

## **The Influence of BCA E-Banking Service Quality on Customer E-Satisfaction and E- Loyalty**



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**ABSTRACT:** The development of banking services through electronic media was increasingly widespread along with the rapid growth of information technology. Technological developments through digital transformation in the banking system require banking services in Indonesia to switch to e-banking services. E-banking is a form of service innovation by utilizing technological developments. E-banking services that are currently developing rapidly are mobile banking and internet banking. The increase in mobile banking and internet banking transactions in Indonesia has increased by more than 300% from 2016 to August 2021. One of the banking companies that has the largest number of e-banking users in Indonesia is BCA. With the rapid development of e-banking services, it is necessary to evaluate the quality of e-banking services including reliability, privacy and security, website design and customer service and support. Therefore, this study aims to determine impact of the quality of BCA e-banking services on customer e-satisfaction and e-loyalty. The sample used in this study was 230 data taken by purposive sampling. The data obtained were analyzed using structural equation model analysis (SEM) with the help of the AMOS 24 application. The results showed that there was a significant impact between reliability, website design and customer service and support on e-satisfaction. Meanwhile privacy and security have a significant impact on e-loyalty. In addition, this study also found that there was a significant impact of e-satisfaction on e-loyalty.

**KEYWORDS:** E-banking, Reliability, Privacy and Security, Website Design, Customer Service and Support, E-satisfaction, E-loyalty

### **I. INTRODUCTION**

Banking has a major role to increase economic growth and equitable development towards improving people's living standards (Sabir et al, 2012). By adapting to technological developments through digital transformation in the banking system, banking services in Indonesia are required to switch to electronic banking services or digital banking. Digital banking has always been the preference for today's account holders (Singh et al 2017). It is important to mention here that customer experience has always been an important consideration for organizations in executing this business model (Mansoor et al, 2020). In addition, the recent pandemic (COVID-19) is also one of the uncertain situations that helped customers, employees, and society at large realize the change in business models and move to digital services (Seetharaman, 2020). These business changes have made banks pay attention to the shift of consumers towards digital or electronic banking during the pandemic (Baldwin, R. and Mauro, 2020; Wojcik, D. and Ioannou, 2020). The issue of the spread of viruses from paper money is also an important reason to transform to electronic banking services (Auer et al, 2020). The development of technology and digital electronic banking (e-banking) services has increased drastically.

Electronic banking (e-banking) is the use of technology by banks as a form of new service innovation that can attract customers and maintain customer loyalty because it is considered to provide convenience and a sense of security to its customers. Electronic banking that has emerged and developed today is such as, ATM, Mobile banking, Internet banking, Phone banking, Video banking, to SMS banking (Tampubolon, 2009). Electronic banking facility (e-banking) is a system that allows bank customers, both individuals and businesses to access accounts, conduct business transactions, or obtain information on bank products and services through private or public networks, including the internet. Electronic banking (e-banking) users in Indonesia have increased from year to year. The increase in mobile banking and internet banking transactions also increased by more than 300% from 2016 to August 2021. However, digital transformation also made a number of banks close because they were unable to compete. From 2017 to August 2021, 2,593 banks closed (Ojk, 2020).

In Indonesia, BCA is the Top Brand Bank in the e-channel category in 2022 (Topbrand-Award.com/2022). On these grounds, researchers are interested in choosing BCA as the object of this study because the impact of changes in the current

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situation (Covid-19 pandemic) and increasingly rapid technological advances have encouraged BCA to improve customer services with e-banking facilities. From these data, it indicates that the potential and opportunities of banks in providing e-banking services are still very wide open. It is imperative for the banking sector to evaluate e-banking services regularly because the more quality e-banking services are, the more happy the use of e-banking will increase, which has an impact on customer satisfaction and ends up in customer loyalty to the bank. Banks must be able to understand what customer needs and expectations are. Banks must continue to improve service aspects and provide security guarantees for customers who conduct financial transactions in order to create loyalty in customers. Customer satisfaction and loyalty are certainly influenced by several factors, one of which is the quality of service.

E-banking services offered to customers need to be evaluated by banking service providers so that services become better from time to time. Bank Central Asia (BCA) needs to pay attention to aspects of service in order to increase satisfaction which is expected to encourage loyalty from customers. (Tjiptono, 2014) defines service quality is a measure of how well the level of service provided is able to match customer expectations. (Hussien, M.I. and Aziz, 2017), (Shankar, A. and Jebarajakirthy, 2019) (Ul Haq, I. and Awan, 2020) propose four indicators e-service quality of e-banking services namely, Reliability, Privacy and security, Website design, and Customer Service and Support. All aspects of quality service illustrate the bank's ability to meet the needs of customers for banking services so that customer satisfaction and loyalty are achieved. The quality of service is determined by the bank's ability to meet the needs of customers' expectations and desires. Quality service is seen to increase customers' desire to continue using banking services offered by Bank Central Asia (BCA). Service quality has a close relationship with customer satisfaction and loyalty. Good service quality will encourage customers to establish a good relationship with the bank as the service provider. Service quality is a very important factor to determine the success of the banking business. This is based on research conducted by Waguespack et al.(2007) and (Tidichumrernporn et al, 2010) which states that the quality of service of a service cannot be ruled out, because it can increase competitive advantage in obtaining customers and satisfaction from customers. In addition to service quality, Gaffar (2007) states that one of the factors that influence loyalty is satisfaction. (Kotler, Philip., Keller, 2013) said consumer satisfaction is a person's feeling of pleasure or disappointment that comes from a comparison between his impression of the performance or results of a product with his expectations.

