BUILDING COMPETITIVE ADVANTAGE THROUGH TRUST, INNOVATION, AND CUSTOMER LOYALTY IN E-BUSINESS

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Abstract:

Background: The growth of Indonesia's e-commerce industry has created intense competition, requiring businesses to strengthen their competitive advantage through effective digital strategies. Trust, innovation, and customer loyalty are considered key drivers of digital competitiveness, yet firms still face challenges in sustaining loyalty and digital performance.

Purpose: This study aims to examine the effects of trust, innovation, and customer loyalty on competitive advantage and their subsequent influence on fundamental e-business performance.

Design/methodology/approach: A quantitative research approach was employed, utilizing structured questionnaires distributed to 220 respondents who actively use e-commerce platforms, including Shopee, Tokopedia, Lazada, Blibli, and Bukalapak. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3.0.

Findings/Result: The results indicate that customer loyalty is the strongest predictor of competitive advantage, while trust has a significant impact on fundamental e-business practices. However, innovation did not have a significant direct effect. Competitive advantage was also found to mediate the relationship between customer loyalty and e-business performance.

Conclusion: Strengthening customer loyalty and building trust are crucial strategies for enhancing competitiveness and digital business success. To achieve this, innovation must be more closely integrated with customer needs to deliver value.

Originality/value (state of the art): This study contributes to the literature by integrating behavioral and strategic constructs into a unified model, offering new insights into the role of intangible assets in enhancing e-commerce performance in emerging markets, such as Indonesia.

Keywords: competitive advantage, customer loyalty, digital performance, innovation, e-business

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INTRODUCTION

The rapid expansion of e-commerce in Indonesia has significantly reshaped the retail sector, necessitating effective e-business strategies for businesses to remain competitive (Aisy & Prasetio, 2024). The increasing penetration of the internet and widespread use of smartphones has facilitated the emergence of various e-commerce platforms, such as Shopee and Tokopedia, which serve a diverse consumer demographic. Studies suggest that e-service quality, customer trust, and satisfaction play pivotal roles in fostering customer loyalty within this industry (Daniati & Roostika, 2021; Felix & Rembulan, 2023). In line with this, Bayu (2025) emphasized that brand awareness and the role of brand ambassadors on Shopee positively influence purchase decisions through enhanced customer trust, highlighting the importance of digital branding and trust-building in Indonesia's e-commerce market. Moreover, integrating digital marketing strategies has enhanced customer engagement and retention, ultimately contributing to business sustainability and success (Nasti et al. 2024; Wongkar et al. 2024).

Despite the rapid growth of Indonesia's e-commerce sector, many businesses continue to face challenges in sustaining customer loyalty and engagement. Key obstacles include suboptimal e-service quality, a lack of consumer trust, and unsatisfactory customer experiences, impeding long-term competitive Advantage (Udriyah et al. 2019). Furthermore, the constantly evolving nature of consumer preferences and the swift advancement of technology underscores the need for continuous research to identify effective strategies for enhancing customer satisfaction and Loyalty (Tzavlopoulos et al. 2019). This study addresses these issues by examining essential e-business practices that contribute to competitive Advantage and foster customer engagement in Indonesia's e-commerce industry.

This study identifies and analyses key e-business practices that enhance customer engagement and competitive Advantage in Indonesia's e-commerce sector. It examines e-service quality, customer trust, and satisfaction relationships, highlighting their role in sustaining a competitive edge (Mandasari et al. 2023). Additionally, it explores the impact of technological advancements and mobile commerce on customer experiences and engagement (Erdoğan, 2023; Vărzaru & Bocean, 2021). By integrating these elements, the research provides a comprehensive framework that bridges existing gaps, advancing theoretical insights and offering practical recommendations for e-commerce practitioners to navigate Indonesia's dynamic digital marketplace effectively (Judijanto et al. 2024; Liu et al. 2022).

