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The effect of customer engagement on repurchase intention among Indonesia's digital banks

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ABSTRAK

*Era baru perbankan di Indonesia telah tiba dengan adanya transformasi digital di sektor perbankan. Bank digital menjadi pilihan utama masyarakat generasi muda khususnya generasi milenial dan generasi Z. Bagaimana memilih bank digital yang ideal? Penelitian ini mencoba menjawab pertanyaan dengan memahami peran keterikatan pelanggan (*customer engagement*) terhadap minat beli kembali (*repurchase intention*). Penulis menghubungkan aplikasi bank digital dengan kepuasan pelanggan (*customer satisfaction*) dan pelanggan akan komitmen untuk mengikatkan diri ke aplikasi bank digital yang dipilih. Penulis menggunakan structural equation modelling (SEM) untuk menguji model penelitian dengan sampel pelanggan generasi milenial dan generasi Z (n = 200). Hasil penelitian menunjukkan bahwa ada pengaruh positif signifikan dari kepuasan pelanggan (*customer satisfaction*) ke keterikatan pelanggan (*customer engagement*) dan minat beli kembali (*repurchase intention*) pelanggan generasi tersebut. Temuan ini dapat memberikan masukan untuk pengembangan aplikasi dan strategi pemasaran yang sesuai dengan pelanggan, terutama generasi milenial dan Z. Perusahaan aplikasi digital lainnya di Indonesia bisa menarik kesimpulan apa harapan pelanggan milenial dan generasi Z. Sepengetahuan penulis, belum banyak artikel yang membahas bank digital, hubungan antara penggunaan aplikasi yang merupakan pengaruh anteseden terhadap kepuasan pelanggan dan pengaruh keterlibatan pelanggan terhadap minat beli kembali di Indonesia.*

ABSTRACT

A new era of banking in Indonesia has arrived with digital transformation in the banking sector. Digital banks are the main choice of young people, especially millennials and Generation Z. How to choose the ideal digital bank? This research tries to answer

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the question by understanding the role of customer engagement on repurchase intention. The author connects digital bank applications with customer satisfaction and customers will be committed to attaching themselves to the selected digital bank application. The author uses structural equation modeling (SEM) to test the research model with a sample of millennial and Generation Z customers (n = 200). The study results show a significant positive influence of customer satisfaction on customer engagement and repurchase intention of this generation of customers. These findings can provide input for application development and marketing strategies that suit customers, especially millennials and Z generations. Other digital application companies in Indonesia can conclude what the expectations of millennial and Generation Z customers are. To the author's knowledge, there have not been many articles discussing digital banks, the relationship between application use which is an antecedent effect on customer satisfaction, and the effect of customer engagement on repurchase intention in Indonesia.

INTRODUCTION

The concept of engagement or involvement has emerged as a prominent subject of discourse across various disciplines, with particular emphasis on marketing management. Engagement is a concept within the realm of marketing management that pertains to the dynamic interaction between organizations and their customers (Palmatier et al., 2018). The term for this interaction is customer engagement.

The significance of customer engagement in the banking industry is substantiated by Gallup's assertion that fully engaged customers generate 37% more revenues for their banks than actively disengaged customers. Banks have collaborated with numerous other financial institutions over the past five years to develop various banking products that satisfy consumers' entire needs (Sorenson & Adkins, 2014).

A literature review by Raghavan & Pai (2021) indicates that there were 810 journal articles devoted to customer engagement over the past sixteen years (2005-2021). A mere 100 journals out of 810 utilize the millennial generation as the subject of their research although this generation has already surpassed all other generations in terms of both workforce and population in several countries, including Indonesia. Based on Badan Pusat Statistik (2021), the millennial and Z generations in Indonesia comprise 145.39 million individuals or 53.81% of the total population. The millennial generation comprises individuals born between 1981 and 1996, whereas the Z generation comprises those born between 1997 and 2012.

Pansari & Kumar (2017) document that customer satisfaction positively influences customer engagement. In the 1960s, with the advent of customer-centric marketing, customer satisfaction emerged as a significant determinant of sales, which gained recognition within the marketing industry as Marketing 2.0.

Kotler *et al*. (2021) posit that the marketing industry in Marketing 4.0 has undergone a transformation with the advent of mobile internet, social media, and marketplaces, which have gradually redirected customers to digital channels (digitalization) and omnichannel marketing (comprising traditional and digital marketing channels). This evolution has been referenced since 2016. The digitization process was expedited in 2020 due to the COVID-19 pandemic.

The restrictions on gatherings and mobility have compelled the banking industry to develop digital applications for banking transactions to facilitate marketing and product use. The banking industry has already introduced digital applications that facilitate the development of banking products via the Internet, which is also known as internet banking. These applications are already present in Indonesian society.

Certain banks that have provided such technology have adopted the development of Internet banking more rapidly. Due to the proliferation of mobile phones and the rapid development of mobile phone technology, Internet banking experiences its most rapid expansion on mobile devices. According to Sadya (2022), the proportion of Indonesian adults aged 5 and above who utilized mobile phones in 2021 was 65.87 percent. The banking industry's implementation of mobile phone technology is referred to as mobile banking applications. Banks persistently strive to innovate to enhance the functionality and provision of mobile banking services. The advent of digital banks presents a potential disruption in the banking sector, which is facilitated by the rapid development of mobile banking. Digital banks execute all banking operations via mobile applications, including mobile banking, which encompasses the provision of information, registrations, account opening, banking transactions, loan applications, investments, and online account closure.

In Indonesia, digital banks manifest in one of two ways: commercial banks that incorporate digital bank applications into their digital bank business models, or digital banks that are established from scratch. Commercial banks and conventional rural banks face a novel challenge in the form of digital banks when it comes to collecting funds from certain population segments, particularly technology-savvy millennials and Generation Z.

We posit that further investigation is warranted regarding the correlation between selection and the impact of consumer engagement, a metric that has emerged as a standard in the banking industry. In the meantime, prior research (Lestari *et al*., 2023; Putra *et al*., 2023; Shin, 2022; Windasari *et al*., 2022) has understudied the correlation between digital banking applications and consumer engagement. Furthermore, the studies have focused solely on millennials and Generation Z, creating a research gap. Additionally, we investigated the relationship between customer satisfaction and customer engagement, the relationship between customer satisfaction and its antecedents in the context of utilizing the digital bank application.

Therefore, we wish to investigate whether customer satisfaction affects

customer engagement and whether customer engagement in digital banks serves as a determinant in establishing millennial and Generation Z consumer's repurchase intention.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Customer Satisfaction and its Antecedents

Customer satisfaction, as defined by Tsiros *et al*. (2004), refers to the customer's emotional response of either pleasure or disappointment resulting from comparing the service obtained with their expectations. If the service capability falls short of customers' expectations, they will experience dissatisfaction. Conversely, if the service capability aligns with consumers' expectations, they will feel satisfied. consumer satisfaction refers to the collection of consumer experiences and expectations that are influenced by past encounters with comparable services or products.

