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Application of Cognitive Motivational Relational Theory to Examine the Influence of E-Banking Quality Factors on Customer Loyalty

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ABSTRACT

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Banks equipped themselves with modern tools to provide innovative and dynamic services to clients. Traditional banking transformed into digital online banking to facilitate customers all over the world through the internet. High-quality online banking services are necessary to retain clients. Customers using online banking services of the top five commercial Pakistani private banks were the study population. A structural equation modeling technique was employed to analyze the hypothesis. The results found the significant impact of reliability, website design, and security on customer trust leading to higher loyalty based on cognitive, motivational relational theory. The research findings provide numerous theoretical and practical implications for banks' administration to make internet banking website design more user-friendly and reliable with enhanced security features that win the customers' trust and strengthen loyalty.



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1. Introduction

Customer loyalty plays a vital role in the success of both manufacturing and service organizations (Shankar & Jebarajakirthy, 2019). The commitment of the customer shows their dedication to re-buy the products. Maintaining the loyalty of the customer is a challenge for organizations (Haq & Awan, 2020). They spend massive expense on advertisement and marketing efforts but still the customer loyalty not much increase (Ramesh et al., 2020). Service organizations are offering customized based services to increase the loyal base of consumers. Banking services are usually standardized in nature, and customers cannot perceive differentiation, decreasing the level of loyalty (Mulia et al., 2020). Technology enables banks to offer the latest innovative services to clients become more committed (Raza et al., 2020).

The evolution of information technology has transformed almost every business in the world (Moşteanu et al., 2020). The wide use of the internet shifted the traditional service delivery methods to digital

online processes. Banks adopt the latest electronic procedures to provide better financial services to their clients (Raza et al., 2020). Customers use online banking services through mobiles, laptops, tablets, and other digital gadgets telecommunicate through the internet. Electronic banking (e-banking) facilitates customers to execute financial transactions through the internet without physically interacting with staff (Hammoud et al., 2018). E-banking initially provides informative material to clients, but over time it begins to offer almost all financial banking services, including the statement of account, requisition of the new checkbooks, utility bills payments, fund transfer, stock investment, insurance premium payment (Mahmoud, 2019).

Competition is getting intense due to the high demand for e-banking, and banks provide the best quality services to retain customers (Ghali, 2021). The customer perception about quality varies from context, and it requires further investigation to understand the customer expectation about e-banking quality, particularly in a developing economy (Haq & Awan, 2020; Hassan et al., 2018). Literature evident the scant of research investigates the influence of quality factors on customer behavioral outcome such as loyalty.

Those mentioned above proposed the following research question:

Do e-banking quality factors (reliability, security, website design) affect the customer loyalty mediated through trust?

2. Literature review

2.1 E-banking Quality Dimensions and Trust

Banks deliver superior quality online banking services to get a competitive advantage (Hassan et al., 2018). The online banking quality dimensions include reliability, depicting the bank's services' level of consistency and accuracy (Garepasha et al., 2020). The consistency characteristics of quality show the availability of online banking services free from technical errors. Accuracy represents the precision in the delivery of online banking services as promised by the bank that augments the customer's confidence in the quality of online banking services offered by the bank. The following hypothesis can be postulated as follows:

H1: Reliability in e-banking services positively influences customer trust.

The second dimension of e-banking quality is the security that ensures customer privacy and safe their credentials to avoid any financial loss (Shankar & Jebarajakirthy, 2019). Customer personal information is crucial, and banks secure customer privacy over the internet that wins clients' trust. The following hypothesis can be derived from stated above:

H2: Security in e-banking services positively influences customer trust.

Website design is another essential dimension of e-banking quality (Mahmoud, 2019). Online banking requires efficient processing and quick transactions through the user-friendly website design that facilitates the customer to navigate swiftly and efficiently perform day-to-day business transactions (Shankar & Jebarajakirthy, 2019). Consequently, build customers' initial trust in online banking services. The above mentioned proposed the following hypothesis:

H3: Website design in e-banking services positively influences customer trust.

