

# Origins of Brand Image, Customer Satisfaction, and Loyalty toward Telecommunication Service: An Emerging Market Perspective

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## Abstract

As competition grows in the telecommunication service industry, understanding the origins of brand image and consumer behavioral intentions challenges practitioners to design an effective marketing strategy and branding plan. In this paper, brand image and behavioral relationships are investigated in Bangladesh, an emerging market that has a particular socio-cultural and economic context of one of the most densely populated countries of South Asia. This study employs confirmatory factor analysis and structural equation modeling to analyze the database. Empirical testing and the proposed model suggest that brand image is the prime determinant of consumer satisfaction and loyalty. The results highlight the importance of perceived value, perceived trust and price structure to project brand image and satisfaction. Additionally, confirmation exhibits a stronger total effect of brand image on customer loyalty. Empirical findings extensively contribute to the theoretical and managerial understanding of subscribers' attitudes toward telecommunication service in an emerging market context.

**Keywords:** Brand Image, Perceived Value, Perceived Trust, Satisfaction, Customer Loyalty

**JEL Classifications:** D12, L96, M15, M31

## I . Introduction

Competition among Bangladeshi mobile telecommunication service providers has been remarkably robust due to offering numerous similar services in an already

saturated market, resulting an increasing possibility to lose their customer loyalty. Mobile penetration has exceeded all expectations with over 143 million active subscribers as of November 2017 versus only 4 million in 2004 (Bangladesh Tele-

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communication Regulatory Commission (BTRC), 2017; Capital Research, 2010). Foreign direct investment (FDI) inflows classified in telecommunication service sector was USD 593.89 million, which was 24.19% of the total FDI in 2017 (Bangladesh Bank, 2017). In South Asia, Bangladesh, with its 78.88 subscribers per 100 inhabitants as of 2016, was behind India (86.95), but surpassed Pakistan (71.39) and Afghanistan (66) (International Telecommunication Union, 2017). Currently, three foreign owned and one locally owned players are operating their businesses in Bangladesh; Grameenphone Ltd (GP), Banglalink Digital Communications, Robi Axiata Ltd (Robi), and locally owned Teletalk Bangladesh Ltd.

A recent study by Mannan, Mohiuddin, Chowdhury and Sarker (2017) shows that Bangladeshi telecom customers are more likely to be loyal, when they are satisfied with the service provided by their existing operator. They also argue that customer service aspects, financial, and technological factors are the primary determinants of customer satisfaction. Azam and Karim (2017) find that brand image and price of telecom service are the primary determinants of customer satisfaction in Bangladesh, and argue that telecom operators should keep their price at a decent level and conduct marketing campaigns to expand the value of brand image into the market. Additionally, Hossain and Suchy (2013) report that price structure, value-added service, convenience, customer care service, and communication have positive influence on customer loyalty in Bangladesh.

Although, the extant researches consid-

er the influencing factors of customer satisfaction in Bangladesh market, comprehensive research on telecommunication service industry is still scarce. Moreover, important concerns of customer loyalty such as brand image, perceived value, perceived trust, price structure, and satisfaction have not been addressed yet in this emerging market context. Thus, this paper aims to fill the gap and presents an important examination on an issue that has been comparatively ignored by the academic literature despite of its importance and relevance to organizations and business.

The extremely competitive and cluttered telecom marketplace in Bangladesh points toward the awful need for ways of differentiating from competitors. Therefore, the knowledge of the origins of brand image, customer satisfaction, and loyalty toward telecommunication service will enhance the competitive advantages over the rivals. This paper takes the position that brand image is an important determinant of customer satisfaction and loyalty, which would enhance long-run customer relationship with service provider. Under this assumption we examine the influence of perceived value, perceived trust, and price structure of telecom service on brand image and customer satisfaction. The improvement of service value, service quality, and satisfaction guarantees customer loyalty in the telecom service (Lai, Griffin and Babin, 2009). Telecommunication service charges and favorable trust perception have strong and positive influence on consumer behavior (Kim and Lee, 2010; Aydin and Ozer, 2005). Given the importance of

understanding brand image and its consequences, this would be a quite sensible issue with which to discover the promoting factors among brand image, customer satisfaction, and loyalty.

The remaining section of this study will appear as follows. The next section provides a review of the literature. The succeeding section presents research hypotheses along with a conceptual research model. Section four establishes the research methodology, and section five presents data analysis and results. Discussions and conclusions are presented in section six and seven respectively.

## II. Review of Literature

### 1. Origins of Brand Image, Customer Satisfaction, and Loyalty

Brand image is the perceptions toward a brand reproduced by the brand associations held in consumer's mind (Keller, 1993). Brand image is a conceptual phenomenon that reflects consumer's general evaluation of a specific brand, and this brand image can attract existing or potential customers. A brand image comprises its name, symbol, term, sign, or combination of these. The brand associations encapsulate the emotional perceptions and symbolic meanings to specific attributes of the product or services, and are the important parts of customer-based equity (Keller, 2008). Brand innovativeness has been considered as one of the important aspects in marketing innovativeness (Abosag and Brennan, 2017),

and country-of-origin image is important for international recruitment (Hong and Kim, 2017). In the context of this study, it is rational to view that brand image is consistent with associative network memory whereby brand image stands for the cluster of psychological associations that customers feel a brand name in their mind. This paper considers psychology-based brand image measures according to the framework of familiarity, perception, preference, trust and choice, which are the factors why customers like to develop ongoing relationship with their service companies (Low and Johnston, 2006).

