



How E-Service Quality, E-Trust, and E-CRM Drive Loyalty: The Mediating Role of Customer Satisfaction

***Ditiya Himawati**

Universitas Gunadarma,
Indonesia

Tiara Aulia

Meikawati

Universitas Gunadarma,
Indonesia

***Corresponding author:**

Ditiya Himawati, Universitas Gunadarma,
Indonesia. ✉ditiya@staff.gunadarma.ac.id

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Abstract

Background: The growing prominence of branchless digital banking in Indonesia has intensified competition to retain users, making the drivers of e-customer loyalty a strategic concern for providers such as blu by BCA Digital.

Objective: This study examines how e-service quality, e-trust, and e-customer relationship management (e-CRM) influence e-customer loyalty, and tests whether e-customer satisfaction mediates these relationships among Generation Z users of blu by BCA Digital.

Methods: A quantitative design was applied to 115 Generation Z users selected through purposive sampling. Data were obtained from an online questionnaire and processed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0, evaluating the measurement model, structural model, and mediation through indirect effects.

Results: E-service quality, e-trust, and e-CRM each significantly enhance e-customer satisfaction. E-CRM and e-customer satisfaction significantly influence e-customer loyalty, whereas e-service quality and e-trust have no significant direct effect on loyalty. E-customer satisfaction significantly mediates all three paths to loyalty, indicating full mediation for e-service quality and e-trust.

Conclusion: E-customer satisfaction is the pathway through which digital service attributes foster e-customer loyalty; service quality and trust shape loyalty only indirectly, while e-CRM operates both directly and indirectly.

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INTRODUCTION

The continuous evolution of information and communication technology has fundamentally transformed various aspects of society, including the financial and banking sectors. These developments have encouraged banks to adopt digital technology in delivering services to customers. Through digital services, banks are able to provide more accessible, faster, and more efficient services that align with the needs of modern society. One of the innovations resulting from this development is the emergence of digital banking platforms, which offer banking services through online channels without relying on physical branch offices.

The COVID-19 pandemic was a significant factor that accelerated digital transformation while limiting people's mobility and activities outside their homes. The advancement of digital technology is also expected to enhance efficiency and productivity across various sectors, including financial services. The availability of online financial services has simplified and accelerated transaction processes through the use of smartphones. Consequently, the growing acceptance of digital technology and the increasing internet penetration among the population have led to changes in consumer behavior regarding financial transactions. Figure 1 depicts the

development of electronic money transaction volume and value over the period from January 2021 to August 2024.

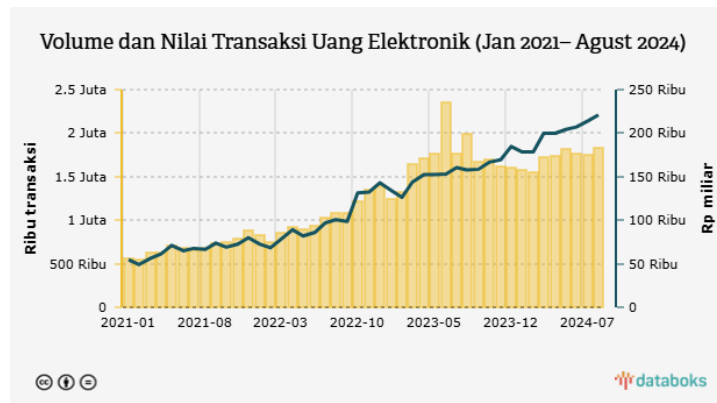


Figure 1. Volume and Value of Electronic Money Transactions, January 2021–August 2024
Source: databoks.katadata.co.id, 2024

Electronic money transactions experienced sustained growth in both volume and value throughout the January 2021–August 2024 period. Transaction volume increased from approximately 500 thousand–1 million transactions to 2–2.3 million transactions, while transaction value rose from IDR 50–80 billion to IDR 200–250 billion. The growth can be attributed to the accelerating adoption of digital payment technologies alongside the expansion of e-commerce activities, whereas temporary declines were influenced by economic conditions and seasonal factors, such as promotional campaigns and major holidays. These trends indicate the growing use of electronic money in public transaction activities.