2.2 Trust and Customer Loyalty

Organizations focus on customer retention for their success and put maximum effort into gaining the loyalty of customers (Tabrani et al., 2018). The commitment of customers is less influence by price changes and marketing efforts. Customized quality services play a vital role in building the belief of the customer (Shankar & Jebarajakirthy, 2019). Customers' trust starts making in the e-banking services

that lead to customers' positive attitude. Their behavior changed to the e-banking services, and they became loyal to the electronic banking services. The stated above proposed the following hypothesis:

H4: Trust in e-banking services positively influences customer loyalty.

2.3 Mediating Role of Trust

Customer trust reflects the expectation of customers that the services which they are receiving are credible and reliable (Leninkumar, 2017). They are getting the same quality of services which they have been promised to offer. This build trust among employees and they become a loyal customer of that organization (Islam et al., 2021). The sustainability of a client's loyalty depends on the consistent level of trust with day-to-day e-banking transactions.

In the banking industry, winning customer trust is not an easy task and requires high-quality financial services to fulfill their business requirements (Tabrani et al., 2018). The satisfied customer who has confidence in e-banking services motivates other e-banking users that increase the clientage. Trust plays a vital role in building the long-term relationship between clients and service providers. Customers prefer e-banking if it is secured as security plays an essential element in building trust similarly timely, and accurate response of e-banking increases the customers' confidence in e-banking and the reliability of customers on e-banking. Website design has a significant influence in building customer trust (Shankar & Jebarajakirthy, 2019). It involves a user-friendly application, relevant content, concise information, regular updating of content, and fast transactions that enhance customer trust in e-banking services that improve customer loyalty.

Hence from the above literature following hypotheses can be derived as:

H5: Trust mediates the relationship between the reliability of e-banking services and customer loyalty.

H6: Trust mediates the relationship between the security of e-banking services and customer loyalty.

H7: Trust mediates the relationship between website design of e-banking services and customer loyalty.

2.4 Cognitive Motivational Relational Theory

Cognitive motivational relational (CMR) theory underpins the association between e-banking quality dimensions and customer loyalty mediating through trust (Shankar & Jebarajakirthy, 2019). CMR suggests that the link between mental evaluation and behavioural outcome. The cognitive theory represents that an individual's assessment of a particular phenomenon based on beliefs and values then responds based on emotions stimulated through cognition (Yaseen & El Qirem, 2018). The researcher explained the association through CMR theory by stating the e-banking service quality factors as the cognitive assessment of online banking service quality (Lin & Shiqian, 2018). At the same time, customer behavioural response to the environment through their loyalty depicts as emotional stimuli. The research model as shown in Figure 1 has been derived from the literature mentioned above.