Existing research on telecom service states that brand image is a subjective perception, a mental presentation of functional and nonfunctional information toward the service (Chen and Myagmarsuren, 2011). It is reproduced by the brand association held in a customer's mind, which works as a driver of customer loyalty. Alike interpersonal relationship and its effects, relationship quality develops and translates customer's relationship with services and brands. Hence, brand image may be a stronger cue for assessing overall service quality that create exchange aspects of utilitarian value and economic factors. The brand image influences various attitudes and behaviors of customers, such as loyalty, which may generate strong corporate patronage intent, a strong sense of belonging, and the willingness to pay a premium (Kwon and Lennon, 2009). Accordingly, the customer's general impressions of satisfaction and loyalty are based on service quality and pervaded value. In other words, consumers who possess a favorable psycho-

logical schema of a brand are likely to generate higher satisfaction and loyalty.

In the telecommunication service literature, customer satisfaction is increasingly considered as a key determinant of long-run financial performance in a competitive market. It is an organization's primary concern regarding its product's performance in the market place. Customer satisfaction is a customer response to the level of contentment and the customer's judgment of that contentment while realizing benefits from a service or product (Oliver, 1997). It is a psychological state of a consumer about the perceived expectation and experience toward the product or service. A significant number of studies have shown the factors underlying customer satisfaction and the loyalty (Sirapracha and Tocquer, 2012; Kim and Lee, 2010; Lai et al., 2009; Lim, Widdows and Park, 2006). Research posits that telecom customer service, network quality, data services, and value have significant impact on customer satisfaction (Lim et al., 2006). In addition, a recent study recognizes a stronger inter-relationship exists among brand image, customer satisfaction, and loyalty (Morgan and Govender, 2017).

Customer loyalty is an intense commitment to repurchase or re-patronize a product in the future, thereby causing faithful brand purchasing despite marketing efforts and situational influences (Oliver, 1997). Loyalty refers to the degree to which a customer perceives a recurrence of the same purchase behavior, expresses a favorable attitude to the vendors, and treats the vendors as a trusted partner for future transactions. Brand

loyalty is the customer's willingness to stay with existing brands even though similar attractive brands enter into the competition (Ahmed and Moosavi, 2013). Customer loyalty is a repeated purchasing and recommendation behavior of the brand to others (Raza and Rehman, 2012). Existing literature posits that as competition increases, customer loyalty becomes more valuable because there are several creative, faster, and innovative alternatives in the market (Morgan and Govender, 2017; Kim and Lee, 2010; Lai et al., 2009). Customer loyalty is a more cost-effective approach, retaining existing customers rather than attracting new ones (Azam and Karim, 2017; Kim and Lee, 2010). Telecommunication subscribers' are less likely to switch to other service provider when they are satisfied (Mannan et al., 2017). Additionally, recent literature examines that brand image is one of the important drivers of customer loyalty (Sirapracha and Tocquer, 2012; Kwon and Lennon, 2009).

## 2. Factors Affecting Brand Image and Customer Satisfaction

There are numerous approaches and models regarding determinants of brand image and customer satisfaction for service marketing. However, compared to other consumer goods and services, mobile telecom services are quite homogeneous in nature because of technological standards. In this paper, the drivers of brand image and customer satisfaction in Bangladesh telecom services have been conceptualized from perceived value, perceived trust, and price structure pers-