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In the context of digital bank applications, customer satisfaction is influenced by an antecedent or a preceding event (Yoon, 2010). The following are the antecedents referred to in the digital bank application:

Ease of use is a factor that affects customer satisfaction, as suggested by the literature several decades earlier (McHaney & Cronan, 1998). The literature documents conflicting findings regarding the impact of user-friendly applications on customer satisfaction. On the one hand, a study suggests that ease of use does not have a significant influence on customer satisfaction (Yoon, 2010), while another study indicates a positive impact (Pham & Ahammad, 2017). Design refers to the appearance of an application and how it appears to users (Palmer, 2002) and it significantly affects customer satisfaction (Yoon, 2010). Transaction speed, which is also known as the response time of an application, significantly affects customer satisfaction when performing digital banking transactions (Yoon, 2010). Ensuring security in banking transactions is of utmost importance in the realm of digital transactions (Jun & Cai, 2001; Liao & Cheung, 2008). Studies have shown that maintaining maximum security not only brings comfort to users but also plays a crucial role in achieving positive customer satisfaction (Yoon, 2010). Security encompasses various aspects such as transaction security, system security, and measures to mitigate the threat of phishing

applications (Yu & Nuangjamnong, 2022). Patma *et al*. (2021); Yoon (2010) establish that the quality of information provided in online banking transactions significantly affects customer satisfaction. The information needs to be tailored to individual needs, thorough, reliable, user-friendly, and secure. Numerous empirical studies have been carried out, providing evidence of the impact of customer support service responsiveness on customer satisfaction (Jun & Cai, 2001; Liao & Cheung, 2008). Yoon (2010) also confirms the beneficial impact of customer support service on customer satisfaction. Thus, the following hypotheses (1 to 6) are formulated based on these arguments:

H1: Ease of use positively affects customer satisfaction.

H2: Design positively affects customer satisfaction.

H3: Transaction speed positively affects customer satisfaction.

H4: Security positively affects customer satisfaction.

H5: Information content positively affects customer satisfaction.

H6: Customer support service positively affects customer satisfaction.

The Effect of Customer Satisfaction on Relationship Commitment

The existing literature defines relationship commitment as customers' strong interest in sustaining a transactional relationship with sellers (Gustafsson *et al*., 2005). Relationship commitment is divided into affective and calculative commitment (Fullerton, 2003; Hansen *et al*., 2003; Johnson & Fornell, 1991). Royo-Vela & Casamassima (2011) posit that more satisfied customers exhibit greater affective commitment. Higher customer satisfaction also increases calculative commitment because customers are more inclined to resist switching to alternative products/services (Wu *et al*., 2012). Therefore, these effects are formulated into the following hypotheses 7 and 8:

H7: Customer satisfaction positively affects calculative commitment.

H8: Customer satisfaction positively affects affective commitment.

The Effect of Relationship Commitment on Customer Engagement

Customers who possess a rational mindset or are primarily influenced by cognitive decisions are drawn to engagement that offers advantages and will actively participate in the company's engagement initiatives beyond their purchase (van Doorn *et al*., 2010). Chen *et al*. (2020) reveal that greater calculative commitment leads to higher rational customer engagement. Therefore, these effects are formulated into the following hypothesis 9:

H9: Calculative commitment positively affects rational customer engagement.

Affective commitment and emotional customer engagement are formed on the customer's emotional attachment to a product/service (Gustafsson *et al*., 2005). Hence, affective commitment and emotional customer engagement are related to greater affective commitment, leading to higher emotional customer engagement (Chen *et al*., 2020). Therefore, these effects are formulated into the following hypothesis 10:

H10: Affective commitment positively affects emotional customer engagement.

Cognitively engaged (highly rational CE) customers enjoy numerous opportunities to be well served and satisfied with the products/services provided by the sellers. It is evident that these customers can be emotionally engaged (high emotional CE) (Chen *et al*., 2019). Hence, more rationally engaged customers are arguably more emotionally engaged (Chen *et al*., 2020). Therefore, these effects are formulated into hypothesis 11 as follows:

H11: Rational CE has a positive effect on Emotional CE.

The Effect of customer engagement on repurchase intention

Previous studies also document the positive effects of customer engagement and repurchase intention including in the service industry (Pansari & Kumar, 2017). Customer engagement can help customers generate better repurchase intentions (Ho & Chung, 2020; Molinillo *et al*., 2020). Thus, we propose the similar effects of rational customer engagement and emotional customer engagement on repurchase intention. Therefore, these effects are formulated into the following hypothesis 12:

H12: Emotional CE positively affects repurchase intention.

Research Model

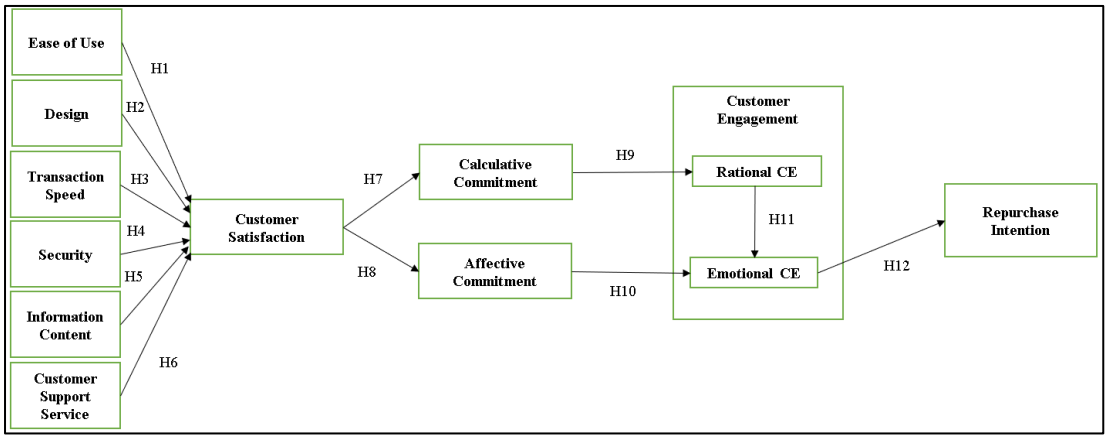


Figure 1
Hypothesis Model
Note: This research model is modified from Chen *et al*. (2020); Molinillo *et al*. (2020); Yoon (2010).

RESEARCH METHODS

Sample and Data Collection

Our research sample comprised individuals belonging to the millennial generation and generation Z cohorts, namely those born between 1982 and 2012 as reported by Badan Pusat Statistik (2021) who possess a digital bank account in Indonesia. The sample was collected in Jakarta, a city with a larger proportion of digital bank customers compared to other cities. A minimum of 200 samples is required for this study.