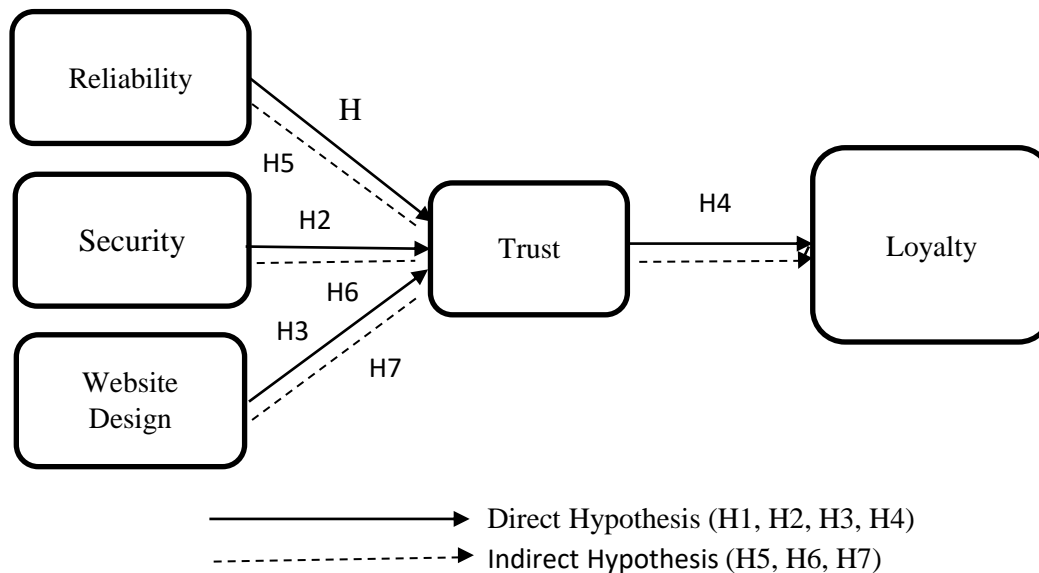


Figure 1: Research Model

3. Methodology

3.1 Data Collection

The sampling population comprises e-banking users in five major banks of Pakistan (Allied Bank, United Bank, Muslim commercial bank, Bank Alfalah, and Habib bank). The survey was conducted to collect data through a self-administered questionnaire. The survey questionnaire of this study consists of two parts. The first part of the questionnaire comprised the respondent's demographic information, whereas the second part consists of all constructs adapted from literature. A five-point Likert scale was used to measure items range from strongly disagree=1 to strongly agree =5. Purposive sampling was used to gather responses from e-banking users of particular banks. The sample size determined by Krejcie & Morgan's (1970) table, i.e., 250 samples, is adequate to get a valid result. Four hundred questionnaires were distributed among e-banking users while considering the low response rate in Pakistan, and 230 questionnaires were received. Twelve responses were partially filled, discarded for further analysis, and statistical tests were applied to 218 complete responses.

3.2 Statistical Technique for Analysis

Partial least squares structural equation modeling (PLS-SEM) technique was used to analyze data (Hair et al., 2017). The SmartPLS 3.0 software was used to test the hypotheses statistically. A two-stage analysis approach was followed, first measurement model assessment and second stage structural model assessment. The current study applied the bootstrapping procedure to determine mediation analysis. Normalization of data is not a pre-requisite in PLS-SEM (Preacher & Hayes, 2008b). It relies on bootstrapping for checking the significance of path coefficients (Hair et al., 2017).

4. Data Analysis and Findings

4.1 Respondent Profile

The demographic analysis shows male participants have a higher response in comparison to the female. The female participants were 14.3%, while the male was 85.7%. The variable of education reflected that majority of the respondents were graduated 43.11%. The respondents' age illustrated that the majority, 52.75% falls in the age bracket of 20-30 years. Majority of e-banking users having experience of 2-3 years, reflecting 44.03%. The major responses were collected from Allied Bank e-services users showing 26.60%, as shown in Table 1.

Table 1: Demographic profile of respondents

Demographic variables	Frequency	Percentage
Gender		
Male	187	85.7%

Female	31	14.3%
Education		
Intermediate	48	22.04%
Graduation	94	43.11%
Master	51	23.39%
Others	25	11.46%
Age		
20-30 years	115	52.75%
31-40 years	86	39.44%
41years and Above	17	7.81%
Experience using e-banking		
1-2 years	87	39.90%
2-3 years	96	44.03%
3 years and above	35	16.07%
Banks		
Allied Bank	58	26.60%
Habib Bank limited	55	25.22%
Muslim Commercial Bank	43	19.72%
Alflah Bank	32	14.67%
United Bank limited	30	13.79%

4.2 Assessment of Measurement Model

Sixteen items are used to measure five constructs in the current study and comprises the outer model where items are stated as indicate. Constructs are denoted as latent variables. Confirmatory Composite Analysis (CAA) is performed through partial least structural equation modeling using Smart PLS software (Hair Jr et al., 2020) to measure the model, as shown in Figure 2. All constructs are reflective as adopted through literature and in reflective measurement to measure internal consistency by composite reliability (CR), the average validity through average variance extracted(AVE). While discriminant validity through Fornell & Larcker (1981).

