percentage
Gender	Male	226	63
	Female	134	37
Age	Below 20 years	5	1
	20 – 25 years	261	73
	25 – 30 years	60	17
	30 – 35 years	29	8
	35 and above	5	1
Educational Qualification	HSC	87	24
	Bachelor	208	58
	Masters	65	18
	PhD	0	0
Tenure of subscription	Below 3 years	100	28
	3 – 6 years	115	33
	6 – 9 years	66	18
	9 – 12 years	31	9
	Above 12 years	47	13

### 3.2 Measure development

A questionnaire survey gathered data from cell phone users in the telecommunications industry. To ensure content validity, measurement instruments were adapted from existing research, assessing factors like brand image, price, service quality, consumer trust, switching cost, customer satisfaction, and loyalty. Table 2 summarizes the various items, each measured on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree."

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Table 2: Construct Measuring

Factor	Code	Item	Adapted From
<b>Brand Image (BI)</b>	BI1	The company is perceived as fulfilling its promises and commitments to its customers, which contributes to its reputation.	Deng et al. (2010)
	BI2	The company is known for its fair and honest practices towards its customers.	Woo and Fock (1999)
	BI3	Customers view the company as reliable and trustworthy.	McKnight and Chervany (2001)
	BI4	The company is recognized as a forward-thinking and innovative telecom company.	Deng et al. (2010)
	BI5	The company has a strong commitment to social responsibility and is actively involved in contributing to society.	Aydin and Özer. (2005)
<b>Price (P)</b>	P1	I consider the prices of the telecom products and services to be affordable.	Tseng (2011)
	P2	The promotional activities of my telecom company are more extensive compared to its competitors.	Chen and Dubinsky (2003)
	P3	I perceive the products and services offered by the company to be a good value for my money.	Inegbedion and Obadiaru (2019)
	P4	The discounts and incentives offered by the company provide me with benefits.	Morgan and Govender (2017)
	P5	I believe that the prices offered by my company are unbeatable compared to other telecommunication operators.	Aydin and Özer (2005)
<b>Service Quality (SQ)</b>	SQ1	The company consistently delivers the promised standard of service to its customers.	Cheng and Dubinski (2013)
	SQ2	The services provided by the company are viewed as reliable by its customers.	Caruana (2002)
	SQ3	The company regularly introduces innovative and new services to its customers.	Inegbedion and Obadiaru (2019)
	SQ4	The employees of the company have a good understanding of the specific needs of its customers.	Chen et al. (2022)
	SQ5	The company effectively and efficiently handles customer complaints.	Negi (2010)
	SQ6	The service provider consistently delivers superior service in every aspect.	Shin and Kim (2008)
<b>Customer Trust (CT)</b>	CT1	I trust the company to consistently deliver standard quality services.	Morgan and Hunt (1994)



<b>Factor</b>	<b>Code</b>	<b>Item</b>	<b>Adapted From</b>	<b>JUJBR</b>
	CT2	The company always acts with good intentions towards its customers.	Karjaluoto et al. (2012)	
	CT3	The company prioritizes the best interests of its customers.	Koufaris and Hampton-Sosa (2004)	
	CT4	The commitments and promises made by the company are trustworthy to me.	Moreira et al. (2017)	
	CT5	The company has a well-organized and thorough understanding of its customers.	Karjaluoto et al. (2012)	
	CT6	Based on my experience, I know this service provider is not opportunistic.	Shin and Kim (2008)	
<b>Switching Cost (SC)</b>	SC1	The process of switching to another operator is perceived as inconvenient and troublesome.		
	SC2	The cost associated with switching to another operator is considered to be high.	Gefen (2002)	
	SC3	The process of learning and adapting to another telecommunication service is viewed as complex and time-consuming.		
<b>Customer Satisfaction (CS)</b>	CS1	I am satisfied with the products and services offered by the company.	Wu et al. (2011)	
	CS2	The products and services provided by the company meet my expectations.	Utkutuğ (2021)	
	CS3	I am confident in my decision to choose this telecommunications operator.	Moreira et al. (2017)	
	CS4	The company consistently strives to fulfill my needs and wants.	K. Chen and Liu (2004)	
	CS5	Overall, I am satisfied with my experience with this company.	Cronin et al. (2000)	
<b>Customer Loyalty (CL)</b>	CL1	I am loyal to my telecommunication service provider and have no plans to switch to another operator in the near future.	Deng et al. (2010)	
	CL2	I plan to purchase more products and services from my company in the future.	Morgan et al. (2017)	
	CL3	I would recommend my company's products and services to my friends and family members.	Ribeiro et al. (2019)	
	CL4	Even if my company's competitors offer price cuts, I will remain loyal to my company.	Akroush et al. (2011)	
	CL5	I will continue to use this operator as long as they continue to provide satisfactory products and services.	Lin and Wang (2006)	

