

**Mediating Role of Value Co-Creation and Customer Commitment between Customer Trust and Customer Loyalty in Mobile Banking of Pakistan****Adnan Ahmed Sheikh, Nadir Munir Hassan, Zeeshan Haneef**

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**Abstract**

*In pursuit of examining the diverse perspective of mobile banking in Pakistan, the study intends, to examine the effect of customer trust on customer loyalty through the mediating role of value co-creation and customer commitment. With, a sample of 440 distributed, and 396 returned questionnaires, the study made use of a convenient sampling technique for mobile banking customers in Pakistan. The hypothesis was tested on Smart PLS-SEM 3.0, in the theoretical lens of social exchange theory, trust and commitment theory, and reasoned action theory. The outcome of the study shows the significant relationship between customer trust with value co-creation, customer commitment, and customer loyalty, moreover, the study found a positive influence of value co-creation and customer commitment with customer loyalty. Partial mediation of value co-creation and customer commitment in the relationship between customer trust and customer loyalty was also found. While the switching cost inversely moderated the relation between value co-creation and customer loyalty. Interestingly, customer involvement plays an important role to moderate the relationship between customer commitment and customer loyalty but regret to moderate the between value co-creation and customer loyalty. Lastly, the trust had a significant effect on value co-creation, customer commitment, and customer loyalty. Therefore, the study plays a monumental role by contributing to literature with insights on potential antecedents and moderating variables, which helps firms in enhancing customer loyalty, specifically in the banking sector of Pakistan.*

**Keywords:** Customer Trust, Customer Commitment, Value Co-Creation, Switching Cost, Customer Involvement, Customer Loyalty

Today, the evolution of information technology has led the banking sector to touch new competitive heights. In a given challenging situation, it has become of great importance for banks to study and adopt self-service mechanisms for customer convenience for instance internet banking, Automated teller machines, and mobile banking (Farah, 2018; Thakur, 2014). Mobile banking can be referred to as a way with which one can perform banking transactions through mobile telecommunication devices. In present times, banks are providing several banking services through mobile banking channels (Farah, 2018). Such devices provide customers with the benefit of being mobile and available with any geographical limitation, making its adoption and usage more prevalent (Smutkupt, Krairit, & Esichaikul, 2010; Sheikh, Rana, Inam, Shahzad, & Awan, 2018).

Customers always strives to use the services of banks that requires superior technology services in this sector. The issue of inactivity is one of the major concerns in mobile banking of Pakistan. A study by Afshan and Sharif (2016) indicated that only 66% of users are active users of mobile banking services in Pakistan. Security issues are also a matter of concern for customers to use mobile banking services (Alalwan, Dwivedi, & Rana, 2017). Switching of banks by the clients are normally caused by superior internet services although switching to the other financial institution can be risky in term of security. The continuous change of technology in the banking industry makes it difficult for customers to build their trust to create loyalty (Diallo & Lambey-Cecchin, 2017; Stathopoulou & Balabanis, 2016). This makes it even important for studies to be conducted on variables that could help the policymakers who are interested in winning the confidence of potential mobile banking users (Sheikh, Shahzad, & Ishak, 2016).

The central bank of Pakistan (SBP) take an initiative with Pakistan telecommunication authority in (2012) to use mobile banking technology as a tool to use in a financial transaction. The purpose to sign this memorandum of association is to organize a governess system and technological framework with help to provide fair, secure, and low-cost mobile banking technology to customers and policies discuss with all the investors and encourage them to support this for mutual benefits (Sheikh, Shahzad, & ku Ishak, 2017; Sheikh, Shahzad, & Ishak, 2017; Sheikh, Shahzad, & Ku Ishaq,

2017). These steps give tremendous results to mobile banking adoption in Pakistan as the figure reveals that in the year 2009 there were 0.1 million mobile banking transactions with a total value of 200 million in rupees. Then mobile banking increased in the year 2010 and 500% growth is recorded in terms of the number of transactions with 0.6 million and growth in value recorded as 1000% growth with 2200 million in rupees. This process increases day by day as in 2013 this increase was 35% and there was 4.2 million transaction in term of numbers and 27000 million of revenue in 2014. There were 6.2 million transactions with a value of 67,400 million which shows 125% growth (Afshan & Sharif, 2016). The latest report of the state bank of Pakistan published on its website shows that in June 2018 the number of mobile banking transactions in terms of volume was 26.1 million and 407 billion revenue generate through mobile banking (BOG, 2017). These figures show the importance, scope, and acceptability of mobile banking in Pakistan (Najaf, Najaf, & Aziz, 2014).

Next, value co-creation helps organizations to compete with other firms by increasing its competitive effectiveness by making customers participate and share ideas (Chen, Tsou, & Ching, 2011). While, Value Co-creation considers customer as a co-inventor in the service production process who share the information and ideas, and helps to participate in the process of decision making (Durugbo, 2014; Sheikh, Ishaq, & Inam, 2019). Likewise, according to (Dong, Evans, & Zou, 2008), the role of the customers as a co-producers play an even important role, which goes beyond his role as a passive receiver of service. That's why, the given study considers value co-creation from the perspective of customers (Cambra-Fierro, Pérez, & Grott, 2017). Recent studies have suggested that positive feelings and emotions toward a brand can be developed by the co-creation activities (Ind, Iglesias, & Markovic, 2017; Mostafa, 2020), nevertheless, there are limited studies relating to co-creation to the behavioral and rational outcome factors such as customer loyalty and trust. This is surprising because customer's behavioral and cognitional intension can generate a lot of benefits to the organization in terms of positive word of mouth and an increase in sales (Iglesias, Markovic, Bagherzadeh, & Singh, 2018). Therefore, a study by Mainardes, Teixeira, and Romano (2017) suggested that value co-creation in the banking sector needs more attention. Similarly, a study recognized scarce number of researches which measures value co-creation from a customer perspective (Cambra-Fierro et al., 2017).