In providing satisfaction and loyalty to customers, e-banking services offered by banks must also offer ease of service and security for customers in carrying out every banking transaction activity. Security and confidentiality of personal and financial data in e-banking are the main focus of a customer before deciding to use e-banking services. E-banking services that guarantee the security and confidentiality of customer data will certainly convince and cause satisfaction in customers. Banks must monitor the satisfaction of their customers in order to create loyalty in their customers. Based on the description of the problem, the researcher feels interested and aims to obtain empirical evidence on the effect of BCA e-banking service quality on customer satisfaction and loyalty. This study was measured using four dimensions of e-banking that have been used in previous studies by (Hussien, M.I. and Aziz, 2017), (Shankar, A. and Jebarajakirthy, 2019), (Ul Haq, I. and Awan, 2020). This study also uses cognitive motivational relation (CMR) theory which shows the relationship between cognitive evaluation of four dimensions of e-banking service quality (Reliability, Privacy and Security, Website Design, Customer service & support) and emotional response (Satisfaction and loyalty).

## II. LITERATURE REVIEW

### A. Cognitive Motivational *Relational Theory*

This study is theoretically supported by the Cognitive Motivational Relation (CMR) theory because it links the process of analyzing different perspectives and human emotional responses to evaluation (Kemper, 1992; Lazarus, 1993, 1993; Lazarus, 1991). Emotions stimulate almost all important events in our lives, moreover how to respond to them also influences our responses (Kemper, 1992; Mansoor et al., 2020). Demographic characteristics determine the occurrence of cognitive orientations such as values, beliefs and personal goals resulting in a significant break from an event in the environment (Shankar and Jebarajakirthy, 2019).

CMR theory, developed by Lazarus (1991), is used in this study to provide theoretical support for the relationship between e-banking service quality and customer satisfaction and loyalty to e-banking services. This theory shows the relationship between cognitive evaluation and emotional response. Cognitive orientation occurs when individuals evaluate their environment based on their goals, beliefs, and values which in turn produce emotional responses to cues presented in the environment. Researchers have used CMR theory to explain the relationship between service quality and customer responses, such as customer satisfaction, purchase intention and customer loyalty (Brady and Robertson, 2001; Shankar and Jebarajakirthy, 2019). They suggest that service quality is associated with cognitive evaluation of service, whereas customer responses, such as purchase intention and customer loyalty, are considered as emotional responses.

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Consistent with the above arguments, this study shows that e-banking service quality is a cognitive evaluation, while customer satisfaction and loyalty are emotional responses. E-banking customers evaluate the cues presented in the e-banking environment. The EBSQ dimensions (Reliability, Website Design, Privacy and Security, Customer service and Support) are indicators in the e-banking environment that are cognitively evaluated by e-banking customers. This evaluation results in their satisfaction and loyalty to e-banking which is a behavioral response to e-banking services.

### **B. Electronic Banking Service Quality (EBSQ)**

The EBSQ is defined as a consumer's evaluation of the quality of banking services provided via the internet (Jun and Cai, 2001). E-banking provides some unique services that are not available in offline banking, such as lack of interpersonal interaction, ubiquity and localization Bauer et al., (2005). The existence of e-banking services means access to banking services anytime and from anywhere (Al-Hawari, 2014). According to Tampubolon (2009), the channels of e-banking services that have been implemented by banks in Indonesia are as follows:

1. ATM, Automated Teller Machine or Automated Teller Machine.
2. Mobile Banking
3. Internet Banking
4. SMS Banking

Extensively discussed in the research of Hussien and Aziz, (2017), Shankar and Jebarajakirthy, (2019) propose four indicators of e-banking service quality, namely:

- Reliability, this refers to the ability of e-banking to perform the promised services correctly and accurately. This dimension refers to “the ability of the service provider to perform the promised service accurately and consistently” (Parasuraman et al., 2005). Reliability is also an important aspect of e-banking service quality which influences good customer response to e-banking services (Wolfenbarger and Gilly, 2003; Blut et al., 2015).
- Privacy and security, which refers to the security and protection of customers' personal data and financial information. This dimension also refers to “the extent to which customers believe that the site is safe from intrusion and that personal information shared through the platform is protected” (Hussien, and Abd El Aziz, 2013).
- Website design (web quality), which refers to the quality of content, catalog structure, and website aesthetics. It also includes “various ebanking website elements that consumers use to interact with the website including navigation, detailed information, and transaction processing” (Wolfenbarger and Gilly, 2003).
- Customer Service & Support, which refers to customer support regarding problems that occur. Services provided to customers to resolve their needs as well as a quick response to their complaints (Blut et al., 2015). In turn, these customers will remain loyal to them and spread positive word of mouth about these banking services.

