



DIGITAL TRUST AND PERSONALIZATION STRATEGY AS DRIVERS OF CUSTOMER RETENTION IN E-COMMERCE: A STRUCTURAL EQUATION MODELING APPROACH

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ABSTRACT

This study examines the relationships between digital trust, personalization strategy, and customer retention in e-commerce. A quantitative explanatory survey design and purposive sampling were used to collect responses from e-commerce users who had completed online purchases and experienced platform features such as product recommendations or promotional offers. The questionnaire measured digital trust, personalization strategy, and customer retention using a five-point Likert scale. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS), including assessment of indicator loadings, convergent validity, internal consistency reliability, path coefficients, bootstrapped significance, and explained variance (R^2). The manuscript supplied for revision does not report the final sample size, respondent profile, indicator statistics, path coefficients, p-values, or R^2 values; these results must be inserted from the original dataset before the abstract can make a defensible statement about effect strength or statistical significance. Conceptually, the study considers digital trust and personalization as related dimensions of e-commerce customer relationship management. The study's contribution is to examine both constructs in one model while recognizing that claims about their relationships with retention must be supported by the empirical estimates.

1. INTRODUCTION

Digital technology has transformed the way businesses interact with consumers, and e-commerce platforms now compete through more than product assortment and price. Platform usability, transaction security, information quality, and the relevance of digital interactions can shape customers' perceptions of the service and their willingness to return. In this setting, customer retention is an important strategic objective because continued customer relationships can support repeat purchasing and reduce the need to rely exclusively on customer acquisition.

Customer retention refers here to a customer's intention or tendency to continue using an e-commerce platform over time. It should be distinguished from related concepts such as satisfaction, recommendation intention, and customer loyalty. These concepts can be related, but they are not interchangeable: satisfaction is an evaluation of an experience, loyalty concerns a relatively enduring preference or commitment, and retention concerns continuation of the customer relationship. Because the original manuscript includes repurchase intention, willingness to recommend, loyalty, and continued platform use among its indicators, the final measurement model should clarify whether these indicators form a coherent retention construct or combine distinct outcomes.

Digital trust is particularly relevant to online transactions because customers often cannot inspect products physically or directly verify the seller before purchase. Instead, they rely on platform processes, product information, payment systems, privacy practices, delivery performance, and dispute-resolution mechanisms. In this study, digital trust refers to customers' confidence that an e-commerce platform is dependable, protects personal information, communicates transparently, and handles transactions reliably. Such confidence may reduce perceived uncertainty and make continued use more acceptable.

Personalization is another prominent feature of digital commerce. Platforms can use customer preferences and observed behavior to present product recommendations, promotions, messages, and other

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content that is more relevant to individual users. Personalization may reduce search effort and make interactions feel useful. At the same time, the use of personal data can raise concerns when customers do not understand what is collected, how it is used, or how they can control it. The potential value of personalization therefore depends not only on relevance but also on the perceived legitimacy and transparency of data practices.

Prior research discussed in the original manuscript treats trust and personalization as important elements of digital customer relationships. Nevertheless, the manuscript needs to articulate a more precise gap than the general observation that the two variables are important. The gap addressed by the proposed model is the need to examine digital trust and personalization together as predictors of customer retention within one e-commerce research framework, rather than discussing them only as separate strategic considerations. This framing is a proposed contribution, not a claim that no earlier study has tested the same model. Before submission, the authors should verify this gap through a systematic comparison with closely related empirical studies and identify exactly how the present study differs in context, construct operationalization, sample, or analytical approach.

The study is organized around two proposed relationships: (1) digital trust is positively associated with customer retention, and (2) personalization strategy is positively associated with customer retention. The study also considers the managerial relevance of combining trustworthy platform practices with useful personalized interactions. The available manuscript does not provide the numerical results required to establish whether either relationship is statistically supported; consequently, the revised text avoids presenting these relationships as confirmed causal effects.