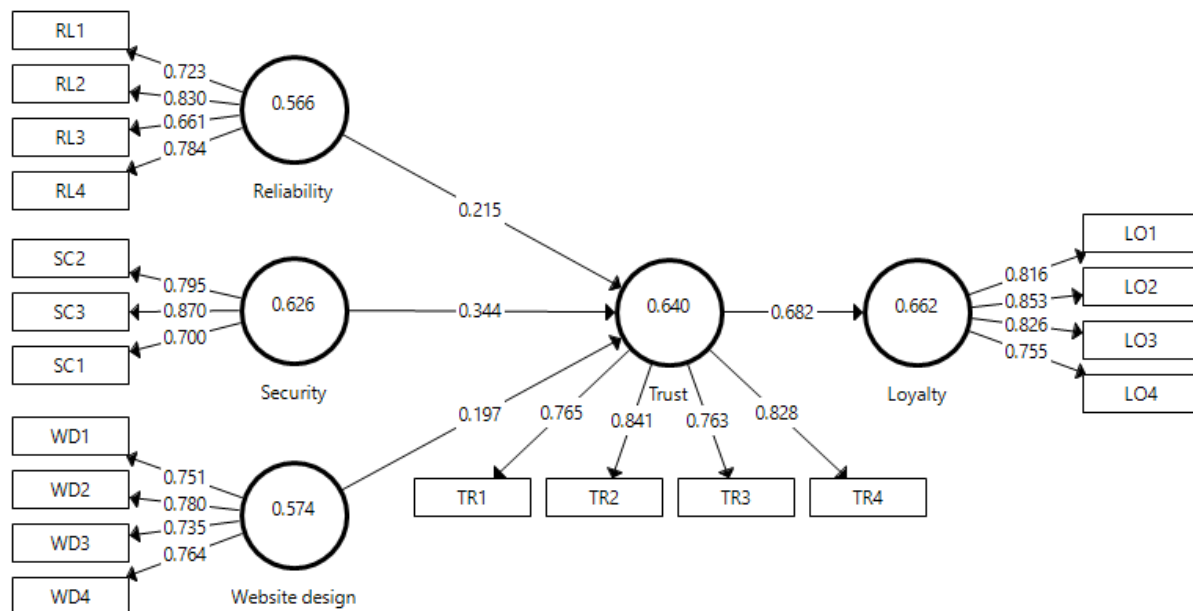


Figure 2: Measurement Model

4.2.1 Internal Consistency, Reliability, and Convergent Validity

The results of the measurement model using the PLS algorithm in SmartPLS shown in Table 2. The items' loadings of each item greater than 0.40 represent internal consistency, while the composite reliability value of all the constructs is greater than 0.70 represents the reliability in the model (Hair et al., 2014, 2017). Furthermore, each construct's average variance extracted value is greater than 0.50,

showing the convergent validity of the model.

Table 2: Internal consistency, reliability, and convergent validity

Construct	Items	Loadings	CR	AVE
Reliability	RL1	0.723	0.838	0.566
	RL2	0.830		
	RL3	0.661		
	RL4	0.784		
Security	SC1	0.700	0.833	0.626
	SC2	0.795		
	SC3	0.870		
Website Design	WD1	0.751	0.844	0.574
	WD2	0.780		
	WD3	0.735		
	WD4	0.764		
Trust	TR1	0.765	0.876	0.640
	TR2	0.841		
	TR3	0.763		
	TR4	0.828		
Loyalty	LO1	0.816	0.886	0.662
	LO2	0.853		
	LO3	0.826		
	LO4	0.755		

Note : CR =Composite reliability , AVE =Average variance extracted

4.2.2 Discriminant Validity

Discriminant validity measurement in this study is measured using Fornell and Larcker's (1981) criteria, which is the most popular method to measure each other's distinctness in the model. Fornell and Larcker (1981) stated that the AVE's root in a diagonal place should be higher than the other constructs' correlation values. Moreover, the results in Table 3 show that all diagonal values are higher than corresponding correlation values, which reflects the model is discriminant valid (Sarstedt et al., 2017).