PT Bank Central Asia Tbk (BCA) stands among the foremost private banking institutions operating in Indonesia, managing over 19.5 million customer accounts. The company has demonstrated a strong commitment to strengthening its digital banking services since the early 2000s through the development of internet banking, followed by the introduction of mobile banking in 2006 and the launch of Application Programming Interface (API) services in 2017 to support digital transformation initiatives. One of BCA's digital banking services is blu by BCA Digital, which offers various innovative features, including bluSaving, bluGether, and bluDeposit. The platform offers features that correspond to the expectations and digital lifestyles of Generation Z users, who prioritize convenience, flexibility, and financial control. The combination of these features has enhanced the attractiveness of blu among Generation Z users and supports BCA's strategy to strengthen its integrated digital banking ecosystem, as evidenced by Figure 2 presented below.

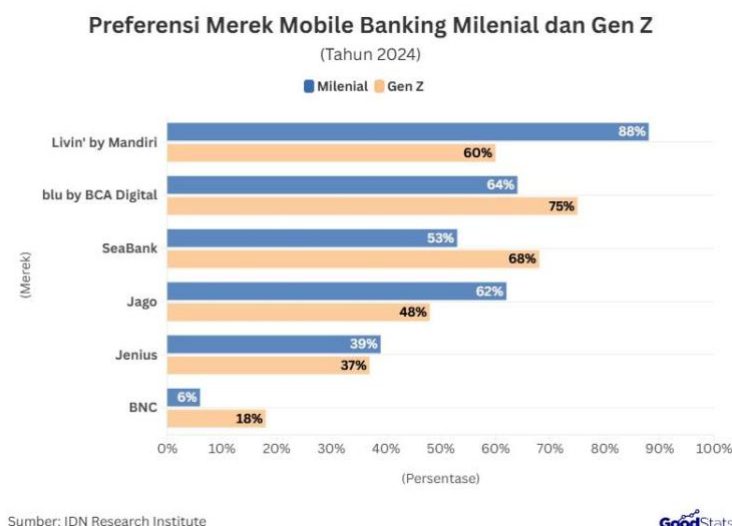


Figure 2. Mobile Banking Brand Preferences among Millennials and Generation Z in 2024
Source: goodstats.id, 2024

A closer examination of Figure 2 reveals that the mobile banking brand preferences among Gen Z in 2024 show that blu by BCA Digital ranks second with a usage rate of 75% among Generation Z, indicating high interest in the service. Overall, the chart highlights generational differences in preferences, where blu by BCA Digital and SeaBank are more favored by Gen Z due to their practical, flexible digital features that match their tech-adaptive lifestyle. Meanwhile, Livin' by Mandiri is preferred by millennials because it's easy to use, offers comprehensive services, and is backed by the reputation of a major bank. These results show that blu is quite a popular digital banking service among Gen Z. Accordingly, initiatives aimed at improving e-customer satisfaction are necessary to foster higher levels of customer loyalty.

Existing research indicates that e-customer loyalty is influenced by a range of antecedent factors, with e-service quality, e-trust, and e-customer relationship management consistently identified as key determinants. These variables were selected due to their important role in shaping customer satisfaction and loyalty. Moreover, studies examining e-customer satisfaction as a mediator variable among blu by BCA Digital users remain limited. The findings are expected to provide insights for designing strategies and policies aimed at strengthening customer loyalty.

E-service quality is a strategic factor in creating competitive advantages for a company. Through quality service, a company can attract customers' attention compared to other companies. High-quality digital services can better address customers' needs and expectations (Saepullah & Waluyo, 2025). Previous studies by Putri & Purnama (2024), the findings suggested that customer satisfaction serves as the underlying conduit through which mobile banking service quality fosters customer loyalty.

E-trust embodies a consumer's disposition to undertake electronic transactions in the presence of inherent risks, supported by confidence in the provider's transparency, reliability, and adherence to agreed commitments (Saepullah & Waluyo, 2025). Trust refers to an individual's confidence in another party's credibility, competence, and consistency in fulfilling obligations and meeting mutually established expectations. Previous studies by Armanda & Hana (2025) revealed that customer satisfaction constitutes the pathway through which e-trust exerts its influence on customer loyalty.

E-Customer Relationship Management is an effort implemented by companies to maintain ongoing interactions and strengthen relationships with customers in a digital environment. This strategy is designed to increase satisfaction and strengthen their loyalty to the company (Oktavianus & Marlina, 2025). E-Customer relationship management is an approach taken by companies through activities like recognizing, building, maintaining, and developing valuable relationships with customers so that a mutually beneficial relationship is created. Previous studies by Wati et al. (2024) empirical insights demonstrate that e-customer relationship management fosters e-customer loyalty, which is channeled through e-customer satisfaction.