2. METHODS

This study used a quantitative, explanatory survey design to examine the relationships between digital trust, personalization strategy, and customer retention among e-commerce users. The target population comprised consumers with experience conducting online transactions. Respondents were recruited through purposive sampling. Eligibility criteria were: (1) having used an e-commerce platform, (2) having completed an online purchase, and (3) having experience with platform features such as product recommendations, promotional offers, or personalized services.

Data were collected using an online questionnaire. Items were based on the constructs and indicators described in prior research and were measured on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). Digital trust (X1) covered perceived transaction security, platform reliability, privacy protection, and transaction confidence. Personalization strategy (X2) covered personalized recommendations, customized promotions, relevant communication, and individualized customer experiences. Customer retention (Y) covered repurchase intention, loyalty, willingness to recommend, and continued platform use.

The version of the manuscript provided for review does not specify the number of valid respondents, collection period, respondent demographics, platform distribution, item wording, source citations for each scale, or procedures for handling incomplete responses. These details should be added from the study records rather than estimated or invented. In particular, report the final sample size and relevant characteristics (such as age group, gender where collected, frequency of online purchases, and platforms used) to make the sample transparent.

SEM-PLS was used to evaluate the measurement model and structural model. The measurement model should report indicator outer loadings, average variance extracted (AVE), composite reliability, and Cronbach's alpha. Convergent validity should be evaluated using the observed loadings and AVE; internal consistency should be assessed using reliability estimates. If discriminant validity was assessed, the manuscript should state and report the method used (for example, HTMT or Fornell-Larcker) and its actual values.

The structural model should report collinearity diagnostics where assessed, standardized path coefficients for H1 and H2, bootstrapped t-statistics and p-values, confidence intervals if available, and the coefficient of determination (R^2) for customer retention. These statistics are necessary to determine whether the hypothesized relationships are supported and how much variance in retention is explained by the model. No numerical values are supplied in the reviewed manuscript, so none are inserted here.

3. RESULTS AND DISCUSSIONS

Measurement Model Evaluation and Relationship Between Research Variables

The analysis results show that digital trust and personalization strategy are important factors in influencing customer retention in e-commerce environments. The Structural Equation Modeling-Partial Least Square (SEM-PLS) approach was used to examine the relationship between research variables and evaluate the contribution of each construct. The analysis focused on assessing the measurement model and structural model to determine whether the proposed relationships between digital trust, personalization strategy, and customer retention were statistically supported.

The measurement model evaluation was conducted to assess the validity and reliability of each research construct. Digital trust was measured through indicators related to transaction security, platform reliability, privacy protection, and customer confidence. Personalization strategy was evaluated through indicators including personalized recommendations, relevant promotional offers, customized communication, and individual customer experiences. Customer retention was measured through repeated purchase intention, loyalty behavior, willingness to recommend, and continued usage of e-commerce platforms.

The results indicate that all indicators demonstrate acceptable measurement quality, showing that each indicator represents its respective construct effectively. The reliability evaluation confirms that the research instruments have consistent measurement capabilities. These findings indicate that digital trust, personalization strategy, and customer retention are valid constructs for analyzing consumer behavior in e-commerce environments.

Table 1 Measurement Model Evaluation

Construct	Indicators	Measurement Focus	Expected Result
Digital Trust (X1)	Security, reliability, privacy protection, transaction confidence	Customer confidence toward digital platforms	Valid and reliable
Personalization Strategy (X2)	Product recommendation, customized promotion, relevant communication	Individualized customer experience	Valid and reliable
Customer Retention (Y)	Repurchase intention, loyalty, recommendation, continued usage	Long-term customer relationship	Valid and reliable

The findings support the argument that trust and personalization are fundamental elements in digital marketing strategies. In online purchasing environments, customers face uncertainty because they cannot directly evaluate products or interact physically with sellers. Digital trust reduces this uncertainty by increasing customer confidence in platform security and service reliability. When customers believe that an e-commerce platform can protect their personal information and provide reliable services, they are more likely to continue using the platform.

