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### The Effect of Digital Insurance Product Sales on Customer Satisfaction at PT BRI Asuransi Indonesia

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### ABSTRACT

The swift advancement of digital technology has prompted insurance firms to embrace digital channels for product distribution to improve service quality and client satisfaction. This study seeks to examine the impact of perceived simplicity of use, perceived usefulness, and system quality on customer satisfaction, with trust serving as a mediating variable, in the digital insurance product sales services of PT BRI Asuransi Indonesia. This study utilizes a quantitative methodology through a survey technique. Data were gathered via questionnaires administered to 405 respondents utilizing PT BRI Asuransi Indonesia's digital insurance services. The investigation utilized the Partial Least Squares–Structural Equation Modeling (PLS-SEM) technique. The findings demonstrate that perceived ease of use, perceived usefulness, and system quality exert positive and significant influences on both trust and customer satisfaction. Moreover, trust exerts a favorable and substantial influence on consumer satisfaction. The mediation study reveals that trust strongly mediates the links among perceived ease of use, perceived usefulness, system quality, and customer happiness. The findings indicate that customer satisfaction in digital insurance services is influenced by technological aspects, including simplicity of use, perceived benefits, and system quality, as well as the degree of customer trust in both the system and the service provider. This study offers empirical insights into the advancement of technology acceptance and information system success models within the realm of digital insurance in Indonesia, and presents practical implications for insurance firms in formulating digital sales strategies that prioritize system quality and trust enhancement initiatives.

**Keywords:** Perceived Ease of Use, Perceived Usefulness, System Quality, Trust, Customer Satisfaction, Digital Insurance.

### 1. Introduction

The swift progression of digital technology has profoundly altered the methods by which organizations build, distribute, and promote their services. Digital transformation boosts operational efficiency and reshapes consumer behavior, interaction patterns, and customer expectations for service quality and timeliness. The financial services sector has transitioned from traditional models to flexible, accessible, and platform-based digital services due to digitalization (Neves *et al.*, 2023; Gazi *et al.*, 2024). The insurance industry is undergoing rapid digital transformation through the implementation of insurtech solutions.

Digital insurance allows users to acquire policies, remit premiums, oversee contracts, and file claims using online platforms. This change seeks to enhance operational efficiency, broaden insurance accessibility, and elevate customer experience (Seyam, 2025; Kiwanuka & Sibindi, 2024). In Indonesia, the growth of digital insurance and insurtech markets shows a highly positive trend.

Figure 1

*Development of Digital Insurance and InsurTech Market Value in Indonesia Source: Ken Research Analysis (2024)*



According to Ken Research Analysis (2024), the digital insurance and insurtech market in Indonesia is projected to reach approximately USD 8.5 billion, reflecting a positive compound annual growth rate (CAGR). The upward trend from the historical to the forecast period indicates increasing public adoption of digital-based insurance services. This growth suggests that digital channels have become a strategic distribution medium and are likely to become the primary sales channel in the future. Despite this promising growth, insurance products possess unique characteristics: they are intangible, long-term, and involve relatively high financial risk. Unlike other digital consumer products, digital insurance transactions require a higher level of customer confidence because they involve personal data, financial information, and long-term contractual commitments. Therefore, customer acceptance of digital technology alone is insufficient; trust becomes a critical prerequisite for achieving customer satisfaction.

The Technology Acceptance Model (TAM) explains that perceived ease of use and perceived usefulness are key determinants influencing users' attitudes and behavioral intentions toward digital systems (Pavlou, 2003; Pham *et al.*, 2022). In digital insurance services, customers are more likely to adopt platforms that are easy to understand, simple to operate, and capable of providing tangible benefits. Previous studies confirm that these perceptions significantly influence usage behavior and customer experience (Sasanti *et al.*, 2022; Pham *et al.*, 2022). However, in high-risk financial services, trust plays a central role. Trust reduces perceived risk and strengthens customers' confidence in digital transactions (Gefen *et al.*, 2003; Kim *et al.*, 2008; Zhang *et al.*, 2023). Particularly in insurance services, which involve sensitive personal and financial data, trust acts as a psychological mechanism linking system characteristics and customer satisfaction.

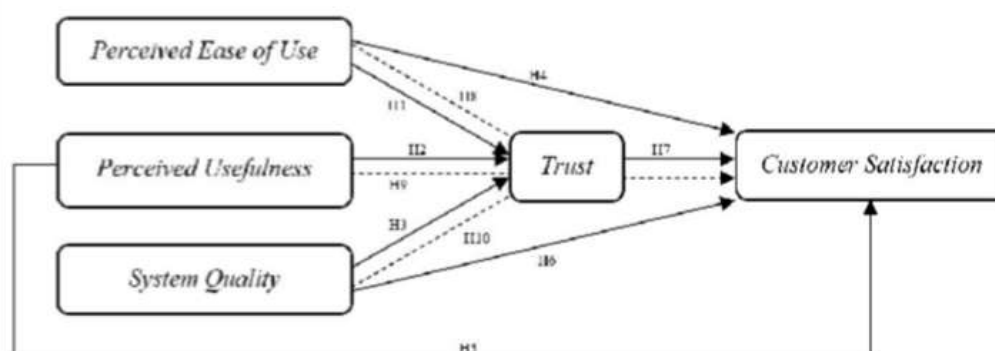
In addition to TAM constructs, system quality—derived from the DeLone and McLean Information Systems Success Model—has been recognized as a crucial determinant of user satisfaction (DeLone & McLean, 1992; 2003). System quality encompasses reliability, security, responsiveness, and stability. A secure and reliable digital system enhances perceived safety and supports trust formation (Gazi *et al.*, 2024; Apau *et al.*, 2025). Data security is especially

critical in digital insurance, as inadequate protection may result in data breaches and reduced customer confidence (Gefen *et al.*, 2003; Zhang *et al.*, 2023).