**Table 1.** Related Studies on Mobile Telecommunication Research

Study	Purpose and Context	Hypotheses/results
Aydin and Ozer (2005)	To examine the relationships between corporate image, service quality, trust, customer switching cost and customer loyalty of Turkish mobile telecommunication.	Perceived service quality $\rightarrow$ customer loyalty* Perceived service quality $\rightarrow$ trust* Trust $\rightarrow$ perceived switching cost* Trust $\rightarrow$ customer loyalty* Corporate image $\rightarrow$ customer loyalty Perceived service quality $\rightarrow$ corporate image* Perceived switching cost $\rightarrow$ customer loyalty* Perceived service quality $\rightarrow$ switching cost*
Lim et al. (2006)	This study aims to investigate determinants of satisfaction and loyalty decisions in the use of mobile services in the USA context.	Satisfaction $\rightarrow$ customer loyalty* Economic value $\rightarrow$ satisfaction* Emotional value $\rightarrow$ satisfaction* Network quality $\rightarrow$ satisfaction* Data services $\rightarrow$ satisfaction* Customer service value $\rightarrow$ satisfaction* Economic value $\rightarrow$ emotional value*
Ture and Serenko (2006)	To examine the antecedents of customer satisfaction and loyalty through an empirical investigation of 210 young adult cellular subscribers in Canada.	Perceived quality $\rightarrow$ perceived value* Perceived quality $\rightarrow$ satisfaction* Perceived expectations $\rightarrow$ perceived quality* Perceived value $\rightarrow$ satisfaction* Satisfaction $\rightarrow$ price tolerance* Satisfaction $\rightarrow$ purchase likelihood *
Lai et al. (2009)	The study proposes and tests an integrative model to examine the relations among service quality, value, image, satisfaction, and loyalty in Chinese telecom.	Service quality $\rightarrow$ value* Service quality $\rightarrow$ Corporate image* Service quality $\rightarrow$ satisfaction Perceived value $\rightarrow$ customer loyalty* Perceived value $\rightarrow$ satisfaction* Satisfaction $\rightarrow$ customer loyalty* Corporate image $\rightarrow$ satisfaction* Corporate image $\rightarrow$ perceived value* Corporate image $\rightarrow$ customer loyalty
Kim and Lee (2010)	This study examines the relationships among corporate image, brand awareness, service price, service quality, customer support services, and customer loyalty, also investigates the key drivers that establish and maintain customer loyalty to South Korean mobile telecommunications service providers.	Corporate image $\rightarrow$ customer loyalty* Communications charge $\rightarrow$ customer loyalty* Brand awareness $\rightarrow$ customer loyalty* Communications quality $\rightarrow$ customer loyalty* Customer support services $\rightarrow$ customer loyalty
Chen and Myagmarsuren (2011)	To examine customer loyalty and explore the interrelationships between customer equity variables, namely brand image, company image, relationship quality and relationship value, and customer loyalty of Taiwan's telecom service companies.	Brand image $\rightarrow$ relationship quality* Brand image $\rightarrow$ relationship value Brand image $\rightarrow$ loyalty Company image $\rightarrow$ relationship quality* Company image $\rightarrow$ relationship value Company image $\rightarrow$ loyalty Relationship quality $\rightarrow$ relationship value* Relationship quality $\rightarrow$ loyalty Relationship value $\rightarrow$ loyalty*
Alamro and Rowley (2011)	This paper aims to report on a study into the antecedents of consumer brand preference, in the context of telecommunications service brands in Jordan	Price $\rightarrow$ brand preferences* Service quality $\rightarrow$ brand preferences* Corporate image $\rightarrow$ brand preferences* Satisfaction $\rightarrow$ brand preferences*
Raza and Rehman (2012)	To investigating the relationship of marketing tactics on trust and satisfaction of customer, which ultimately increases customer loyalty in telecom sector of Pakistan.	Service quality $\rightarrow$ satisfaction* Service quality $\rightarrow$ trust* Price perception $\rightarrow$ satisfaction** Price perception $\rightarrow$ trust* Brand image $\rightarrow$ satisfaction** Brand image $\rightarrow$ trust* Trust $\rightarrow$ customer loyalty* Satisfaction $\rightarrow$ customer loyalty*
Sirapricha and Tocquer (2012)	This research explores the relationship between customer experience, brand image and customer loyalty in telecommunication services in Thailand.	Customer experience $\rightarrow$ brand image* Customer experience $\rightarrow$ customer loyalty* Brand image $\rightarrow$ loyalty*
Morgan and Govender (2017)	To understanding the acquiring and retaining loyal customers in order to facilitate repeat purchases, guarantee future revenues and shield the customer base from competitive activity in South African telecommunication market	Image $\rightarrow$ customer satisfaction* Perceived quality $\rightarrow$ customer satisfaction Perceived value $\rightarrow$ customer satisfaction* Image $\rightarrow$ customer loyalty Perceived quality $\rightarrow$ customer loyalty Perceived value $\rightarrow$ customer loyalty Customer satisfaction $\rightarrow$ customer loyalty*

Note: \*Found Significance.

Source: Review of Literature.

pective. Table 1 summarizes prior studies on telecommunication service industry across the world. It presents objective of the study, hypotheses, and results. Most of the researches comprise brand image, service quality, perceived trust, and perceived value to investigate the consumer behavioral intentions.

Perceived value refers to the overall assessment made by consumers for a service or product. In general, it involves in between consumer benefits and costs them charged for service consumption. Perceived value is an important predictor of customer satisfaction and their behavioral intentions as it conceptualize the difference between how a customer judge benefits and costs of offering vs. the benefits and costs of other alternatives in the marketplace (Kotler and Keller, 2012). A research on multidimensional approach to customers' perceived value in the United States telecom industry presents that economic and emotional value are the major antecedents of customer satisfaction (Lim et al., 2006). A recent study posits the impact that several factors relating to perceived value have on satisfaction in the South African telecom industry (Morgan and Govender, 2017). The study concludes that on a general level service value does indeed have positive influence on both customer satisfaction and loyalty. Canadian telecom researches argue that customer satisfaction is highly influence by perceived value from set of other factors and lowering the customer complaints (Turel and Serenko, 2006). This study also suggests that higher the customer satisfaction higher the repurchase intention and price

tolerance as well. Moreover, a higher value perception of the brand makes a brand more attractive. Brand image and relationship value connotation has been considered to examine the telecom service loyalty by the study of Chen and Myagmarsuren (2011). Another study posits that image is an important factor which affects customer satisfaction and considered as critical factor to building and maintaining long-run relationship (Lai et al., 2009). Authors suggest that there is a positive association between telecom service image and value perception.