While existing studies have examined various facets of e-commerce, a significant gap persists in understanding the specific e-business practices that foster competitive Advantage and customer engagement within the Indonesian market. Prior research has concentrated on individual factors, such as e-service quality and customer satisfaction, often overlooking their interconnections and collective influence on customer loyalty (Hua et al. 2019; Kristanto et al. 2022; Rizan et al. 2020). This study aims to bridge this gap by comprehensively analyzing the factors shaping customer engagement and Loyalty in Indonesia's e-commerce sector (Ernilawati & Maulana, 2022; Hudaya et al. 2021).

This study contributes to the existing literature by providing insights into key e-business practices that enhance customer engagement and Loyalty within Indonesia's e-commerce sector. By identifying the primary drivers of customer satisfaction and Trust, this research offers valuable recommendations for e-commerce businesses aiming to strengthen their competitive position. Additionally, the findings serve as a reference for future studies, particularly in understanding the distinct challenges and opportunities in emerging markets such as Indonesia (Aslam et al. 2019; Felix & Rembulan, 2023; Widayat et al. 2023).

METHODS

This study adopts a quantitative causal research design to examine how Trust, Innovation, and customer loyalty influence competitive Advantage and fundamental e-business practices in Indonesia's e-commerce sector. Data were collected from 220 respondents using purposive and stratified random sampling to ensure representation across major platforms such as Shopee, Tokopedia, Lazada, Blibli, and Bukalapak. A structured questionnaire was developed based on validated instruments, using a five-point Likert scale to measure key constructs. The instrument design ensured reliability and validity, capturing user perceptions on Trust, Innovation, Loyalty, competitive positioning, and e-business effectiveness. The sample size meets

the minimum multivariate analysis criteria, as Hair et al. (2019) recommended.

Data analysis employed Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0. The evaluation followed a two-stage process: measurement model assessment and structural model testing. Reliability was verified through Cronbach's alpha and composite reliability (CR > 0.7), while convergent and discriminant validity were confirmed using AVE and the Fornell-Larcker criterion. Hypothesis testing was conducted via bootstrapping (5,000 resamples), with significance assessed through T-statistics (≥1.96) and p-values (≤0.05). This approach enables robust assessment of complex variable relationships and reveals the mediating role of competitive Advantage in driving effective digital business performance.

This study used Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3.0 to analyze the relationships among constructs. The analysis involved two stages: measurement model assessment and structural model evaluation. Reliability and validity were tested using Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), Fornell-Larcker criterion, and HTMT ratios. Structural relationships were tested through bootstrapping with 5,000 samples, using T-statistics (≥ 1.96) and p-values (≤ 0.05) for significance. Model fit was assessed using SRMR and NFI, while R^2, Q^2, and f^2 were used to evaluate predictive relevance and effect size.

There are seven hypotheses in this study. Pristiyono et al. (2022) emphasized that Trust enhances collaboration and stakeholder relationships, improving firm performance. In addition, the study from Brenk et al. (2025) as well as Salam & Jahed (2023) also confirmed that trust can lead to higher competitive advantage. Therefore, we infer that Trust positively influences competitive Advantage.
H1: Trust has a positive and significant impact on competitive Advantage.

Sulistyo and Ayuni (2020) argued that Innovation enables firms to respond to market dynamics and foster product differentiation. Innovation also allows firms to obtain more market shares, maintain customer relation, and gaining more competitive advantage (Zhang et al. 2023; Azeem et al. 2021). Thus, we infer that Innovation contributes significantly to competitive Advantage.
H2: Innovation has a positive and significant impact on competitive Advantage.

According to Desta & Amantie (2024) and Al Karim et al. (2024), customer loyalty leads to repeat purchases and strengthens brand equity. The study from Le et al. (2023) also found that higher customer loyalty can result in higher competitive advantage for the firm. Hence, we infer that customer loyalty improves competitive Advantage.
H3: Customer loyalty has a positive and significant impact on competitive Advantage.

Chayomchai (2021) and Ghuloum (2024) stated that Trust reduces perceived risk in digital platforms, enhancing engagement and user satisfaction. The study from Soleimani (2022) and Miao et al. (2020) also produces similar findings. Therefore, we propose that Trust improves e-business performance.
H4: Trust has a positive and significant impact on fundamental e-business.

