



The Influence of Website Design, Reliability, and Perceived Ease of Use on E-Retention through the Mediating Roles of E-Trust and E-Satisfaction

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Abstract: This study investigates the effects of website design, reliability, and perceived ease of use on customer e-retention in Indonesian e-commerce marketplaces, incorporating customer e-trust and e-satisfaction as dual mediators. Using a quantitative, causal research design, data were collected through an online survey from 294 users of major e-commerce websites, including Shopee, Tokopedia, Lazada, Blibli, and Bukalapak. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. Results reveal that website design significantly enhances both customer e-trust and e-satisfaction but does not directly influence e-retention. Reliability has a significant direct and indirect effect on e-retention through trust, while perceived ease of use impacts e-retention primarily through satisfaction. Furthermore, customer e-trust significantly mediates the effects of website design and reliability on e-retention, whereas customer e-satisfaction mediates the effects of website design and perceived ease of use. The model explains 69.6% of the variance in customer e-retention, demonstrating substantial explanatory power. This research contributes to the understanding of how interface quality and psychological mechanisms jointly drive long-term customer behavior in e-commerce. Practically, the findings highlight the importance of enhancing visual design, maintaining service reliability, and simplifying usability to strengthen trust, elevate satisfaction, and sustain customer loyalty.

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INTRODUCTION

Recent advances in digital technology have transformed the way consumers search for information, evaluate alternatives, and make transactional decisions across various market contexts (Kemp, 2025). In 2025, the global number of internet users is estimated at approximately 5.56 billion people, or about 67.9% of the world's population, with a year-over-year growth trajectory (Kemp, 2025). In Indonesia, internet penetration has risen to roughly 229.5 million users, equivalent to 81.4 percent of the national population, thereby reinforcing the foundations of the digital economy (APJII, 2025). Indonesia's digital economy reached around 109 billion U.S. dollars in 2025, with e-commerce as the largest contributor to total digital transactions (Google et al., 2025).



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These developments underscore the shift in shopping behavior from offline to online channels through applications and websites, elevating user experience quality into a decisive arena of competitive strategy (Zhao et al., 2023).

Within e-commerce website management, three interface dimensions are widely mapped as primary drivers of user evaluations, namely website design, reliability, and perceived ease of use (Saoula et al., 2023). A clear, consistent, informative, and easily navigable website design enhances perceived credibility and generates more positive interaction experiences (Giao et al., 2020; Jongmans et al., 2022). Reliability, reflected in accurate information, dependable service fulfillment, and secure transactions, reduces perceived risk and strengthens the quality of the relationship between users and online service providers (Alzaidi & Agag, 2022; Phamthi et al., 2024; Salome, 2022). Perceived ease of use, which minimizes cognitive load throughout searching, selecting, and paying, promotes comfort and more favorable affective evaluations of the platform (Nugraha, 2024; Nuralam et al., 2024).

Prior studies have reported mixed findings on how these interface qualities translate into customer retention. For example, Saoula et al. (2023) found that while website design significantly boosts customer e-trust, it does not directly affect customer e-retention. In contrast, Puterima & Sumar (2023) observed that website design had a direct positive effect on e-retention but did not significantly influence e-trust. Both studies, however, agreed that reliability and perceived ease of use increase customer e-trust and ultimately contribute to higher e-retention (Puterima & Sumar, 2023; Saoula et al., 2023). These divergent results for the impact of website design suggest that additional psychological mechanisms may be at play, linking interface quality to customers' decisions to remain (Juwaini et al., 2022).

Recent literature points to customer e-satisfaction as another key mechanism, alongside e-trust, in explaining post-purchase behavior on online platforms (Alnaim et al., 2022; Alzaidi & Agag, 2022; Juwaini et al., 2022). Customer e-satisfaction represents the user's affective evaluation after online shopping interactions and transactions, which has been shown to heighten repurchase intentions, loyalty, and retention in digital marketplaces (Giao et al., 2020; Quan et al., 2020; Trivedi & Yadav, 2020). Therefore, introducing customer e-satisfaction as a mediator in tandem with customer e-trust could help reconcile the earlier conflicting findings and clarify whether the influence of website design on retention operates more through elevating satisfaction or through building trust (Puterima & Sumar, 2023; Saoula et al., 2023).