The findings are expected to enrich managerial insights at blu by BCA Digital concerning the mechanisms by which e-service quality, e-trust, and e-customer relationship management shape e-customer satisfaction and loyalty. The findings may serve as a reference for evaluating existing service practices and identifying opportunities to enhance digital service quality, strengthen customer trust, and enhance relationship management initiatives. Furthermore, a better understanding of the antecedents of e-customer satisfaction can support efforts to encourage greater customer involvement and the longevity of digital banking service utilization. The empirical evidence of this research may also assist blu by BCA Digital in formulating strategies aimed at fostering customer satisfaction and loyalty, thereby reinforcing its competitive position within the digital banking industry.

Literature Review

Theoretical Foundation

This conceptual foundation is grounded in the service–satisfaction–loyalty chain, which posits that favorable evaluations of service attributes generate satisfaction, thereby fostering customer loyalty. In digital banking, this chain is operationalized through electronic constructs: e-service quality, e-trust, and e-CRM as antecedents; e-customer satisfaction as the mediating mechanism; and e-customer loyalty as the ultimate outcome.

E-Service Quality and E-Customer Satisfaction

E-service quality may be understood as an ongoing process of maintaining high service standards of sustaining high service standards to achieve optimal customer satisfaction (Nimaturosyida, 2025). These observations are congruent with the findings advanced by (Armanda & Hana, 2025). Empirical findings indicate that e-service quality constitutes a key antecedent of e-customer satisfaction.

H1: E-service quality positively affects e-customer satisfaction among Blu by BCA Digital users.

E-Trust and E-Customer Satisfaction

E-Trust refers to consumers' readiness to accept the risks of digital transactions with the prerequisite belief that vendors will provide a transparent experience as agreed (Saepullah & Waluyo, 2025). Customer confidence can be strengthened through the establishment of digital trust, leading to improved e-customer satisfaction. These findings align with the empirical observations advanced by Agung & Oswari (2025), and Armanda & Hana (2025), demonstrating the pivotal role of e-trust in fostering e-customer satisfaction.

H2: E-trust positively affects e-customer satisfaction among Blu by BCA Digital users.

E-Customer Relationship Management and E-Customer Satisfaction

E-CRM is basically managing relationships through electronic means, which allows organizations like banks or other organizations to provide suitable services and products that satisfy customers and boost their loyalty (Fajri & Sakir, 2025). The proper implementation of e-CRM can also help customers get more responsive services, easier access to information, and a more effective and comfortable transaction experience. The conclusions drawn from this study mirror those presented by Agung & Oswari (2025), and Wati et al. (2024), highlighting the significant positive relationship between e-customer satisfaction and e-customer loyalty the contribution of e-CRM to e-customer satisfaction.

H3: E-CRM positively affects e-customer satisfaction among Blu by BCA Digital users.

E-Service Quality and E-Customer Loyalty

E-service quality may be understood as an ongoing process of sustaining high service standards to achieve optimal customer satisfaction (Nimaturosyida, 2025). Higher levels of electronic service quality provided by Blu by BCA Digital correspond to increased e-customer satisfaction. The current study yielded outcomes comparable to those documented by Agung & Oswari (2025) underscoring the significant role of e-service quality in fostering e-customer loyalty.

H4: E-service quality positively affects e-customer loyalty among blu by BCA Digital users.

E-Trust and E-Customer Loyalty

Customers evaluate the bank's credibility, service performance, and technological capabilities when engaging in online transactions (Jabbar & Hana, 2025). Higher levels of e-trust in blu by BCA Digital are associated with higher e-customer satisfaction. The findings derived from this research reflect a pattern similar to that identified by Dewi & Padmantyo (2025), revealing the contribution of e-trust to sustaining e-customer loyalty.

H5: E-trust positively affects e-customer loyalty among Blu by BCA Digital users.

E-Customer Relationship Management and E-Customer Loyalty

CRM signifies a strategic framework focused on developing and sustaining mutually beneficial relationships with customers to support organizational success. CRM also aims to boost a company's long-term profitability. Nowadays, CRM has become a strategy used by companies to better understand customer needs, so they can provide optimal service and build lasting relationships with customers (Saputra, 2026). The evidence generated in this investigation lends credence to the findings articulated by Agung & Oswari (2025) and Sutanto (2021), highlighting the contribution of e-CRM to strengthening e-customer loyalty.

H6: E-CRM positively affects e-customer loyalty among Blu by BCA Digital users.

E-Customer Satisfaction and E-Customer Loyalty

Customer satisfaction constitutes a multidimensional concept encompassing the experiential dimensions of customer interactions, from being user-friendly and fast to access for transactions, to the quality of customer service available through digital channels. Customer satisfaction is shaped by both the product provided and users' overall experience with the digital platform (Nimaturosyida, 2025). Similar results were reported in the study conducted by Agung & Oswari (2025) and Yanti & Hidayat (2024) highlighting.