The research employed a non-probability sampling methodology known as the snowball method. The snowball method is a sampling strategy wherein individuals inside a sample are recruited from their immediate environment to serve as subsequent sample subjects. This strategy was employed due to the specific age demographic of the target respondents, hence expediting the research procedure within a designated timeframe. The data included in this study was primary data, which was collected directly. Cross-sectional data analysis was employed as the data collection approach due to its utilization of a consistent time frame, specifically from May to June 2023. The data was obtained by a self-administered survey using the snowball questionnaire survey method, utilizing the Google form function during a specified timeframe.

Measurement and statistical methods

The Likert scale was utilized as the measurement tool, consisting of five measurement points ranging from strongly disagree (1) to strongly agree (5) for all variables. A validity test was conducted to assess the degree of precision and accuracy of a measuring instrument in executing its intended measurement function. The validity test employed a correlation coefficient, denoted as r, where a correlation

coefficient greater than r-table is considered valid. A reliability test was conducted to assess the instrument's capacity to accurately collect data and provide reliable information in the field. The One-Short technique was employed to conduct a reliability test, utilizing the Cronbach Alpha formula. The study utilizes the SPSS program to conduct validity and reliability tests, which would be administered upon the release will use the SPSS program and be used upon the release of the pre-test results.

This research used a quantitative method with Partial Least Square – Structural Equational Modeling (PLS-SEM) to test the main test. PLS-SEM analyzes the validity, reliability, and hypotheses with several indicators.

Operational definitions and research indicators

Table 1 below explains the operational definitions and research indicators.

Table 1
Operational Definitions and Research Indicators

Variable	Definitions	Code	Indicators
Ease of use (Yoon, 2010)	Ease of use in system layout, navigation order, and convenience in searching for products or information (Pham & Ahammad, 2017).	EU1	This digital banking application has easy navigation.
		EU2	This digital banking application has easy transaction processing.
		EU3	This digital banking application has an easy inquiry procedure.
Design (Yoon, 2010)	The appearance of an application includes usage in the application display (Palmer, 2002).	DS1	This digital banking application has a neat and tidy web design.
		DS2	This digital banking application has a web design that is easy to use.
		DS3	This digital banking application has an attractive web design.
Security (Yoon, 2010)	Security includes transaction security, system security, and security to reduce the threat of phishing applications (Yu & Nuangjamnong, 2022).	SC1	The security devices of this digital banking application properly transfer the data that is sent by me.
		SC2	The security devices of this digital banking application protect the data that is sent by me.
		SC3	The security devices of this digital banking application do not permit changes to data that are sent by me.
		SC4	Due to security devices, this digital banking application does not deny the facts of the data sent by me.
Transaction Speed (Yoon, 2010)	The response time of an application has a significant influence on the satisfaction of customers who carry out digital banking transactions (Yoon, 2010).	SP1	The connection speed of this digital banking application is fast.
		SP2	The transaction processing speed in this digital banking application is fast.
		SP3	The page loading speed of this digital banking application is fast.
Information Content (Yoon, 2010)	The information content must be personalized, comprehensive, consistent, easy to learn,	IC1	The information content of this digital banking application is useful.
		IC2	This digital banking application provides relevant information content.

Variable	Definitions	Code	Indicators
	and safe for customers (Patma *et al*., 2021).	IC3	This digital banking application provides current information content.
		IC4	The information content of this digital banking application is easily understood.
Customer Support Service (Yoon, 2010)	The ability to provide feedback on problems about the purchased goods and services, or the purchase process itself, and to the ability to solve customer problems and concerns (Joseph & Stone, 2003).	CU1	This digital banking application faithfully replies to customers' inquiries.
		CU2	This digital banking application provides feedback promptly on problems.
		CU3	This digital banking application is ready to address and solve the customer's problems and dissatisfaction.
Customer Satisfaction (Yoon, 2010)	A set of customer experiences and expectations based on previous experiences with similar services or products (Tsiros *et al*., 2004).	CS1	I am satisfied with the transaction processing in this digital banking application.
		CS2	I am satisfied with the services provided by this digital banking application.
		CS3	On the whole, I am satisfied with this digital banking application.
Affective Commitment (Chen *et al*., 2020)	Strong interest from customers to continue emotional transactional relationships with sellers (Gustafsson *et al*., 2005).	AC1	Because I feel a strong sense of belonging with this digital banking application, I want to keep the transactional relationship with it.
		AC2	Because I feel a strong attachment to this digital banking application, I want to keep the transactional relationship with it.
		AC3	I am a loyal customer of this digital banking application.
Calculative Commitment (Chen *et al*., 2020)	Strong interest from customers to continue cognitively carrying out transactional relationships with sellers (Gustafsson *et al*., 2005).	CC1	I remain a customer of this digital banking application because it costs much time and energy to switch to another digital banking application.
		CC2	I remain a customer of this digital banking application because I don't have other choices.
		CC3	Because it is difficult to stop using this digital banking application, I remain a customer of this application.
Rational Customer Engagement (Chen *et al*., 2020)	A psychological condition and customer motivation with all their experiences form a relationship of involvement with a product/service in the company and developed when a customer participates in engagement activities motivated by external benefits (Brodie *et al*., 2011; Hollebeek, 2011; Vivek *et al*., 2012, Chen *et al*., 2020).	RC1	I participate in engagement activities because I can attain financial rewards.
		RC2	I participate in the engagement activities because it makes me feel being in the same group with others.
		RC3	I participate in the engagement activities because I can get information to use this digital banking application better.
		RC4	I participate in engagement activities because it makes a good impression on other people.
Emotional Customer	A psychological condition and customer	EC1	I participate in the engagement activities because they benefit this digital banking

Variable	Definitions	Code	Indicators
Engagement (Chen et al., 2020; Sorenson & Adkins, 2014)	motivation with all their experiences form a relationship of involvement with a product/service in the company and refer to a situation where a customer has a deep emotional attachment to an object (Brodie *et al*., 2011; Hollebeek, 2011; Vivek *et al*., 2012, Chen *et al*., 2020).		application and/or other customers.
		EC2	Because I love this application, I participate in the engagement activities.
		EC3	I participate in the engagement activities because this digital banking application is interesting.
		EC4	This digital banking application always delivers on what it promises.
		EC5	I feel proud to be this digital banking application customer.
		EC6	This digital banking application is the perfect company for people like me.
Repurchase Intention (Molinillo *et al*., 2020)	Customer interest in buying a product or service from a company repeatedly (Molinillo *et al*., 2020; Wu *et al*., 2012)	RI1	I intend to continue using this digital banking application in the future.
		RI2	I would like to recommend this digital banking application to others, even if they are existing customers.
		RI3	I look forward to the new services launched by this digital banking application.
		RI4	I would like to have first-hand information about this digital banking application.

Source: Chen *et al*. (2020); Molinillo *et al*. (2020); Sorenson & Adkins (2014); Yoon (2010) and adapted by the author.

ANALYSIS AND DISCUSSION

Result (Pre-test)

The pre-test was conducted using an online questionnaire (Google form) which was distributed only to 30 initial respondents who fell within the predetermined respondent limits. The actual research was disseminated to a minimum of 200 respondents spread across Jakarta and its surrounding areas.