Another potential issue faced by the banking sector is the switching cost of the clients. The increased cost of switching often, makes customers stick to a brand it already consuming, making him brand loyal. Yet, the interactional role of the cost of switching hasn't been frequently researched. When a customer put his heart and soul as a co-producer into designing a product or services, then he avoids switching, keeping in mind the extra energy he will have to exert to reproduce the required product or service, with a new service provider (Turner, Brown, & Tajfel, 1979; Yi Li Gang Li Taiwan Feng, 2015). Considering the importance of customer involvement with a particular brand, this study aims to study the interactive function of customer involvement between Value co-creation, commitment, and loyalty of the customer. Besides (Bügel, Verhoef, & Buunk, 2011) also suggested that involvement and switching cost can work as an important construct which moderates the relation among customer loyalty, trust and commitment. Therefore, based on the literature gap analysis and given future recommendations of the past studies, current study discusses the association between customer trust and loyalty, also examines the mediating relation between customer commitment and Value co-creation between customer trust and customer loyalty in the mobile banking of Pakistan. Similarly, the study considers switching cost and customer involvement as moderators between the above-shared relations.

### ***Objectives of the Study***

1. The main objective of the study aims to investigate the factors influencing customer loyalty which are using mobile banking services in Pakistan.
2. Further, the study intends to investigate the influencing factors to the loyalty of the customer to use the mobile banking system in Pakistan. This study also determines the mediating and moderating factors in the relation among customer trust and customer-loyalty particularly in mobile banking services.

## **Literature Review**

### ***Customer loyalty***

In the perspective of services marketing, customer loyalty is defined as "customers readiness to create a lasting relationship with a particular brand, by both repurchasing and suggesting the same brand to others" (Iglesias et al., 2018). Previous studies have highlighted that loyal customer through positive word of mouth and strong recommendation is an important source of a firm's market expansion. Moreover, a loyal customer mostly becomes less price-sensitive

towards a particular brand (Gee, Coates, & Nicholson, 2008). To classify loyalty, literature talks about two of its dimensions (Kumar, Shah, & Venkatesan, 2006) including, behavioral and attitudinal loyalty. While repurchase behavior of customer from a supplier is an indicator of behavioral loyalty. Similarly, the attitudinal loyalty approach deals with the personal attitude of customers, causing multiple emotions related to product services and the service provider. Even if it doesn't result in the purchase behavior of customers, but it still results in positive word of mouth in favor of a particular supplier (Kursunluoglu, 2011).

### **Customer Trust**

Trust is a belief and confidence which one individual has in the other, it includes two possible dimensions which are credibility and benevolence. Firstly, in objective credibility customer considers, his/her partner to have the required capabilities to perform a certain job, while in the case of benevolence, it's a belief, that a company is concerned about the customer (Ganesan, 1994). Credibility is mainly about focal individual's desire and stature to fulfill the expectations of partners and also to manage partner traits including, reliability in terms of goods and service delivery, Job-task related predictability, and task-specific competencies (Ganesan & Hess, 2016). While, benevolence stands on customers' trust in a certain organization's ability to keep customers concerns and desires, above their profits and ego (Robert, Denis, & Hung, 2009). In the given study, customer trust is measured in terms of credibility and benevolence belief as suggested by (Tabrani, Amin, & Nizam, 2018). In the same way, other researchers have studied the impact of trust on mobile banking acceptability, keeping its wider scope in the given area, and then they have generated significant results (Roy Dholakia & Zhao, 2010). Trust plays a crucial part in shaping the favorable behaviors of customers, that's why several studies across the globe have considered its impact on the number of positive outcomes including e.g. customer loyalty and Electronic word of mouth. Likewise, according to (Boateng & Narteh, 2016) customer, those who feel emotionally engaged with their banks are only because of the trust relationship.

### **Customer Commitment**

In pursuit of establishing a relationship between firm and customers, commitment is regarded as one of the key constructs (Chai, Malhotra, & Dash, 2015). While commitment is defined as the trust an individual partner has in another partner's ability to build and maintain a relationship. It can also be regarded as buyers' desire to uphold a continuous association with a service supplier. Commitment is also labeled as a psychosomatic connection that affects the person's motivation to sustain a relationship with a certain object (Jones, Taylor, & Bansal, 2008). Furthermore, In line with commitment expanding theory (Allen and Meyer, 1990), it is believed to have three dominant constructs including affective, normative, and calculative commitment (Fullerton, 2011; Sumaedi, Juniarti, & Bakti, 2015).

### **Value Co-Creation**

Value co-creation is a process in which a firm engages a customer and lets them join hands with the firm in developing new offerings by exchanging their knowledge, ideas, and desires (Iglesias et al., 2018). Previously, because of good dominant logic, it was believed that a firm creates value for a customer, while with the emergence of service-dominant logic, this belief got tested, with the viewpoint that other stakeholders, i.e. employees, government and customers, etc., play the equally vital role in creating value (Vargo & Lusch, 2004a, 2004b). In the same way, Yi and Gong (2013) revealed that consumer involvement activities and consumer citizenship behavior as two broader building blocks, making the concept of co-creation. Where, customer participation is regarded, as the behavior required to pursue successful co-creation behavior, while, according to consumer citizenship behavior, co-creation is a voluntary act, which incorporates extra-role behavior resulting in extra value for a particular firm.

### **Switching Cost**

Switching cost is resistance in terms of monetary value, time value, efforts, and psychological aspects of facing a new product and service (Kim, Kliger, & Vale, 2003). While switching costs are the ones that make it costly for a customer to switch a service provider (Han, Back, & Kim, 2011). The cost of changing a supplier faced by a consumer can be both monetary, non-monetary, and psychological. While the increased switching cost, gives rise to potential risks and uncertainty, for a customer, which in turn, resist them from opting for a new service provider, and enhances customer loyalty (Jones, Reynolds, Mothersbaugh, & Beatty, 2007). Consequently, such a perception of the increased cost of switching is beneficial for service providers, as it increases the likelihood,

that a customer will remain associated with a particular brand for a longer duration of time (Fornell, 1992).

### ***Customer Involvement***

Involvement can be defined as “a level of interest or importance of an individual or object or centrality of an object to an individuals’ ego structure” (J. Kim et al., 2018). Likewise, the level of importance of a decision can be determined by the level of involvement in the purchase process of a customer. Business customers are supposed to reflect a high level of attitudinal loyalty while making a high involvement purchase. According to Park and Young (1986) Classifies, involvement into two possible categories including ego involvement and purchase involvement. Ego involvement is labeled as the lasting involvement of a customer with a particular product or service, which he earns over time, in terms of deep knowledge (awareness, familiarity, and skills) about the service provider. On the other hand, purchase involvement is the amount and intensity of effort, time, and cost which is invested by a customer to make a particular purchase at a given duration of time (Rothschild, 1979).