Despite extensive research on perceived ease of use and perceived usefulness in relation to technological acceptance, empirical evidence about their direct influence on consumer satisfaction is conflicting. Certain research indicate substantial direct effects, although others propose that these effects attain significance solely when mediated by trust, especially in high-risk digital financial environments (Gefen *et al.*, 2003; Kim *et al.*, 2008; Zhang *et al.*, 2023). Moreover, research that concurrently incorporates TAM characteristics, system quality, and trust in the realm of digital insurance sales is few, particularly among Indonesian national insurance firms. This theoretical gap underscores the necessity to experimentally investigate the mechanism by which perceived ease of use, perceived usefulness, and system quality affect customer satisfaction through trust as a mediating variable. This study formulates a comprehensive research model that integrates the Technology Acceptance Model (TAM) with the DeLone and McLean Information Systems Success Model, with trust serving as a mediating variable.

The research is carried out at PT BRI Asuransi Indonesia, which has adopted digital channels for the sale of insurance products as a component of its digital transformation plan. Customer feedback and digital platform assessments reveal that numerous operational issues persist in the digital insurance services offered by PT BRI Asuransi Indonesia. User evaluations of the BRINS mobile application on digital platforms, including Google Play and the App Store, indicate persistent grievances with program stability, sluggish response times during claim submissions, login challenges, and protracted claim verification processes. Furthermore, several customers express misunderstanding concerning policy details and digital claims processes. These flaws may diminish perceived system quality and undermine user confidence in the platform's reliability. In the realm of digital financial services, such technical and service-related issues can directly impact user experience and eventually influence consumer satisfaction. Therefore, understanding the determinants of customer satisfaction in digital insurance platforms becomes increasingly important for improving digital service performance and maintaining long-term customer relationships. Based on publicly available user ratings, the BRINS digital application records an average rating of approximately 3–4 stars on mobile platforms, indicating that although the application is widely used, users still perceive several limitations in terms of usability, system performance, and service responsiveness. Although digital adoption is increasing, challenges remain regarding system quality perceptions, service consistency, and customer trust in app-based insurance services (Marhaendra & Permatasari, 2022; Maghfiroh & Badi'ah, 2025).

Figure 2  
*Research Model*



The model incorporates perceived ease of use, perceived usefulness, and system quality as independent variables; trust as a mediating variable; and customer satisfaction as the dependent variable. This paradigm seeks to elucidate the direct and indirect impacts of digital insurance product sales on customer satisfaction.

The aim of this study is to evaluate the impact of perceived simplicity of use, perceived usefulness, and system quality on customer satisfaction, while also investigating the mediating effect of trust in digital insurance sales at PT BRI Asuransi Indonesia. By addressing the identified research gap, this study contributes theoretically to the development of digital insurance literature and practically to strategic digital service improvement within the Indonesian insurance industry.

## 2. Methods

This study employs a quantitative research approach grounded in the positivist paradigm, aiming to test hypotheses through objective variable measurement and statistical data analysis. A causal associative research design is adopted to examine the cause–effect relationships among perceived ease of use, perceived usefulness, and system quality as independent variables; trust as a mediating variable; and customer satisfaction as the dependent variable. The study uses a cross-sectional time horizon, in which data were collected at a single point in time to capture customers' perceptions of digital insurance product sales services.

The research was conducted at PT BRI Asuransi Indonesia, focusing on its digital insurance product sales services. The research object is the digital-based insurance sales system utilized for marketing, transactions, and customer interaction. The research subjects are customers who have previously purchased or used digital insurance sales services provided by the company. Respondents' perceptions were measured across five constructs: perceived ease of use (PEOU), perceived usefulness (PU), system quality (SQ), trust (TR), and customer satisfaction (CS).

### Operational Definition of Variables

Perceived ease of use is defined as customers' perception of the degree to which using the digital insurance sales service is free of effort. This construct reflects how easily customers can learn, understand, and operate the digital system. The indicators include ease of learning, clarity of features and menus, ease of conducting transactions, and smooth system interaction. Perceived usefulness refers to customers' perception of the benefits obtained from using digital insurance services in enhancing effectiveness and convenience. Indicators include time efficiency, accessibility of product information, increased transaction comfort, and comparative advantages over conventional services.

System quality represents customers' perception of the technical performance of the digital system, including reliability, responsiveness, security, and stability. Trust reflects customers' confidence in the company's ability to provide secure, reliable, and credible digital insurance services. Indicators cover system security, personal data protection, corporate integrity, and service consistency. Customer satisfaction is defined as the level of fulfillment experienced by customers after evaluating their use of digital insurance services. It includes satisfaction with ease of use, perceived benefits, system quality, and overall service experience. All variables were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1  
*Operationalization of Variables*

No	Variable	Dimensions	Indicators	Scale
1	Perceived Ease of Use	Ease of learning; clarity of features; ease of transaction; system interaction	Easy to learn; features understandable; transactions easy to complete; smooth interaction	Likert
2	Perceived Usefulness	Time efficiency; information accessibility; transaction comfort; comparative benefit	Saves time; information easily obtained; practical transactions; more effective than conventional service	Likert
3	System Quality	Reliability; responsiveness; security; stability	System functions properly; fast response; secure data protection; minimal technical errors	Likert
4	Trust	Security confidence; data protection; corporate integrity; service consistency	Secure system; data protected; company credible; consistent service performance	Likert
5	Customer Satisfaction	Ease satisfaction; benefit satisfaction; system satisfaction; overall satisfaction	Satisfied with ease; satisfied with benefits; system meets expectations; overall satisfaction	Likert

### Sampling Method

The population consists of all customers of PT BRI Asuransi Indonesia who have used digital insurance sales services. Due to the large and not precisely identifiable population size, non-probability sampling with a purposive sampling technique was applied. Respondents were selected based on the criteria that they had previously conducted digital insurance transactions and had direct experience using the company’s digital platform.