Table 3: Fornell and Larcker Criterion

	LO	RL	SC	TR	WD
Loyalty (LO)	0.813				
Reliability (RL)	0.482	0.752			
Security (SC)	0.598	0.515	0.791		
Trust (TR)	0.682	0.509	0.567	0.800	
Website design (WD)	0.523	0.596	0.570	0.521	0.758

Note: LO=Loyalty, RL=Reliability, SC=Security, TR=Trust, WD=Website Design

4.3 Structural Model Assessment

After measuring the construct's reliability and validity through the measurement model, the following procedure is bootstrapping through SmartPLS (Hair et al., 2017). The inner model, also known as the structural model, indicates the significance of relationships between constructs. The structural model is present in Figure 3.

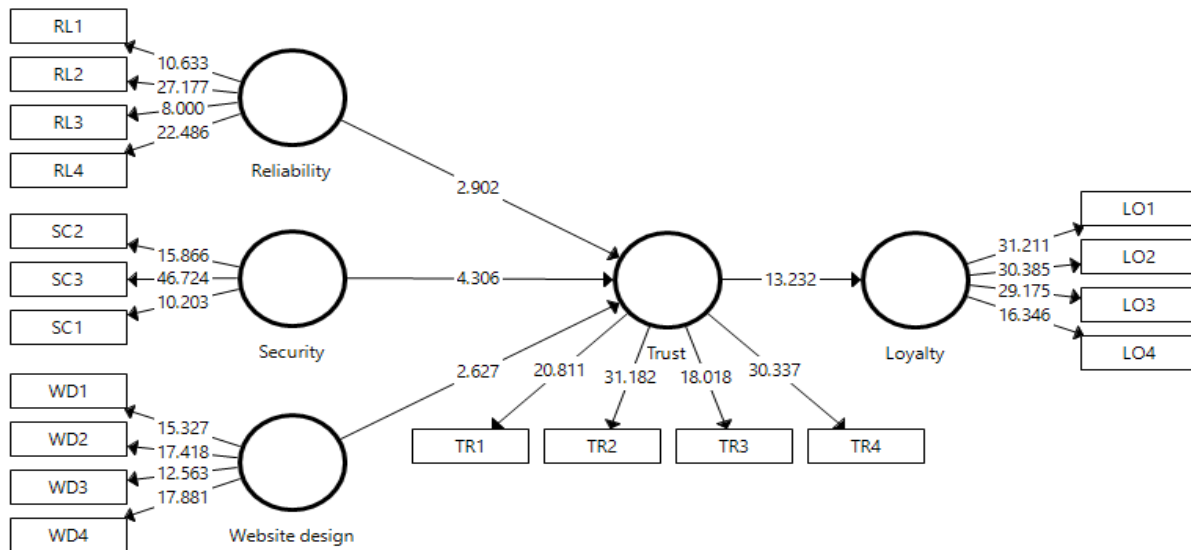


Figure 3: Structural Model

4.3.1 Direct Hypotheses Testing

Table 5 shows that all results of the direct relationships of the study hypothesis 1 is supported with the significant association. Figure 3 and Table 5 demonstrate a significant positive relationship between reliability and trust ($\beta= 0.215, t \text{ value} =2.92, p\text{-value} <0.05$), supporting the hypothesis 1. Hypothesis 2 security positively influences the trust ($\beta= 0.344, t\text{-value} =4.306 p\text{-value} <0.05$) that supports hypothesis 2. Hypothesis 3 articulated that the website design positively influences trust ($\beta= 0.197, t\text{-value}=2.67, p\text{-value} <0.05$) that supported hypothesis 3. Hypothesis 4 trust postulated that trust has a significant influence on the building of loyalty. The value of R^2 is 0.406 and 0.450 that are higher than 0.26, as recommended by Cohen (1988) indicates that the current model is substantial. The value of Q^2 of trust is 0.248, and loyalty is 0.300, which is considered above zero, showing that the model is predictive relevant.