**JUJBR****3.3 Normality Check**

Tests were conducted to assess the normality of measurement items for the confirmatory factor analysis (CFA) model, employing both multivariate and univariate normality tests. The Mardia test revealed non-normality, with p-values below 0.05, rejecting the null hypothesis. Similarly, the Shapiro-Wilk test for each measurement item produced p-values below 0.05, also rejecting the null hypothesis of normality. Due to observed non-normality, the researchers deliberately chose the maximum likelihood robust (MLR) estimator, specifically the Satorra-Bentler rescaling method, to estimate the measurement model, deviating from the proposed maximum likelihood (ML) estimator by Rosseel (2012).

**3.4 Reliability and Validity**

The study focused on ensuring construct validity, examining measurement tools' accuracy in capturing intended constructs. Hair et al. (2011) proposed two methods: convergent validity and discriminant validity, where convergent validity requires factor loadings above 0.70 for each item and an average variance extracted (AVE) over 0.5. Table 3 presents the convergent validity analysis, revealing enhanced validity by eliminating items like P2, CT6, and CL5 with lower factor loadings. The remaining items in Table 3 exhibited factor loadings exceeding 0.70, confirming convergent validity with AVEs surpassing 0.5 for each construct.

Discriminant validity was established through the Fornell-Larcker criterion, as indicated in Table 4, where each construct's square root of the AVE exceeded its correlations with other constructs. Construct reliability was evaluated using Cronbach's Alpha (CA) and Composite Reliability (CR). Table 3 displays CA and CR results, with CA values ranging from 0.755 to 0.925 and CR statistics from 0.855 to 0.943. These values exceeded 0.70, affirming the reliability of the constructs (Hair et al., 2011).

This study employs various validity tests to ensure a comprehensive and robust assessment of the measurement tools, as well as to address various dimensions and potential sources of measurement error for enhancing the overall validity of the study. The rationale for using multiple validity tests lies in the recognition that different aspects of validity capture distinct facets of the measurement process.

**Table 3: Validity measurement**

<b>Factor</b>	<b>Items</b>	<b>Loadings</b>	<b>Cronbach's Alpha (CA)</b>	<b>Rho_A</b>	<b>Composite Reliability (CR)</b>	<b>AVE</b>
<b>Brand Image (BI)</b>	BI1	0.837	0.871	0.903	0.905	0.657
	BI2	0.890				
	BI3	0.818				
	BI4	0.726				
	BI5	0.773				
<b>Price (P)</b>	P1	0.726	0.865	0.869	0.903	0.649
	P3	0.847				
	P4	0.749				
	P5	0.795				
<b>Service Quality (SQ)</b>	SQ1	0.791	0.875	0.880	0.914	0.728
	SQ2	0.819				
	SQ3	0.714				
	SQ4	0.754				
	SQ5	0.797				
	SQ6	0.817				
<b>Customer Trust (CT)</b>	CT1	0.827	0.925	0.925	0.943	0.769
	CT2	0.809				
	CT3	0.793				
	CT4	0.817				
	CT5	0.783				
<b>Switching Cost (SC)</b>	SC1	0.724	0.786	0.795	0.862	0.609
	SC2	0.890				
	SC3	0.827				
<b>Customer Satisfaction (CS)</b>	CS1	0.896	0.875	0.887	0.905	0.613
	CS2	0.899				
	CS3	0.844				
	CS4	0.858				
	CS5	0.886				
<b>Customer Loyalty (CL)</b>	CL1	0.860	0.755	0.800	0.856	0.667
	CL2	0.865				
	CL3	0.870				
	CL4	0.817				

Note: P2, CT6, and CL5 have been dropped due to lower factor loadings which were below 0.7.