### **C. E-banking service quality and e-satisfaction**

The relationship of EBSQ and satisfaction remains a great academic debate (Esengun et al., 2006; Haider et al., 2014; Shankar and Jebarajakirthy, 2019; Wang and Ma, 2010; Shankar and Jebarajakirthy, 2019). Contradictory findings and views of researchers can be noted, as some argued EBSQ as an antecedent of e-banking customer satisfaction (Shankar and Jebarajakirthy, 2019). Older studies termed satisfaction as antecedent of service quality (Cronin et al., 2000; Cronin and Taylor, 1992; Dick and Basu, 1994; Parasuraman et al., 1985) and the findings of these classical studies cannot be neglected even if the service quality is now read as electronic service quality and digital aspect is also attached to satisfaction and loyalty. An empirical analysis of customer perception of US banks on service quality reports higher quality of EBSQ leads to satisfaction (Foroughi et al., 2019). Website attributes undoubtedly play a vital role in improving customer satisfaction (Amin, 2016; Roy et al., 2012) however variety of attributes have different impressions on the minds of consumers (Bressolles et al., 2014). This vividly demonstrated the relationship between website design and e-banking customer satisfaction. Support services provided during e-banking should be less technical as satisfaction among users varies because of technicality of services (Black et al., 2014). Thus customer service and support need to be smooth and favorable for achieving higher satisfaction (Shankar and Jebarajakirthy, 2019). To achieve satisfaction and for greater customer loyalty, privacy and navigation interface must be focused (Bressolles et al., 2014). The service providers especially in e-banking are strictly advised to ensure focus on high level of secure information, confidentiality and transaction privacy (Brun et al., 2014; Yu et al., 2015). Significant impact of EBSQ on customer satisfaction in e-banking is also reported in this context (Kassim and Abdullah, 2010).

- H1. Reliability in e-banking services affects e-satisfaction.
- H2. Privacy & Security in e-banking services affect satisfaction e-satisfaction.
- H3. Website Design in e-banking services affects e-satisfaction.
- H4. Customer service & support in e-banking services affects e-satisfaction.

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### **D. E-banking service quality and e-satisfaction**

It is extensively discussed in literature that loyalty depends on EBSQ (Hussien and Aziz, 2017; Shankar and Jebarajakirthy, 2019). There are four dimensions of EBSQ, namely, reliability, privacy and security, website design and customer service and support of e-banking. The first dimension, reliability in e-banking holds great importance as response of customers is crucial. Reliability is one of the factors which can influence responses, however timely processing of banking transactions with zero errors is often taken essentially in judging the reality of e-banking service providers (Blut et al., 2014; Liang and Pei-Ching, 2015; Sacconi et al., 2014). The second dimension, privacy and security expresses the extent to which an e-banking user confidently shares personal information on an e-banking platform (Muturi et al., 2013). E-banking creates serious privacy issues for the users as there is no in-person interaction (Kim et al., 2009; Shankar and Jebarajakirthy, 2019). However, the trust factor surged toward service providers and the desired customer satisfaction response can be achieved through trust (Safi and Awan, 2018). The better code of conduct for privacy and safety results in higher loyalty (Orel and Kara, 2014; Thaichon et al., 2014). The third dimension of EBSQ, website design is defined as various interactive features of the e-banking service helps provide consumers with structure of transaction during and E-banking service quality summary afterwards the structure of processing a transaction and more (Wolfenbarger and Gilly, 2003). Higher level of satisfaction can be achieved through an updated website (Kim et al., 2009) and enhanced interactive experience. The traits of interactive websites enhances trust, satisfaction and loyalty toward the e-banking results (Lee et al., 2006). The fourth dimension, customer service and support can be explained as the rapidity of retort toward any delinquent reported by user during or after service experience. The users here can be referred as both individuals and organizations (Blut et al., 2015). Similar to the individual users, organizations are also much concerned, which sometimes also have a deeper impression on employees as well (Awan et al., 2017). The support provided by the banking professional are considered more secured and assured while any trouble is faced in India (Shankar and Jebarajakirthy, 2019) and similar case is expected in Pakistan as well. The adaptation in website design leads consumers to trouble (Thaichon et al., 2014) while the quick and effective solution provided on time to user results into higher satisfaction leading to loyalty in electronic environments generally (Chaudhry et al., 2009) and in e-banking more specifically (Shankar and Jebarajakirthy, 2019). Resultantly, all four dimensions are hypothesized as follows for empirical testing.

- H5. Reliability in e-banking services affects e-loyalty
- H6. Privacy & Security in e-banking services affect e-loyalty
- H7. Website Design in e-banking services affect e-loyalty
- H8. Customer service & support in e-banking services affects e-loyalty

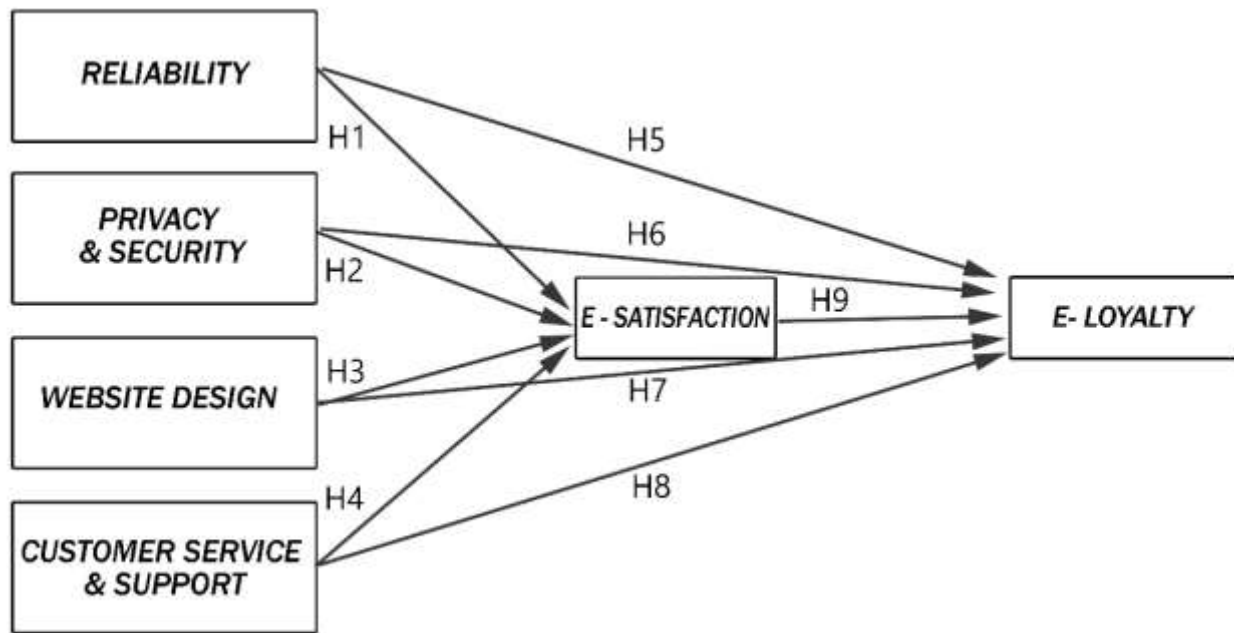
### **E. E-satisfaction service e-banking towards e-loyalty service e-banking**