The pre-test analysis utilized the SPSS (Statistical Program for Social Studies) application program of the version 29.00 trial mode. Data cleaning was initially performed using the results obtained from 30 samples. Based on the pre-test results, a total of 33 samples were collected, with 3 individuals falling above the desired age range. Consequently, we proceeded to distribute the sample. Once the data has been entered into Excel and the indicator data has been organized with the total, it may be assessed for validity using the SPSS software.

The validity test employed the SPSS software, utilizing a theoretical framework based on the Pearson formula. This formula employs two indicators to assess the validity of the test. The first indicator is to compare the r count with the r table. If the value is r, calculate > r, table = valid and otherwise considered invalid. The r value of the table, given n = 30 and a significance level of 5%, can be determined by examining the distribution of r values in the statistical table. The obtained r value is 0.361. The second criterion involves examining the significance value (Sig.). A

significance value of less (greater) than 0.05 is considered valid (invalid). The results obtained using the SPSS program demonstrated a high degree of validity, except for the design factors of the DS1 and DS2 indicators.

Reliability tests were employed to assess the consistency of the questionnaire when the measures were repeated. The Cronbach alpha method served as a means of assessing reliability to determine if the Cronbach alpha value exceeds 0.6.

Table 2
Pre-test Validity Test Results

Variable	Indicator	Pearson Correlation	Significance	Description
Ease of use	EU1	0.652	0.000	Valid
	EU2	0.450	0.013	Valid
	EU3	0.482	0.007	Valid
Design	DS1	0.332	0.073	Invalid
	DS2	0.271	0.147	Invalid
	DS3	0.551	0.002	Valid
Security	SC1	0.772	0.000	Valid
	SC2	0.703	0.000	Valid
	SC3	0.502	0.005	Valid
	SC4	0.627	0.000	Valid
Transaction Speed	SP1	0.534	0.002	Valid
	SP2	0.512	0.004	Valid
	SP3	0.576	0.001	Valid
Information	IC1	0.756	0.000	Valid
Content	IC2	0.782	0.000	Valid
	IC3	0.816	0.000	Valid
	IC4	0.574	0.001	Valid
Customer Support	CU1	0.788	0.000	Valid
Service	CU2	0.725	0.000	Valid
	CU3	0.775	0.000	Valid
Customer	CS1	0.815	0.000	Valid
Satisfaction	CS2	0.815	0.000	Valid
	CS3	0.614	0.000	Valid
Affective	AC1	0.708	0.000	Valid
Commitment	AC2	0.790	0.000	Valid
	AC3	0.736	0.000	Valid
Calculative	CC1	0.611	0.000	Valid
Commitment	CC2	0.666	0.000	Valid
	CC3	0.638	0.000	Valid
Rational CE	RC1	0.739	0.000	Valid
	RC2	0.766	0.000	Valid
	RC3	0.710	0.000	Valid
	RC4	0.729	0.000	Valid
Emotional CE	EC1	0.492	0.006	Valid
	EC2	0.687	0.000	Valid
	EC3	0.762	0.000	Valid
	EC4	0.800	0.000	Valid
	EC5	0.787	0.000	Valid
	EC6	0.727	0.000	Valid
Repurchase	RI1	0.727	0.000	Valid
Intention	RI2	0.756	0.000	Valid
	RI3	0.733	0.000	Valid
	RI4	0.662	0.000	Valid

Source: Results from the SPSS application processed by the author.

Table 3
Pretest Reliability Test Results

Variable	Cronbach Alpha Value	Description
Ease of use	0.965	Reliable
Design	0.965	Reliable
Security	0.964	Reliable
Transaction Speed	0.965	Reliable
Information Content	0.964	Reliable
Customer Support Service	0.964	Reliable
Customer Satisfaction	0.964	Reliable
Affective Commitment	0.964	Reliable
Calculative Commitment	0.965	Reliable
Rational CE	0.964	Reliable
Emotional CE	0.964	Reliable
Repurchase Intention	0.964	Reliable

Source: Results from the SPSS application processed by the author.

Based on the findings presented in Table 2 and Table 3 above, the analysis proceeded by incorporating additional indicators about the DS variable.

Results (main test)

We used the Smart PLS-SEM application version 14 trial mode to analyze the data. Data cleaning was conducted initially using the results received from a total of 208 samples. Based on the study's findings, a total of 208 samples were collected, with four individuals who fell outside the specified age range and four individuals who did not possess a local digital bank account. Consequently, they were excluded from the sample. Once the data has been entered into Microsoft Excel and the indicator data, consisting of a total of 200 records, has been organized, a set of tests can be conducted using the Smart PLS-SEM software.

All participants in this study satisfied our specified criteria, which included being between the ages of 18 and 42 and already utilizing digital banking applications in Indonesia. The calculation of the sample size was derived from the study conducted by Hair *et al*. (2021), wherein the number of arrows for any variable in the PLS path model was multiplied by a factor of 10 or the same as the research model. The research model consisted of 12 arrows, resulting in a minimum of 120 respondents for this research model. We collected data from 200 participants who verified the research criteria. The sample consisted of 84 males and 116 females from various age groups, with the biggest number of respondents falling within the 25-30 age range. Among the respondents, 66 individuals responded, and the majority of users (75%) reported using the application for over a year. The program is mostly utilized to save, transfer funds, and add funds to e-wallet applications. Table 4 presents comprehensive descriptive data about the features of the respondents.

Table 4
Descriptive statistics of respondents' attributes

Measure	Value	Frequency (%)
Gender	Male	84 (42%)
	Female	116 (58%)
Age	18-24	46 (23%)
	25-30	66 (33%)
	31-36	56 (28%)
	37-42	32 (16%)
Top 3 uses	Savings	153 (76.5%)
	Transfer Money	127 (63,5%)
	Top up E-wallet application	109 (54,5%)
Usage Experience	< 1 year	50 (25%)
	≥ 1 year	150 (75%)
Frequency of online banking	≤ 1	16 (8%)
	>1	184 (92%)

Source: Results from Google form processed by the author.

Following Hair *et al*. (2021), we utilized PLS-SEM to test the research model. This research model test is divided into two, namely the measurement model test and the structural model test. Before entering the two tests, data input and research model creation (path model) must be initially run on the Smart PLS-SEM application.