Building on these insights, the present study develops an integrated model in which website design, reliability, and perceived ease of use function as antecedent variables; customer e-trust and customer e-satisfaction serve as dual mediators; and customer e-retention is the ultimate behavioral outcome (Juwaini et al., 2022; Saoula et al., 2023). The objectives are to test the effects of website design, reliability, and perceived ease of use on customer e-trust and customer e-satisfaction; to assess the effects of customer e-trust and customer e-satisfaction on customer e-retention; and to examine the mediating roles of both constructs in the relationships between the three antecedents and retention behavior (Quan et al., 2020; Saoula et al., 2023). Theoretically, this framework brings together two core affective drivers, such as e-trust and e-satisfaction, to address the inconsistencies in prior findings. Practically, it offers guidance for e-commerce platform managers by indicating how improving website design, ensuring service reliability, and enhancing perceived ease of use can build greater customer trust and satisfaction, thereby promoting stronger customer retention (Alzaidi & Agag, 2022; Trivedi & Yadav, 2020).

Website design is the process of arranging visual elements, navigation, and site functionalities to create an optimal user experience (Qing et al., 2024). Strong website design elevates perceived credibility and reduces ambiguity during interactions, thereby supporting the formation of user trust (Saoula et al., 2023). Findings by Puterima & Sumar (2023) show that professional, informative, and easy-to-navigate website design increases interaction comfort, which is reflected in a tendency for customers to return to the platform over time. Visual consistency, informational clarity, and accessibility also foster more positive post-use affective evaluations in the form of satisfaction with the shopping experience (Giao et al., 2020; Qing et al., 2024). Consistent with this reasoning, the study hypothesizes that H1: Website design positively affects (a) customer e-trust; (b) customer e-retention; (c) customer e-satisfaction in online shopping.

Reliability is defined as the capability of a digital platform to provide services that are consistent, accurate, and aligned with promises made to customers (Alzaidi & Agag, 2022a). Reliability strengthens customers' confidence in the platform's integrity and credibility, which in turn reinforces trust (Puterima & Sumar, 2023; Saoula et al., 2023). Reliability dimensions such as accurate information, timely service fulfillment, and secure transactions also reinforce repeated use, facilitating customer retention both directly and through related psychological processes (Puterima & Sumar, 2023; Saoula et al., 2023). Consistent, disruption-free service performance enhances post-use evaluations that are reflected in higher customer satisfaction (Juwaini et al., 2022; Quan et al., 2020). Consistent with this reasoning, the study hypothesizes that H2: Reliability positively affects (a) customer e-trust; (b) customer e-retention; (c) customer e-satisfaction in online shopping.

Perceived ease of use refers to the degree to which an individual perceives that interacting with a particular system can be accomplished effortlessly and without difficulty (Lee, 2023; Tao et al., 2023). Consistent ease of interaction increases users' sense of control and comfort and strengthens trust in the platform (Puterima & Sumar, 2023; Saoula et al., 2023). Reducing friction in searching, selecting, and paying improves the usage experience and encourages customers to remain on the platform (Guo et al., 2023; Saoula et al., 2023). Interfaces that are easy to understand and transaction flows that are smooth elevate comfort and enjoyment in use, thereby increasing satisfaction (Giao et al., 2020; Guo et al., 2023). Consistent with this reasoning, the study hypothesizes that H3: Perceived ease of use positively affects (a) customer e-trust; (b) customer e-retention; (c) customer e-satisfaction in online shopping.

In this study, customer e-trust is understood as customers' belief that an online service provider possesses adequate integrity, competence, benevolence, and predictability to fulfill commitments and protect customer interests, including privacy (Duong et al., 2025; Hallikainen & Laukkanen, 2021; Singh et al., 2024). Customer e-retention is defined as the propensity of customers to continue using and repurchasing on the same e-commerce platform over a given period (Saoula et al., 2023; Syah Putra, 2023). High trust lowers perceived risk, reinforces repeated commitment, and reduces the tendency to switch providers in a competitive digital ecosystem platform (Puterima & Sumar, 2023; Saoula et al., 2023). Hence, H4: Customer e-trust positively affects customer e-retention in online shopping.

Customer e-trust is expected to mediate the effects of website design, reliability, and perceived ease of use on customer e-retention through the formation of beliefs that stem from perceived credibility, evidence of dependability, and ease of interaction (Puterima & Sumar, 2023; Saoula et al., 2023). For website design, professional, consistent, and informative layouts communicate managerial competence, strengthening

trust that is then converted into continued use (Saoula et al., 2023). For reliability, consistent service fulfillment, accurate information, and secure transactions provide tangible evidence of dependability that nurtures trust and ultimately customer retention (Puterima & Sumar, 2023). For perceived ease of use, navigational ease, and smooth processes from search to payment reduce cognitive load and enhance the sense of control, thereby strengthening trust and retention (Puterima & Sumar, 2023; Saoula et al., 2023). Consistent with this reasoning, the study hypothesizes that H6: Customer e-trust mediates the relationship between (a) website design; (b) reliability; (c) perceived ease of use, and customer e-retention in online shopping.