Generally, businesses always strive for higher customer satisfaction, being a core element. Undoubtedly, customer loyalty can be achieved by providing them with higher levels of satisfaction. In tourism, satisfied tourists are happy to turn into loyal ones (Mahadin et al., 2020). E-satisfaction leads to an attitude of loyalty consequently leaving a positive impact on behavior. E-satisfaction in banking can lead to more use of banking services with possibilities e-loyalty which is higher (Giao, H., Vuong, B. and Quan, 2020); Suariedewi and Suprapti, 2020). Internet speed and connectivity often affect satisfaction and also have an impact on loyalty (Amir, M., & Chaudhry, 2019). E-trust and e-satisfaction mediate the relationship between service quality (Giao, H., Vuong, B. and Quan, 2020). In the recent literature, research has addressed the strong relationship between e-satisfaction and e-loyalty. However, in the context of a pandemic, literature is scarce measuring the impact of satisfaction e-banking and loyalty e-banking. Therefore, the empirical propositions below are formulated and tested in this study. The framework above shows all the hypotheses.

- H9. E-satisfaction e-banking effect e-loyalty service e-banking.

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## F. Conceptual Framework



Picture 1. Figure of Conceptual Framework

## III. METHODOLOGY

This research is a quantitative research, namely quantitative research is a research methodology that seeks to measure data using some form of statistical analysis (Hair, J. F., Black, W. C., Babin, B. J., & Anderson, 2019). The data obtained from the research sample were analyzed according to the statistical method used and then interpreted. The data collection technique used was a questionnaire or questionnaire in the form of questions given to respondents to fill in according to the actual situation. Questionnaire is a structured technique for data collection consisting of a series of questions, written or oral, which are answered by the respondent (Malhotra, 2010).

The sampling technique used in this study is nonprobability sampling i.e. a sampling design in which the elements in the population have no known or predetermined chances of being selected as sample subjects(Now, 2009). Furthermore, the sample design used in this study is purposive sampling i.e. sampling design nonprobability where the required information is gathered from a specific or specific target or group of people on a rational basis(Now, 2009). It is expected that the samples to be taken actually meet the criteria in accordance with the research to be carried out. The sampling criteria in this study are:

- Is a customer of Bank Central Asia in Indonesia
- Using the service e-banking that is Internet banking and Mobile banking

Online link was sent to 230 respondent who have service of e-banking BCA. The responses were measured on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). This study uses the SEM method (*Structural Equation Modeling*) with the help of the AMOS 24 application to test the hypotheses that have been proposed. SEM is a part of a statistical model that attempts to explain the relationship between many variables. SEM estimates a series of separate, but interdependent, multiple regression equations simultaneously by specifying the structural model used by the statistical program

## IV. RESULT AND DISCUSSION

### A. Respondent Data Collection Results

Primary data was collected in this study as many as 247 respondents, but there were several results of respondents' answers that did not match the previous criteria so that only 230 respondent data, so that 93.2% of all respondents could be processed further. The data will be edited (editing) and coded (coding) on each item to make it easier to tabulate (tabulating) data. Next, the researcher performed data processing by first testing the questionnaire in the form of a validity test and a reliability test. Validity test and reliability test were carried out to find out whether the statement attributes in this study were valid and reliable. Finally, the researcher processed the data using the Structural Equation Model (SEM) and the AMOS 24 application. The majority of respondents are male, namely as many as 126 respondents with a percentage of 54.70% of the total. While the number of respondents was female, namely as many as 104 respondents with a percentage of 45.30%. The results of the