The minimum sample size was determined using Slovin’s formula:

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where n represents the required sample size, N represents the population size, and e denotes the margin of error. With a 5% error tolerance (e = 0.05), Slovin’s formula indicates that a minimum sample of approximately 400 respondents is sufficient for studies involving large populations. Based on this calculation, the study collected data from 405 respondents, which exceeds the minimum sample requirement and is considered adequate for statistical analysis using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach.

### Data Collection

Primary data were collected through an online questionnaire distributed to eligible customers. The questionnaire items were developed based on established theoretical constructs and adapted to the digital insurance context. Secondary data were obtained from academic journals, textbooks, and relevant industry reports to strengthen the theoretical foundation and support hypothesis development.

### Validity and Reliability Testing

Measurement model evaluation (outer model) was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). Convergent validity was assessed through factor loadings ( $\geq 0.70$ ) and Average Variance Extracted (AVE  $\geq 0.50$ ). Discriminant validity was examined using cross-loadings and the Heterotrait–Monotrait ratio (HTMT  $< 0.90$ ). Construct reliability was evaluated using Composite Reliability and Cronbach’s Alpha ( $\geq 0.70$ ).

Table 2

*Rule of Thumb for Outer Model Evaluation*

Criteria	Parameter	Threshold
Convergent Validity	Loading Factor	$> 0.70$
	Average Variance Extracted (AVE)	$> 0.50$
Discriminant Validity	Cross Loading	$> 0.70$
	HTMT	$< 0.90$
Reliability	Cronbach’s Alpha	$> 0.70$
	Composite Reliability	$> 0.70$

### Data Analysis Technique

Data analysis was conducted in two stages: descriptive analysis and inferential analysis using PLS-SEM. Descriptive analysis was used to summarize respondents’ demographic profiles and general perceptions of each construct using means, standard deviations, frequencies, and percentages.

PLS-SEM was employed to test both measurement and structural models. The structural model (inner model) evaluation included collinearity testing using Variance Inflation Factor (VIF), coefficient of determination ( $R^2$ ), and path coefficient analysis.

VIF values below 3 indicate no collinearity issues. The  $R^2$  values were interpreted as follows: 0.25 (weak), 0.50 (moderate), and 0.75 (strong). Path coefficients were assessed using bootstrapping procedures to determine statistical significance.

Table 3

*Rule of Thumb for Inner Model Evaluation*

Category	Indicator	Threshold
Collinearity	VIF	$< 5$
	t-value (10%)	1.282
Significance (one-tailed)	t-value (5%)	1.645
	t-value (1%)	2.326
	$> 0.25$	Weak
R Square	$> 0.50$	Moderate
	$> 0.75$	Strong
P-Value	$< 0.05$	Statistically significant

## Hypothesis Testing

Hypothesis testing was conducted through bootstrapping procedures in PLS-SEM to assess direct and indirect effects. The significance level was set at 5%, with hypotheses accepted when the t-statistic exceeded 1.96 and the p-value was below 0.05.

In addition to direct effects, mediation analysis was performed to evaluate the indirect role of trust in linking perceived ease of use, perceived usefulness, and system quality to customer satisfaction. The mediation effect was considered significant when the indirect path coefficients met the established significance criteria.

Through this methodological approach, the study systematically examines the structural relationships among digital service quality, technology acceptance factors, trust, and customer satisfaction in the context of digital insurance services.

## 3. Results and Discussion

### Respondent Profile

A total of 430 questionnaires were distributed, and after applying screening criteria—limited to customers of PT BRI Asuransi Indonesia who had direct experience using its digital insurance sales platform—405 valid responses were retained for analysis.

In terms of gender composition, respondents were relatively balanced, with 54.32% male (220 individuals) and 45.68% female (185 individuals). The age distribution indicates that the majority were in the 25–34 year range (41.98%), followed by 35–44 years (30.37%), reflecting a predominance of productive-age individuals who are generally more familiar with digital technologies and financially active in securing protection products.

Regarding educational background, most respondents held a bachelor's degree (53.33%), while 19.01% had completed senior high school and 18.02% held diploma qualifications. This profile suggests that the sample largely consists of individuals with sufficient educational capacity to understand insurance products and digital platforms. Occupationally, private-sector employees dominated the sample (50.86%), followed by entrepreneurs (18.77%) and civil servants (14.07%), indicating that the respondents are primarily economically active professionals.

From an income perspective, the largest proportion earned IDR 5,000,001–10,000,000 per month (38.02%), representing middle-income customers with adequate access to digital infrastructure and financial services. In terms of customer tenure, 37.04% had been customers for 1–3 years, and 27.90% for 3–5 years, demonstrating a relatively stable customer base. Furthermore, most respondents reported using digital insurance services “quite often” (39.51%), followed by “often” (29.38%) and “very often” (16.30%), indicating substantial familiarity with the digital platform.

### Descriptive Analysis

A descriptive analysis was performed to summarize respondents' impressions of perceived ease of use (PEOU), perceived usefulness (PU), system quality (SQ), trust (TR), and customer satisfaction (CS) in the digital insurance services of PT BRI Asuransi Indonesia. The findings reveal that the perceived ease of use attained an overall mean score of 3.368, indicating that respondents often regarded the digital platform as relatively user-friendly. System responsiveness garnered the greatest assessment (3.402), whilst the smoothness of system interaction received the lowest mean (3.331), albeit still within a positive range.