In addition, researchers had established that trust in telecom market is important driver to building and maintaining long-run relationships (Hafez and Akther, 2017; Raza and Rehman, 2012; Aydin and Ozer, 2005). Trust is the willingness to depend on an exchange partner in whom one has confidence. A recent study by Guo, Feng, McKenna and Zhang (2017), examine the important relationships of inter-organizational governance and trust development, which contributes to the understandings of trust-building in business relationships. Trust works at maintaining relationship investments by cooperating with exchange partners, fight against short-term alternatives, views potentially risk actions as being prudent due to believing that their partners will not act opportunistically (Morgan and Hunt, 1994). Perceived trust appears that if one party trusts another, it will tend to develop some positive behavioral intentions to other party. Similarly, when customer trusts a brand it is likely to form positive buying intentions toward that brand. A study in

Turkish telecom market argue that customer trusts toward a brand reduces uncertainty regarding service delivered or yet to deliver by the service provider (Aydin and Ozer, 2005). Authors suggests that trust should be taken into consideration in developing strategies as it is more crucial for perceived switching costs than perceived service quality. Another study investigates the effect of different service features on customer satisfaction and loyalty in Pakistan telecom sector (Raza and Rehman, 2012). Study results indicate that trust has important favorable relationship with telecom brand image, customer satisfaction and loyalty as well.

Furthermore, several empirical studies provide evidence that perceived price affect consumer's choice standard in the telecom sector (Mannan et al., 2017; Alamro and Rowley, 2011; Kim and Lee, 2010; Lim et al., 2006). One such study in USA telecom market argues that pricing impacts economic value of the service which enhances customer satisfaction (Lim et al., 2006). The study showed that among other service quality factors pricing become the highest predictor of economic service value which predict customer loyalty through emotional value and satisfaction. Customer satisfaction improves the price tolerance of customer and downsizes the customer complaints towards the mobile service provider (Turel and Serenko, 2006). Another South Korean study posits that price of mobile telecommunications service providers plays a critical role in encouraging consumer behavior (Kim and Lee, 2010). Attractive price and non-price service of-

ferings broadcast quickly among other competitors. However, service operators still try to provide innovative price offerings in the expectation that consumers perceive their services as better and leading in the telecom service sector. Moreover, another research posits that price perception significantly influence the telecom brand preferences (Alamro and Rowley, 2011). Mobile telecommunication service quality has been measured by such factors as pricing structure, brand image, value added service, and call clarity (Kim, Park and Jeong, 2004). Accordingly, Telecom Company's image can be improved by its service quality (Lai et al., 2009). Hence, it is argue that the perception of fair pricing impacts customer satisfaction and brand image with varying degree of service expertise.

### III. Hypotheses and Research Model

Higher levels of satisfaction are usually achieved when customers perceive higher levels of customer value. Perceived value of a product or service is the difference between the customer's evaluation of all benefits and costs of the offerings and the perceived alternatives. Customer value can be increased by raising economic, emotional, and functional benefits or by reducing costs (Kotler and Keller, 2012). Researchers have found a positive association between perceived value and customer satisfaction (Morgan and Govender, 2017; Lai et al., 2009). Perceived value also is a determinant of brand image.

There is positive association exists between perceived value and image in telecommunications service industry (Lai et al., 2009). However, there are studies that have reported an insignificant association between brand image and relationship value (Chen and Myagmarsuren, 2011). Therefore, in this study, we assume that the perceived value appears to increase customer satisfaction and build a good brand image, and propose the following hypotheses:

H1: Perceived value has a positive impact on H1a, consumer satisfaction, and H1b, brand image.

Additionally, trust can be the ideal strategy to deal with future uncertainty and ambiguity. Perceived trust reflects the degree to which consumers believe they can trust the service providers (e.g., telecommunications, banks, merchants). Perceived trust has the strongest impact on behavioral intentions to adopt electronic service (Raza and Rehman, 2012; Akbar and Parvez, 2009). Trust in service providers has a direct impact on consumer intention; in contrast, a lack of consumer trust can be an impediment to the uptake of this type of service (Islam, 2010; Aydin and Ozer, 2005). In particular, a significant and positive relationship between brand image and perceived trust has been addressed by the study of Raza and Rehman (2012). As such, following hypotheses are proposed:

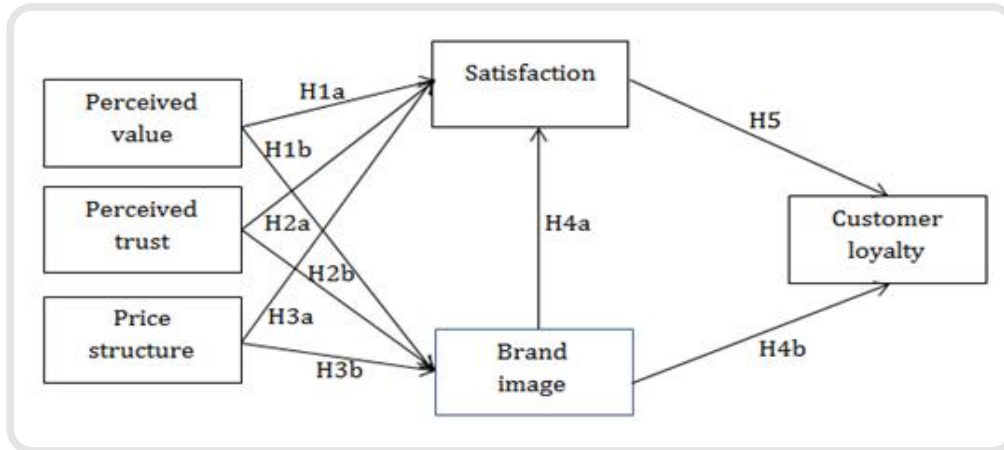
H2: Perceived trust has a positive impact on H2a, consumer satisfaction, and H2b, brand image.

Many researchers have demonstrated that service quality determines the customer satisfaction (Hossain and Suchy, 2013; Raza and Rehman, 2012; Lim et al., 2006) and brand image (Alamro and Rowley, 2011). Price is one of the dimensions of mobile telecommunication service quality (Kim et al., 2004), which determine customer satisfaction and brand image (Raza and Rehman, 2012; Lai et al., 2009). Price is typically the most important determinant of customer satisfaction (Azam and Karim, 2017). Telecommunication brand preferences are highly related to its price structure (Alamro and Rowley, 2011). Thus, following hypotheses are proposed:

H3: Price structure has a positive impact on H3a, consumer satisfaction, and H3b, brand image.

Good brand image perception by a customer builds a more attractive brand. Brand awareness plays a vital role in establishing trustworthiness toward a product or service when buying (Kim and Lee, 2010). Brand image is a significant factor for consumer loyalty and acts in creating, building, and maintaining a good relationship with the corporation (Chen and Myagmarsuren, 2011). Corporate image facilitates customers' identification of their needs and wants concerning the brand and extricates it from other rivals (Lai et al., 2009). The more positive is a brand image, the more favorable is the attitude toward the product or services and its attributes, which affects customer satisfaction (Azam and Karim, 2017; Raza and Rehman, 2012; Kim and Lee, 2010).



**Fig. 1.** Comprehensive Model of the Study

Consequently, a positive brand image helps a company to transmit its brand value to the customers, and a good brand image leads to affirmative word-of-mouth by consumers, which is favorable to the company's marketing communication and reputation. However, a negative brand image has the opposite effects. Hence, the following hypotheses are proposed:

H4: Brand image has a positive impact on H4a, consumer satisfaction, and H4b, consumer loyalty.

Customer satisfaction has been treated as a fundamental factor influencing consumer loyalty (Morgan and Govender, 2017; Raza and Rehman, 2012; Lai et al., 2009). Many of the researchers have argued that brand image is one of the important predictors of customer loyalty (Hafez and Akther, 2017; Sirapracha and Tocquer, 2012). Therefore, a favorable assessment of a product would be the major motivation to maintain the relation

with an existing company (e.g. consumer loyalty). In addition, satisfied customers are more likely to make a same purchase decision, have lower price sensitivity, engage in marketing communication through word-of-mouth, and show loyalty to the vendor (Raza and Rehman, 2012; Lim et al., 2006). Hence, we posit the following hypothesis:

H5: Customer satisfaction has a positive impact on consumer loyalty.

From the above mentioned review of empirical studies, a conceptual research model is developed to understand the origins of brand image, satisfaction, and customer loyalty with regard to telecommunication service, which is shown in Figure 1. The rationale of the research model is generated from the theories and findings of specific studies on telecommunication service settings (Morgan and Govender, 2017; Raza and Rehman, 2012; Chen and Myagmarsuren, 2011;

Kim and Lee, 2010; Lim et al., 2006). The model proposes that there are important links among latent construct, comprising perceived value, perceived trust, perceived price structure, customer satisfaction, and loyalty. Additionally, Figure 1 summarizes the hypothesized paths of this study.