H7: E-customer satisfaction positively affects e-customer loyalty among blu by BCA Digital users.

E-Service Quality, E-Customer Satisfaction and E-Customer Loyalty

E-service quality, as an electronic adaptation of ServQual, plays a pivotal role in digital platforms. It serves as an evaluative framework for assessing services provided through internet-based media (Kurnia, Adhilla & Purwoko, 2025). Comparable findings were reported in the study conducted by Agung & Oswari (2025) establishing e-customer satisfaction as the underlying conduit through which e-service quality fosters e-customer loyalty.

H8: E-customer satisfaction mediates the effect of e-service quality on e-customer loyalty.

E-Trust, E-Customer Satisfaction and E-Customer Loyalty

E-Trust refers to consumers' readiness to accept the risks of digital transactions with the prerequisite belief that vendors will provide a transparent experience as agreed (Saepullah & Waluyo, 2025). Comparable findings were reported in the study conducted by (Putri & Purnama, 2024). E-customer satisfaction constitutes as a transmission pathway through which e-trust enhances e-customer loyalty.

H9: E-customer satisfaction mediates the effect of e-trust on e-customer loyalty.

E-Customer Relationship Management, E-Customer Satisfaction and E-Customer Loyalty

E-CRM represents managing relationships through electronic means, which allows organizations like banks or other organizations to provide suitable services and products that satisfy customers and boost their loyalty (Fajri & Sakir, 2025). The observed results show convergence with the study conducted by Saputra (2026) and Sutanto (2021), e-customer satisfaction operates as a mechanism linking e-customer relationship management and e-customer loyalty.

H10: E-customer satisfaction mediates the role of e-CRM on e-customer loyalty.

Conceptual Framework

Drawing on the preceding empirical studies, e-service quality, e-trust, and e-CRM are hypothesized to influence e-customer satisfaction and e-customer loyalty, with e-customer satisfaction mediating the relationships between the three antecedents and loyalty. The conceptual framework is illustrated in Figure 3.

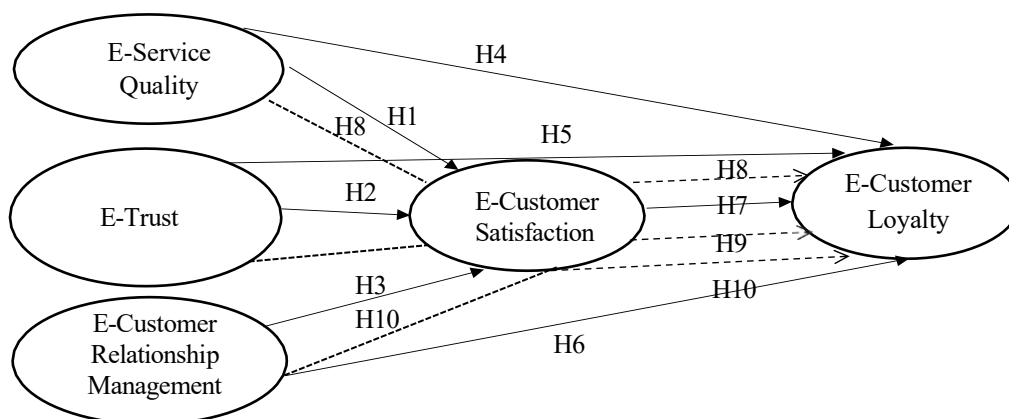


Figure 3. Hypothesised Research Model

Source: adapted from (Istnaini & Firmansyah, 2024; Lisnawati, Himawati, & Mariani, 2025)

METHODS

This study employed a quantitative research design using primary and secondary data. Primary data were generated through an online survey instrument, while secondary information was drawn from scholarly literature, journals, and other relevant publications. The study focused on users of Blu by BCA Digital, a branchless digital bank operating in Indonesia.

The population comprised Generation Z users of blu by BCA Digital. Purposive sampling within a non-probability sampling framework was applied. Respondents were selected based on two criteria: belonging to the Generation Z cohort and actively using blu by BCA Digital. A total of 115 respondents who met the inclusion criteria provided valid and complete responses, and all eligible responses were included in the analysis.

The instrument operationalized five constructs using multi-item reflective indicators measured on a five-point Likert scale. Operational definitions and indicators, together with their sources, are summarized in Table 1.