Customer e-satisfaction refers to the degree of satisfaction with the online shopping experience that meets or exceeds expectations as an affective, post-use evaluation on a given platform (Ashiq & Hussain, 2024; Wang & Prompanyo, 2020). Satisfaction formed after high-quality interactions increases repurchase intentions, strengthens loyalty, and raises the likelihood of retention on a sustained basis (Quan et al., 2020; Trivedi & Yadav, 2020). In intensely competitive e-commerce contexts, satisfaction also acts as a buffer against switching temptations and thereby extends customer relationships (Nuraini & Hendratmi, 2021). Hence, H5: Customer e-satisfaction positively affects customer e-retention in online shopping.

Customer e-satisfaction is expected to mediate the effects of website design, reliability, and perceived ease of use on customer e-retention by elevating post-use affective evaluations that drive continued use (Juwaini et al., 2022; Quan et al., 2020). For website design, clear information, coherent aesthetics, and easy-to-follow flows generate pleasant experiences that quickly raise satisfaction and retention (Giao et al., 2020; Qing et al., 2024). For reliability, the fulfillment of service promises without technical disruptions strengthens positive platform assessments, which heighten satisfaction and promote consistent retention behavior (Juwaini et al., 2022; Quan et al., 2020). For perceived ease of use, ease of learning the interface, and smooth search and payment processes reduce unnecessary effort, increase comfort, and elevate satisfaction that ultimately materializes as continued use (Giao et al., 2020; Guo et al., 2023). Consistent with this reasoning, the study hypothesizes that H7: Customer e-satisfaction mediates the relationship between (a) website design, (b) reliability, (c) perceived ease of use, and customer e-retention in online shopping.

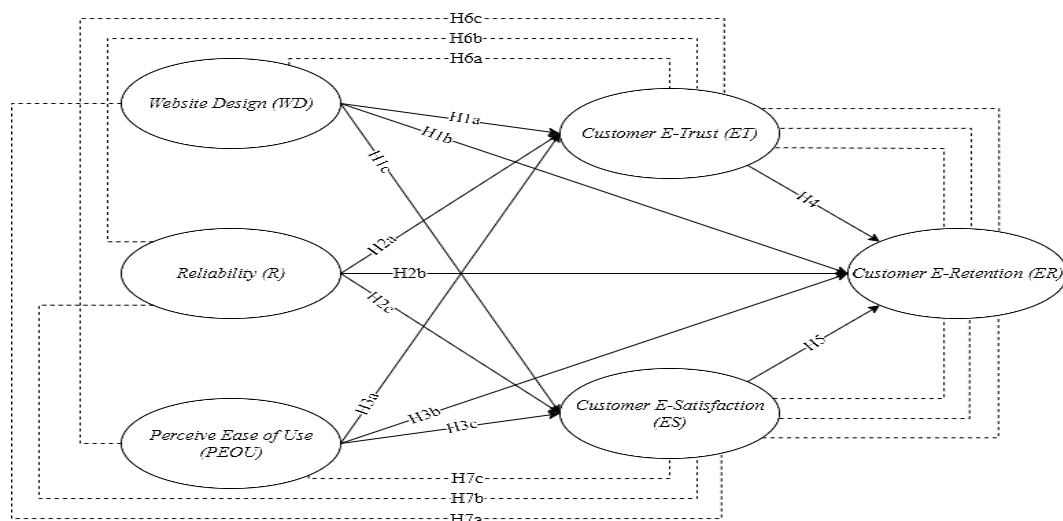


Figure 1. Framework of Thought

Source: processed by the author (2025)

The Influence of Website Design, Reliability, and Perceived Ease of Use on E-Retention through the Mediating Roles of E-Trust and E-Satisfaction

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METHODS

This study adopts a quantitative, causal research design and collects primary data through an online questionnaire administered through Google Forms (Hair et al., 2021). The instrument comprises three parts: screening questions to ensure respondent eligibility, demographic questions relevant to online shopping, and research statements representing six latent variables which are website design, reliability, perceived ease of use, customer e-trust, customer e-satisfaction, and customer e-retention, with a total of 17 questions measured on a five-point Likert scale from 1 as strongly disagree to 5 as strongly agree (Hair et al., 2021). The Operational Definition of Variables in this study follows:

Table 1. Operational Definition of Variables

No	Variables	Definition	Item
1.	Website Design	User perceptions of information clarity, visual consistency, and ease of navigation jointly shape interaction quality on e-commerce websites (Qing et al., 2024)	The e-commerce website functions properly. The e-commerce website has an attractive appearance. The e-commerce website clearly shows how to contact or communicate.
2.	Reliability	Users' perceptions that the e-commerce website consistently fulfills service promises through accurate information, dependable order fulfillment, and secure transactions (Saoula et al., 2023)	Transactions on the e-commerce website are error-free. The e-commerce website is safe to use.
3.	Perceived Ease of Use	Users' belief that features and flows on the e-commerce website are easy to learn and use without excessive effort (Lee, 2023)	I do not make mistakes when using the e-commerce website. The e-commerce website is easy to use without guidance. Using the e-commerce website is not complicated.
4.	E-Trust	Users' belief that the e-commerce website provider has the integrity and competence to meet commitments and protect customers' interests (Duong et al., 2025)	I feel safe conducting online transactions. The e-commerce website protects my privacy. The e-commerce website is trustworthy.
5.	E-satisfaction	An effective post-use evaluation of the online shopping experience on the e-commerce website meets or exceeds expectations (Quan et al., 2020)	I am satisfied with e-commerce services. I am satisfied with shopping on the e-commerce website. I am satisfied because the e-commerce website is easy to use
6.	E-retention	Users' tendency to continue using and repurchasing on the same e-commerce website (Saoula et al., 2023)	I will continue to shop online. I choose online shopping over traditional shopping. I want to shop online as much as possible.

Source: Oktariani et al., (2022); Puterima & Sumar, (2023); Saoula et al., (2023)

The target population is users of e-commerce websites in Indonesia who have completed online purchase transactions. The study focuses on marketplace websites with the five largest visit volumes in Indonesia, namely Shopee, Tokopedia, Lazada, Blibli, and Bukalapak. Sampling uses a nonprobability purposive approach so that only respondents who meet the inclusion criteria are analyzed. To ensure data quality, duplicate, incomplete, or inconsistent responses are excluded (Hair et al., 2021)

A pilot test on the first 30 responses is conducted using SPSS to examine descriptive statistics, item readability, and preliminary construct-level reliability through Cronbach's alpha. After minor wording refinements, if needed, full data collection proceeds until the sample size is adequate for model estimation. Following the practical rule of Hair for reflective indicator models, the minimum sample size is five to ten times the number of indicators; with 17 indicators, the minimum is about 85 respondents, and a conservative target approaches 170 respondents to stabilize path estimation, dual-mediation testing, and bootstrapping procedures (Hair et al., 2021).

The data were examined through Partial Least Squares Structural Equation Modeling (PLS-SEM) utilizing the SmartPLS 4.0 software (Ringle et al., 2024). Model evaluation proceeds in two stages. In the measurement model (outer model), internal reliability is assessed by Cronbach's alpha and Composite Reliability with a threshold of ≥ 0.70 , while convergent validity is assessed through Average Variance Extracted ≥ 0.50 and outer loadings expected to be ≥ 0.70 (Hair et al., 2021). To establish discriminant validity, we applied the Fornell–Larcker criterion, which stipulates that the square root of each construct's AVE must exceed its correlation values with any other construct. We also examined the cross-loadings of each indicator to confirm that no item loaded more strongly on an unintended construct than on the construct it was supposed to measure. In the structural model (inner model), inter-construct relationships are examined through path coefficients and coefficients of determination (R^2), including tests of indirect effects to assess the mediating roles of customer e-trust and customer e-satisfaction using bootstrapping with 5,000 resamples and bias-corrected confidence intervals (Hair et al., 2021). All reporting follows current PLS-SEM practices to ensure transparency and replicability (Hair et al., 2021).

RESULTS AND DISCUSSION

A total of 294 valid questionnaires were analyzed, representing our final sample of Indonesian e-commerce users. The respondents' demographic details and usage characteristics (summarized in Table 2) indicate a diverse sample in terms of gender and age, with a majority favoring Shopee as their most-used platform, followed by Tokopedia. This context provides a broad basis for examining the hypothesized relationships in the model.

Table 2. Data of the Respondents

Characteristics	Descriptions	Frequency	Percentage
Gender	Man	117	39,8%
	Woman	177	60,2%
Age (year)	18-24	144	49%
	25-28	89	30,3%
	29-34	40	13,6%
	35-44	12	4,1%
	>44	9	3%
Most Used Website E-commerce	Shopee	181	61,6%
	Tokopedia	71	24,1%
	Lazada	34	11,6%
	Blibli	5	1,7%
	Bukalapak	3	1%
The e-commerce website was frequently used (last month)	1-2	100	34%
	3-5	141	48%
	>5	53	18%

Source: processed by the author (2025)

Before testing the hypotheses, we assessed the measurement model to ensure the constructs were measured reliably and validly. All item factor loadings were high (≥ 0.70 , as illustrated in Figure 2), indicating that each indicator was strongly associated with its intended latent construct and thus providing evidence of good convergent validity at the item level.