## **Hypothesis Development**

### ***Customer Trust and Customer Loyalty***

A optimistic relationship among customer trust and loyalty has been witnessed in the departmental store (Sun & Lin, 2010), and the retail industry (Stathopoulou & Balabanis, 2016). Moreover, studies found that patient trust in a particular hospital increases the loyalty towards that hospital, in the health care service sector (Banyte, Tarute, & Taujanskyte, 2014). Similarly, it was observed that customer trust can cause an equal increase in customer loyalty, in the field of retail business (Diallo & Lambey-Checchin, 2017). While customers, always refer to those products and services to their relatives, and immediate circle, on which they have established trust (Flint, Blocker, & Boutin, 2011). In line with the above-shared argument, a study by (Guenzi, Johnson, & Castaldo, 2009) also suggested that customer trust positively affects customer loyalty. Considering the literature available, we propose that:

H1: Increasing customer trust directly enhances customer loyalty towards mobile banking

### ***Customer Trust and Customer Commitment***

The role of customer trust in developing customer’s favorable attitudes towards a particular product and service has already been discussed. In line with the given argument, the role of customer trust in establishing customer commitment, which is an important element of customer behavior, has also been observed in the marketing literature (Canavan, Henchion, & O’Reilly, 2007; Spena, Caridà, Colurcio, & Melia, 2012). Moreover, several studies have observed, tested, and established the role of trust as the antecedent of customer commitment (Mukherjee & Nath, 2003). In the desire of maintaining a long-term relationship, trust plays a monumental role and helps to sustain commitment among parties, interested in exchanging mutual interests (Morgan & Hunt, 1994). Trust and commitment move in a parallel direction, with the increase in trust, and equal intensity of increase in commitment is observed (Tabrani et al., 2018). Considering the given argument, this study proposes that:

H2: Increasing customer trust enhances the customer commitment towards mobile banking

### ***Customer Trust and Value Co-Creation***

To establish the mechanism of value co-creation, the element of trust is a prerequisite. Similarly, for value co-creation for virtual communities, trust is an important element (WU & SUKOCO, 2010). Trust through exchanges helps in developing value. Moreover, several other studies have observed a direct relationship between an increase in trust, and increase customer participation in co-creation activities (Alves, Mainardes, & Alves, 2017). Similarly, considering trust as a significant variable positively affects the value co-creation process of a firm (See-To & Ho, 2014). Moreover, trust is one of the important reasons behind value co-creation behavior among customers and the firm’s sales team. Considering the above-shared argument, the given study hypothesizes:

H3: Increasing Customer trust establishes a strong relationship with value co-creation among mobile banking customers

### ***Customer Commitment and Customer Loyalty***

Literature has revealed multiple results to strengthen the relationship between customer commitment and customer loyalty, like, (Fullerton, 2011) stated that in business-customer relations, commitment positively causes customer loyalty. In the same way, others are of the view that

commitment causes customers' intention to stay associated with a particular brand for long (Tabrani et al., 2018). In the same manner, the theory of commitment trust relationship states that commitment is a vital element causing a successful relationship (Morgan & Hunt, 1994). Accordingly, (Strandberg, Wahlberg, & Öhman, 2015), revealed that customer commitment is the critical element with an important role to increase customer loyalty and, the study also validated the intervening effect of customer commitment in causing a lasting relationship (Cater & Zabkar, 2009). Considering the above-shared argument, the study proposes:

H4: Strong customer commitment enhances customer loyalty in mobile banking

#### ***Value Co-creation and Customer Loyalty***

Past studies have signified the association between value co-creation and loyalty of the customer. Specifically, a study pursued by, (Cossio-Silva et al., 2016) supported the link among value co-creation and enhanced customer loyalty. Correspondingly, it has been indicated that with active customer engagement (i.e. Value co-creation) with a particular brand, loyalty towards the same brand increases (Kaufmann, Loureiro, & Manarioti, 2016). Additionally, Hajli et al. (2017) highlighted online brand communities revealed buyers' involvement over value co-creation increases their loyalty. Value co-creation through augmented contact among buyer and supplier helps reducing flaws/complaints (Dong et al., 2008). In line with the past literature, current study has hypothesized that:

H5: Increased Value Co-creation increases the customer loyalty of the mobile banking sector in Pakistan

#### ***Customer Commitment mediate between Customer Trust and Customer Loyalty***

Commitment is termed as the intensity of belief that one partner has on others, in the desire of having a sustained relationship (Morgan & Hunt, 1994). Considering commitment as a key construct in services marketing literature, its positive role in strengthening the firm, customer relationship is quite evident (Chai et al., 2015). With the increased customer commitment towards a particular firm, customer loyalty is the outcome. Moreover, (Tabrani et al., 2018) revealed the mediating role of customer trust with that of customer loyalty. Hence, it can be of great use for any organization to work on causing customer commitment, which ultimately will help in developing lasting relationships through customer loyalty (Gustafsson, Johnson, & Roos, 2005). As described, relationship trust is of great importance in maintaining customer commitment between parties involved, and also is of advantage for them to manage mutual interests. So, the present research proposes that:

H6: Customer commitment explains the mediating relationship between customer trust and customer loyalty in mobile banking of Pakistan

#### ***Value Co-creation act as a mediating variable between Customer Trust and Loyalty***

Recently, the intervening role of trust, among corporate social responsibility (CSR) and buyer loyalty was identified (Iglesias et al., 2018). Likewise, trust's role in positively, influencing value co-creation through the social exchanges has also been in the limelight. Customer role in the overall value co-creation process is unprecedented, and its believed that with increase customer engagement in the value co-creation process, their loyalty towards a particular brand also goes on a rise (Jaakkola & Alexander, 2014). Furthermore, it was found, that customer loyalty can be increased through the value co-creation process through their contribution and trust, specifically in the circumstance of online brand communities (Hajli et al., 2017). So, the given study proposes that:

H7: Value Co-Creation explains the mediating effect between customer trust and customer loyalty in mobile banking of Pakistan