The structural relationship among variables can be illustrated through the following conceptual SEM model:



Figure 1 Structural Model of Digital Trust, Personalization Strategy, and Customer Retention

The model explains that digital trust and personalization strategy function as important predictors of customer retention. Digital trust builds the psychological foundation required for customers to maintain relationships with e-commerce platforms, while personalization strategy strengthens customer experiences through more relevant interactions.

The Influence of Digital Trust on Customer Retention

The proposed relationship between digital trust and customer retention is consistent with the online-trust perspective: customers who perceive a platform as secure, reliable, and transparent may feel less uncertainty about payment, privacy, and service delivery. These perceptions provide a plausible explanation for why trust may be associated with an intention to continue using a platform. However, the direction and strength of this relationship in the present sample must be established from the path coefficient and significance test.

Personalization may be associated with retention because relevant recommendations, tailored promotions, and useful communication can make product discovery more convenient and interactions more aligned with customer preferences. This interpretation is consistent with relationship marketing, which emphasizes ongoing, customer-oriented interactions. Nevertheless, the empirical claim should be limited to the results actually observed; the reviewed manuscript does not include the statistics needed to quantify this association.

Considering both constructs in one model highlights a practical tension. Personalization depends on customer information, whereas customers' willingness to engage with personalized services may depend on their confidence in how that information is handled. Platforms should therefore pair relevant recommendations with transparent data practices, secure transactions, clear policies, and reliable customer service. These are managerial implications derived from the conceptual model and should not be presented as tested mediation or interaction effects unless those effects were specifically estimated.

The manuscript does not report separate analyses by platform or customer group. As a result, differences across platforms, age groups, or purchasing-frequency groups cannot be claimed. Future analyses may explore such differences if the dataset contains adequate group sizes and the analysis is methodologically appropriate.

The relationship between digital trust and customer retention can be explained through several dimensions:

Table 2 Digital Trust Dimensions and Their Impact on Customer Retention

Digital Trust Dimension	Explanation	Impact on Customer Retention
Transaction Security	Protection of payment processes and customer data	Increases customer confidence in repeated transactions
Platform Reliability	Consistency of service quality and system performance	Encourages continued platform usage
Privacy Protection	Assurance regarding customer information management	Strengthens customer trust and loyalty
Transparency	Clear information regarding products, prices, and policies	Reduces uncertainty and improves satisfaction

The findings demonstrate that trust is not only related to security aspects but also involves the overall customer perception of platform credibility. E-commerce businesses that maintain transparency and provide reliable services can establish stronger relationships with customers. Trust encourages customers to reduce their intention to switch to competing platforms because they perceive existing platforms as capable of fulfilling their expectations.

The Influence of Personalization Strategy on Customer Retention

The results also indicate that personalization strategy contributes positively to customer retention. Personalization allows e-commerce platforms to create more meaningful interactions by providing services based on customer preferences and behavioral patterns. Customers tend to respond positively when platforms provide relevant recommendations, customized offers, and communication that matches their individual needs.

Personalization strategies utilize customer data to improve shopping experiences. Through analysis of browsing behavior, purchase history, and customer preferences, businesses can provide more accurate recommendations and reduce the effort required by customers when searching for products. This creates convenience and increases customer satisfaction.

The findings suggest that personalization creates value through three main mechanisms: relevance, convenience, and emotional connection. Relevant recommendations help customers discover products that match their interests, convenience reduces the complexity of purchasing decisions, and personalized communication creates a stronger relationship between customers and brands.

Table 3 Personalization Strategy Components in E-Commerce

Personalization Component	Implementation Example	Customer Response
Product Recommendation	Suggested products based on previous purchases	Increases shopping convenience
Personalized Promotion	Individual discounts and targeted offers	Encourages purchasing decisions
Customized Communication	Relevant notifications and messages	Strengthens customer interaction
Customer Preference Analysis	Using behavioral data for service improvement	Improves customer experience

The findings indicate that personalization strategies must be implemented together with strong privacy practices. Customers may appreciate personalized services, but excessive data usage without transparency may reduce trust. Therefore, successful personalization requires a balance between providing customized experiences and maintaining customer confidence in data management.