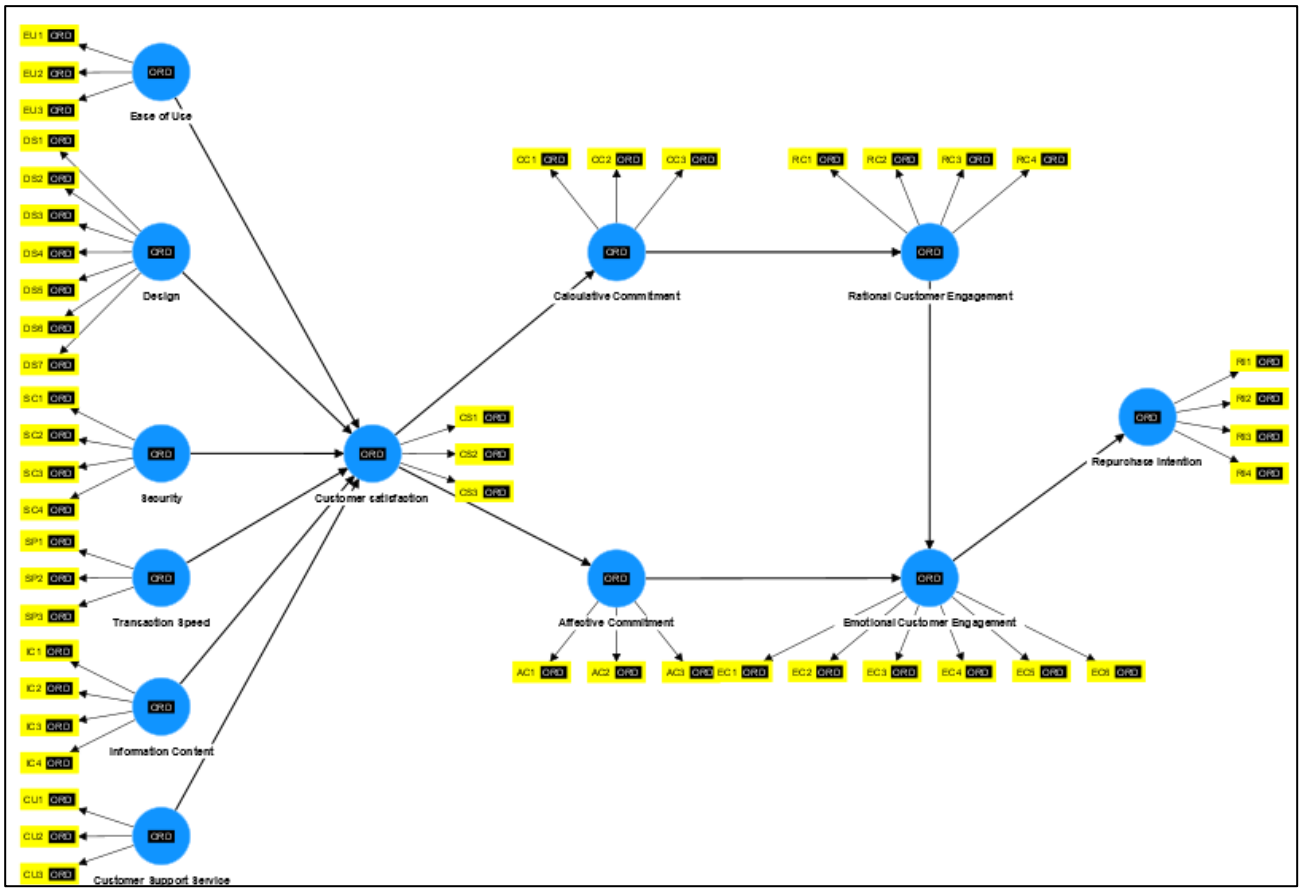


Figure 2
Path Model PLS-SEM

Measurement Model Test

The Smart PLS-SEM program encompasses two distinct categories of measurement model tests: reflective and formative measurement models. We used reflective measurement models in this research study to examine the interrelationships among indicators inside a single research model concept. The reflective measurement model involves validity tests (convergent and discriminant validity) and reliability tests (composite reliability and Cronbach's alpha).

Validity Test

The convergent validity test utilized the outer loading value derived from the PLS-SEM algorithm within the research model at PLS-SEM, as presented in Table 5. Once all the outer loading results exceeded 0.7, the next step was to conduct the average variance extracted (AVE) indicator test. To characterize the model structure that accounts for more than half of the variation of the variable, the AVE value must exceed 0.5 (see Table 6). The average variance extracted (AVE) test value for each variable exceeded 0.5, indicating that the model architecture was satisfactory and the selected variable was legitimate.

The next test is the discriminant validity test consisting of Fornell-Larcker, Criterion, and Cross Loading. The test criteria both have something in common, namely the value of the variable itself must be greater than other variables (see Tables 7 and 8).

Table 5
Valid PLS-SEM Outer Loading Results

Indicator	Outer loadings
AC1 ← Affective Commitment	0.900
AC2 ← Affective Commitment	0.873
AC3 ← Affective Commitment	0.891
CC1 ← Calculative Commitment	0.740
CC2 ← Calculative Commitment	0.884
CC3 ← Calculative Commitment	0.887
CS1 ← Customer satisfaction	0.927
CS2 ← Customer satisfaction	0.901
CS3 ← Customer satisfaction	0.904
CU1 ← Customer Support Service	0.891
CU2 ← Customer Support Service	0.937
CU3 ← Customer Support Service	0.908
DS1 ← Design	0.883
DS2 ← Design	0.851
DS3 ← Design	0.877
DS4 ← Design	0.866
DS5 ← Design	0.842
DS6 ← Design	0.866
DS7 ← Design	0.792
EC1 ← Emotional Customer Engagement	0.736
EC2 ← Emotional Customer Engagement	0.835
EC3 ← Emotional Customer Engagement	0.857
EC4 ← Emotional Customer Engagement	0.836
EC5 ← Emotional Customer Engagement	0.829
EC6 ← Emotional Customer Engagement	0.794

Indicator	Outer loadings
EU1 ← Ease of Use	0.891
EU2 ← Ease of Use	0.937
EU3 ← Ease of Use	0.860
IC1 ← Information Content	0.869
IC2 ← Information Content	0.882
IC3 ← Information Content	0.878
IC4 ← Information Content	0.819
RC1 ← Rational Customer Engagement	0.893
RC2 ← Rational Customer Engagement	0.855
RC3 ← Rational Customer Engagement	0.765
RC4 ← Rational Customer Engagement	0.846
RI1 ← Repurchase Intention	0.834
RI2 ← Repurchase Intention	0.849
RI3 ← Repurchase Intention	0.896
RI4 ← Repurchase Intention	0.882
SC1 ← Security	0.890
SC2 ← Security	0.934
SC4 ← Security	0.824
SP1 ← Transaction Speed	0.903
SP2 ← Transaction Speed	0.884
SP3 ← Transaction Speed	0.896

Source: Results from the PLS-SEM application processed by the author.

Table 6
AVE Test Results

Indicator	AVE
Affective Commitment	0.789
Calculative Commitment	0.705
Customer Support Service	0.832
Customer satisfaction	0.829
Design	0.730
Ease of Use	0.804
Emotional Customer Engagement	0.665
Information Content	0.744
Rational Customer Engagement	0.707
Repurchase Intention	0.749
Security	0.781
Transaction Speed	0.800

Source: Results from the PLS-SEM application processed by the author.