Table 5: Direct Hypotheses Testing

Hypothes is	Relationshi p	Std. Beta	Std. Error	T value	P Values	2.50 %	97.50 %	Decision	R2	f2	Q2
H1	RL -> TR	0.215	0.074	2.902	0.004	0.034	0.340	Supporte d	0.406	0.046	0.248
H2	SC -> TR	0.344	0.080	4.306	0.000	0.205	0.524	Supporte d		0.125	
H3	WD -> TR	0.197	0.075	2.627	0.009	0.053	0.342	Supporte d		0.036	
H4	TR -> LO	0.682	0.052	13.232	0.000	0.559	0.762	Supporte d	0.450	0.869	0.300

Note: LO=Loyalty, RL=Reliability, SC=Security, TR=Trust, WD=Website Design

4.3.2 Mediation Analysis

The current study bootstrapping method was utilized to examine the indirect effect as recommended by (Preacher & Hayes, 2008a).The bootstrapping results stated in Table 6 revealed that all mediation hypotheses were supported. P-values of hypotheses 5, 6, and 7were less than 0.05, and zero did not straddle between the upper limit of 97.50% and the lower limit of 2.50%.

Table 6: Indirect Hypotheses testing (Mediation analysis)

Hypothesis	Relationship	Std. Beta	Std. Error	T value	P Values	2.50%	97.50%	Decision
H5	RL -> TR -> LO	0.146	0.053	2.749	0.006	0.030	0.243	Supported
H6	SC -> TR -> LO	0.235	0.061	3.838	0.000	0.135	0.375	Supported
H7	SC -> TR -> LO	0.134	0.053	2.538	0.011	0.033	0.244	Supported

Note: LO=Loyalty, RL=Reliability, SC=Security, TR=Trust, WD=Website Design

5. Discussion and Conclusion

The current study utilized the cognitive, motivational relational (CMR) theory to analyze the influence of reliability, website design, security on trust, and its mediation impact on customer loyalty towards e-banking services. There was a total of seven hypotheses. Out of seven, three were direct hypotheses, and four were indirect hypotheses that measure the mediating impact of trust between independent variables and customer loyalty. The present study results revealed that the e-banking website's reliability has a significant impact on trust of customers who use e-banking services through banks supported by the literature (Shankar & Jebarajakirthy, 2019). The results depicted that the e-banking website's security has a significant impact on customers' trust using e-banking services from the providers. The results are consistent with the previous literature. The result of the next hypothesis elaborated that the website's design has a significant impact on the trust (Haq & Awan, 2020). The current hypothesis result is synchronized with the previous literature. There were four indirect hypotheses related to the mediating effect of trust between independent variables and customers' trust using e-banking services. The numbers depicted that the e-banking website's security positively impacts customers' trust using e-banking services from the providers.

The present study has numerous contributions. First, this study has analyzed a mediated model using CMR Theory. CMR theory using the mediation role of trust to analyze loyalty among banking customers has not been analyzed in the e-banking context, especially in a developing country. The current study contributed to the mediating impact of trust between website design, reliability, the security of e-banking services customer loyalty. Second, the present study was carried out in Pakistan. Pakistan has the 5th largest country population wise and there many banks working in Pakistan providing e-banking services. There is no much literature regarding e-banking services quality and its impact on loyalty available in Pakistan. The present study provides valuable insights regarding e-banking service quality factors in the Pakistani context.

6. Limitations and Future Research Recommendations

The present study only uses a quantitative method for data collection in future qualitative methods like interviews for in-depth findings. The current research considers the study population's banking sector, while another manufacturing sector can be included in further studies for more generalized results. The data collected from Pakistan representing developing countries' perspective in future comparison studies may be conducted, including a western country, to analyze the factors that affect the organizational commitment.

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