Sjödin et al. (2020) found that Innovation in digital processes increases operational efficiency and customer experience. Zhang et al. (2021) and Ilyas et al. (2024) further suggested that innovation positively influences fundamental e- business practices. Consequently, we infer that Innovation enhances fundamental e-business practices.
H5: Innovation has a positive and significant impact on fundamental e-business.

Rizan et al. (2020) and Aslam et al. (2019) revealed that customer loyalty drives digital engagement and sustainable usage. This result is similar to Belhadi et al. (2023) and Andonov et al. (2021) who found that higher customer loyalty can result in positive outcomes for e-business. Therefore, we assume that customer loyalty supports e-business success.
H6: Customer loyalty has a positive and significant impact on fundamental e-business.

Qosasi et al. (2019) suggested that firms with substantial competitive advantages can better implement digital strategies (Apep Mustofa et al. 2022). In addition, Gao et al. (2023) also found how competitive advantage in firms enable it to engage in a fundamental e-business practice and obtain positive outcomes. Thus, we infer that competitive Advantage enhances e-business performance.

H7: Competitive Advantage has a positive and significant impact on fundamental e-business.

The framework illustrates the relationship among Trust, Innovation, and Customer Loyalty as exogenous variables that influence Competitive Advantage and Fundamental E-Business as endogenous variables (Figure 1). The model posits that Competitive Advantage mediates the effects of the three antecedent variables on e-business performance. Seven hypotheses (H1–H7) are proposed to test both direct and indirect relationships among constructs, highlighting how intangible assets can shape digital competitiveness in Indonesia's e-commerce sector.

RESULTS

The structural model depicted in Figure 2 represents the relationships between Trust, Innovation, Customer Loyalty, Competitive Advantage, and Fundamental E-Business Practices, analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The constructs are assessed based on their factor loadings, path coefficients, and R^2 values, ensuring validity and reliability in the research model. The construct testing confirms that Customer Loyalty and Innovation are the most significant drivers of Competitive Advantage, which, in turn, enhances Fundamental E-Business Practices. The model's high R^2 values (0.833 for Competitive Advantage and 0.533 for Fundamental E-Business) demonstrate strong predictive accuracy. These findings suggest businesses should strengthen customer relationships and innovation strategies to sustain competitive Advantage and optimize digital business practices.
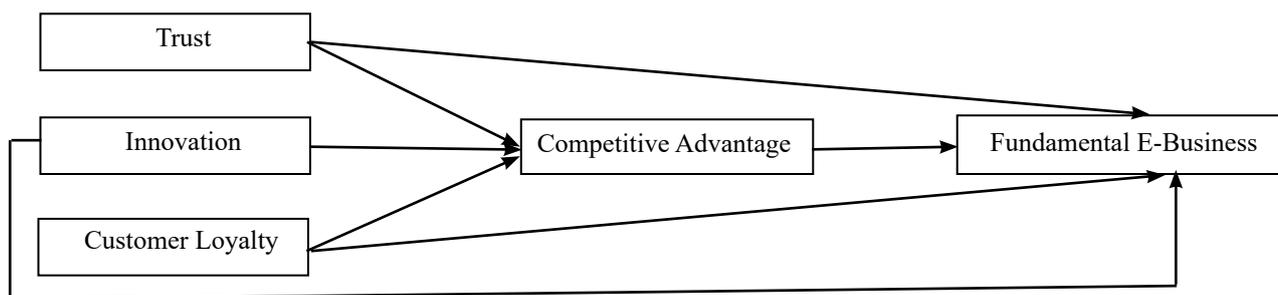