The perceived usefulness yielded an aggregate mean of 3.420, indicating respondents' consensus that the platform improves the efficiency and efficacy of insurance transactions. The highest-rated feature pertains to the platform's capacity to expedite the insurance acquisition

process (3.491), signifying that customers distinctly acknowledge its functional advantages. The system quality yielded an average score of 3.348, indicating positive opinions of technical performance. Indicators linked to minimum technical disturbances and system stability were assessed more favorably, highlighting the need of dependable infrastructure in facilitating digital service delivery. Trust achieved an overall mean of 3.429, indicating one of the top construct averages. System security has emerged as the predominant element influencing trust, underscoring that data protection and transactional safety are essential factors in the implementation of digital insurance. Customer satisfaction attained an overall mean of 3.425, with the best rating for overall experience satisfaction at 3.474. This indicates that respondents were predominantly content with their interactions and transactions via the digital platform.

### Measurement Model Evaluation (Outer Model)

Evaluation of the measurement (outer) model was conducted prior to testing the structural relationships to ensure that all constructs met the required standards of validity and reliability. The assessment followed the PLS-SEM procedure, covering convergent validity, discriminant validity, and internal consistency reliability.

Figure 3

PLS-SEM Algorithm (Outer Model).

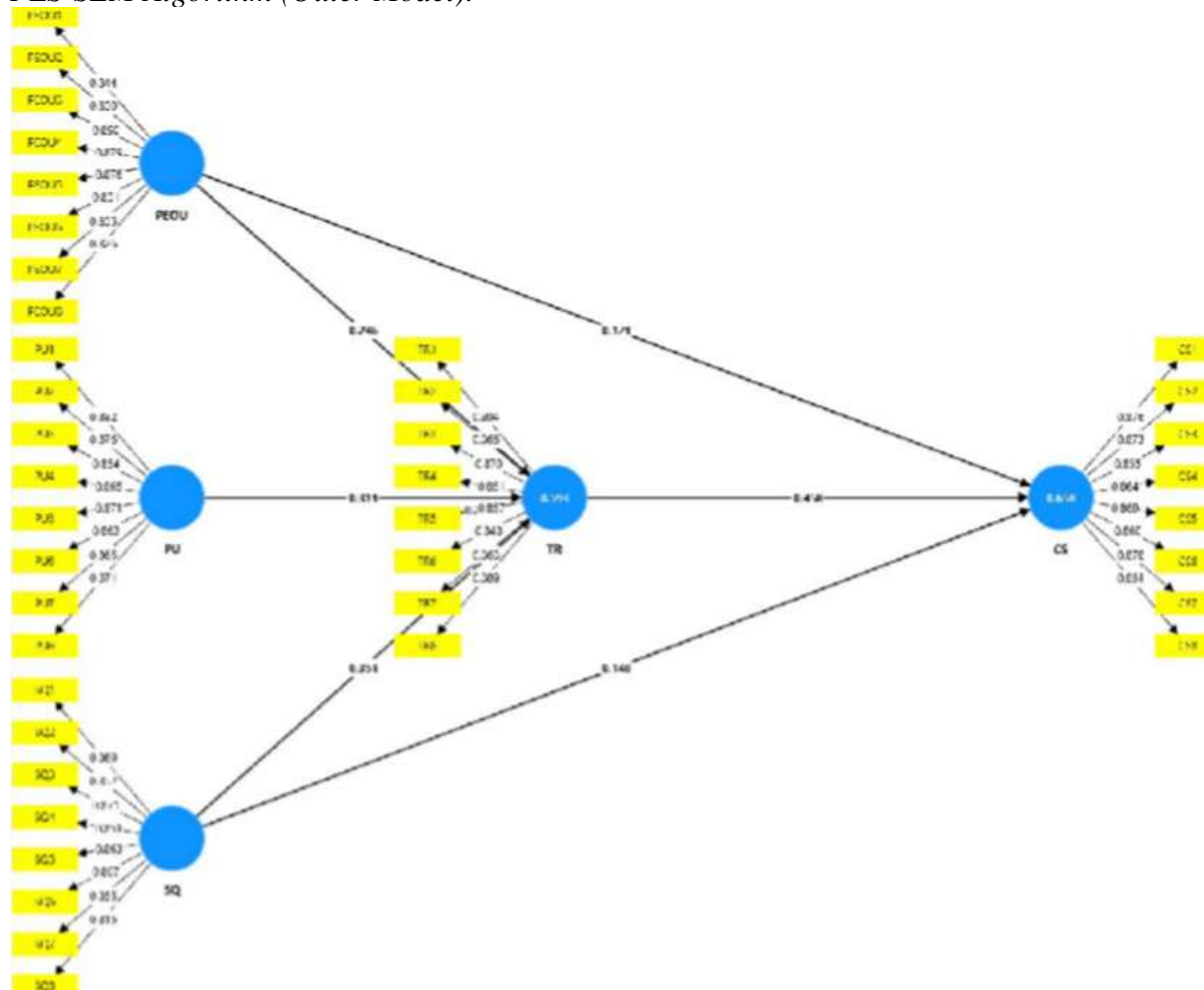


Figure 3. PLS-SEM Algorithm (Outer Model) presents the graphical output of the measurement model, illustrating the relationships between latent constructs—perceived ease of use, perceived usefulness, system quality, trust, and customer satisfaction—and their respective

indicators. The standardized outer loadings shown in the figure indicate strong associations between indicators and their intended constructs, suggesting that the measurement specification is appropriate and theoretically consistent.