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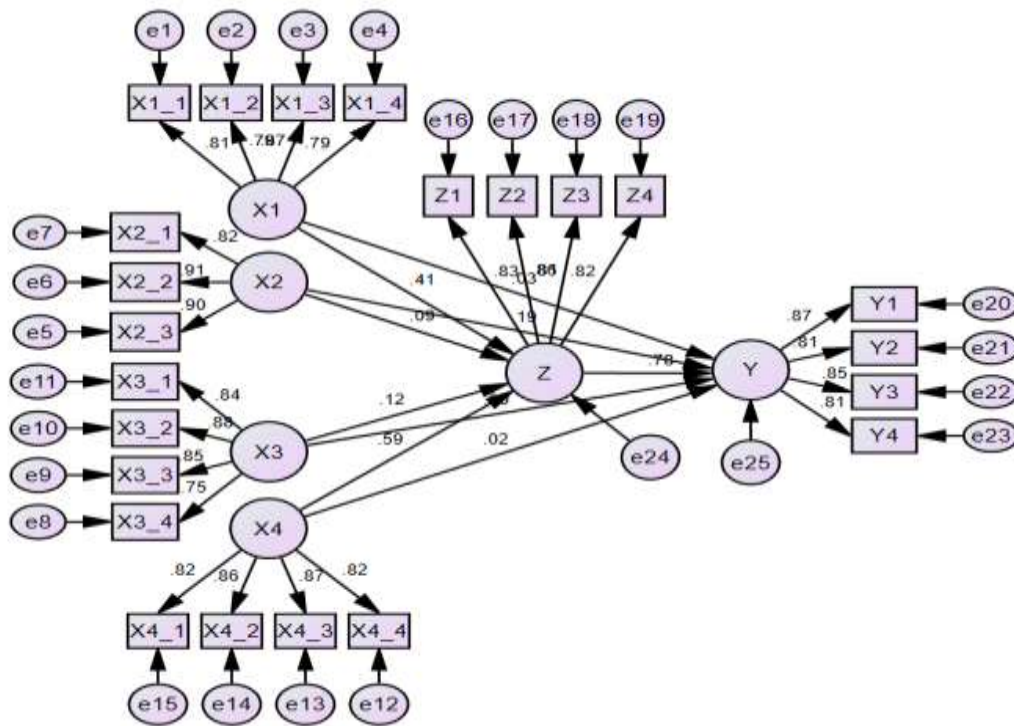
analysis showed that most of the respondents in this study were aged between 26 and 35 years, namely 119 respondents with a percentage of 51.7%. Majority of respondents are private employees with a percentage of 31.3% and followed by respondents who are self-employed or entrepreneur with a percentage of 26.1%. Majority of respondents have a monthly income of Rp. 1,000,000 - Rp. 5,000,000 with a percentage of 37.0%, followed by respondents who have an income of Rp. 5,000,000 – IDR 10,000,000 with a percentage of 33.9%. mobile banking BCA is the e-banking service most owned by respondents, followed by those with both services (Mobile Banking and Internet banking) and the latter only has services internet banking just. respondents are service users e-banking BCA has used > 4 years with a frequency of 33.04%, while respondents < 1 year have the least frequency. based on the frequency of service use e-banking BCA, the average respondent uses < 5 times to 5-10 times in 1 week with each percentage reaching 30%. Based on features *mobile banking* and *internet banking* frequently used in transactions. Transfer feature is the most used with a percentage of 57.83%, while the information feature is the least used by respondents with a percentage of 5.22%.

**Table 1. Discriminant Validity**

Variable	Indicator	Item	Factor Loading	AVE
Reliability (X1)	X1_1	Application/site <i>e-banking</i> provide services exactly as offered.	0.805	0.663
	X1_2	<i>E-banking</i> always provide the right service at the promised time.	0.793	
	X1_3	Use of services <i>e-banking</i> can display every detail of the transaction	0.865	
	X1_4	Information provided through the application/website <i>e-banking</i> exactly	0.793	
Privacy and Security (X2)	X2_1	My personal information is protected on the platform <i>e-banking</i> .	0.824	0.777
	X2_2	My financial information is protected on the platform <i>e-banking</i> .	0.914	
	X2_3	Transactions through websites or applications <i>e-banking</i> safe	0.904	
Website design (X3)	X3_1	Website/ app <i>e-banking</i> updated regularly.	0.836	0.692
	X3_2	Website/ app <i>e-banking</i> well organized.	0.879	
	X3_3	Website/ app <i>e-banking</i> includes interactive features.	0.853	
	X3_4	Website/ app <i>e-banking</i> easy to use.	0.753	
Customer Service and Support (X4)	X4_1	Customer service personnel are knowledgeable about service <i>e-banking</i>	0.824	0.712
	X4_2	Related question <i>e-banking</i> well answered	0.864	
	X4_3	Officer <i>customer service</i> always willing to help for matters relating <i>toe-banking</i>	0.871	
	X4_4	Customer service team <i>e-banking</i> prioritizing the interests of the customer	0.815	
E-Satisfaction (Z)	Z1	I am very satisfied with the service <i>e-banking</i> This	0.831	0.690
	Z2	I'm happy with the service <i>e-banking</i> This	0.856	
	Z3	Site/application <i>e-banking</i> easy to use	0.812	
	Z4	I am satisfied with the overall product and service <i>e-banking</i> This	0.822	
E-Loyalty (Y)	Y1	I would recommend the service <i>e-banking</i> to other people	0.872	0.698
	Y2	I prefer service <i>e-banking</i> compared to other banks	0.813	
	Y3	I want to say positive things about the service <i>e-banking</i> to other people	0.848	
	Y4	I intend to continue to use the service <i>e-banking</i>	0.807	

Based on the results of the measurement analysis in table 1 it can be seen that all indicators that measure the variables Reliability (X1), Privacy and Security (X2), Website design (X3), Customer Service and Support (X4), E-Satisfaction (Z), and E - Loyalty (Y) has a loading factor value greater than 0.5. Thus the indicator is declared valid to measure the variable.