Table 1

Operational definitions and indicators of the research variables

No	Variable	Operational Definition	Indicators (source)
1	E-Service Quality (X1)	Users' evaluation of service provision in technology-mediated, online service ecosystems (Kurnia, Adhilla & Purwoko, 2025).	Website design; reliability; prompt delivery and secure handling of personal information; responsiveness; trust; personalization (Kholiqin, 2024)
2	E-Trust (X2)	A key determinant influencing customers' willingness to use banking services and their satisfaction assessment (Awlia, 2024).	Ability; benevolence; integrity (Nimaturosyida, 2025)
3	E-CRM (X3)	Managing relationships through electronic means to provide suitable services and products that satisfy customers and boost loyalty (Fajri & Sakir, 2025).	Continuity marketing; one-to-one marketing; partnership program (Saputra, 2026)
4	E-Customer Satisfaction (Z1)	Satisfaction shaped by the product provided and users' overall experience with the digital platform (Nimaturosyida, 2025).	Product portfolio; pricing structure; promotional activities; accessibility; employee service quality; digital service features; digital service environment (Kholiqin, 2024)
5	E-Customer Loyalty (Y1)	A customer's ongoing commitment to continued use of electronic services, resulting in positive repeat-usage behaviour (Kholiqin, 2024).	Continuous usage; multi-service utilization; positive recommendation; resistance to competitors (Tarigan, 2024)

Data were collected through a structured online questionnaire distributed to Blu by BCA Digital users during 2025–2026. The digital medium enabled respondents to participate remotely, and only complete responses meeting the inclusion criteria were retained for analysis.

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4.0. The measurement model was evaluated through convergent validity using outer loadings and average variance extracted (AVE), internal consistency reliability using Cronbach's alpha, rho_a, and composite reliability, and discriminant validity using the Fornell-Larcker criterion and HTMT. The structural model was evaluated using effect size (f^2), coefficient of

determination (R^2), model-fit indices, path coefficients, and indirect effects. Hypotheses were evaluated at the 5% significance level using t-statistics greater than 1.96 and p-values below 0.05.

RESULT AND DISCUSSION

Results

Respondent Profile

The dataset consisted of 115 respondents who met the sampling criteria. As presented in Table 2, female respondents accounted for 65 individuals (57%), while male respondents accounted for 50 individuals (43%). In terms of age, respondents aged 19–23 years constituted the largest group, comprising 86 respondents (75%), followed by those aged 24–29 years with 18 respondents (15%) and those aged 14–18 years with 11 respondents (9%). Thus, the respondent profile was predominantly represented by female users and users aged 19–23 years.

Table 2

Respondent profile

Characteristic	Category	Frequency	Percentage
Gender	Male	50	43%
	Female	65	57%
Age	14–18 years	11	9%
	19–23 years	86	75%
	24–29 years	18	15%
Residence	Jakarta	19	16%
	Bogor	1	1%
	Depok	8	7%
	Bekasi	84	73%
	Others	3	3%
Occupation	Student	10	9%
	University student	83	72%
	Private-sector employee	11	10%
	Civil servant/military/police	5	4%
	Entrepreneur	6	5%
Monthly usage	1–5 times	34	30%
	6–10 times	36	31%
	>10 times	45	39%
Monthly income/allowance	< Rp 500,000	14	12%
	Rp 500,000–1,000,000	24	21%
	Rp 1,500,000–2,000,000	33	29%
	Rp 2,500,000–3,000,000	42	36%
	Others	2	2%

Source: data processed, 2026.

Based on residence, most respondents were from Bekasi, comprising 84 respondents (73%), followed by Jakarta with 19 respondents (16%), Depok with 8 respondents (7%), other areas with 3 respondents (3%), and Bogor with 1 respondent (1%). Regarding occupation, university students represented the largest group, with 83 respondents (72%). In terms of monthly usage frequency, 45 respondents (39%) used the service more than 10 times per month, while 36 respondents (31%) used it 6–10 times and 34 respondents (30%) used it 1–5 times. For monthly income or allowance, the largest category was Rp 2,500,000–Rp 3,000,000, comprising 42 respondents (36%). These figures describe the characteristics of the respondents included in this study without implying relationships among the demographic variables.

Measurement Model

Outer model assessment evaluated the extent to which the indicators represent their respective latent constructs. As detailed in Table 3, all 25 indicators recorded outer loadings between 0.703 and 0.892, and the AVE of every construct exceeded 0.50 (0.560–0.710), confirming convergent validity. Internal consistency reliability was satisfied, with Cronbach's alpha (0.827–0.888), rho_a (0.826–0.890), and composite reliability rho_c (0.884–0.912) all above 0.70.