#### ***Switching Cost plays a moderating role between Customer Commitment and Customer Loyalty:***

Switching cost is termed as a cost, which stops, an individual, from switching service providers (Lee, Lee, & Feick, 2001). Likewise, several studies have observed the relationship between switching costs and customer loyalty, and they concluded that customer loyalty can be caused by switching costs (Aydin, Özer, & Arasil, 2005). Similarly, studies have suggested that switching costs are useful factors helping a customer in maintaining the relationships with a particular supplier (Burnham, Frels, & Mahajan, 2003). In the same way, it was observed that perceived switching cost as a moderator will dampen the association between customer trust and customer loyalty (Sharma & Patterson, 2000). Correspondingly, switching cost keeps customers in a relationship, as it assists firms in establishing personalized ties (Burnham et al., 2003), and it also helps in retaining customers in a relationship, irrespective of their satisfaction level (Bansal, Irving, & Taylor, 2004). (Deng, Lu, Kee, & Zhang, 2010) States that switching cost has a significant role in causing customer loyalty. For

this reason, it was explored that there exists an empirical and theoretically justified connection between emotional commitment, switching cost, and customer loyalty. In line with the above-shared argument, the study hypothesizes:

H8: Increased switching cost positively moderates the relationship between customer commitment and customer loyalty in mobile banking of Pakistan

H9: Increased switching cost negatively moderates the relationship between value co-creation and customer loyalty in mobile banking of Pakistan

**Customer involvement plays a moderating role between Customer Commitment and Customer Loyalty**

Customer involvement plays an important role in affecting the customer’s decision making (Barki & Hartwick, 1994). Studies have suggested that customer involvement of patients, in a health care service sector, significantly influenced their loyalty towards a particular health care service providers (Cheung & To, 2011). Increased customer involvement causes the value co-creation behavior among customers, which increases their ability to derive value for themselves and competitive advantage for a given firm at large. At the same time, firms need to understand the benefits of customer involvement in making them stand apart in comparison to their competitors (Mainardes et al., 2017; Saarijärvi, Kannan, & Kuusela, 2013). Furthermore, the study, in the fashion retail context concluded that customer involvement has a prompt role in enhancing customer’s emotional connection, satisfaction, and ultimately brand loyalty (Kim et al., 2018). So, based on the past literature and findings, the current study has formulated the following hypotheses;

H10: Increased Customer involvement moderates positively between customer commitment and customer loyalty

H11: Increased customer involvement moderates the relationship negatively between value co-creation and customer loyalty

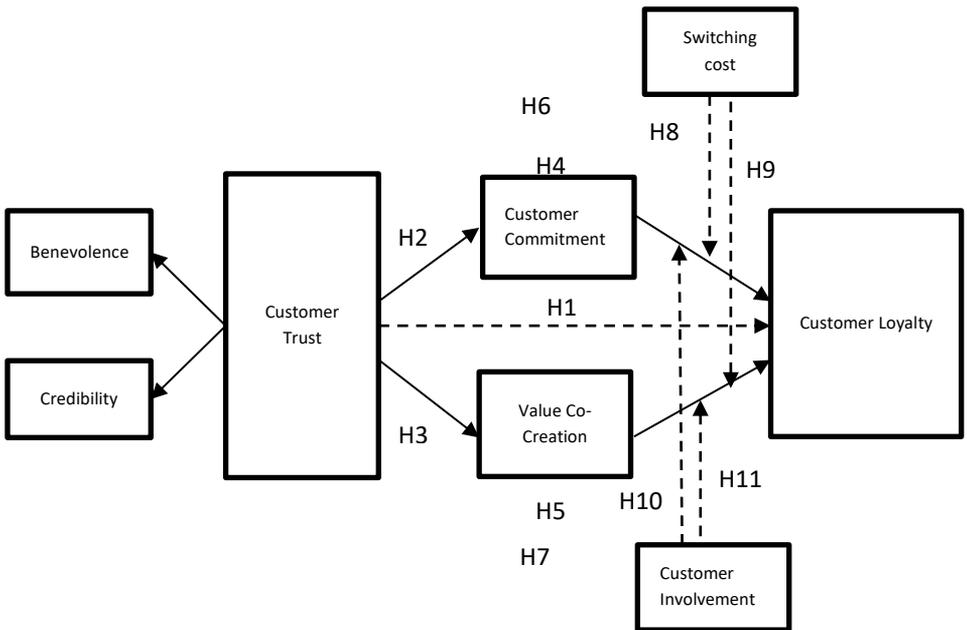


Figure 1. Research Framework

**Methodology**

**Questionnaire Design**

All theoretical constructs were measured through multiple items. All items were rated on a five-point Likert scale, with a maximum value indicating the more positive response, in favor of the question asked. While, the study, adopted five items scale of customer loyalty and customer commitment from (Tabrani et al., 2018), a four-item scale of credibility, and a four-item scale of

benevolence, to measure the trust of the customer (Ganesan & Hess, 2016), besides, eight items scale is used to measure the value co-creation construct (Yi & Gong, 2013). Further, we have adapted three questions to measure the switching cost as recommended by (Deng et al., 2010).

**Sample and data collection**

The current study has employed convenient sampling technique for the data collection purpose because it is less time consuming and cost effective. Further, the list of online consumers using internet banking were not available, therefore non-probability technique were more appropriate in collecting the data. Survey questionnaire were designed in a well-structured manner which were further floated to the customer of mobile banking in Pakistan. The target population of this research includes bank customers which used mobile banking services in Pakistan. Our study includes the major commercial banks of Pakistan which includes: Allied bank limited, Habib Bank Limited, United Bank Limited, Muslim Commercial Bank Limited, and others that are offering internet banking to their customers in Pakistan. The total number of respondents included in this study are 394, which includes 70 percent of males and 30 percent of females. The sample size was calculated on the basis of rule of thumb as suggested by Hair et al. (2014), by multiplying the construct items minimum with 5 and maximum by 10, therefore by multiplying with maximum range, we need to collect 280 maximum responses while in actual we received 394 questionnaires, which is helpful in terms of data reliability and more appropriate to represent the population of the study.