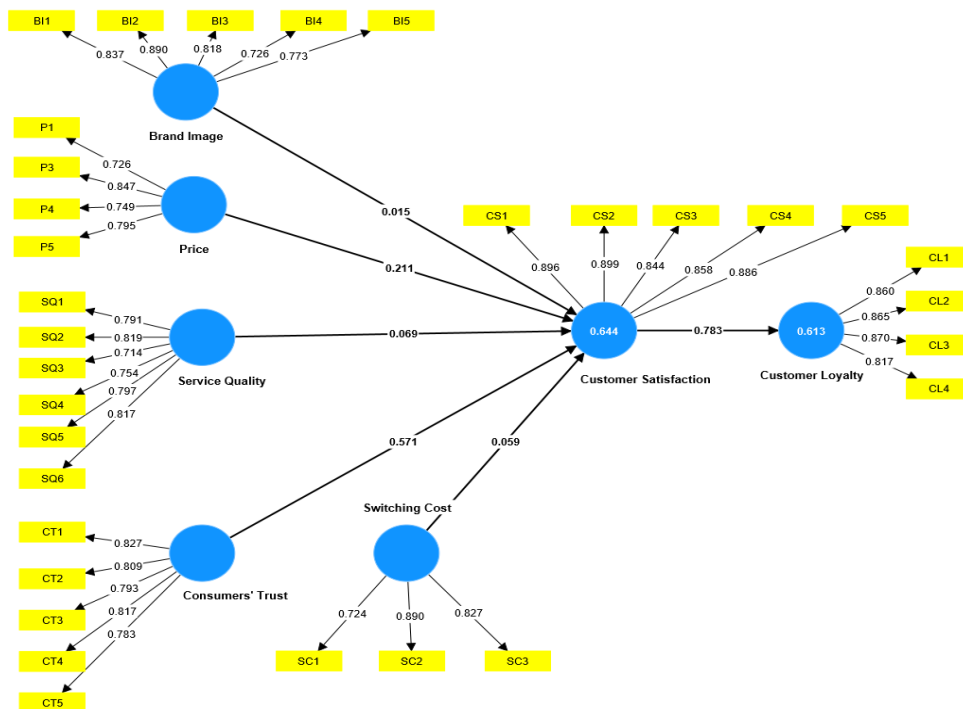
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**Table 4: Discriminant validity- Fornell-Larcker criterion**

	BI	CT	CL	CS	P	SQ	SC
<b>BI</b>	<b>0.811</b>						
<b>CT</b>	0.554	<b>0.806</b>					
<b>CL</b>	0.454	0.698	<b>0.853</b>				
<b>CS</b>	0.484	0.773	0.783	<b>0.877</b>			
<b>P</b>	0.445	0.589	0.507	0.618	<b>0.781</b>		
<b>SQ</b>	0.581	0.727	0.570	0.641	0.603	<b>0.783</b>	
<b>SC</b>	0.309	0.320	0.342	0.345	0.359	0.333	<b>0.817</b>

#### 4.0 Results and Discussion

The determination coefficient ( $R^2$ ) for the endogenous latent variable, customer loyalty, stands at 0.613, denoting that 'customer satisfaction' reasonably accounts for 61.3% of the variability in customer loyalty. In contrast, the  $R^2$  for customer satisfaction is 0.644, signaling that brand image, price, service quality, consumer trust, and switching costs collectively elucidate 64.4% of the variability in customer satisfaction. Notably, consumer trust exerts the most substantial impact on customer satisfaction, succeeded by price, which demonstrates a more pronounced effect compared to brand image, service quality, and switching costs (refer to Figure 2).



**Figure 2: The estimated structural equation model**

**Table 5: Path Coefficient and Indirect effect**

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV)	P values
H1: Brand Image -> Customer Satisfaction	0.015	0.016	0.04	0.366	0.357
H2: Price -> Customer Satisfaction	0.211	0.215	0.049	4.317	0
H3: Service Quality -> Customer Satisfaction	0.07	0.072	0.059	1.179	0.119
H4: Consumers' Trust -> Customer Satisfaction	0.571	0.566	0.063	9.093	0
H5: Switching Cost -> Customer Satisfaction	0.059	0.058	0.035	1.704	0.044
H6: Customer Satisfaction -> Customer Loyalty	0.783	0.784	0.025	31.11	0
<b>Indirect effect</b>					
Brand Image -> Customer Satisfaction -> Customer Loyalty	0.011	0.013	0.031	0.366	0.357
Switching Cost -> Customer Satisfaction -> Customer Loyalty	0.046	0.046	0.027	1.709	0.044
Consumers' Trust -> Customer Satisfaction -> Customer Loyalty	0.447	0.444	0.055	8.153	0
Price -> Customer Satisfaction -> Customer Loyalty	0.165	0.169	0.038	4.299	0
Service Quality -> Customer Satisfaction -> Customer Loyalty	0.055	0.056	0.046	1.186	0.118