Table 7
Fornell Larcker Criterion Results

Variable	AC	CC	CS	CSS	DS	EC	EU	IC	RC	RI	SC	SP
Affective Commitment	**0.888**											
Calculative Commitment	0.462	**0.840**										
Customer Support Service	0.553	0.426	**0.912**									
Customer satisfaction	0.655	0.274	0.689	**0.911**								
Design	0.595	0.340	0.618	0.736	**0.854**							
Ease of Use	0.597	0.222	0.467	0.730	0.820	**0.897**						
Emotional Customer Engagement	0.649	0.640	0.591	0.536	0.530	0.371	**0.816**					

Variable	AC	CC	CS	CSS	DS	EC	EU	IC	RC	RI	SC	SP
Information Content	0.590	0.365	0.717	0.791	0.824	0.708	0.564	**0.862**				
Rational Customer Engagement	0.496	0.745	0.432	0.312	0.356	0.192	0.786	0.366	**0.841**			
Repurchase Intention	0.667	0.476	0.524	0.589	0.574	0.499	0.766	0.609	0.498	**0.866**		
Security	0.587	0.362	0.662	0.690	0.781	0.653	0.552	0.689	0.378	0.619	**0.884**	
Transaction Speed	0.559	0.258	0.609	0.801	0.755	0.736	0.450	0.768	0.275	0.544	0.670	**0.894**

Source: Results from the PLS-SEM application processed by the author.

Table 8
Cross Loading Results

Indicator	AC	CC	CS	CSS	DS	EC	EU	IC	RC	RI	SC	SP
AC1	**0.900**	0.436	0.587	0.447	0.522	0.615	0.560	0.537	0.439	0.637	0.486	0.522
AC2	**0.873**	0.373	0.501	0.431	0.460	0.489	0.466	0.454	0.427	0.442	0.453	0.446
AC3	**0.891**	0.418	0.643	0.582	0.592	0.609	0.552	0.568	0.454	0.671	0.611	0.514
CC1	0.539	**0.740**	0.332	0.346	0.405	0.543	0.333	0.383	0.481	0.458	0.387	0.332
CC2	0.300	**0.884**	0.171	0.353	0.257	0.519	0.119	0.277	0.679	0.340	0.268	0.156
CC3	0.361	**0.887**	0.211	0.375	0.223	0.558	0.138	0.281	0.697	0.417	0.279	0.189
CS1	0.604	0.272	**0.927**	0.644	0.676	0.465	0.662	0.758	0.271	0.528	0.619	0.736
CS2	0.553	0.249	**0.901**	0.642	0.653	0.543	0.599	0.700	0.322	0.528	0.659	0.735
CS3	0.630	0.229	**0.904**	0.599	0.681	0.461	0.732	0.703	0.263	0.552	0.609	0.718
CU1	0.491	0.375	0.620	**0.891**	0.574	0.526	0.447	0.682	0.369	0.458	0.597	0.541
CU2	0.518	0.405	0.656	**0.937**	0.579	0.527	0.455	0.668	0.392	0.492	0.626	0.575
CU3	0.504	0.384	0.609	**0.908**	0.537	0.567	0.374	0.613	0.421	0.484	0.588	0.550
DS1	0.547	0.316	0.620	0.500	**0.883**	0.464	0.788	0.725	0.299	0.516	0.633	0.659
DS2	0.509	0.240	0.676	0.482	**0.851**	0.388	0.817	0.681	0.236	0.505	0.671	0.721
DS3	0.464	0.331	0.649	0.569	**0.877**	0.516	0.660	0.738	0.381	0.519	0.678	0.645
DS4	0.476	0.314	0.608	0.525	**0.866**	0.484	0.671	0.720	0.367	0.480	0.667	0.640
DS5	0.514	0.337	0.653	0.586	**0.842**	0.460	0.661	0.737	0.356	0.461	0.684	0.638
DS6	0.484	0.235	0.616	0.540	**0.866**	0.430	0.670	0.708	0.232	0.498	0.670	0.620
DS7	0.575	0.255	0.570	0.489	**0.792**	0.432	0.626	0.614	0.255	0.445	0.670	0.582
EC1	0.404	0.622	0.248	0.387	0.299	**0.736**	0.126	0.309	0.759	0.460	0.332	0.222
EC2	0.653	0.477	0.554	0.479	0.573	**0.835**	0.464	0.561	0.586	0.719	0.534	0.437
EC3	0.517	0.546	0.434	0.494	0.388	**0.857**	0.259	0.424	0.684	0.597	0.417	0.346
EC4	0.564	0.432	0.509	0.552	0.522	**0.836**	0.388	0.533	0.593	0.634	0.560	0.429
EC5	0.473	0.628	0.321	0.437	0.351	**0.829**	0.210	0.384	0.735	0.540	0.379	0.299
EC6	0.542	0.445	0.528	0.534	0.438	**0.794**	0.339	0.525	0.513	0.771	0.460	0.447
EU1	0.486	0.218	0.658	0.429	0.716	0.334	**0.891**	0.646	0.172	0.442	0.552	0.643
EU2	0.580	0.237	0.675	0.432	0.778	0.358	**0.937**	0.681	0.192	0.485	0.585	0.689
EU3	0.538	0.138	0.631	0.395	0.710	0.305	**0.860**	0.574	0.150	0.412	0.623	0.648
IC1	0.518	0.338	0.725	0.642	0.720	0.544	0.618	**0.869**	0.336	0.586	0.612	0.679
IC2	0.501	0.298	0.668	0.640	0.736	0.487	0.584	**0.882**	0.358	0.489	0.620	0.648
IC3	0.491	0.335	0.644	0.589	0.724	0.457	0.603	**0.878**	0.314	0.514	0.577	0.652
IC4	0.522	0.288	0.686	0.600	0.663	0.452	0.634	**0.819**	0.253	0.505	0.567	0.667
RC1	0.457	0.643	0.287	0.363	0.294	0.698	0.160	0.312	**0.893**	0.433	0.351	0.230
RC2	0.586	0.651	0.360	0.466	0.403	0.772	0.246	0.402	**0.855**	0.564	0.397	0.309
RC3	0.305	0.509	0.263	0.318	0.298	0.552	0.190	0.320	**0.765**	0.340	0.293	0.271
RC4	0.285	0.689	0.133	0.292	0.196	0.600	0.046	0.194	**0.846**	0.314	0.222	0.118
RI1	0.560	0.426	0.534	0.484	0.523	0.649	0.477	0.545	0.418	**0.834**	0.549	0.488
RI2	0.547	0.478	0.463	0.457	0.477	0.692	0.387	0.516	0.510	**0.849**	0.497	0.415
RI3	0.585	0.360	0.510	0.409	0.503	0.652	0.428	0.543	0.396	**0.896**	0.534	0.492
RI4	0.619	0.379	0.533	0.462	0.483	0.657	0.436	0.505	0.394	**0.882**	0.564	0.490
SC1	0.484	0.266	0.615	0.534	0.679	0.443	0.573	0.546	0.324	0.482	**0.890**	0.572
SC2	0.593	0.348	0.666	0.645	0.715	0.507	0.613	0.663	0.349	0.591	**0.934**	0.635

Indicator	AC	CC	CS	CSS	DS	EC	EU	IC	RC	RI	SC	SP
SC4	0.473	0.351	0.541	0.577	0.680	0.519	0.545	0.622	0.332	0.572	**0.824**	0.569
SP1	0.498	0.264	0.727	0.597	0.707	0.449	0.659	0.730	0.297	0.511	0.595	**0.903**
SP2	0.494	0.151	0.708	0.493	0.700	0.345	0.692	0.648	0.162	0.468	0.617	**0.884**
SP3	0.509	0.277	0.713	0.543	0.618	0.412	0.624	0.682	0.277	0.479	0.586	**0.896**

Source: Results from the PLS-SEM application processed by the author.