Table 4.  
*Outer Loading Results*

	CS	PEOU	PU	SQ	TR
CS1	0.876				
CS2	0.873				
CS3	0.855				
CS4	0.864				
CS5	0.869				
CS6	0.860				
CS7	0.878				
CS8	0.861				
PEOU1		0.844			
PEOU2		0.850			
PEOU3		0.890			
PEOU4		0.879			
PEOU5		0.876			
PEOU6		0.851			
PEOU7		0.855			
PEOU8		0.826			
PU1			0.882		
PU2			0.876		
PU3			0.854		
PU4			0.865		
PU5			0.871		
PU6			0.863		
PU7			0.865		
PU8			0.871		
SQ1				0.869	
SQ2				0.852	
SQ3				0.871	
SQ4				0.851	

	CS	PEOU	PU	SQ	TR
<b>SQ5</b>				0.863	
<b>SQ6</b>				0.867	
<b>SQ7</b>				0.855	
<b>SQ8</b>				0.815	
<b>TR1</b>					0.894
<b>TR2</b>					0.866
<b>TR3</b>					0.870
<b>TR4</b>					0.851
<b>TR5</b>					0.857
<b>TR6</b>					0.848
<b>TR7</b>					0.868
<b>TR8</b>					0.889

Table 4 reports that all indicator loadings exceed the recommended threshold of 0.70. This confirms convergent validity at the indicator level, meaning that each observed variable adequately represents its corresponding latent construct. Loadings above 0.70 indicate that more than 49% of the variance in each indicator is explained by the underlying construct (since loading<sup>2</sup> represents explained variance). The consistently high loading values also demonstrate that the indicators are strongly correlated with their theoretical dimensions and contribute meaningfully to construct measurement. As all indicators satisfy the minimum criterion, no item elimination or model respecification was required.

Table 5  
*Average Variance Extracted (AVE)*

	<i>Average variance extracted (AVE)</i>
<b>CS</b>	0.752
<b>PEOU</b>	0.738
<b>PU</b>	0.754
<b>SQ</b>	0.732
<b>TR</b>	0.753

Table 5 shows AVE values ranging from 0.732 to 0.754, which are well above the recommended cut-off value of 0.50. These results indicate that each construct explains more than 50% of the variance in its indicators, thereby confirming convergent validity at the construct level. AVE values above 0.70 further suggest that the constructs capture a substantial proportion of indicator variance relative to measurement error. This strengthens the evidence that the measurement model demonstrates satisfactory explanatory power and construct representation.

Table 6  
*Cross Loading Results*

	CS	PEOU	PU	SQ	TR
CS1	<b>0.876</b>	0.509	0.590	0.577	0.680
CS2	<b>0.873</b>	0.528	0.598	0.571	0.667
CS3	<b>0.855</b>	0.519	0.577	0.552	0.709
CS4	<b>0.864</b>	0.529	0.584	0.554	0.623
CS5	<b>0.869</b>	0.541	0.581	0.493	0.665
CS6	<b>0.860</b>	0.546	0.597	0.544	0.662
CS7	<b>0.878</b>	0.567	0.553	0.559	0.659
CS8	<b>0.861</b>	0.524	0.581	0.529	0.660
PEOU1	0.508	<b>0.844</b>	0.530	0.454	0.490
PEOU2	0.515	<b>0.850</b>	0.522	0.452	0.551
PEOU3	0.536	<b>0.890</b>	0.520	0.457	0.526
PEOU4	0.531	<b>0.879</b>	0.547	0.481	0.556
PEOU5	0.552	<b>0.876</b>	0.551	0.489	0.573
PEOU6	0.499	<b>0.851</b>	0.519	0.449	0.515
PEOU7	0.521	<b>0.855</b>	0.498	0.492	0.551
PEOU8	0.557	<b>0.826</b>	0.530	0.438	0.540
PU1	0.605	0.533	<b>0.882</b>	0.495	0.591
PU2	0.573	0.549	<b>0.876</b>	0.516	0.590
PU3	0.585	0.527	<b>0.854</b>	0.490	0.565
PU4	0.628	0.530	<b>0.865</b>	0.505	0.593
PU5	0.573	0.528	<b>0.871</b>	0.474	0.591
PU6	0.569	0.535	<b>0.863</b>	0.522	0.539
PU7	0.533	0.543	<b>0.865</b>	0.465	0.552
PU8	0.597	0.521	<b>0.871</b>	0.520	0.585
SQ1	0.573	0.492	0.472	<b>0.869</b>	0.578
SQ2	0.515	0.426	0.472	<b>0.852</b>	0.528
SQ3	0.533	0.477	0.510	<b>0.871</b>	0.551
SQ4	0.514	0.461	0.476	<b>0.851</b>	0.547
SQ5	0.523	0.461	0.491	<b>0.863</b>	0.573
SQ6	0.600	0.467	0.557	<b>0.867</b>	0.621

	CS	PEOU	PU	SQ	TR
<b>SQ7</b>	0.547	0.494	0.520	<b>0.855</b>	0.577
<b>SQ8</b>	0.507	0.416	0.420	<b>0.815</b>	0.553
<b>TR1</b>	0.672	0.575	0.572	0.585	<b>0.894</b>
<b>TR2</b>	0.688	0.538	0.597	0.594	<b>0.866</b>
<b>TR3</b>	0.653	0.516	0.524	0.579	<b>0.870</b>
<b>TR4</b>	0.646	0.561	0.566	0.548	<b>0.851</b>
<b>TR5</b>	0.668	0.538	0.587	0.564	<b>0.857</b>
<b>TR6</b>	0.637	0.499	0.569	0.574	<b>0.848</b>
<b>TR7</b>	0.658	0.525	0.576	0.580	<b>0.868</b>
<b>TR8</b>	0.711	0.596	0.613	0.577	<b>0.889</b>

Discriminant validity was assessed using two complementary methods. Table 6 demonstrates that each indicator loads highest on its designated construct compared to other constructs. The difference between primary loadings and cross-loadings is sufficiently large, indicating that each indicator shares more variance with its intended construct than with alternative constructs. This confirms that the measurement items are not ambiguous and do not suffer from significant conceptual overlap across latent variables.