**Table 1. Demographic Profile of Respondents**

Demographic Variable		Frequency	% total Sample
Bank Account	Habib Bank Limited	72	18
	Allied Bank Limited	82	21
	United Bank Limited	86	22
	Muslim Commercial Bank Limited	91	23
	Others	63	16
Gender	Male	274	70
	Female	120	30
Age	Below 20	8	2
	20-29	178	45
	30-39	149	38
	40-49	56	14
	Above 50	3	1
Education level	Below metric	3	1
	Intermediate	140	35
	Bachelor	168	42
	Master or above	81	21
Employment Status	Others	2	1
	Student	18	5
	Self-employed	165	41
	Salaried person	193	49
	Housewife	16	4
Monthly Income	Others	2	1
	20000-29000	59	15
	30000-49000	198	50
	50000-80000	116	30
	Above 80000	17	4
Usage frequency	Others	4	1
	1-3 time per month	73	19
	4-6 time per month	234	59
	7-9 per month	66	16
	More than 9 times per month	14	4
Number of years	Others	7	2
	Less than 1 year	64	16
	1 year- 2 year	195	50
	2 year -3 year	84	21
	More than 3 year	40	10
	Other	11	3

**Tool and techniques**

Structure equation modeling (SEM) technique was engaged, to investigation the hypothesis, for following reasons, including: First, without a doubt SEM may be a method of a variable that transmits multiple equations on same time (Hair et al., 2010), secondly, the more

important well-known method used in the research of social science is Structural Equation Model (SEM) method. Third, factor analysis and regression analysis might be completed SEM in narrowly one step (Kline, 2015).

### Data Analysis and Results

In our study, we have floated 440 questionnaires to the customer, out of which 394 useable forms were retrieved, for further investigation, complying the response rate of approximately 90% approx. Moreover, at the initial phase, no missing values were found in our study. The yield shown only 36.05 % of the total variance, which concluded that there is no “common method bias” issue in current study and the value received is less than the recommended threshold (Lowry & Gaskin, 2014; Podsakoff et al., 2003). The initial level screening results revealed that the value of minimum maximum, mean slandered deviation, skewness, and kurtosis for the descriptive statistics of the latent construct of the study area according to the threshold values as recommended by (Hair et al., 2014). Next, PLS-SEM technique has been used for data analysis, which is based on the two step modeling as given in the following sections (Henseler, Ringle, & Sinkovics, 2009).

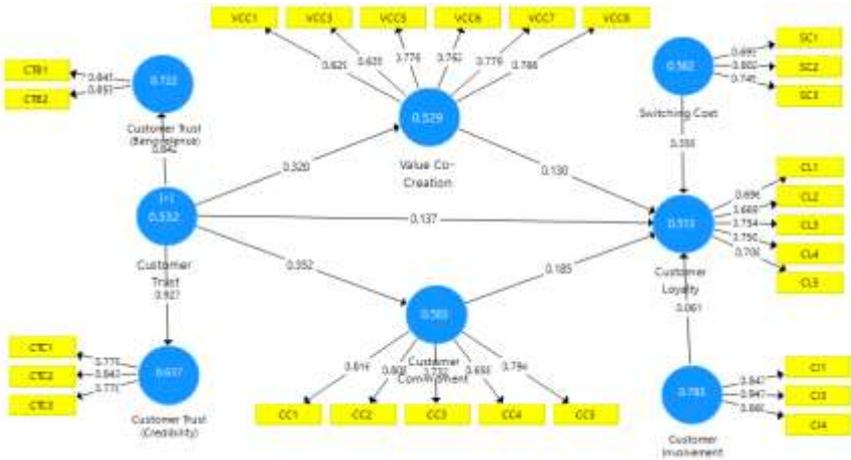


Figure 2. Measurement Model

Table 2. Factor loadings, Composite reliability, and AVE

Constructs	Items	Loadings	Composite Reliability	AVE	outer VIF
Customer Commitment	CC1	0.816	0.874	0.583	2.383
	CC2	0.808			2.240
	CC3	0.732			1.534
	CC4	0.658			1.339
	CC5	0.794			1.913
Customer Involvement	C11	0.847	0.916	0.785	2.011
	C13	0.947			2.338
	C14	0.860			2.408
	C15	0.860			2.408
Customer Loyalty	CL1	0.696	0.840	0.512	1.770
	CL2	0.669			1.718
	CL3	0.754			1.687
	CL4	0.750			1.633
	CL5	0.708			1.474
CTB1	0.845	0.847	0.527	1.411	

	Customer Trust (Benevolence)	CTB2	0.855			1.478
Customer Trust		CTC1	0.779			1.597
	Customer Trust (Credibility)	CTC2	0.843			1.643
		CTC3	0.770			1.437
		SC1	0.695	0.793	0.562	1.114
	Switching Cost	SC2	0.802			1.383
		SC3	0.749			1.323
		VCC1	0.629	0.870	0.529	1.422
		VCC3	0.635			1.407
	Value Co-creation	VCC5	0.776			1.823
		VCC6	0.762			2.050
		VCC7	0.779			2.165
		VCC8	0.766			1.733

Table 2 shows all the value factor loadings, composite reliability, AVE (Average Variance Extracted), and outer VIF and all the mention values are under the recommended range of (F. Hair Jr et al., 2014; Hair, Ringle, & Sarstedt, 2013). Table 4 shows the discriminate validity matrix and value founds in the discriminate validity in this research.

Table 3. *Discriminant Validity Matrix*

	Customer Commitment	Customer Involvement	Customer Loyalty	Customer Trust	Switching Cost	Value Co-Creation
Customer Commitment	<b>0.764</b>					
Customer Involvement	-0.217	<b>0.886</b>				
Customer Loyalty	0.369	-0.059	<b>0.716</b>			
Customer Trust	0.363	-0.128	0.350	<b>0.726</b>		
Switching Cost	0.270	-0.134	0.465	0.290	<b>0.750</b>	
Value Co-Creation	0.400	-0.102	0.311	0.336	0.193	<b>0.77</b>

After discussing the outer model this section explains the structural model direct relationships as highlighted by Hair et al., (2006). However, according to suggestions of (Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014) if  $t$  – value is more than 1.64, then it shows significant relation, which helps in decision making on the proposed relationships. Figure 3 displays the output results generated with the help of Smart PLS 3.2.8. Finally, to achieve the  $t$ -value of 1.64, after the bootstrapping of 5000 sampling iterations for 394 cases.