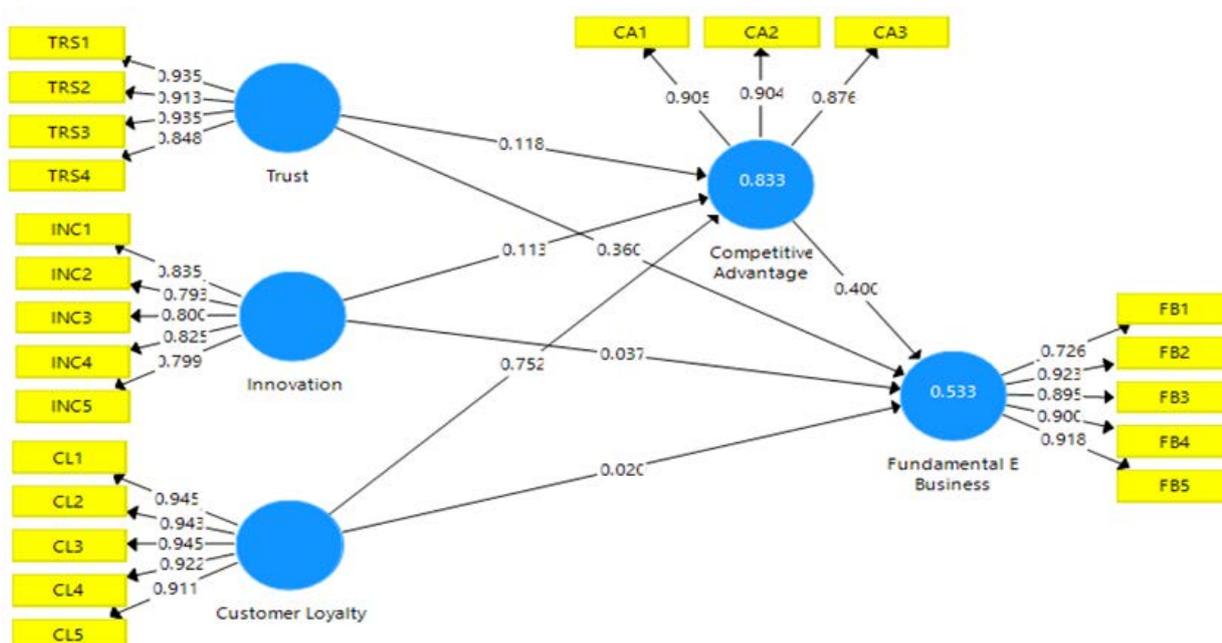Figure 1. Conceptual framework

Figure 2. Construct testing model

Outer Model Evaluation

Table 1 presents the measurement model assessment, evaluating construct reliability and validity through factor loadings, Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). All constructs demonstrate strong internal consistency, with Cronbach's Alpha and CR values exceeding 0.7. Specifically, Trust (α = 0.929, CR = 0.950), Innovation (α = 0.873, CR = 0.905), Customer Loyalty (α = 0.963, CR = 0.971), Competitive Advantage (α = 0.876, CR = 0.924), and Fundamental E-Business Practices (α = 0.922, CR = 0.942) confirm high reliability. Convergent validity is supported by AVE values above 0.5, ranging from 0.657 (Innovation) to 0.871 (Customer Loyalty), indicating sufficient explanatory power. Moreover, all factor loadings exceed 0.7, mostly between 0.726 and 0.945. These results confirm the robustness of the measurement model, validating the constructs'

adequacy for structural analysis and reinforcing their relevance in evaluating competitive Advantage in e-business contexts.

Discriminant validity was assessed using the Fornell-Larcker criterion, which compares the square root of AVE (diagonal) with inter-construct correlations (off-diagonal). As shown in Table 2, all constructs meet the criterion, with AVE roots for Competitive Advantage (0.895), Customer Loyalty (0.933), Fundamental E-Business (0.875), Innovation (0.810), and Trust (0.909) exceeding their correlations with other variables. High correlations, such as between Customer Loyalty and Competitive Advantage (0.898) and between Innovation and Competitive Advantage (0.764), remain below diagonal values, confirming distinctiveness. These results validate that all constructs are conceptually independent and suitable for further structural analysis.