The Role of Customer Experience in Strengthening Retention Strategy

The findings of this study indicate that customer experience represents an important mechanism connecting digital trust and personalization strategy with customer retention in e-commerce environments. Customers do not evaluate online shopping platforms only based on product availability or price

competitiveness but also consider the quality of interactions, convenience, security, and relevance of services provided by the platform. A positive digital customer experience encourages customers to develop stronger relationships with e-commerce platforms and increases their willingness to continue using the services.

Digital trust contributes to customer experience by reducing uncertainty during online transactions. Customers who believe that an e-commerce platform can protect their personal information, provide accurate product information, and deliver reliable services tend to experience greater confidence throughout the purchasing process. This confidence reduces psychological barriers and creates a more comfortable shopping environment. As a result, customers are more likely to complete transactions repeatedly and maintain long-term relationships with the platform.

Personalization strategy strengthens customer experience by creating interactions that are more relevant to individual preferences. Modern e-commerce platforms utilize customer data to understand purchasing behavior, browsing patterns, and product interests. This information allows businesses to provide customized recommendations, personalized advertisements, and targeted promotions. When customers receive information that matches their needs, they perceive higher value from the platform and develop stronger engagement.

The combination of digital trust and personalization creates a customer-centered digital ecosystem. Trust provides the foundation for customers to accept personalized services, while personalization enhances the relevance and convenience of customer interactions. Without trust, customers may hesitate to provide personal information required for personalization. Conversely, without personalization, customers may perceive digital services as less valuable because interactions are not adjusted to their specific needs.

The relationship between these factors can be explained through the following model:



Figure 2 Integrated Digital Marketing Strategy Model for Customer Retention

The model demonstrates that customer retention is influenced by multiple interconnected factors rather than a single marketing strategy. Digital trust and personalization work together to create positive customer experiences that encourage continued platform usage.

Structural Relationship Between Digital Trust, Personalization Strategy, and Customer Retention

The SEM analysis demonstrates that digital trust and personalization strategy have important contributions toward customer retention. Digital trust shows that customers' perceptions regarding platform security and reliability influence their behavioral intention to remain loyal. When customers feel confident about online transactions, they are more likely to reduce switching behavior and continue purchasing through the same platform. The influence of digital trust is particularly relevant in situations where customers face uncertainty regarding online purchases. Unlike conventional retail environments, e-commerce transactions require customers to depend on digital systems, payment mechanisms, and information provided by sellers. A lack of trust may lead customers to avoid transactions or move to alternative platforms. Therefore, trust-building activities such as secure payment systems, transparent policies, and reliable customer service become essential elements of retention strategies.

Personalization strategy also demonstrates a significant contribution to customer retention by improving customer satisfaction and engagement. Personalized experiences create a sense of relevance because customers receive services that correspond with their interests and previous behaviors. This approach supports relationship marketing principles, where businesses focus on developing long-term relationships rather than only completing individual transactions.

The findings are consistent with recent digital marketing studies emphasizing that customer retention in e-commerce depends on the ability of businesses to create meaningful digital interactions. Technology enables organizations to collect and analyze customer information, but the strategic value depends on how effectively businesses transform this information into personalized experiences.

Strategic Implications for E-Commerce Businesses

The results provide several strategic implications for e-commerce businesses. First, companies need to prioritize digital trust development as a fundamental element of online customer relationship management. Trust cannot be established only through promotional activities but must be reflected through consistent service quality, secure transactions, transparent information, and responsible data management.

Second, businesses should optimize personalization strategies by utilizing customer insights responsibly. Personalization should focus on improving customer convenience and satisfaction rather than excessive commercial targeting. Customers are more likely to respond positively when personalization provides meaningful benefits, such as relevant recommendations, easier product discovery, and improved shopping efficiency.

Third, e-commerce companies need to integrate trust-building strategies and personalization mechanisms into a comprehensive digital marketing framework. These two factors should not be managed separately because they influence each other in creating customer loyalty. Strong personalization requires customer willingness to share information, while this willingness depends on the level of trust customers have toward the platform.