Note:  $P < 0.05$

However, the testing of hypotheses and exploration of indirect effects of independent variables on customer loyalty through customer satisfaction required clarification of the mediating process. The bootstrapping method was employed for this purpose, involving the random sampling of a subsample size of 1000 from the dataset. Significance was determined through a one-tailed test at a significance level of 0.05, assuming hypothesized relationships to be one-directional. Analysis of path coefficients (refer to Table 5/ Appendix B) led to the following summarized decisions:

**Table: 6 Summary of hypothesis**

Hypothesis	Remarks
H1: Brand Image -> Customer Satisfaction	Not Supported
H2: Price -> Customer Satisfaction	Supported
H3: Service Quality -> Customer Satisfaction	Not Supported
H4: Consumers' Trust -> Customer Satisfaction	Supported
H5: Switching Cost -> Customer Satisfaction	Supported
H6: Customer Satisfaction -> Customer Loyalty	Supported

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<b>Indirect/ Mediation effects</b>	
Brand Image -> Customer Satisfaction -> Customer Loyalty	No mediation
Switching Cost -> Customer Satisfaction -> Customer Loyalty	Partial mediation
Consumers' Trust -> Customer Satisfaction -> Customer Loyalty	Partial mediation
Price -> Customer Satisfaction -> Customer Loyalty	Partial mediation
Service Quality -> Customer Satisfaction -> Customer Loyalty	No mediation

Control variables are utilized in research to account for potential confounding factors or variables that may influence the relationship between the independent and dependent variables. The inclusion of control variables aims to enhance the internal validity of the study by minimizing the impact of extraneous variables, thereby isolating the specific effects of the variables of interest.

In the context of this research, four control variables—namely age, gender, educational qualification, and tenure of subscription—were introduced into the Structural Equation Modeling (SEM) model. The rationale behind incorporating these control variables is to ensure that the observed relationships between the independent variables (brand image, price, service quality, consumer trust, and switching costs) and the dependent variables (customer satisfaction and loyalty) are not confounded or distorted by the influence of these additional factors. The results, as presented in Appendix B and Appendix C, prompted a revision in one hypothesis. Initially, it was posited that switching cost positively influenced customer satisfaction. However, the inclusion of control variables revealed that switching cost does not positively impact customer satisfaction in the context of Bangladesh.

Regarding the impact of control variables on endogenous variables, it was observed that, except for educational qualification and tenure of subscription, there was minimal influence on the endogenous variables. Specifically, customer satisfaction remained unaffected by the control variables. However, two control variables—educational qualification and tenure of subscription—were found to exert a significant influence on customer loyalty (with a *p-value* less than 0.05).

### **5.0 Theoretical and Practical Implications**

This study introduces a novel theoretical framework grounded in the Theory of Reasoned Action (TRA) to comprehensively explore customer loyalty within the telecommunications industry. Examining factors such as brand image, price, service quality, switching cost, and trust, the refined theoretical model derived from TRA significantly contributes to the existing knowledge on customer loyalty and satisfaction, providing a robust foundation for future research.

The validated model unequivocally confirms the substantial influence of both price and consumer trust on customer satisfaction and loyalty in the telecommunications sector. These influential constructs seamlessly integrate into services management, marketing, and branding literature, offering valuable insights for future studies. The study extends theoretical understanding by

introducing a new model, supplementing the existing body of knowledge with insights into customer loyalty and satisfaction.

Implications of the findings are significant for operators, and service providers aiming to enhance customer satisfaction and loyalty in the competitive telecommunications sector, specific context of Bangladesh, where demographic shifts and an aging population, price takes precedence as a crucial consideration, particularly given the predominantly middle to lower-middle-class population.

Strategies to strengthen consumer trust, including genuine engagement on social media platforms, are highlighted. Telecommunication providers are advised to actively engage in building trust through authentic testimonials and compassionate communication. Policymakers are also encouraged to leverage emotionally driven communication strategies, showcasing a dedicated approach to meeting the diverse needs of the customer base.

## 6.0 Conclusion

This study, grounded on the Theory of Reasoned Action (TRA) and existing literature, explores the determinants of customer satisfaction and loyalty in Bangladesh's telecommunications industry. Using Smart-PLS 4 software, the research investigates the influence of Brand Image, Price, Service Quality, Consumers' Trust, and Switching Cost on customer loyalty among Bangladeshi customers. The findings highlight the pivotal role of two constructs in shaping satisfaction and loyalty within the Bangladeshi telecom sector.

Acknowledging the study's limitations is crucial for cautious interpretation. The sample size constraint may impact generalizability, urging future studies to employ larger samples for more precise conclusions. Incorporating qualitative methods alongside deductive approaches could enhance research by capturing local contextual factors. Multi-Group Analysis (MGA) could further explore how these constructs vary in influencing satisfaction and loyalty across diverse consumer categories.