Based on the outcomes of these two tests following the established criteria, it may be concluded that the research model exhibited discriminant validity.

Reliability Test

The reliability test utilized two test indicators, namely composite reliability and Cronbach alpha. Both indicators share the same criteria, which states that a value exceeding 0.7 indicates a reliable intercorrelation between variables.

Table 9
Cronbach Alpha Results and Composite Reliability

Variable	Cronbach's alpha	Composite reliability
Affective Commitment	0.867	0.918
Calculative Commitment	0.788	0.877
Customer Support Service	0.899	0.937
Customer satisfaction	0.897	0.936
Design	0.938	0.950
Ease of Use	0.877	0.925
Emotional Customer Engagement	0.899	0.922
Information Content	0.885	0.921
Rational Customer Engagement	0.862	0.906
Repurchase Intention	0.888	0.923
Security	0.859	0.914
Transaction Speed	0.875	0.923

Source: Results from the PLS-SEM application processed by the author.

The results of the reliability test using the Cronbach Alpha and Composite Reliability indicators (see Table 9) demonstrate that all variables exhibit values exceeding 0.7, indicating their reliability.

Structural Model Test

The structural model test requires performing an inner model test, which encompasses a coefficient of determination test (R^2 value), Stone-Geisser's Q^2 predictive test, and a hypothesis test. It employs path coefficient tests, T-statistics, and P-value testing to test the hypothesis.

To explain the effect of the combination of exogenous latent variables on endogenous latent variables, it is necessary to test the coefficient of determination (R^2 value) (Hair *et al*., 2021). The R^2 value is measured on a scale ranging from 0 to 1, with a higher number indicating a greater degree of explanatory capability. The coefficient of determination test (see Table 9) indicates that the customer satisfaction variable has a value of 0.754, implying that 75.4% of the variation can be explained by the exogenous variable. The impact of customer satisfaction on calculative

commitment is minimal, with a coefficient of 0.071. This indicates that the influence on calculative commitment is approximately 7.1%. The adjusted R-square method was employed due to the utilization of a model including more than two variables. The predictive test for Stone Geisser's Q^2 was computed using Smart PLS-SEM version 4, employing PLSpredict/CVPAT analysis. In PLSpredict, the Q^2 value is utilized to assess the disparity between the prediction error of the PLS path model and the mean simple prediction. The analysis of the Q^2 value outcomes is similar to the evaluation of the Q^2 value acquired through the blindfolding technique, making it suitable for utilization in this research. A positive Q^2 number indicates a decreased prediction error in the PLS-SEM result, while a negative Q^2 value suggests the opposite. All Q^2 coefficients have positive values, indicating that the prediction error of the PLS route model is lower than that obtained using averages. This suggests strong predictive validity.

Table 10
Coefficient of Determination Test and Stone Geisser's Q^2 Predictive Test

Variable	Adjusted R^2	Q^2 predict
Affective Commitment	0.426	0.417
Calculative Commitment	0.071	0.111
Customer satisfaction	0.754	0.737
Emotional Customer Engagement	0.704	0.246
Rational Customer Engagement	0.553	0.093
Repurchase Intention	0.585	0.233

Source: Results from the PLS-SEM application processed by the author.

We tested the hypotheses using several coefficients, namely path coefficients, t-statistics, and p-values. We utilized the Smart PLS-SEM application with bootstrapping calculations using 10,000 subsamples to test the hypotheses (see Table 11 and Figure 2). The path coefficient represents the direction of the relationship between positive or negative variables, measured on a scale ranging from -1 to 1. In hypothesis testing, t-statistics is a statistical measure employed to evaluate the degree of significance. For hypothesis testing to yield significance, the t-statistics value must exceed 1.96. We utilized the p-value to establish the statistical significance of the measured hypothesis. The concept of statistical significance signifies that the p-value associated with a statistical test is sufficiently small to warrant the rejection of the null hypothesis (H0) in the context of the hypothesis test. A p-value below the usual limit of 0.05 indicates that the exogenous variables significantly affect the endogenous variables in the research model, leading to the rejection of the null hypothesis.

Table 11
Hypothesis Test Results

Hypothesis	Path	Path Coefficient	T statistics (|O/STDEV|)	P values	Results
H1	Ease of Use→ Customer satisfaction	0.267	3.283	0.001	Accepted
H2	Design→ Customer	-0.139	1.229	0.219	Rejected

Hypothesis	Path	Path Coefficient	T statistics (|O/STDEV|)	P values	Results
H3	satisfaction Security→ Customer satisfaction	0.094	1.085	0.278	Rejected
H4	Transaction Speed→ Customer satisfaction	0.325	4.088	0.000	Accepted
H5	Information Content→ Customer satisfaction	0.253	2.996	0.003	Accepted
H6	Customer Support Service→ Customer satisfaction	0.209	2.486	0.013	Accepted
H7	Customer satisfaction→ Calculative Commitment	0.274	4.724	0.000	Accepted
H8	Customer satisfaction→ Affective Commitment	0.655	11.289	0.000	Accepted
H9	Calculative Commitment → Rational Customer Engagement	0.745	21.950	0.000	Accepted
H10	Affective Commitment → Emotional Customer Engagement	0.343	6.832	0.000	Accepted
H11	Rational Customer Engagement → Emotional Customer Engagement	0.616	13.223	0.000	Accepted
H12	Emotional Customer Engagement → Repurchase Intention	0.766	23.689	0.000	Accepted

Source: Results from the PLS-SEM application processed by the author.