#### IV. Data and Measures

##### 1. Data

To test the research model, we use the quantitative method of a survey questionnaire measuring the relationships of

brand image, satisfaction, and customer loyalty toward specific telecommunication brands. We developed a self-administered questionnaire and asked two specialists to examine the appropriateness and clarity of the content wording. After the scale consistency was confirmed, the questionnaire was pretested with a sample of 30 active users collected by a convenient sampling method from June 5 - 21, 2017. The feedback from the pretest showed that the instructions and questionnaire clarity were sound. The respondents were asked to answer freely based on their own experience and were assured of the privacy of their responses. Finally, we consider a total of 245 valid responses for data analysis. The strength of

**Table 2.** Demographic Characteristics

Demographic Profile		Frequency	Percent
Gender	Male	139	56.70
	Female	106	43.30
Age	Less than 20	27	11.00
	20-24	115	46.90
	25-30	55	22.40
	31- above	48	19.60
Educational Level	Below Secondary	10	04.10
	Secondary	06	02.40
	High School	89	36.30
	Undergraduate	91	37.10
Occupation	Post Graduate	49	20.00
	Student	135	55.10
	Business	27	11.00
	Govt. Employee	26	10.60
	Private Employee	34	13.90
Current Subscriber	Others	23	09.40
	Grameen Phone	165	67.30
	Banglalink	27	11.00
	Robi	17	06.90
	Teletalk	36	14.70

Source: Survey Data.

a convenient sampling method is the potential to collect sufficient data in a relatively limited time and the minimization of invalid responses. Table 2 presents a detailed view of respondent's demographics including respondent's age, gender, educational level, occupation, and current subscriber. Among the respondents, 56.7% are males, 46.9% are between 20 and 24, and most respondents have more than a high school diploma.

## 2. Measures

The constructs of interest in this study are customer loyalty, satisfaction, brand image, perceived value, perceived trust, and price structure. The measurement scales of customer loyalty, satisfaction, price structure, and perceived trust are adopted from Aydin and Ozer (2005), and Raza and Rehman (2012). The measurement of brand image is modified from Azam and Karim (2017), and Raza and Rehman (2012), and that of perceived value comes from Morgan and Govender (2017). Table 3 illustrates all the measurement items used to measure each construct with their respective factor loadings. Cronbach's alpha of each construct, composite reliability (CR), and construct-wise reliability consisting average variance extracted (AVE) are also shown in Table 3. All constructs are measured using multi-item perceptual scales and are rated on a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

To test the proposed relationships among the brand image, satisfaction, and customer loyalty, we perform structural equation modeling (SEM) using analysis

of moment structure (AMOS-24). We use SEM to determine the causal relationships among a concept in the model and the model fit (Hair, Black, Babin, Anderson and Tathan, 2010; Hu and Bentler, 1999). As this study collected dependent and independent variable from the same source, common method variance (CMV) may be arisen. CMV is a systematic measure error which arises in data collection when a single respondent gives both dependent and independent variables. If CMV issue is exist in the study, it might lead to either under or over estimation of the antecedents among dependent and independent variables to create a bias in the interpretation of the results (Podsakoff, MacKenzie, Lee and Podsakoff, 2003). This study conducts Harman's single factor test to asses CMV issues. If all indicators fall under a single construct or if the first construct explains most of variances in the data, CMV issue arises. The test results verify that the first factor accounted for 39.13% and several factors with eigenvalues more than one representing the elimination of CMV issues for the data.

## V. Empirical Results

### 1. Tests of Measurement Model

Table 3 shows that the Cronbach's alpha value of each individual construct exceeds the 0.70 critical value, which proves the reliability of each construct. Another important internal consistency measure, CR shows that all the values exceed the threshold value of 0.70, verify-

**Table 3.** Measures of Constructs, Factor Loadings, and Internal Consistency Reliability

Construct and Items	Indicator	Std. Estimates	P	Cronbach's Alpha ( $\alpha$ )	Composite reliability (CR)	Average variance extracted (AVE)
<b>Perceived Value</b>				0.70	0.81	0.60
The services of this operator are provided carries good value for money.	PV1	0.777	***			
The use of this operator improves the way of communication as I perceived.	PV2	0.769	***			
Operator has consistent service quality.	PV3	0.764				
<b>Perceived Trust</b>				0.78	0.76	0.55
The reputation of this operator is trustworthy.	PT1	0.759	***			
Operator is reliable as it is mainly concerned to the consumers' interests.	PT2	0.849				
Billing system is trustworthy.	PT3	0.582	***			
<b>Price Structure</b>				0.80	0.81	0.60
The calling rate is reasonable.	PS1	0.838	***			
Operator offers flexible pricing for various services that meet my needs.	PS2	0.919				
The pricing policies of products and services are attractive.	PS4	0.502	***			
<b>Brand Image</b>				0.88	0.80	0.60
I consider that this operator's reputation is high.	BI2	0.811	***			
The operator delivered a good brand image to its customers.	BI3	0.829	***			
I have a good feeling about the operator's social responsibility.	BI4	0.781	***			
I have a very good impression of this brand.	BI5	0.774				
I can quickly recall the symbol or logo of this brand.	BI6	0.642	***			
<b>Satisfaction</b>				0.80	0.80	0.57
I am satisfied with the overall service quality offered by this operator.	SAT1	0.774	***			
My claims or problems are always dealt with quite well.	SAT2	0.736				
This subscriber is as good as or even better than other companies.	SAT3	0.746	***			
<b>Customer Loyalty</b>				0.80	0.80	0.57
I would likely to use my existing operator for the future time.	CL1	0.766	***			
As long as the present service continues, I would not switch to other subscriber.	CL2	0.773				
I would likely to recommend to my friends and colleagues about this operator.	CL3	0.723	***			

Note: \*\*\*Significant at  $p < 0.001$ .