Table 3*Convergent validity and construct reliability*

Construct	Item	Loading	Cronbach's α	rho_a	CR (rho_c)	AVE
E-Service Quality (X1)	X1.1	0.769	0.843	0.848	0.884	0.560
	X1.2	0.746				
	X1.3	0.799				
	X1.4	0.746				
	X1.5	0.721				
	X1.6	0.703				
E-Trust (X2)	X2.1	0.803	0.827	0.826	0.885	0.660
	X2.2	0.847				
	X2.3	0.857				
	X2.4	0.737				
E-CRM (X3)	X3.1	0.882	0.862	0.862	0.907	0.710
	X3.2	0.824				
	X3.3	0.767				
	X3.4	0.892				
E-Customer Satisfaction (Z1)	Z1.1	0.756	0.888	0.890	0.912	0.598
	Z1.2	0.797				
	Z1.3	0.766				
	Z1.4	0.789				
	Z1.5	0.786				
	Z1.6	0.729				
E-Customer Loyalty (Y1)	Z1.7	0.787	0.861	0.869	0.906	0.706
	Y1.1	0.817				
	Y1.2	0.820				
	Y1.3	0.862				
	Y1.4	0.861				

Discriminant validity was confirmed using two criteria. In Table 4, the diagonal AVE square-root values consistently exceeded the corresponding inter-construct correlation coefficient; in Table 5, all HTMT ratios fall below 0.90, the highest being between e-service quality and e-trust (0.879).

Table 4*Discriminant validity – Fornell-Larcker criterion*

	ESQ	ET	ECRM	ECS	ECL
ESQ	0.748				
ET	0.739	0.812			
ECRM	0.444	0.361	0.843		
ECS	0.698	0.658	0.606	0.773	
ECL	0.454	0.372	0.582	0.632	0.840

Table 5*Discriminant validity – Heterotrait-Monotrait ratio (HTMT)*

	ESQ	ET	ECRM	ECS	ECL
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ESQ				
ET	0.879			
ECRM	0.505	0.425		
ECS	0.797	0.765	0.692	
ECL	0.522	0.436	0.669	0.714

Structural Model

The inner model explains interrelationships among latent constructs in the underlying theory (Rinwantin & Yuliana, 2025). Evaluation of the structural model involved several procedures, Evaluation of the structural model involved several procedures, including the F-square (f^2), R-square (R^2), goodness-of-fit, path coefficient, and indirect effect analyses.

Table 6

F-Square Test Results

	E-Customer Loyalty (Y)	E-Customer Satisfaction (Z)
E-Service Quality (X1)	0.002	0.122
E-Trust (X2)	0.006	0.102
E-Customer Relationship Management (X3)	0.110	0.280
E-Customer Loyalty (Y)		
E-Customer Satisfaction (Z)	0.146	

Source: Questionnaire Results Data Processed, 2026

The f^2 values in Table 6 indicate differences in the relative contribution of the predictor constructs to the endogenous constructs. E-CRM shows the largest effect on e-customer satisfaction, with an f^2 value of 0.280. The effects of e-service quality and e-trust on e-customer satisfaction are 0.122 and 0.102, respectively. For e-customer loyalty, e-customer satisfaction has an f^2 value of 0.146, followed by e-CRM at 0.110, while the effects of e-service quality and e-trust are considerably smaller at 0.002 and 0.006, respectively. These results indicate that the relative contribution of the predictors differs across the two endogenous constructs.

The coefficient of determination (R^2) indicates the proportion of variance in each endogenous construct explained by its predictors. E-service quality, e-trust, and e-customer relationship management collectively explain 63.4% of the variance in e-customer satisfaction. Meanwhile, e-service quality, e-trust, e-customer relationship management, and e-customer satisfaction collectively explain 46.6% of the variance in e-customer loyalty. The remaining variance in each endogenous construct is attributable to factors outside the structural model examined in this study.

The model-fit assessment yielded an SRMR value of 0.087 and an NFI value of 0.580. These indices provide supplementary information regarding the empirical fit of the proposed model and should be interpreted together with the coefficient of determination, effect sizes, and hypothesis-testing results rather than as the sole basis for evaluating the structural model.

As an extension of multiple regression techniques, path analysis provides a framework for investigating both direct and mediated relationships among variables (Setiabudhi, 2025). Hypothesis evaluation followed a 5% significance criterion, under which statistical support was inferred from T-statistic values exceeding 1.96 in conjunction with p-values below 0.05. As indicated by the findings in Table 7, the hypotheses for the direct effects H4 and H5 are not accepted and show no significant impact between variables. In contrast, the other hypotheses reveal significant direct effects and are supported, suggesting positive relationships between the variables.