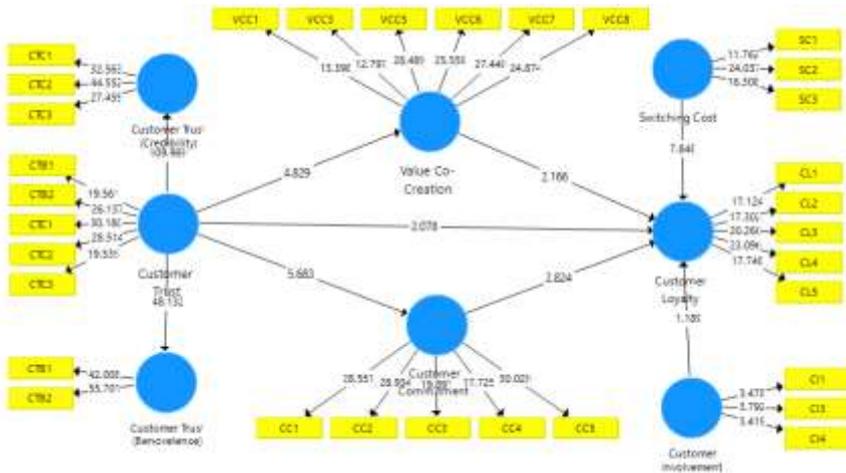


Figure 3. Structural Model Direct Relationships

In the beginning, hypothesis 1 anticipated that Customer Trust is positively associated with Customer Loyalty particularly in the mobile banking of Pakistan. Figure 2 demonstrates a noteworthy and direct association among Customer Trust and Customer Loyalty ( $\beta = 0.145$ ,  $t = 2.179$ ,  $p < 0.02$ ) supporting hypothesis 1. Hypothesis 2 articulated that Customer Trust have a supported association with Customer Commitment ( $\beta = .363$ ,  $t = 6.063$ ,  $p > 0.00$ ) supporting hypothesis 2. Hypothesis 3 predicted that Customer Trust has positively influenced the Value Co-creation ( $\beta = .336$ ,  $t = 5.400$ ,  $p < 0.0$ ) which supports hypothesis 3. Similarly, Hypothesis 4 predicts Customer Commitment positive in association with Customer Loyalty ( $\beta = .182$ ,  $t = 2.772$ ,  $p < 0.00$ ) supports hypothesis 4. Furthermore, Hypothesis 5 predicted that Value Co-Creation has a direct and significant relation with Customer Loyalty ( $\beta = .127$ ,  $t = 2.062$ ,  $p < 0.03$ ) which supports hypothesis 5.

Table 4. Results of hypothesis testing (Direct effects)

Direct Hypotheses	Beta	SD	T Stats	P Values	Decision	F-Square	Q-Square	R Square
Customer Commitment -> Customer Loyalty	0.18	0.06	2.77	0.00	Sig.	.036		
Customer Trust -> Customer Commitment	0.36	0.06	6.06	0.00	Sig.	.151	.070	.131
Customer Trust -> Customer Loyalty	0.14	0.07	2.17	0.03	Sig.	.025	.145	.320
Customer Trust -> Value Co-Creation	0.33	0.06	5.40	0.00	Sig.	.127	.053	.113
Value Co-Creation -> Customer Loyalty	0.12	0.06	2.06	0.04	Sig.	.019		

Table 4 indicates the supported hypotheses of direct hypotheses. Figure 2 is completely explained in Table 4 that exemplifies the effect of the variables on Customer loyalty in mobile banking of Pakistan (dependent variable). (Cohen J., 1988) "explains the  $f^2$  value of 0.02 as weak, 0.15 as moderate, and 0.35 as strong". Table 4 explains the specific effect size of the latent constructs of the structural model.

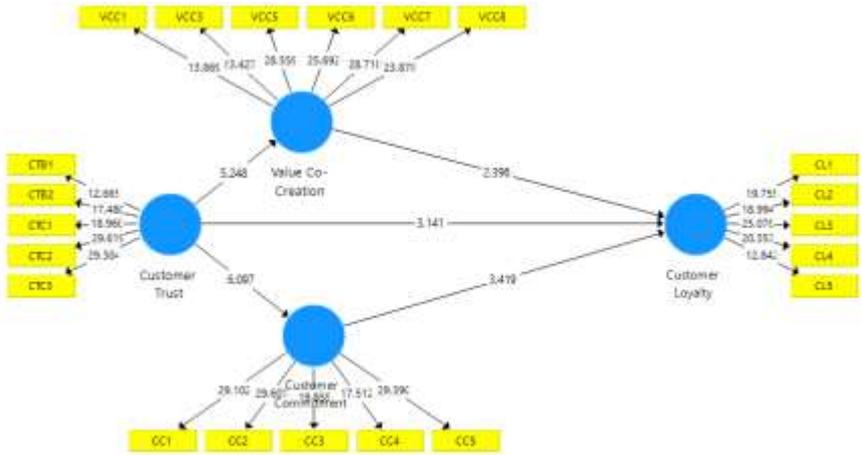


Figure 4. The Indirect Effect of Value co-creation and customer commitment

Table 5. Mediation Hypotheses

Mediation Hypotheses	Beta	SD	T Stats	P Values	Decision
Customer Trust -> Customer Loyalty	0.206	0.066	3.141	0.002	Supported
Customer Trust -> Customer Commitment -> Customer Loyalty	0.084	0.036	2.771	0.006	Partial Mediation
Customer Trust -> Value Co-Creation -> Customer Loyalty	0.052	0.028	1.881	0.06	Partial Mediation

In table 5 figures reveal that customer trust has a direct positive relation with Customer loyalty and is supported. So, all the other two mediators which have a mediating effect between customer trust and customer loyalty are partially mediated this relationship. Therefore, hypothesis 6 and hypothesis 7 got supported.

#### Moderator Analysis

The results are shown in Table 6, which states that Switching Costs moderate the relationship between Value Co-Creation and Customer Loyalty ( $\beta = -0.126$ ,  $T = 2.322$ ,  $p > 0.05$ ). So hypothesis 9 has been supported as well. Conversely, hypothesis 8 is rejected.