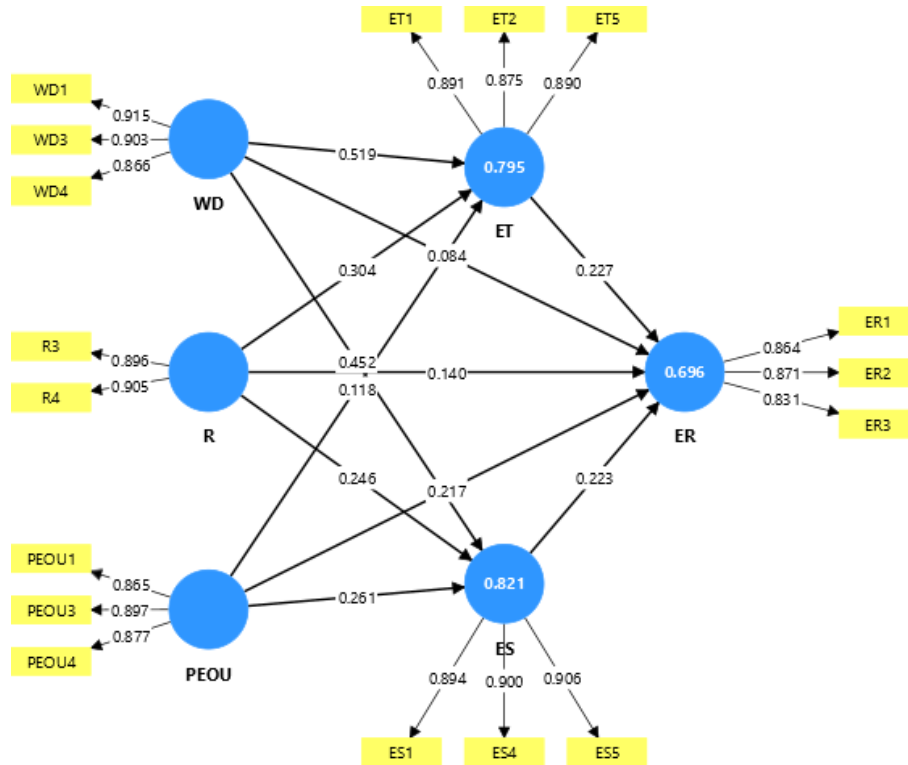


Figure 2. Outer Loading

Source: processed by the author (2025)

In addition, as shown in Table 3, every construct achieved an Average Variance Extracted (AVE) well above the 0.50 threshold, further confirming convergent validity for the set of indicators representing that construct. The constructs also demonstrated strong internal consistency: each one had a Cronbach's alpha, rho_A, and composite reliability value exceeding 0.70, indicating that the items used to measure each construct were consistently capturing the same underlying concept, which means the indicators are reliable.

Table 3. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
E-Retention	0.818	0.826	0.891	0.732
E-Satisfaction	0.883	0.884	0.927	0.810
E-Trust	0.862	0.863	0.916	0.784
Perceived Ease of Use	0.854	0.856	0.911	0.774
Reliability	0.767	0.768	0.896	0.811
Website Design	0.876	0.879	0.923	0.801

Source: processed by the author (2025)

Discriminant validity was assessed using the Fornell–Larcker criterion, which deems validity adequate when the square root of each construct's AVE exceeds its correlations with all other constructs. As reported in Table 4, this condition is satisfied: the diagonal elements ($\sqrt{\text{AVE}}$) for every construct are larger than the corresponding inter-construct correlations, indicating that each construct shares more variance with its own indicators than with any non-target construct.

Table 4. Fornell-Larcker Criterion

	ER	ES	ET	PEOU	R	WD
E-Retention (ER)	0.856					
E-Satisfaction (ES)	0.796	0.900				
E-Trust (ET)	0.787	0.877	0.885			
Perceived Ease of Use (PEOU)	0.778	0.852	0.813	0.880		
Reliability (R)	0.754	0.823	0.819	0.811	0.901	
Website Design (WD)	0.777	0.877	0.866	0.864	0.808	0.895

Source: processed by the author (2025)

Cross-loading analysis was conducted to assess discriminant validity at the indicator level. The criterion requires each indicator to exhibit the highest loading on its intended construct relative to all non-target constructs. As shown in Table 5, all indicators load most strongly on their respective constructs, while cross-loadings on other constructs are markedly lower, indicating that each indicator represents its underlying construct more strongly than any alternative construct. Accordingly, discriminant validity based on cross-loadings is also supported.