Table 7*Hypothesis testing results (direct and indirect effects)*

Hypothesis	Path	Original sample (O)	T-statistic	P-value	Decision
H1	ESQ → ECS	0.327	3.528	0.000	Accepted
H2	ET → ECS	0.287	3.026	0.002	Accepted
H3	ECRM → ECS	0.358	5.491	0.000	Accepted
H4	ESQ → ECL	0.058	0.455	0.649	Rejected
H5	ET → ECL	-0.086	0.817	0.414	Rejected
H6	ECRM → ECL	0.307	2.991	0.003	Accepted
H7	ECS → ECL	0.462	3.883	0.000	Accepted
H8	ESQ → ECS → ECL	0.151	2.481	0.013	Accepted
H9	ET → ECS → ECL	0.133	2.509	0.012	Accepted
H10	ECRM → ECS → ECL	0.165	2.996	0.003	Accepted

The model tested seven direct-effect hypotheses (H1–H7) and three indirect-effect hypotheses (H8–H10). E-service quality, e-trust, and e-CRM significantly and positively affect e-customer satisfaction, supporting H1–H3. For e-customer loyalty, e-CRM and e-customer satisfaction have significant positive direct effects, supporting H6 and H7, whereas the direct effects of e-service quality and e-trust are not significant, resulting in the rejection of H4 and H5. All three indirect effects are significant, supporting H8–H10 and confirming the mediating role of e-customer satisfaction.

Discussion

Effects on E-Customer Satisfaction (H1–H3)

Findings from the path coefficient analysis confirm the acceptance of the first hypothesis. Empirical evidence demonstrates that improvements in e-service quality lead to greater e-customer satisfaction within the scope of Blu by BCA Digital users, suggesting that customer satisfaction rises as service quality improves, thereby corroborating earlier research findings. Putri & Purnama (2024) suggesting that e-service quality is importance in fostering e-customer satisfaction.

Findings from the path coefficient analysis confirm the second hypothesis, demonstrating that e-trust contributes positively to e-customer satisfaction among Blu by BCA Digital users. It shows that Blu by BCA Digital customers have a high level of trust because it is considered capable of providing a secure transaction system, quality service, and features that can be used optimally. These findings are consistent with the results of Jabbar & Hana (2025) suggesting that e-trust contributes to e-customer satisfaction.

The path coefficient analysis confirms support for the third hypothesis. This finding indicates that e-CRM exerts a favorable role on e-customer satisfaction. The better the digital-based customer relationship management implemented by Blu by BCA Digital, the higher the users' satisfaction with the services provided is likely to be. These results are in line with Wati et al. (2024), suggesting that e-CRM significantly contributes to e-customer satisfaction.

Direct Effects on E-Customer Loyalty (H4–H7)

The fourth hypothesis is not supported because e-service quality does not have a statistically significant direct effect on e-customer loyalty ($\beta = 0.058$; $t = 0.455$; $p = 0.649$). This result indicates that, within the respondents examined in this study, improvements in e-service quality alone are not sufficient to directly strengthen e-customer loyalty. However, the significant indirect effect reported for H8 indicates that e-service quality contributes to loyalty through e-customer satisfaction. This finding is consistent with Wijaya (2025), while differing from studies reporting a significant direct association between e-service quality and loyalty.

The fifth hypothesis is not supported because e-trust does not have a statistically significant direct effect on e-customer loyalty ($\beta = -0.086$; $t = 0.817$; $p = 0.414$). This finding indicates that e-trust alone does not directly determine loyalty among the respondents examined. Nevertheless, the significant indirect effect identified in H9 demonstrates that e-trust contributes to e-customer loyalty through e-customer satisfaction. Therefore, the role of e-trust in this model

is better explained through its contribution to customer satisfaction rather than through a direct relationship with loyalty. This result is consistent with (Putri & Purnama, 2024).

The sixth evaluation corroborates that e-customer relationship management serves as an important driver in fostering e-customer loyalty. In current practice, CRM is widely implemented as a strategic approach to understanding customer needs, enabling firms to enhance service quality and build sustainable long-term relationships. Blu by BCA Digital implements an e-CRM strategy by offering several promotions, including vouchers and discounts at culinary, entertainment, and lifestyle merchants such as CGV Cinemas, Grab through the Grab Dine Out service, as well as various other digital transaction promos. As a result, effective e-CRM implementation contributes to stronger company-customer relationships. These findings are in agreement with earlier studies Wati et al. (2024) confirming that e-CRM exerts a substantial impact on e-customer loyalty.