Table 6. Moderator Hypothesis Testing

Moderation Hypotheses	Beta	SD	T Stats	P Values
Customer Involvement & Value Co Creation -> Customer Loyalty	-0.173	0.156	1.108	0.268
Customer Involvement & Customer Commitment -> Customer Loyalty	0.123	0.066	1.853	0.065
Switching cost & Customer Commitment -> Customer Loyalty	0.0043	0.063	0.066	0.947
Switching cost & Value co creation -> Customer Loyalty	-0.126	0.054	2.322	0.021

The given, table also demonstrates that Customer Involvement moderates between Customer Commitment and Customer Loyalty ( $\beta = 0.123$ ,  $T = 1.853$ ). So the hypothesis (10) has been supported. While the hypothesis (11) has not been supported.

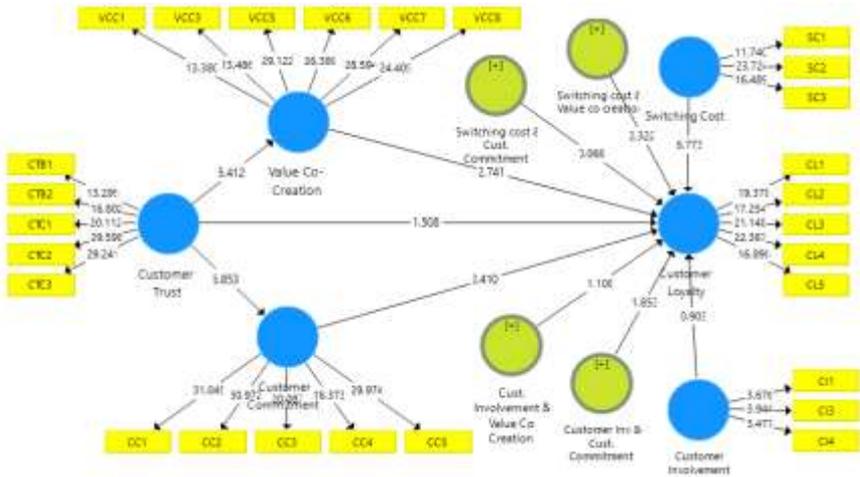


Figure 5. Structural Model with Moderating Variable

Information received from path coefficients remained applied to plot the moderating effect of Switching Cost and Customer involvement in association among customer commitment, Value Co-creation, and Customer Loyalty by following the suggested techniques of (Dawson, 2014; Toothaker, Aiken, & West, 1994). Moreover, to determine the strength of the moderating effect, the current study used Cohen's (1988) guidelines. Also, the power of the moderating effect could be scrutinized by relating the R-square value main effects model with an R-square value of full model which includes both moderating variables and exogenous latent variables (Henseler & Fassott, 2010).

Moreover, it was shown by current findings that switching cost moderate the association among value co-creation and customer loyalty, but on the other hand it lacks to moderate among customer commitment and customer loyalty. Further findings of current study revealed that customer involvement moderated the association among customer commitment and customer loyalty but it does not have a moderating effect among value co-creation and customer loyalty.

## Discussion

The research was conducted to empirically examine the associations between customer trust, customer commitment, Value co-creation, customer loyalty, and also to understand the moderating role of switching cost, customer involvement. Multiple regressions analysis was employed to test the hypotheses. Firstly, the direct correlations among the variables are discussed. Secondly, the mediation effects of customer commitment and value co-creation between the dependent variable (customer loyalty) and independent variable (customer trust) have been checked. Thirdly, the moderating influence of switching cost and customer involvement in predicting customer loyalty was also checked. Out of eleven (11) hypotheses, nine (9) were supported and two were not supported.

In this study, it was hypothesized that customer trust influences customer loyalty in the banking industry of Pakistan while using mobile banking services. The result of the current study shows that customer trust has a significant and direct effect on customer loyalty in the mobile banking of Pakistan. These results revealed that with an increase in customer trust, customer loyalty also increases as well as the desire, to keep using the mobile banking service with their banks. Results concurred with previous studies (Diallo & Lambey-Checchin, 2017). Likewise, Singh, Iglesias, and Batista-Foguet (2012) found that the trust of the customer has a positive relationship with customer loyalty. The current study also confirmed that customer trust has a positive relationship with customer commitment. The literature revealed that customer trust is an essential construct that significantly enhances the commitment of customers (Moorman, Zaltman, & Deshpande, 1992; Sharma, Young, & Wilkinson, 2015). Moreover, results also supported the proposed positive relationship between customer trust and value co-creation. The findings of the study imply that when customer trust will be high then it will lead to increased value co-creation. When a customer will trust the organization then his participation and citizen behavior will increase toward that organization which he trusts more (Iglesias et al., 2018).

As described, the study proposed the relation of customer commitment to customer loyalty. The findings of our study stated that customer commitment positively affects customer loyalty, which implies that when customer commitment will be high then it increases the loyalty of customers in a positive manner (Inam, Ho, Sheikh, Shafqat, & Najam, 2021). Research conducted by Tabrani et al. (2018) stated that commitment has a significant relationship with customer loyalty because when the customer will be committed to the bank, it will increase its loyalty particularly, in Pakistan, where all the banks are providing mobile banking services to their customers, with this increase in competition it's important for banks to increase customer commitment towards themselves to make their clients more loyal. Besides, the given study proposed a positive relationship between value co-creation and customer loyalty. While, the result of the study also supported the proposition, which meant that with the increase in value co-creation, there will be an equal increase in customer loyalty. The given results are in line with the previous study, (Hajji et al., 2017) which also found a positive relationship between value co-creation and customer loyalty. Considering customers as an element of the value co-creation process, value co-creation encourages the customer to collaborate with service providers, which ultimately helps to reduce and managing complaints (Dong et al., 2008). Utilizing the facility of flawless services, being a co-producer, customers generate brand loyalty and prefer repurchasing from the same service provider for a long. Same loyalty and value co-creation connection has also been generated by several previous studies, in several industries (Cossío-Silva et al., 2016) including travel service (Polo Peña, Frías Jamilena, & Rodríguez Molina, 2014). As described, mobile banking transactions being virtual, offer an additional challenge to organizations to engage customers, and generate prompt feedback and input, in the desire of delivering improved services. To summarize, this study conforms to previous literature suggesting a positive relationship between value co-creation and customer loyalty.