Table 5. Cross Loadings

	ER	ES	ET	PEOU	R	WD
ER1	0.864	0.740	0.716	0.719	0.658	0.699
ER2	0.871	0.709	0.718	0.674	0.671	0.718
ER3	0.831	0.580	0.571	0.595	0.600	0.563
ES1	0.669	0.894	0.762	0.735	0.736	0.772
ES4	0.731	0.900	0.791	0.760	0.738	0.769
ES5	0.747	0.906	0.813	0.802	0.748	0.824
ET1	0.721	0.791	0.891	0.713	0.764	0.796
ET2	0.704	0.752	0.875	0.703	0.680	0.730
ET5	0.664	0.785	0.890	0.744	0.728	0.773
PEOU1	0.672	0.685	0.695	0.865	0.706	0.749
PEOU3	0.699	0.789	0.750	0.897	0.729	0.756
PEOU4	0.681	0.770	0.699	0.877	0.705	0.775
R3	0.668	0.718	0.723	0.737	0.896	0.701
R4	0.689	0.764	0.752	0.725	0.905	0.753
WD1	0.688	0.791	0.794	0.778	0.741	0.915
WD3	0.731	0.830	0.800	0.815	0.738	0.903
WD4	0.666	0.728	0.730	0.723	0.689	0.866

Source: processed by the author (2025)

As shown in Table 6, the model explains 69.6% of the variance in customer e-retention (ER), indicating moderate-to-substantial explanatory power; it also accounts for 82.1% of customer e-satisfaction (ES) and 79.5% of customer e-trust (ET), both of which indicate substantial. The minimal gaps between R^2 and adjusted R^2 across constructs suggest an efficient specification with no meaningful overfitting.

Table 6. R-Squared Test

	R-square	R-square adjusted
E-Retention (ER)	0.696	0.691
E-Satisfaction (ES)	0.821	0.820
E-Trust (ET)	0.795	0.792

Source: processed by the author (2025)

Hypothesis testing evaluated whether the modeled relationships were statistically significant and, in turn, whether the proposed hypotheses were supported or rejected. Significance was estimated with the bootstrapping procedure in SmartPLS 4.0 at $\alpha = 0.05$, with results summarized in Table 7 below.

Table 7. Hypothesis Test

	Direct Effect	Beta	T statistics	P values	Result
H1a	Website Design → E-Trust	0.519	8.589	0.000	Significant
H1b	Website Design → E-Retention	0.084	0.091	0.368	Not Significant
H1c	Website Design → E-Satisfaction	0.452	6.501	0.000	Significant
H2a	Reliability → E-Trust	0.304	5065	0.000	Significant
H2b	Reliability → E-Retention	0.140	2.065	0.039	Significant
H2c	Reliability → E-Satisfaction	0.246	3.599	0.000	Significant
H3a	Perceived Ease of Use → E-Trust	0.118	1.985	0.047	Significant
H3b	Perceived Ease of Use → E-Retention	0.217	2.747	0.006	Significant
H3c	Perceived Ease of Use → E-Satisfaction	0.261	4.440	0.000	Significant
H4	E-Trust → E-retention	0.227	2.905	0.004	Significant
H5	E-Satisfaction → E-retention	0.223	2.364	0.018	Significant

Source: processed by the author (2025)

The table reports T-statistics and P-values for each path. Relationships are deemed significant when T-statistics > 1.96 and P-values < 0.05. The corresponding conclusions for each hypothesis are presented thereafter:

A well-designed website interface significantly enhanced users' trust in the e-commerce platform ($\beta = 0.519$, $t = 8.589$, $p < 0.001$) and also elevated their satisfaction with the platform ($\beta = 0.452$, $t = 6.501$, $p < 0.001$). Therefore, H1a and H1c are accepted. Clear information architecture, visual consistency, and intuitive navigation enhance perceived credibility and provider competence, thereby strengthening users' trust in e-commerce websites (Saoula et al., 2023), which translates into post-use satisfaction (Giao et al., 2020; Oktariani et al., 2022). Interface design quality also serves as a psychological foundation for trust formation on e-commerce websites (Giao et al., 2020). In other words, interface design quality is also a principal driver of favorable affective evaluations of the online shopping experience on e-commerce websites (Saoula et al., 2023). However, website design did not have a significant direct impact on customer e-retention in our study ($\beta = 0.084$, $t = 0.901$, $p = 0.368$), so H1b was not supported. This indicates that simply having an attractive or well-structured website may not be enough by itself to guarantee that customers will remain loyal. Instead, the influence of website design on the decision to continue using the platform seems to work indirectly through the positive trust and satisfaction that good design fosters (Juwaini et al., 2022; Saoula et al., 2023). It is worth noting that some previous research in certain contexts did find a

direct effect of website design on retention (Puterima & Sumar, 2023), but our results suggest that, in general, the power of design is largely realized through its effects on user psychology (trust and satisfaction) rather than through a standalone impact.