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Picture 2. Structured Equation Model

Table 2. Evaluation of the Goodness of Fit in the Structural Model

Index	Goodnes Of Fit	Cut Off Value	Result
P value	0.000	$P \geq 0.05$ (good fit), $p < 0,05$ (bad fit)	Poor fit
GFI	0.753	$GFI \geq 0.9$ (good fit), $0.8 \leq GFI \leq 0.9$ (marginal fit)	Poor fit
RMR	0.219	$RMR \leq 0.5$ (good fit)	Good Fit
RMSEA	0.108	$0.05 < RMSEA \leq 0.08$ (good fit), $0.08 < RMSEA \leq 1$ (marginal fit)	Marginal fit
TLI	0.855	$TLI \geq 0.9$ (good fit), $0.8 \leq TLI \leq 0.9$ (marginal fit)	Marginal fit
NFI	0.835	$NFI \geq 0.9$ (good fit), $0.8 \leq NFI \leq 0.9$ (marginal fit)	Marginal fit
AGFI	0.691	$AGF I \geq 0.9$ (good fit), $0.8 \leq AGFI \leq 0.9$ (marginal fit)	Poor fit
RFI	0.811	$RFI \geq 0.9$ (good fit), $0.8 \geq RFI \leq 0.9$ (marginal fit)	Marginal fit
CFI	0.873	$CFI \geq 0.9$ (good fit), $0.8 \leq CFI \leq 0.9$ (marginal fit)	Marginal fit

Source: Primary data after processing, 2023

Table 3. Results Evaluation of Goodness of Fit (Modification) on the Structural Model

Index	Goodnes Of Fit	Cut Off Value	Result
P value	0.000	$P \geq 0.05$ (good fit), $p < 0,05$ (bad fit)	Poor fit
GFI	0.854	$GFI \geq 0.9$ (good fit), $0.8 \leq GFI \leq 0.9$ (marginal fit)	Marginal fit
RMR	0.026	$RMR \leq 0.5$ (good fit)	Good tit
RMSEA	0.069	$0.05 < RMSEA \leq 0.08$ (good fit), $0.08 < RMSEA \leq 1$ (marginal fit)	Good fit
TLI	0.941	$TLI \geq 0.9$ (good fit), $0.8 \leq TLI \leq 0.9$ (marginal fit)	Good fit
NFI	0.909	$NFI \geq 0.9$ (good fit), $0.8 \leq NFI \leq 0.9$ (marginal fit)	Good fit
AGFI	0.813	$AGF I \geq 0.9$ (good fit), $0.8 \leq AGFI \leq 0.9$ (marginal fit)	Marginal fit
RFI	0.893	$RFI \geq 0.9$ (good fit), $0.8 \geq RFI \leq 0.9$ (marginal fit)	Marginal fit
CFI	0.950	$CFI \geq 0.9$ (good fit), $0.8 \leq CFI \leq 0.9$ (marginal fit)	Good fit

Source: Primary data after processing, 2023

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Based on the goodness of fit summary, it can be seen that of the 9 (nine) indices, namely the P value does not meet the criteria (poor fit). Then several indices such as GFI, AGFI and RFI stated that the SEM model that had been formed was declared sufficiently feasible (Marginal fit). While the majority of the rest, namely RMR, RMSEA, TLI, NFI, and CFI, stated that the model was good fit. From the results of the index criteria, it can be concluded that the SEM path diagram that has been formed is feasible to use.

**Table 4. R-square**

Variabel	R <sup>2</sup>
E-Satisfaction (Z)	0.679
E-Loyalty (Y)	0.800
$Q^2 = 1 - (1 - R_1^2) * (1 - R_2^2)$ $Q^2 = 1 - (1 - 0.679) * (1 - 0.800) = 0.936$	

Source: Primary data after processing, 2023

This can show that the diversity of data can be explained by the entire model by 93.6%, meaning that the model is able to explain well the data it has. While the remaining 6.4% is explained by other factors not involved in this study.

### B. Hypothesis test

In testing the hypothesis, the researcher did it by looking at the value of the t-statistic and also the value of the path coefficient. The criteria that must be met with a significance level of 5% are as follows:

- If the t-statistic value is > 1.96, then H0 not supported and H1 supported.
- If the t statistic value is <1.96, then H0 supported and H1 not supported.
- The value of the path coefficient is positive, meaning that there is a positive influence between one variable and another.
- The value of the path coefficient is negative, meaning that there is a negative influence between one variable and another.

The results of the path coefficient values and t-statistic values can be seen in table 4:

**Table 4. Hypothesis Testing Results**

Hypothesis	Path	Standardized coefficients	CR	p value	Result
H1	Reliability → E-satisfaction	0.354	4.176	< 0.0001	Accepted
H2	Privacy & Security → E-satisfaction	0.003	0.036	0.971	Rejected
H3	Website Design → E-satisfaction	0.065	0.952	0.341	Rejected
H4	Customer Service & Support → E-satisfaction	0.506	6.574	< 0.0001	Accepted
H5	Reliability → E-loyalty	0.010	0.130	0.896	Rejected
H6	Privacy & Security → E-loyalty	0.167	2.452	0.014	Accepted
H7	Website Design → E-Loyalty	-0.005	-0.090	0.928	Rejected
H8	Customer Service & Support → E-loyalty	0.014	0.193	0.847	Rejected
H9	E-satisfaction → E-loyalty	0.767	9.068	< 0.0001	Accepted

Based on table 4.24 it can be seen that the mathematical model formed is:

$$\text{Equation 1: } Z = 0.354 X_1 + 0.003 X_2 + 0.065 X_3 + 0.506 X_4$$

$$\text{Equation 2: } Y = 0.010 X_1 + 0.167 X_2 - 0.005 X_3 + 0.014 X_4 + 0.767$$