The seventh hypothesis is upheld, showing a substantive role of e-customer satisfaction on e-customer loyalty. An increase in customer satisfaction tends to strengthen customers' intention to remain loyal to Blu by BCA Digital Services. E-customer satisfaction itself includes various aspects of the customer experience, from a user-friendly interface and fast transaction access to the quality of customer service available through digital channels. These findings support previous research results Yanti and Hidayat (2024), suggesting e-customer satisfaction serves as a pivotal determinant of e-customer loyalty.

Mediating Effects of E-Customer Satisfaction (H8-H10)

The indirect effect analysis supports the eighth hypothesis, demonstrating that e-customer satisfaction significantly mediates the relationship between e-service quality and e-customer loyalty among blu by BCA Digital users. The indirect effect is positive and statistically significant ($\beta = 0.151$; $t = 2.481$; $p = 0.013$), whereas the direct effect of e-service quality on e-customer loyalty is not significant. This finding indicates that e-service quality contributes to customer loyalty primarily by first enhancing e-customer satisfaction. In other words, improvements in customers' evaluations of digital service quality are more likely to strengthen loyalty when those improvements generate a satisfactory service experience. This result is consistent with the findings of Kholiqin (2024), which similarly identify customer satisfaction as an important mediating mechanism linking service quality with customer loyalty.

The ninth hypothesis is also supported, indicating that e-customer satisfaction significantly mediates the relationship between e-trust and e-customer loyalty. The indirect effect of e-trust on e-customer loyalty through e-customer satisfaction is positive and statistically significant ($\beta = 0.133$; $t = 2.509$; $p = 0.012$), while the direct effect of e-trust on e-customer loyalty is not statistically significant. These results demonstrate that trust contributes to loyalty through its ability to strengthen customer satisfaction rather than through a direct relationship with loyalty. Accordingly, customers' confidence in the digital banking service becomes more relevant to loyalty when that trust is translated into a satisfactory experience with the service. This finding is consistent with Putri & Purnama (2024), which emphasise the mediating role of customer satisfaction in the relationship between trust and customer loyalty.

The findings for the tenth hypothesis confirm that e-customer satisfaction significantly mediates the relationship between e-customer relationship management and e-customer loyalty. The indirect effect of e-CRM on e-customer loyalty through e-customer satisfaction is positive and statistically significant ($\beta = 0.165$; $t = 2.996$; $p = 0.003$). In addition, e-CRM also has a significant direct effect on e-customer loyalty, indicating that effective digital customer relationship management contributes to loyalty both directly and through increased customer satisfaction. This pattern shows that e-customer satisfaction serves as an important mechanism through which relationship management strengthens customers' willingness to maintain their relationship with blu by BCA Digital. The result is consistent with Sutanto (2021), which similarly highlight the contribution of customer relationship management and satisfaction to customer loyalty.

CONCLUSION

This study concludes that e-customer satisfaction plays a central role in explaining e-customer loyalty among blu by BCA Digital users. E-service quality, e-trust, and e-customer relationship management significantly enhance e-customer satisfaction. However, e-service quality and e-trust do not have significant direct effects on e-customer loyalty, whereas e-

customer relationship management and e-customer satisfaction significantly strengthen loyalty. The mediation results further demonstrate that e-customer satisfaction significantly transmits the effects of e-service quality, e-trust, and e-customer relationship management to e-customer loyalty. Accordingly, the effects of e-service quality and e-trust on loyalty operate through customer satisfaction, while e-CRM contributes to loyalty both directly and indirectly through satisfaction.

Future research may extend the proposed model by examining additional variables relevant to digital banking loyalty and by involving a broader respondent coverage to improve the representativeness of the findings. For blu by BCA Digital, the findings emphasise the importance of maintaining service quality, strengthening customer trust, and managing digital customer relationships in ways that enhance satisfaction. Because satisfaction serves as the principal mechanism connecting these factors with loyalty, managerial initiatives should prioritise customer experiences that consistently support satisfaction and sustained use of digital banking services.

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AUTHOR CONTRIBUTION STATEMENT

Ditiya Himawati and Tiara Aulia Meikawati jointly contributed to the preparation and completion of this research and manuscript. Both authors participated in the development of the study, preparation of the manuscript, and refinement of its academic content. Both authors reviewed and approved the final version of the manuscript for publication.

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