Source: SEM-Amos and SPSS output.

**Table 4.** Discriminant Validity for Structural Model Variables

	Mean	Std. Deviation	1	2	3	4	5	6	Tolerance	VIF	
1. Perceived Value	3.34	1.00	0.78						0.62	1.59	
2. Perceived Trust	3.60	0.84	0.59	0.75					0.66	1.51	
3. Price Structure	3.52	0.94	0.50	0.43	0.78				0.72	1.37	
4. Brand Image	3.41	0.80	0.47	0.45	0.43	0.78			0.58	1.70	
5. Satisfaction	3.46	0.77	0.69	0.65	0.57	0.74	0.76		0.44	2.27	
6. Customer Loyalty	3.60	0.76	0.74	0.56	0.40	0.73	0.68	0.76			
Model Fit Indices	Recommended		Value					Obtained		Value	
CFI	≥ 0.90							0.998			
CMIN/df	< 3							1.610			
GFI	>0.90							0.907			
AGFI	≥ 0.80							0.874			
NFI	≥ 0.90							0.907			
TLI	≥ 0.90							0.953			
IFI	≥ 0.90							0.962			
RMSEA	≤ 0.05							0.050			

Note: Bold diagonal numbers are the square roots of AVE.  
Source: SEM-Amos and SPSS output.

ing good reliability. Construct validity are measured by standardized loading estimates, and AVE. A higher standardized loading shows convergence on the latent variable. The standardized loadings of all items (except 3 items) exceed a 0.70 cut-off value, indicating good reliability. The value of AVE exceeds 0.50, which supports adequate convergence.

The results of discriminant validity test and overall model fit estimation are shown in Table 4, where the values on the diagonal are the square roots of the AVE for each variable, and the rest of the values are the correlations between each pair of variables. Square roots of the AVE for individual variables are higher than the correlation coefficients for other variables, which show the discriminate validity of the model. Additionally, multi-

collinearity among the predictor variables is examined through the variance inflation factor (VIF); values range from 1.37 - 2.27, which are below the threshold of 10, representing an acceptable level. Table 4 also shows the model fit indices. The comparative fit index (CFI), goodness-of-fit index (GFI), adjusted GFI, root mean square error of approximation (RMSEA), normalized fit index (NFI), tucker-lewis index and the ratio of chi-square to degrees of freedom (CMIN/df) are all found to be meet their respective cut-off criteria, indicating the good model fit.

## 2. Tests of Structural Model

Table 5 presents the results of SEM for the proposed model. The results demon-

**Table 5.** Summary of Hypotheses Test

Path proposed	Estimate	S.E.	P	Hypothesis
Perceived Value → Satisfaction	0.222	0.040	***	H1a supported
Perceived Value → Brand Image	0.234	0.053	***	H1b supported
Perceived Trust → Satisfaction	0.215	0.047	***	H2a supported
Perceived Trust → Brand Image	0.193	0.062	**	H2b supported
Price Structure → Satisfaction	0.141	0.040	**	H3a supported
Price Structure → Brand Image	0.201	0.054	**	H3b supported
Brand Image → Satisfaction	0.408	0.047	***	H4a supported
Brand Image → Customer Loyalty	0.366	0.051	***	H4b supported
Satisfaction → Customer Loyalty	0.474	0.053	***	H5 supported

Structural Model Fit Indices; CFI=0.946, GFI=0.956, NFI=0.943 and IFI=0.947

Variance Explained: R Squared

Satisfaction 56%

Brand Image 24%

Customer Loyalty 58%

Note: \*\*\* $p < 0.001$ , \*\* $p < 0.05$ .

Source: SEM-Amos output.

strate that, among nine hypotheses six are accepted at  $p < 0.001$ , and rest of three hypotheses are accepted at  $p < 0.05$ . The influence of perceived value ( $\beta = 0.222$ ,  $p < 0.001$ ), perceived trust ( $\beta = 0.215$ ,  $p < 0.001$ ), and price structure ( $\beta = 0.141$ ,  $p = 0.004$ ) are significantly related to satisfaction that supports H1a, H2a, and H3a. In addition, perceived value ( $\beta = 0.234$ ,  $p < 0.001$ ), perceived trust ( $\beta = 0.193$ ,  $p = 0.003$ ) and price structure ( $\beta = 0.201$ ,  $p = 0.001$ ) are significantly related to brand image, which ensure hypotheses H1b, H2b, and H3b. In addition, the effects of brand image on satisfaction ( $\beta = 0.408$ ,  $p < 0.001$ ) and customer loyalty ( $\beta = 0.366$ ,  $p < 0.001$ ) is significantly positive, which supports hypotheses H4a and H4b. Satisfaction has a significant influence on customer loyalty ( $\beta = 0.474$ ,  $p < 0.001$ ), supporting hypothesis H5.