Table 7  
*HTMT Results*

	CS	PEOU	PU	SQ	TR
<b>CS</b>					
<b>PEOU</b>	0.646				
<b>PU</b>	0.704	0.645			
<b>SQ</b>	0.663	0.569	0.602		
<b>TR</b>	0.805	0.658	0.695	0.696	

Furthermore, Table 7 presents heterotrait–monotrait (HTMT) ratios below the recommended threshold (generally 0.85–0.90), providing additional evidence of discriminant validity. The HTMT criterion is considered a more stringent and reliable assessment compared to traditional methods such as the Fornell–Larcker criterion. The acceptable HTMT values indicate that the correlations between different constructs are not excessively high, confirming that each construct measures a distinct conceptual domain within the research model.

Table 8  
*Cronbach's Alpha and Composite Reliability*

	Cronbach's alpha	Composite reliability (rho_c)
<b>CS</b>	0.953	0.960
<b>PEOU</b>	0.949	0.957
<b>PU</b>	0.953	0.961

<b>SQ</b>	0.948	0.956
<b>TR</b>	0.953	0.961

Reliability was examined using internal consistency measures. Table 8 shows that all constructs achieve values exceeding 0.90, indicating strong internal consistency reliability. Cronbach’s Alpha reflects the degree of interrelatedness among indicators within a construct, while Composite Reliability accounts for different indicator loadings and is considered more suitable in PLS-SEM analysis. The high values obtained for both metrics demonstrate that the measurement items consistently and reliably capture their respective latent constructs with minimal random error.

### Structural Model Evaluation (Inner Model)

The structural (inner) model evaluation was conducted to examine the relationships among latent constructs and to assess the predictive and explanatory power of the proposed research model.

Table 9

*Variance Inflation Factor (VIF)*

VIF		VIF		VIF		VIF		VIF	
<b>CS1</b>	3.329	<b>PEOU1</b>	2.765	<b>PU1</b>	3.512	<b>SQ1</b>	3.228	<b>TR1</b>	3.858
<b>CS2</b>	3.312	<b>PEOU2</b>	2.821	<b>PU2</b>	3.361	<b>SQ2</b>	2.979	<b>TR2</b>	3.240
<b>CS3</b>	2.901	<b>PEOU3</b>	3.677	<b>PU3</b>	2.921	<b>SQ3</b>	3.234	<b>TR3</b>	3.377
<b>CS4</b>	3.088	<b>PEOU4</b>	3.428	<b>PU4</b>	3.040	<b>SQ4</b>	2.887	<b>TR4</b>	2.882
<b>CS5</b>	3.172	<b>PEOU5</b>	3.334	<b>PU5</b>	3.264	<b>SQ5</b>	3.082	<b>TR5</b>	2.998
<b>CS6</b>	3.128	<b>PEOU6</b>	2.961	<b>PU6</b>	3.114	<b>SQ6</b>	3.065	<b>TR6</b>	2.909
<b>CS7</b>	3.426	<b>PEOU7</b>	2.902	<b>PU7</b>	3.180	<b>SQ7</b>	2.906	<b>TR7</b>	3.280
<b>CS8</b>	3.042	<b>PEOU8</b>	2.496	<b>PU8</b>	3.257	<b>SQ8</b>	2.489	<b>TR8</b>	3.622

Table 9 indicates that all VIF values are below the recommended threshold of 5. This demonstrates the absence of serious multicollinearity among predictor constructs. Low VIF values confirm that each independent variable contributes uniquely to the explanation of endogenous constructs without excessive overlap. Therefore, the structural estimates can be interpreted reliably without bias caused by collinearity issues.

Table 10

*Coefficient of Determination (R<sup>2</sup>)*

	R-square	R-square adjusted
<b>CS</b>	0.658	0.655
<b>TR</b>	0.593	0.590

Table 10 shows that trust achieves an R<sup>2</sup> value of 0.593, while customer satisfaction reaches 0.658. According to commonly accepted benchmarks in PLS-SEM, these values indicate moderate explanatory power. Specifically, 59.3% of the variance in trust is explained by perceived ease of use, perceived usefulness, and system quality. Meanwhile, 65.8% of the variance in customer satisfaction is explained jointly by perceived ease of use, perceived usefulness, system quality, and trust. These findings suggest that the proposed model possesses

substantial predictive capability while still allowing room for additional external determinants in future research.

Figure 4  
 Bootstrapping Model (Inner Model)