Reliability of the e-commerce website showed significant positive effects on all three of its proposed outcomes. In line with expectations, higher reliability in service, which means the website consistently delivers accurate information, fulfills orders as promised, and provides secure transactions, led to greater customer trust ($\beta = 0.304$, $t = 5.065$, $p < 0.001$) and higher customer satisfaction ($\beta = 0.246$, $t = 3.599$, $p < 0.001$). Users tend to trust an online marketplace more when they perceive it to be dependable and error-free, as this reliability signals the provider's integrity and competence (Alzaidi & Agag, 2022a; Saoula et al., 2023). A smooth, dependable shopping experience also leaves customers feeling more satisfied with the service (Quan et al., 2020), which is reflected in the significant path from reliability to e-satisfaction (Wisnel et al., 2022). Hence, H2a and H2c were also supported by the data. Unlike website design, reliability additionally had a direct positive effect on customer e-retention ($\beta = 0.140$, $t = 2.065$, $p = 0.039$), supporting H2b. This suggests that when an e-commerce platform proves itself reliable, customers are more likely to continue using it, independently of other factors. These findings reinforce the idea that consistently meeting service promises, by delivering orders on time, avoiding transactional errors, and safeguarding users' data, not only builds trust but can directly foster loyalty to the platform (Saoula et al., 2023; Trivedi & Yadav, 2020). Indeed, evidence from Indonesian e-commerce settings has highlighted that dependable service is a key driver of repeat usage and patronage (Puterima & Sumar, 2023). By fulfilling service expectations without disruptions and maintaining accuracy in information (such as product details and pricing), a platform both satisfies customers and gives them confidence to keep coming back.

Perceived ease of use exerts a positive and significant effect on customer e-trust ($\beta = 0.118$; $t = 1.985$; $p = 0.047$); customer e-retention ($\beta = 0.217$; $t = 2.747$; $p = 0.006$); and customer e-satisfaction ($\beta = 0.261$; $t = 4.440$; $p < 0.001$). These results are also in line with Hipólito et al. (2025), who state that interfaces that are easy to learn and operate reduce cognitive effort and perceived risk, thereby reinforcing users' trust in e-commerce platforms such as websites (Handoyo, 2024; Hipólito et al., 2025; Saoula et al., 2023). By reducing friction along the search–selection–checkout journey, usability fosters continued usage intentions and repeat patronage in e-commerce environments (Abidin, 2024; Saoula et al., 2023). Efficient, intuitive task flows and clear interfaces enhance comfort and enjoyment during use, which translates into higher post-use satisfaction with the shopping experience (Akram et al., 2022). Thus, H3a, H3b, and H3c are accepted.

Beyond the effects of the three interface factors, our model confirmed that customer e-trust and e-satisfaction themselves are important determinants of e-retention. Both mediating constructs had significant direct influences on the retention outcome, reinforcing their central role in driving loyalty. Customer e-trust was positively associated with continued platform use ($\beta = 0.227$, $t = 2.905$, $p = 0.004$), supporting H4 (Saoula et al., 2023), and customer e-satisfaction was likewise a significant positive predictor of e-retention ($\beta = 0.223$, $t = 2.364$, $p = 0.018$), supporting H5 (Nuraini & Hendratmi, 2021). In practical terms, these findings mean that the more customers feel they can trust an e-commerce website (for instance, trusting that their payments are secure or that the seller will honor commitments), the more likely they are to remain engaged and make future purchases on that site. Similarly, if customers are highly satisfied with their online shopping experiences on a platform, they tend to develop a stronger preference for that platform, resulting in repeat usage (Akram et al., 2022;

Anggreiawan & Indradewa, 2025; Hipólito et al., 2025). This is consistent with the broader literature on e-commerce, which has long identified trust and satisfaction as key antecedents of customer retention (Alzaidi & Agag, 2022a; Trivedi & Yadav, 2020)

Table 8. Intervening Result

	Indirect Effect	T statistics	P values	Result
H6a	Website Design → E-Trust → E-Retention	2.666	0.008	Significant
H6b	Reliability → E-Trust → E-Retention	2.600	0.009	Significant
H6c	Perceived Ease of Use → E-Trust → E-Retention	1.562	0.118	Not Significant
H7a	Website Design → E-Satisfaction → E-Retention	2.156	0.031	Significant
H7b	Reliability → E- Satisfaction → E-Retention	1.942	0.052	Not Significant
H7c	Perceived Ease of Use → E-Satisfaction → E-Retention	2.096	0.036	Significant

Source: processed by the author (2025)

Incorporating both e-trust and e-satisfaction as mediators allowed us to unpack the indirect pathways through which website design, reliability, and ease of use influence retention. The analysis of indirect effects revealed a nuanced pattern.