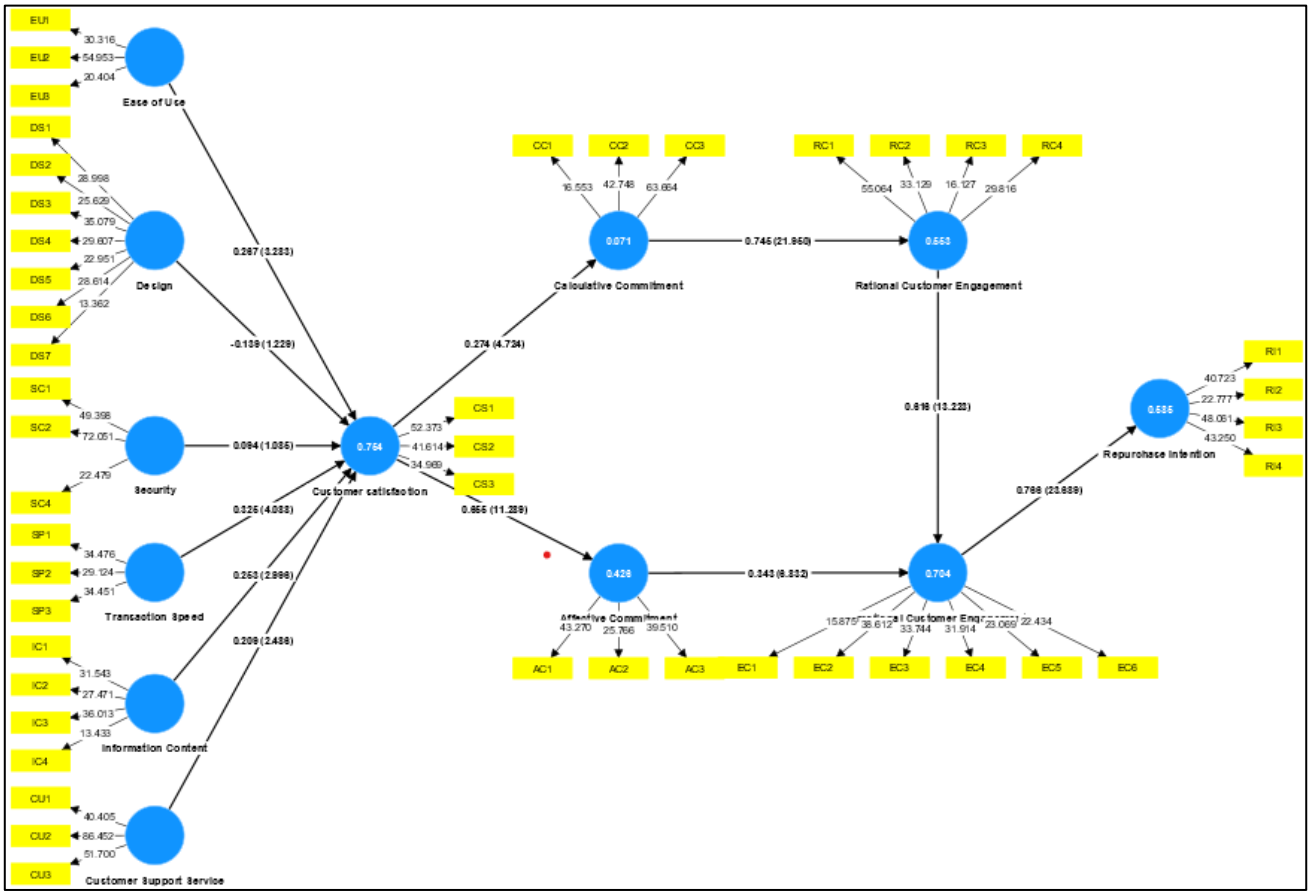


Figure 3
Hypothesis Test Results in PLS-SEM with path coefficients (t values)

Discussions

The findings from the tests of hypotheses 1 to 12 in Table 11 indicate that the observed effect aligns with previous research, even though the study was carried out in the context of the Indonesian digital banks. Nevertheless, it is critical to acknowledge that the effect on consumer satisfaction is determined by design and security elements. We propose that differences in results regarding the design factor can be ascribed to disparities in the length of time and geographical setting of the study. Yoon did his research around 13 years ago during a period of significant developments in digital technology. The research was carried out in many locations, specifically in China by Yoon and in Indonesia. Our findings contrast with Yoon (2010), since we did not observe the same noticeable positive results despite using the similar indicators. However, our results are supported by Yu & Nuangjamnong (2022) who obtained comparable results. More precisely, their analysis uncovered that the observed favorable impact was not statistically significant. These findings empirically indicate that a a constant duration of research period produces similar outcomes.

Overall, emotional customer involvement has the most significant impact on repurchase intention, as indicated by its highest outer loading. These variable indicators suggest that digital banking application companies in Indonesia should

prioritize customer emotions when engaging in activities that capture customer interest, foster customer affinity towards their products, and consistently deliver on promises to positively impact repurchase intention.

CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

Conclusions

The millennial and Z generations exhibit practical traits such as technological proficiency and familiarity with the digital realm, which contribute to the successful implementation of digital banking in Indonesia. The present study examines the correlation between customer engagement and repurchase intention within the context of the digital bank application. The findings indicate that Emotional Engagement, as a key factor, exerts a significantly positive impact on repurchase intention.

Our findings can address the study's objectives, which include understanding the impact of antecedents on customer satisfaction in the use of the digital bank application, investigating the mediating role of customer satisfaction in customer engagement, and examining the effect of customer engagement on digital bank repurchase intention.

The research reveals that ease of use, transaction speed, information content, customer support service, and customer satisfaction all have a positive impact on customer satisfaction. Customer satisfaction also leads to increased calculative commitment, affective commitment, rational customer engagement, and emotional customer engagement. Finally, emotional customer engagement positively influences repurchase intention.

The present study provides evidence supporting the relationship between customer satisfaction and its antecedents, as well as the impact of customer satisfaction on relationship commitment, relationship commitment on customer engagement, and customer engagement on repurchase intention. The aforementioned findings provide empirical support for the positive impact of customer involvement on repurchase intention within the context of digital banking services in Indonesia.

Managerial Implications

This study offers several managerial implications as follows. First, in the context of digital bank application companies in Indonesia, the findings and analysis presented in this study are anticipated to offer valuable insights for the development of applications and the formulation of marketing strategies that cater to the preferences and needs of customers, particularly those belonging to the millennial and z generations. The results can serve as a valuable reference for application development, particularly in the context of utilizing respondents to enhance customer satisfaction and foster increased customer engagement. This, in turn, leads to the formation of customer engagement and repurchase intention. Second, this study aims to provide

information and influence analysis for other digital application companies in Indonesia, particularly those in the services sector, to understand the expectations of millennials and Z-generation customers. The findings are widely acknowledged and extend beyond the banking industry. This research can serve as a valuable reference for other digital application companies in their efforts to develop additional digital products. Third, the hypotheses included Emotional CE indicators, specifically EC4, EC5, and EC6 indicators, which have been adapted from Gallup.com, 2022 regarding CE3. According to the findings, both Gallup survey companies and their consumers can utilize it in digital products due to its significantly positive impact on this study.

Limitations and Suggestions for Future Research

This study is one of the initial studies on customer engagement in digital banks in Indonesia. However, there are still numerous deficiencies in both the sampling and research methodologies employed. Further investigation is required to demonstrate the causal link between these variables. This study also focuses on certain generations (the millennial and z generations) in Indonesia. Future studies can focus on other generations in other settings. For instance, studies on alpha generation may yield empirical findings. Moreover, future studies can address other related trends, such as the relationship between good corporate governance and sustainable finance in the digital banking realm.

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