To bolster the study's findings, future research employing advanced statistical methods like CB-SEM can delve deeper into the impact of key constructs—price and consumer trust—on enhancing satisfaction and loyalty. Despite its limitations, this research illuminates critical factors driving satisfaction and loyalty, setting the stage for further studies aimed at bolstering customer loyalty in the telecom industry.

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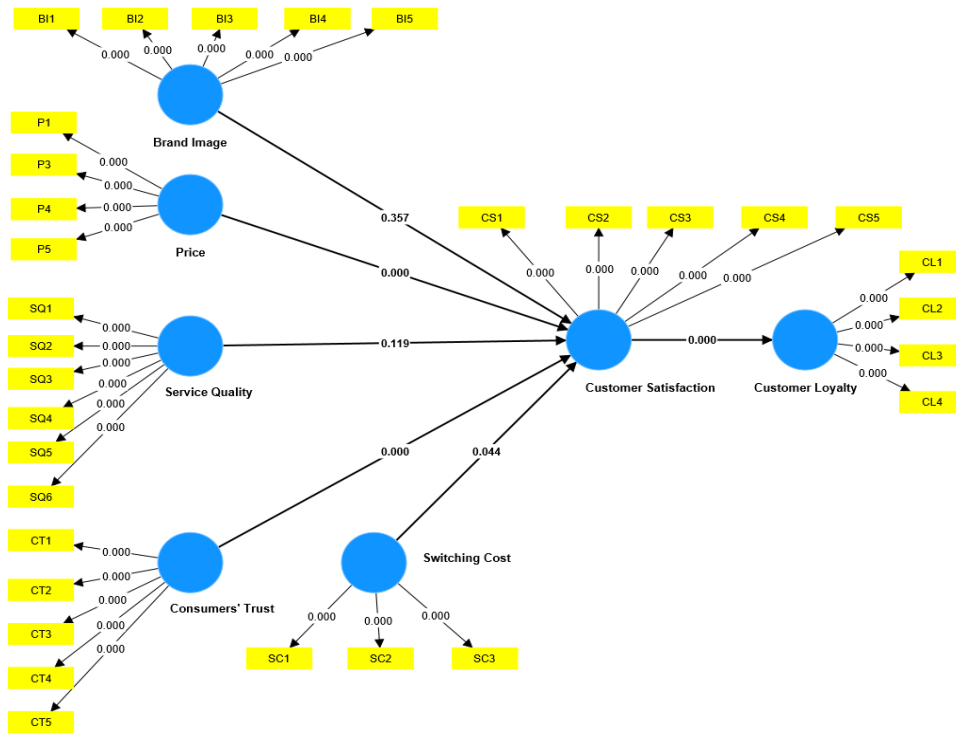
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**Appendix A: PLS-SEM estimation result for robustness check**



**Appendix B: Adding the control variables to check the effect on endogenous variables**

	Model 1			Model 2		
	Sample mean (M)	Standard deviation (STDEV)	P values	Sample mean (M)	Standard deviation (STDEV)	P values
Brand Image -> Customer Satisfaction	0.016	0.04	0.357	0.017	0.041	0.349
Price -> Customer Satisfaction	0.215	0.049	0	0.212	0.051	0
Service Quality -> Customer Satisfaction	0.072	0.059	0.119	0.068	0.06	0.134
Consumers' Trust -> Customer Satisfaction	0.566	0.063	0	0.563	0.062	0
Switching Cost -> Customer Satisfaction	0.058	0.035	0.044	0.056	0.035	0.051
Customer Satisfaction -> Customer Loyalty	0.784	0.025	0	0.766	0.026	0
Educational Qualification -> Customer Loyalty				0.068	0.04	0.041
Educational Qualification -> Customer Satisfaction				0.048	0.043	0.134
Tenure of subscription -> Customer Loyalty				-0.076	0.041	0.029

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	Model 1			Model 2		
	Sample mean (M)	Standard deviation (STDEV)	P values	Sample mean (M)	Standard deviation (STDEV)	P values
Tenure of subscription -> Customer Satisfaction				-0.029	0.039	0.222
Age -> Customer Loyalty				0.033	0.031	0.146
Age -> Customer Satisfaction				0.004	0.034	0.451
Gender -> Customer Loyalty				0.093	0.072	0.087
Gender -> Customer Satisfaction				0.029	0.066	0.323

**Appendix C: PLS-SEM estimation result after adding control variables**