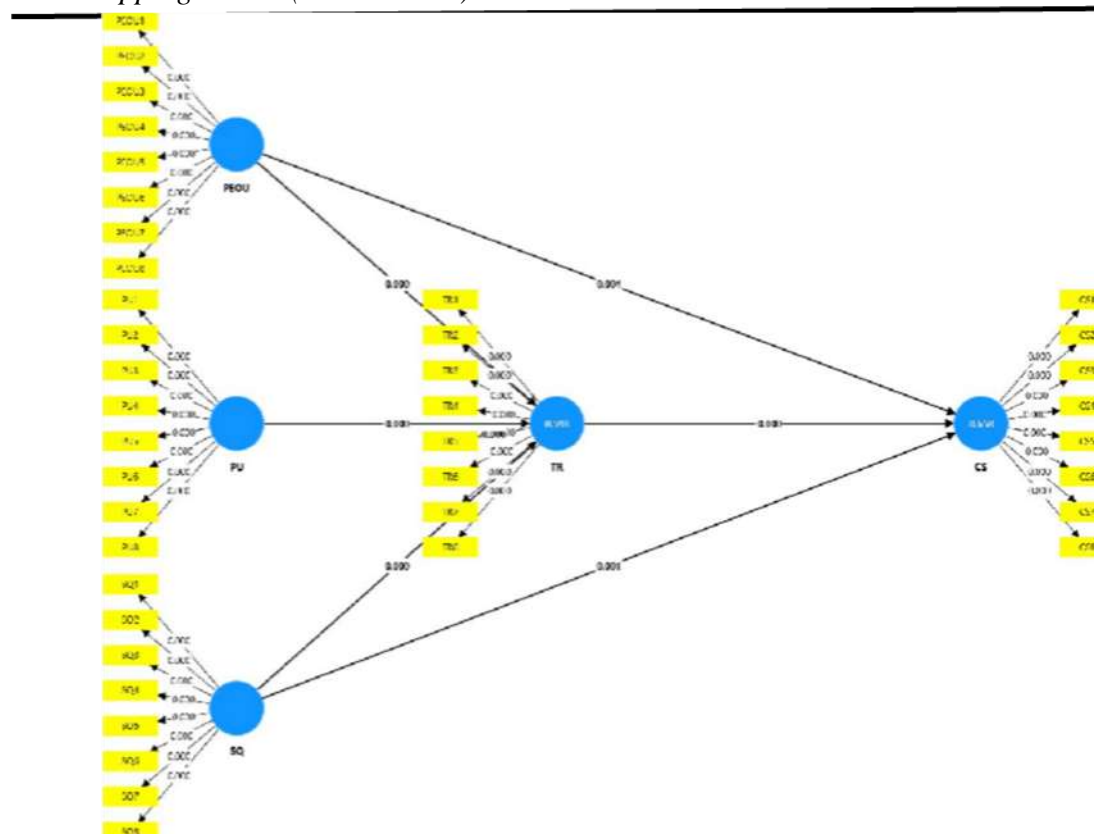


Figure 4 illustrates the structural relationships among constructs along with their standardized path coefficients and significance levels obtained through bootstrapping procedures. The figure visually confirms the direction and strength of the hypothesized relationships within the model.

Table 11  
 Path Coefficient Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
<b>PEOU -&gt; CS</b>	0.121	0.123	0.045	2.691	0.004
<b>PEOU -&gt; TR</b>	0.246	0.249	0.049	5.022	0.000
<b>PU -&gt; CS</b>	0.214	0.215	0.049	4.375	0.000
<b>PU -&gt; TR</b>	0.311	0.308	0.054	5.799	0.000
<b>SQ -&gt; CS</b>	0.140	0.139	0.047	2.989	0.001
<b>SQ -&gt; TR</b>	0.351	0.353	0.046	7.708	0.000
<b>TR -&gt; CS</b>	0.458	0.455	0.053	8.617	0.000

Table 11 reports the direct effects among constructs. The results indicate that perceived ease of use positively influences trust ( $\beta = 0.246$ ) and customer satisfaction ( $\beta = 0.121$ ), suggesting that ease of system interaction enhances both confidence and evaluative outcomes. Perceived usefulness exerts a stronger positive effect on trust ( $\beta = 0.311$ ) and satisfaction ( $\beta = 0.214$ ), indicating that functional benefits play a substantial role in shaping user evaluations. System quality demonstrates the strongest impact on trust among the antecedents ( $\beta = 0.351$ ) and also positively affects satisfaction ( $\beta = 0.140$ ), highlighting the importance of technical reliability and stability in digital insurance services. Notably, trust has the strongest direct effect on customer satisfaction ( $\beta = 0.458$ ), emphasizing its central role as a key determinant of positive user evaluation.

Table 12  
*Specific Indirect Effect Results*

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
PEOU -> TR -> CS	0.113	0.114	0.027	4.193	0.000
PU -> TR -> CS	0.143	0.140	0.028	5.110	0.000
SQ -> TR -> CS	0.161	0.161	0.028	5.649	0.000

Table 12 confirms the presence of statistically significant mediation effects within the structural model. The bootstrapping analysis shows that the indirect paths from perceived ease of use, perceived usefulness, and system quality to customer satisfaction through trust are all significant. This finding indicates that trust functions as an intervening mechanism that transmits part of the effects of technological and functional attributes toward satisfaction outcomes. In other words, while perceived ease of use, usefulness, and system quality have direct effects on satisfaction, their impact becomes stronger and more meaningful when users develop trust in the digital insurance platform.

The magnitude and significance of these indirect effects demonstrate partial mediation rather than full mediation, as the direct relationships remain significant. This suggests that trust complements—rather than replaces—the direct influence of technological factors. Conceptually, this implies that customers do not evaluate satisfaction solely based on system performance; instead, technological attributes first enhance psychological assurance and confidence, which subsequently strengthens overall satisfaction. The mediation results therefore reinforce the central role of trust as a key explanatory construct in digital service environments characterized by financial risk and information asymmetry.