Based on table above, it can be informed that:

1. Influence Reliability (X1) to E-Satisfaction (Z) produces a CR value of 4,176 and p value of 0.000. The test results show that the value p value (0.000) < level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is accepted and means that there is a significant effect Reliability to E-Satisfaction. Coefficient Reliability of 0.354 indicates that Reliability positive effect on E-Satisfaction.
2. Influence Privacy and Security (X2) to E-Satisfaction (Z) produces a CR value of 0.036 and p value of 0.971. The test results show that the value p value (0.971) > level of significance (alpha = 5%). This means that at the 5% significance level it can be



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stated that the hypothesis is rejected and there is no significant effect Privacy and Security to E-Satisfaction. This is reinforced by previous research if the service provider e-banking ensure safe transactions and maintain the privacy of personal information, consumers are more likely to trust them (Thaichon et al., 2014; (Siva Kumar, S., Naveen, R., Dhabliya, D., Shankar, B.M. and Rajesh, 2020). Transparent privacy and security policies help generate favorable consumer responses to service providers (Orel and Kara, 2014).

3. Influence Website design (X3) to E-Satisfaction (Z) produces a CR value of 0.952 and p value of 0.341. The test results show that the value p value (0.341) > level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is rejected and there is no significant effect Website design to E-Satisfaction. Website design that includes various website elements e-banking that consumers use to interact, including navigation, detailed information, and transaction processing (Wolfenbarger and Gilly, 2003). Website view e-banking sophisticated and interactive ways to increase customer satisfaction (Kim et al., 2009; Vera and Trujillo, 2013;(Amin, 2016) and the desire to use the service more frequently (Li and Yeh, 2010). Of course, BCA must continue to innovate on the website design they have so that customer satisfaction is maintained.
4. Influence Customer Service and Support (X4) to E-Satisfaction (Z) produces a CR value of 6,574 and p value of 0.000. The test results show that the value p value (0.000) < level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is accepted and means that there is a significant effect Customer Service and Support to E-Satisfaction. Coefficient Customer Service and Support of 0.506 indicates that Customer Service and Support positive effect on E-Satisfaction. This means getting better Customer Service and Support then it tends to increase E-Satisfaction.
5. Influence Reliability (X1) to E-Loyalty (Y) produces a CR value of 0.130 and p value of 0.896. The test results show that the value p value (0.896) > level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that there is no significant effect Reliability to E-Loyalty. Reliability in e-banking is very important because customer response is very important. Reliability is one of the factors that can affect the response, but the timely processing of banking transactions with zero errors is often taken essentially in assessing the reality of e-banking service providers (blunt et al., 2014; Liang and Pei-Ching, 2015; Saccani et al. , 2014). It can also be indicated that the reliability of the service system e-banking especially BCA mobile banking and internet banking are already good. This of course maintains customer loyalty to their services.
6. Influence Privacy and Security (X2) to E-Loyalty (Y )produces a CR value of 2,452 and p value of 0.014. The test results show that the value p value (0.014) < level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is accepted and there is a significant effect Privacy and Security to E-Loyalty. Coefficient Privacy and Security of 0.167 indicates that Privacy and Security positive effect on E-Loyalty. This means getting better Privacy and Security then it tends to increase E-Loyalty.
7. Influence Website design (X3) to E-Loyalty (Y) produces a CR value of -0.090 and p value of 0.928. The test results show that the value p value (0.928) > level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that there is no significant effect Website design to E-Loyalty. Website design is defined as various interactive features of the service e-banking which helps provide the consumer with a transaction structure during and a summary after that of the transaction processing structure and more (Wolfenbarger and Gilly, 2003). Higher levels of satisfaction can be achieved through updated websites (Kim et al., 2009) and enhanced interactive experiences. Interactive website features increase trust, satisfaction and loyalty to results e-banking (Lee et al., 2006). It can mean that website design on service e-banking BCA is quite interactive.
8. Influence Customer Service and Support (X4) to E-Loyalty (Y) produces a CR value of 0.193 and p value of 0.847. The test results show that the value p value (0.847) > level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is rejected and there is no significant effect Customer Service and Support to E-Loyalty. Customer Service and support can be described as reports reported by users during or after the service experience. Users here can be referred to as individuals and organizations (blunt et al., 2015).
9. Influence E-Satisfaction (Z) to E-Loyalty (Y) produces a CR value of 9,068 and p value of 0.000. The test results show that the value p value (0.000) < level of significance (alpha = 5%). This means that at the 5% significance level it can be stated that the hypothesis is accepted and there is a significant effect E-Satisfaction to E-Loyalty. Coefficient E-Satisfaction of 0.767 indicates that E-Satisfaction positive effect on E-Loyalty. This means getting better E-Satisfaction then it tends to increase E-Loyalty.

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Undoubtedly, customer loyalty can be achieved by providing them with higher levels of satisfaction. E-satisfaction leads to an attitude of loyalty consequently leaving a positive impact on behaviour. E-satisfaction in banking can lead to more use of banking services with possibilities e-loyalty which is higher (Giao, H., Vuong, B. and Quan, 2020); Suariedewi and Suprapti, 2020). Internet speed and connectivity often affect satisfaction and also have an impact on loyalty (Chaudhry et al., 2009). In the recent literature, research has addressed the strong relationship between e-satisfaction and e-loyalty. BCA must always maintain and improve customer satisfaction with services e-banking which they have mainly on mobile banking and internet banking to maintain customer loyalty.