Customer e-trust significantly mediated the effects of website design and reliability on e-retention, but not the effect of perceived ease of use. In the case of website design, although we found no direct impact on retention, there was a significant indirect effect operating through e-trust (supporting H6a). This indicates that a well-designed site increases the likelihood of customer retention to the extent that it first builds a foundation of trust; users who trust the platform due to its quality design are then more inclined to stay loyal, to make another purchase from the website, and enhance the online retention (Guo et al., 2023; Priscillia et al., 2021; Saoula et al., 2023). For reliability, we observed both a direct influence on retention and a complementary indirect route through e-trust (supporting H6b). This suggests that part of the reason reliability drives customer loyalty is that consistent, error-free service cultivates trust, which in turn encourages ongoing engagement (Alzaidi & Agag, 2022; Puterima & Sumar, 2023). However, no significant indirect effect of perceived ease of use on retention through e-trust was found (H6c was not supported). In other words, while making a website easy to use does slightly improve trust (as noted earlier), that increase in trust was not strong enough in our data to translate into a statistically significant boost in retention through the trust pathway (Puterima & Sumar, 2023; Saoula et al., 2023). Customers might appreciate a user-friendly interface, but ease of use seems to exert its retention influence more directly (and through satisfaction) rather than indirectly through building trust alone (Alnaim et al., 2022; Handoyo, 2024; Hipólito et al., 2025).

Meanwhile, customer e-satisfaction emerged as a significant mediator for the effects of website design and perceived ease of use on e-retention, but not for reliability. Website design had a positive indirect effect on retention through e-satisfaction (supporting H7a), meaning that an appealing and well-structured site layout makes users more satisfied, which in turn makes them more likely to continue using websites (Akram et al., 2022; Daniati & Roostika, 2021; Oktariani et al., 2022). This highlights satisfaction as a key conduit for design's ultimate impact on loyalty: a better design leads to happier customers, and happy customers stick around (Nuraini & Hendratmi, 2021; Oktariani et al., 2022). Perceived ease of use also showed a significant indirect effect on retention through e-satisfaction (supporting H7c). This finding reinforces the idea that one of the

primary ways ease of use boosts loyalty is by increasing user satisfaction. When the shopping process is hassle-free, users feel more content with the service, which encourages repeat business (Quan et al., 2020; Trivedi & Yadav, 2020). On the other hand, reliability's effect on retention was not significantly mediated by e-satisfaction (H7b was not supported). A plausible explanation for this is that reliability already has a direct impact on retention (as we saw with H2b), and it also feeds strongly into trust (Alzaidi & Agag, 2022a; Juwaini et al., 2022). It is also consistent with prior research emphasizing the dominance of reliability's direct effects on trust and retention (Puterima & Sumar, 2023; Saoula et al., 2023). Our findings indicate that e-satisfaction does not significantly mediate this relationship, likely because reliability is viewed as a utilitarian expectation rather than a hedonic satisfaction driver.

CONCLUSION

This study explains customer e-retention on e-commerce websites by integrating website design, reliability, and perceived ease of use as antecedents and positioning customer e-trust and customer e-satisfaction as dual mediators. The findings show that clear, coherent, and easy-to-navigate interfaces strengthen trust and satisfaction, while reliable information, fulfillment, and security consistently support trust, satisfaction, and continued use. Perceived ease of use likewise fosters trust, satisfaction, and the intention to remain with the same platform. Trust and satisfaction both act as mechanisms through which interface quality translates into retention, with trust mediating the effects of website design and reliability, and satisfaction mediating the effects of website design and ease of use. Overall, the model demonstrates strong explanatory power, indicating that user-experience quality that is delivered through design excellence, dependable service, and effortless interaction remains a decisive pathway to retaining customers in competitive e-commerce markets. Practically, managers should prioritize interface clarity and visual coherence, strengthen reliability across ordering and payment processes, and reduce user friction in key tasks to build trust, raise satisfaction, and sustain long-term customer relationships.

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