In this research, it was proposed that customer commitment has a mediating effect on customer trust and customer loyalty. While examining the mediating relation of customer commitment between customer trust and customer loyalty both direct and indirect effects are applied. The current results of the study show that there is significant and partial mediation of customer commitment between customer trust and customer loyalty, so hypothesis 6 is supported. This implies that when customer trust is high, it will cause customer commitment that would eventually lead to high customer loyalty. Our findings also support by trust and commitment theory proposed by (Morgan & Hunt, 1994) this theory hypothesizes that commitment plays a mediating role to establish a successful relationship. Further, value co-creation was proposed to mediate the relationship between customer trust and customer loyalty. The results revealed partial mediation of customer commitment between customer trust and loyalty, supporting hypothesis 7. This implies that when customer trust is high, it will cause value co-creation that would eventually lead to high customer loyalty. Additionally, studies have tested value co-creation with multiple variables, including the mediating role of value co-creation between CSR and customer loyalty (Iglesias et al., 2018), which reflects consumers' willingness to engage in value co-creation behavior to seek the desired benefits. Furthermore, It reflects that with increased trust in an organization, customers invest their time and efforts in co-producing products and services which in turn generates their loyalty. To clarify, it was also proposed in hypothesis 8 that switching cost moderates the association between customer commitment and loyalty. The finding of the research revealed that there is no significant relation of switching cost as a moderator between customer commitment and customer loyalty which is in line with the work by (shun yin lam, Shankar, 2004; Yang & Peterson, 2004).

On the other hand, it was proposed in hypothesis 9 that switching cost moderates the association between Value co-creation and customer loyalty. The findings of the study support this hypothesis, where switching cost has a negative relation between value Co-creation and customer loyalty. This implies that when switching costs will be high, it dampens the relationship of value co-creation and customer loyalty and when switching costs will be low then the relation between value co-creation and customer loyalty will be stronger. This relationship is supported by previous studies such as (Yang & Peterson, 2004) that switching cost has a negative relationship as an interactional variable between customer satisfaction, perceived value, and customer loyalty. In the value, the co-creation process customer has to put his time, effort, and participation to create the value, when there is high switching cost, while in the case of banking sectors with a lot of alternatives available, the case becomes even tricky.

It was also proposed in hypothesis 10 that customer involvement moderates the relationship between customer commitment and customer loyalty. The findings of the study support this hypothesis and show results that customer involvement has a positive relationship between customer involvement and customer loyalty as a moderator. With increased customer involvement, in the banking sector, customers' familiarity and knowledge with product and services also increase which ultimately increases customer commitment and loyalty towards the service provider (Canavan

et al., 2007; Sanchez-Franco & Rondan-Cataluña, 2010; Vargo & Lusch, 2004b). The study proposed in hypothesis 11 that customer involvement has a moderating relationship between Value co-creation and customer loyalty. The results of the study did not support this hypothesis, reflecting any relation between value co-creation and customer loyalty as a moderator. The output of the study is supported by the previous literature in which customer involvement doesn't play a moderating role between different variables, such as the study conducted by (Kayeser Fatima Johra, 2013) concluded, that there is no moderating effect of customer involvement between rapport and customer satisfaction. The reason for this insignificant relation is because customers believe and trust in the service provider's competency to produce more efficient and technically sound products and services. This is why they don't participate in the designing process of service and value creation.

### ***Implications***

The current study aims to investigate the factors that affect customer loyalty. A review of the literature and the findings of current studies enabled the researcher to enrich the literature on customer loyalty, customer trust, customer commitment, and value co-creation. Technological advancement changing the way of doing business in the banking industry (Sohail & Al-Jabri, 2014). Our study helps to generate the loyalty of customers in these changing phenomena of technology.

Moreover, the study contributes to the perspective of customer involvement by making them participate in their ideas, knowledge, and feedback. Similarly, the moderating effect of switching cost and customer involvement is also discussed in the given research, which theoretically contributes to the body of knowledge in retaining the customers, in mobile banking services of Pakistan. The study findings indicated that with appropriate use of customer involvement and switching cost, a firm can strengthen the relationship between commitment, value co-creation, and loyalty, which implies that if a customer will be involved with a particular bank, then he/she will be least affected by the changes in switching cost, reflecting that banks must focus on generating customer involvement and commitment to secure their loyalty.

The results of our study contribute to the right use of customer involvement and switching costs. The results stated that the benefit of customer involvement can be taken to strengthen the relationship of commitment and loyalty as compare to value co-creation to create loyalty because when a customer will be committed with the organization then switching cost will not affect their relation of commitment and loyalty so banks should not focus on switching cost but their main focus must be on customer involvement in this relationship. These days with increased competition in the banking sector, every bank is inclined towards providing value-added service along with affordable banking services to retain customers. The findings of the study assist the management of banks in policymaking on how mobile banking services and customer awareness on value co-creation can help both the parties in forming advanced products and services. The way of managing the information and transactions changes due to the advancement of technology in any sector (Aboelmaged & Gebba, 2013). The study findings help the practitioners to identify the different drivers and challenges leading to the use of mobile banking technology. It also helps the management of banks to consider the participation of the customer while design technology base service as well. Any organization must identify and forecast the desire of the customer to develop any product for the customer. When products and offers will be designed following the demand of the customer then it will help the banks to maintain the loyalty of their customer leading to increased profitability and market share.

### ***Limitations and Directions for Future studies***

This study was limited to "major cities of Pakistan and for better generalizability of the model, the research may extend by increasing the number of samples and considering other geographical places across Pakistan". In this, big commercial banks of Pakistan were selected for data collection from the banking industry of Pakistan. So considering other commercial and microfinance banks will give more reliable results. This study has not analyzed the reverse relation of value co-creation with customer trust which can be analyzed in future studies particularly in mobile banking services. Moreover, the study has used customer trust as an independent construct in this study, future research may include customer security concerns and other related variables. Future studies may also apply technology models to identify the understanding of customers while using mobile banking services. The study was limited to Pakistani banking sector, although, this study will be consider more interesting if the mobile banking services of other developing countries may be compared with Pakistan banks, which will help the researcher to understand the difference and gaps related to mobile banking of Pakistan, it will also help the future studies to extract some other important variables for better understanding of mobile banking services and the issues faced in providing value to the customers.

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