Table 13  
*Hypothesis Testing Results*

Hypothesis	t-statistic	p-value	Decision
<i>Perceived ease of use</i> → <i>Trust</i>	5,022	0,000	Accepted
<i>Perceived usefulness</i> → <i>Trust</i>	5,799	0,000	Accepted
<i>System quality</i> → <i>Trust</i>	7,708	0,000	Accepted
<i>Perceived ease of use</i> → <i>Customer satisfaction</i>	2,691	0,004	Accepted

<i>Perceived usefulness</i> → <i>Customer satisfaction</i>	4,375	0,000	Accepted
<i>System quality</i> → <i>Customer satisfaction</i>	2,989	0,001	Accepted
<i>Trust</i> → <i>Customer satisfaction</i>	8,617	0,000	Accepted
<i>Perceived ease of use</i> → <i>Trust</i> → <i>Customer satisfaction</i>	4,193	0,000	Accepted
<i>Perceived usefulness</i> → <i>Trust</i> → <i>Customer satisfaction</i>	5,110	0,000	Accepted
<i>System quality</i> → <i>Trust</i> → <i>Customer satisfaction</i>	5,649	0,000	Accepted

Table 13 indicates that all ten proposed hypotheses (H1–H10) are validated at the requisite significance level. Every structural relationship satisfies the statistical criteria derived from path coefficients, t-statistics, and p-values produced by the bootstrapping method. The affirmative trajectory of all major pathways aligns with the theoretical anticipations established by the Technology Acceptance Model and information systems success theory.

The extensive support for all hypotheses demonstrates a robust empirical correlation between the suggested conceptual framework and the observed data. The complete validation of this hypothesis fortifies the research model and amplifies its theoretical contribution. The integrated approach, which connects ease of use, usefulness, and system quality to satisfaction via trust, is empirically robust and appropriate for elucidating customer behavior in digital insurance services.

The results indicate that trust is a pivotal and important factor in elucidating client happiness in digital insurance services. The structural findings demonstrate that perceived ease of use, perceived usefulness, and system quality have both direct impacts on satisfaction and significant indirect effects mediated by trust. This affirms that technological and functional characteristics alone cannot entirely elucidate evaluative results; instead, their impact is amplified when they cultivate psychological assurance and confidence in consumers.

The beneficial impact of perceived ease of use on trust and satisfaction indicates that an intuitive, clear, and navigable system diminishes cognitive strain and ambiguity. In digital financial services, when transactions entail personal data and financial obligations, simplicity fosters a sense of control, hence enhancing confidence. Perceived utility exerts a more significant influence on satisfaction than simplicity of use, suggesting that buyers prioritize efficiency, practicality, and time-saving advantages in digital insurance purchases. Consequently, functional performance directly influences favorable assessments while concurrently bolstering trust.

System quality is the predominant factor influencing confidence among technological antecedents. This underscores the significance of system stability, reliability, and security in digital insurance platforms. Technical performance transcends practical significance; it serves as an indicator of organizational credibility and professionalism. When customers see few interruptions and recognize robust data security, their trust in the service provider significantly escalates.

Trust demonstrates the most significant direct impact on customer happiness, affirming its crucial importance in high-risk digital contexts. Insurance transactions entail long-term commitments and uncertainties over future claims, rendering credibility and integrity essential factors in user assessment. The mediation results demonstrate that trust partially connects

technological features and contentment, highlighting that consumer pleasure is influenced by both rational assessments of system performance and psychological confidence.

### Research Limitations and Future Research

This study offers significant insights into digital insurance services; nonetheless, it possesses numerous shortcomings that warrant acknowledgment. The study utilized a non-probability purposive sampling method, potentially constraining the generalizability of the findings outside the sample of respondents engaged in this research. Despite the respondents were chosen for their pertinent experience with the digital insurance platform of PT BRI Asuransi Indonesia, the sampling method does not comprehensively represent the whole population of digital insurance consumers in Indonesia.

Secondly, this study employed a cross-sectional research methodology, in which data were gathered at a singular moment in time. Thus, the findings represent consumer perceptions just within a particular temporal framework and may not comprehensively account for shifts in user attitudes or trust levels as digital services progress. Longitudinal studies would be beneficial for examining the evolution of trust and happiness as customers accumulate experience with digital insurance platforms.

Future study should broaden its investigative scope by utilizing probability sampling methods, integrating larger and more diverse samples, and analyzing other insurance providers to improve the external validity of the results. Moreover, subsequent research should incorporate additional pertinent characteristics such as perceived risk, service quality, digital literacy, or customer experience to achieve a more thorough comprehension of customer satisfaction in digital financial services.

### 4. Conclusion

This study examined the effects of perceived ease of use, perceived usefulness, and system quality on customer satisfaction, with trust as a mediating variable in digital insurance services at PT BRI Asuransi Indonesia. The findings indicate that all three technological factors have positive and significant effects on both trust and customer satisfaction. Usability, functional benefits, and system reliability therefore represent essential determinants of favorable customer evaluations in digital insurance platforms.

Trust is shown to play a central role in strengthening the relationship between technological attributes and satisfaction. Improvements in system performance not only enhance satisfaction directly, but also increase customer confidence in the service, which subsequently reinforces overall satisfaction. This suggests that technical quality alone is not sufficient; customer confidence in the provider's reliability and security remains a decisive factor.

The study contributes to the literature by emphasizing the strategic role of trust in digital financial services and by integrating technology acceptance and system quality perspectives within the insurance context. From a managerial standpoint, companies should focus on maintaining system stability, clearly communicating data protection standards, and ensuring alignment between digital platforms and internal operations to deliver consistent and reliable service.

Future research may incorporate additional variables such as perceived risk or digital literacy and involve broader respondent characteristics to enhance the generalizability of the findings.

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## 6. Declarations

Author Contribution : Author 1: Conceptualization, Writing - Original Draft, Editing and Visualization; Author 2: Writing - Review & Editing, Formal analysis, and Methodology; Author 3: Validation and Supervision (<https://www.elsevier.com/authors/policies-and-guidelines/credit-author-statement>). Funding Statement: This research was funded by the director general of Strengthening Research and Development with the Ministry of Research, Technology and Higher Education of the Republic of Indonesia for supporting and funding this research. Conflict of Interest: The authors declare no conflict of interest. Additional Information: Additional information is available for this paper

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