The study result shows that satisfaction is more affected by brand image of telecommunication service industry as it has a higher estimated coefficient (0.408). Furthermore, confirmation exhibits a stronger total effect of brand image ( $0.366 + 0.193 = 0.559$ ) on customer loyalty. Surprisingly, satisfaction and brand image are less affected by price structure. The structural model explains 24% of the variance in brand image, 56% of the variance in customer satisfaction, and 58% of the variance in customer loyalty toward the telecommunication service.

## VI. Discussions

Telecommunication service industries are forced to be competitive, which encourage them to seek higher customer

loyalty. This customer loyalty cannot be achieved easily; rather, it is a consequence of consumers' willingness to continue a long-term relationship with the service providers. This study investigates the origins of brand image on customer loyalty and customer satisfaction among telecommunication service users and identifies three sets of formative determinants of customer satisfaction and brand image. The results of this study strengthen the existing literature that perceived value, perceived trust, price structure, satisfaction, and brand image are the strong motivator for establishing customer loyalty.

This study finds that brand image exerts the maximum total effect on customer loyalty and is a best determinant of customer satisfaction, which supports the previous studies (Kim and Lee, 2010; Raza and Rehman, 2012; Sirapracha and Tocquer, 2012; Morgan and Govender, 2017, among others). This implies that subscribers in the Bangladesh are more likely to stay in their existing brand when service providers possess a good brand image. Furthermore, we find that perceived value in telecommunication service has a significant influence on customer satisfaction and brand image, as is supported by earlier studies of Lim et al. (2006), Lai et al. (2009), and Morgan and Govender (2017). Among the explanatory variables, perceived value is the highest-rated dimension by users. This indicates that users consider the brand seriously, when they perceive higher customer value through economic, emotional, and functional benefits. Perceived trust also shows a positive association with customer behavioral intention, which is

also similar to the findings of Aydin and Ozer (2005). In addition, we find that telecom service price structure has a significant positive effect on customer satisfaction that is also consistent with the earlier finding of Kim and Lee (2010).

In the context of Bangladesh, this study confirms the findings of Azam and Karim (2017), Hafez and Akhter (2017), and Islam (2010), who argued that customer loyalty strongly depends on image and customer satisfaction. Furthermore, we find that perceived value, price structure, and perceived trust have positive and significant impact on customer satisfaction which are similar with the findings of Akbar and Parvez (2009), Hossain and Suchy (2013), and Mannan et al. (2017). We also find that the customers held positive attitude to brand image on loyalty, which is in conflict with the earlier studies of Morgan and Govender (2017) and Chen and Myagmarsuren (2011) who found that brand image has insignificant impact on customer loyalty.

This study extensively contributes to the theoretical and managerial understandings of subscribers attitudes toward telecommunication service in an emerging market. At the theoretical level, this study verifies the origins of brand image on customer satisfaction and loyalty. Consumption of brands that is considered highly attractive, offers surplus benefits to consumers such as, maintaining social prestige or social identity. Additionally, this study considered variables that appear to be most accountable in building subscribers' brand attitudes toward telecommunication service. These findings have direct implications for practitioners

with regard to the recognition of the factors that determine relationship performance, which will allow them to retain existing customer and help them to develop strategies to attract potential new customers.

The study results of this study could also provide managers with insights into effective marketing strategies to enhance customer loyalty. Mobile service providers should emphasize the perceived brand image to better retain customers. The telecom managers might take it into their consideration when they design, implement, and change their branding plans and efforts. The dimensions of brand image such as, its name, term, symbol, sign, design, or emotional appeal should be carefully comprised. To improve customer satisfaction, service providers should particularly focus on perceived value and trust. Satisfied customers are more likely to retain, have lower price sensitivity, engage in referring through word-of-mouth, and show loyalty. Perceived value can be achieved by raising economic value, emotional value, and functional benefits or even by reducing costs. In order to build trust, service providers should increase the reliability and security of services, protect consumers' privacy, and reduce transaction errors. Service operators should also try to keep their price structures in affordable limit by offering regular discounts and various promotional benefits. Practitioners or managers can use these findings to structure their strategic policies and plans to enhance customer loyalty.

## VII. Conclusions

Considering the limited understanding of origins of brand image and customer behavioral intentions and the importance of understanding variables that appeared to have the most influence on this relationship in Bangladesh, we conduct this study. We demonstrate that brand image mostly depends on perceived value and trust, and has significant impact on customers' behavioral intentions. The results point to the importance of establishing brand image as a long-term relationship with customers. Although the current study examines a comprehensive model and thus provides managers with a greater understanding of the potential benefits of brand image and consumer behavioral intention, it should be interpreted with caution because it has the following limitations. First, this study aims to outline major variables that theoretically and logically should affect behavioral intentions in an emerging country perspective, but as samples were collected only from Bangladesh, the results might not properly represent other emerging countries. Therefore, future trials might benefit from using cross-country samples. Second, future studies should consider other independent variables such as switching barriers and social influence. Finally, future trials can be incorporated in other service industries for a better understanding of this paradigm.



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