This research is theoretically supported by CMR theory because it relates the process of analyzing different perspectives and human emotional responses to evaluation (Kemper, 1992; Lazarus, 1993; Lazarus and Lazarus, 1991). Emotions stimulate almost all important events in our lives, moreover how we respond also influences (Kemper, 1992; Mansur et al., 2020). Demographic characteristics determine the occurrence of cognitive orientations such as values, beliefs and personal goals resulting in a significant break from an event in the environment (Shankar, A. and Jebarajakirthy, 2019). There are several examples in the literature where CMR theory is used to link the mechanism of individual response aspects and service quality (Bowen and Chen, 2001; Brady and Robertson, 2001; (Shankar, A. and Jebarajakirthy, 2019); Sivapalan and Jebarajakirthy, 2017); however, use in COVID-19 contributes to the CMR literature differently. In research on the effect of service e-banking BCA there is a cognitive evaluation of environmental cues resulting in behavioral responses to cues. Dimensions reliability, privacy and security, website design, customer service and support are environmental cues presented in the environment e-banking. Cognitive evaluation of the dimensions results in satisfaction and loyalty e-banking which is a behavioral response to the environment e-banking. Thus, our research contributes to understanding CMR theory in context e-banking.

## V. CONCLUSION

This study examines the effect of BCA e-banking service quality on customer satisfaction and e-loyalty. The hypothesis of this study concludes, among others:

- The dimensions of BCA e-banking service quality, namely reliability, website design, customer service and support, are accepted and mean that they have a positive and significant influence on e-satisfaction. This means that the higher the quality of BCA e-banking services in this dimension, the better for customer satisfaction. Meanwhile, the privacy and security dimension is rejected.
- The dimensions of BCA e-banking service quality, namely privacy and security, are accepted and have a positive and significant influence on customer e-loyalty. This means that the higher the quality of BCA e-banking services in the privacy and security dimension, the better for customer loyalty. While reliability, website design, customer service and support are rejected.
- There is a significant effect of e-satisfaction on e-loyalty. This also indicates that e-satisfaction has a positive effect on e-loyalty. The better the e-satisfaction, the more likely it is to increase e-loyalty. E-satisfaction itself fully mediates the influence of the dimensions of e-banking service quality, namely reliability, website design, and customer service and support.
- The CMR theory in the research explains the relationship between the dimensions of e-banking service quality (reliability, privacy and security, website design, customer service and support) of BCA with customer satisfaction and loyalty to e-banking. The existence of cognitive evaluation of environmental cues results in behavioral responses to cues. This study articulates that the dimension of e-banking service quality is the environmental cue presented in e-banking services. Cognitive evaluation of these dimensions results in satisfaction and loyalty of e-banking services which are behavioral responses to the e-banking environment. Thus, this study contributes to understanding CMR theory in the context of e-banking.

For further research, several limitations must be addressed in certain lines of research regarding further observations in detail on the effect of BCA e-banking service quality on customer satisfaction and e-loyalty. So the suggestions that can be proposed in this study include:

- BCA should evaluate or improve the appearance of website design for both mobile banking and internet banking services because this dimension has the lowest average value in this study. BCA can improve its user interface that is more dynamic and less rigid in the appearance of mobile banking and internet banking. Features in e-banking services can be made easier such as digital wallet top-ups to make them more interactive. Promotions and advertisements regarding BCA products can also be added to the main menu display in mobile banking and internet banking. BCA by sending update notifications via customer's e-banking account or broadcast message via sms or Whatsapp. Meanwhile, to make the BCA e-banking

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application or website more well organized, companies can group service feature better, so that they can be accepted and used easily in all circles.

- We recommend that the quality of e-banking services for the customer service and support dimension must be maintained by BCA. The aspect that needs to be improved in this dimension is the customer service team's knowledge of BCA e-banking services so that various customer questions or complaints can be resolved properly. BCA can do this by providing training and development on an ongoing basis to its employees.
- We recommend that the quality of e-banking services for the reliability dimension continue to be maintained and improved. BCA must also always maintain the reliability dimension of e-banking services. The aspect that needs to be improved in this dimension is about timeliness in each transaction feature that must be considered again such as transaction time. Of course, this is a record for the company, so that every financial transaction such as transfers, payments, purchases and others, made by customers is in accordance with the promised time.
- We recommend that the quality of e-banking services in the dimension of privacy and security must be maintained. Security of personal and financial information is very important in using this e-banking service so that every customer transaction is safe and comfortable. BCA of course must always maintain and improve mobile banking and internet banking security features in its services such as double verification or a period of changing pins and access codes. BCA must also always maintain customer data and financial information.
- We recommend that for future research, the number of sample sizes and coverage of study areas should be increased to achieve appropriate results. For future research, additional internet service quality dimensions should be investigated such as interactivity and website service capabilities. In addition, it is as suggested that perceived risk and trust construction should be included as determinants of electronic customer satisfaction and loyalty for future research.
- We recommend that further research examine the quality of e-banking services for customer e-satisfaction and e-loyalty in other banking companies in Indonesia.
- This research was limited to BCA's e-banking environment due to respondents' accessibility concerns and time constraints as rapid research was required and appreciated in these unprecedented times. Further research can empirically verify the initial trust relationship along with customer satisfaction on e-banking and can consider bank data from different countries. A comparative study of Asians with other regions can be a useful study.

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