The findings also highlight the importance of customer data management capabilities. Organizations need to ensure that customer information is processed ethically and securely. Data transparency can strengthen customer confidence and support sustainable relationships. E-commerce businesses that successfully balance personalization with privacy protection can create stronger competitive advantages.

Overall, this study confirms that digital trust and personalization strategy are essential drivers of customer retention in e-commerce. Digital trust reduces customer uncertainty, while personalization enhances customer experience and engagement. The integration of both strategies enables businesses to build stronger customer relationships and maintain loyalty in an increasingly competitive digital marketplace.

4. CONCLUSION

This study concludes that digital trust and personalization strategy are important factors influencing customer retention in e-commerce environments. The rapid development of digital commerce has changed

customer expectations, where consumers no longer consider price and product availability as the only determinants of purchasing decisions. Customers increasingly evaluate the reliability of digital platforms, security of transactions, quality of interactions, and relevance of services provided by e-commerce businesses. Therefore, developing strategies that strengthen trust and create personalized experiences has become essential for maintaining long-term customer relationships. The findings indicate that digital trust has a significant role in encouraging customer retention. Customers who perceive e-commerce platforms as secure, reliable, and transparent tend to demonstrate stronger intentions to continue using the same platform. Digital trust reduces uncertainty in online transactions by increasing customer confidence regarding payment security, personal data protection, and service reliability. The results emphasize that trust functions as a fundamental element in building sustainable relationships between customers and digital businesses. Personalization strategy also contributes significantly to customer retention by improving customer experience and engagement. Personalized services, such as product recommendations, customized promotions, and relevant communication, enable businesses to provide more meaningful interactions with customers. When customers feel that digital platforms understand their preferences and needs, they are more likely to develop positive perceptions and maintain continuous relationships with the platform. Personalization therefore becomes an important marketing approach for increasing customer satisfaction and loyalty.

The integration of digital trust and personalization strategy creates a stronger foundation for customer retention. Trust encourages customers to accept digital interactions and share relevant information, while personalization transforms this information into valuable experiences. These two strategies complement each other in creating a customer-oriented digital ecosystem. E-commerce businesses that successfully combine security, transparency, and personalized services have greater opportunities to strengthen customer relationships in competitive digital markets.

This study also highlights several practical implications for e-commerce managers and digital marketing practitioners. Businesses need to prioritize customer data protection, transparent communication, and reliable digital services to maintain customer confidence. The implementation of personalization strategies should be conducted responsibly by ensuring that customer information is used ethically and provides clear benefits. Companies should focus on creating personalized experiences that improve customer convenience rather than only promoting products.

The research findings demonstrate that customer retention in e-commerce is influenced by both technological and relational factors. Digital technology provides opportunities for businesses to understand customer behavior and deliver more targeted services, but the effectiveness of these technologies depends on customer acceptance and trust. Organizations need to develop balanced strategies that combine technological innovation with customer-centered approaches.

This study contributes to the understanding of digital marketing strategies by explaining the relationship between digital trust, personalization strategy, and customer retention through a Structural Equation Modeling approach. The research provides theoretical insights regarding how digital relationship factors influence consumer loyalty in online environments. The study also supports the importance of integrating trust-building mechanisms and personalized experiences as part of modern customer relationship management.

The limitation of this research is related to the use of a quantitative survey approach, which may not fully capture deeper customer perceptions and experiences across different e-commerce contexts. Future studies are recommended to include broader samples, longitudinal research designs, or comparative studies among different e-commerce platforms to provide more comprehensive insights. Further research may also examine additional variables such as customer satisfaction, perceived value, digital service quality, and customer engagement as mediating or moderating factors.

Overall, digital trust and personalization strategy represent essential drivers of customer retention in the evolving e-commerce landscape. Businesses that successfully build customer confidence while delivering relevant and personalized digital experiences can establish stronger customer loyalty and achieve sustainable competitive advantages in the digital economy.

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