Table 1. Outer Model Evaluation

Construct / item	Measurement Item	Loadings	Alpha	CR	AVE
Trust (McKnight et al. 2002; Gefen et al. 2003)			0.929	0.950	0.826
TRS1	I trust that this platform protects my data.	0.935			
TRS2	I feel safe using this platform.	0.913			
TRS3	This platform shares trustworthy information.	0.935			
TRS4	This platform is accountable to customers.	0.848			
Innovation (Hult et al. 2004; Sjödin et al. 2020)			0.873	0.905	0.657
INC1	This platform regularly introduces new features.	0.835			
INC2	Innovations here make shopping easier.	0.793			
INC3	The platform uses the latest technology.	0.800			
INC4	Innovation improves my experience.	0.825			
INC5	This platform offers unique shopping solutions.	0.799			
Customer Loyalty (Srinivasan et al. 2002; Zeithaml et al. 1996)			0.963	0.971	0.871
CL1	I will keep using this platform.	0.945			
CL2	I prefer this platform over others.	0.943			
CL3	I recommend this platform to others.	0.945			
CL4	I feel satisfied shopping through this platform.	0.922			
CL5	I feel emotionally attached to this platform.	0.911			
Competitive Advantage (Barney, 1991; Newbert, 2008)			0.876	0.924	0.801
CA1	This platform has an edge over rivals.	0.905			
CA2	Its services are hard to copy.	0.904			
CA3	This platform excels in Innovation and service.	0.876			
Fundamental E-Business (Rizan et al. 2020)			0.922	0.942	0.766
FB1	This platform is easy to access and use.	0.726			
FB2	Transactions are fast and smooth.	0.923			
FB3	Product information is clear and accurate.	0.895			
FB4	Features enhance the shopping experience.	0.900			
FB5	Orders are processed quickly and on time.	0.918			

Table 3 presents the structural model evaluation through effect size (f^2), coefficient of determination (R^2), and predictive relevance (Q^2). The R^2 value for Competitive Advantage is 0.833, indicating that 83.3% of its variance is explained by Trust, Innovation, and Customer Loyalty reflecting strong explanatory power. Fundamental E-Business has an R^2 of 0.533, suggesting moderate predictive strength. Q^2 values for both constructs are also high 0.656 for Competitive Advantage and 0.372 for Fundamental E-Business demonstrating strong predictive relevance. In terms of effect size, Customer Loyalty shows a significant impact on Competitive Advantage ($f^2 = 1.496$), while Trust ($f^2 = 0.094$) and Innovation ($f^2 = 0.001$) have minor effects. For Fundamental E-Business, Trust ($f^2 = 0.029$) and Innovation ($f^2 = 0.017$) also show small contributions. These results confirm the model's robustness and the strategic importance of Customer Loyalty.

Discriminant validity was further assessed using the Heterotrait–Monotrait (HTMT) ratio of correlations.

While most construct pairs showed HTMT values below the recommended threshold of 0.85 (Hair et al. 2024), two pairs Customer Loyalty and Competitive Advantage (0.974) and Innovation and Trust (0.905) exceeded the threshold (Table 4). These values suggest a potential overlap between constructs, which should be addressed in future research by refining measurement items or conducting exploratory factor analysis to ensure construct distinctiveness.

Hypothesis test results

Understanding the significance of assessed boundaries is critical in analyzing connections among the 30-pointers in this review. The hypothesis is reviewed by looking at the probability worth and t-estimation, with an importance level of 5% (p-regard = 0.05, t-table worth = 1.960). Affirmation norms incorporate standing out t-quantifiable characteristics from t-tables. Utilizing Brilliant PLS 3.3 with bootstrapping, the outcomes uncovered joins between exogenous variables and the 22 endogenous pointers in Figure 3.

Table 2. Discriminant Validity

Construct	Competitive Advantage	Customer Loyalty	Fundamental E-Business	Innovation	Trust
Competitive Advantage	0.895				
Customer Loyalty	0.898	0.933			
Fundamental E-Business	0.665	0.597	0.875		
Innovation	0.764	0.740	0.646	0.810	
Trust	0.607	0.530	0.643	0.802	0.909

Table 3. Coefficient of Effect Size (f^2), Determination (R^2) and Predictive Relevance (Q^2)

Variable	f^2		R^2	Q^2
	Competitive Advantage	Fundamental E-Business		
Competitive Advantage		0.057	0.833	0.656
Customer Loyalty	1.496	0.000		
Fundamental E-Business			0.533	0.372
Innovation	0.017	0.001		
Trust	0.029	0.094		

Table 4. HTMT Ratio of Correlations

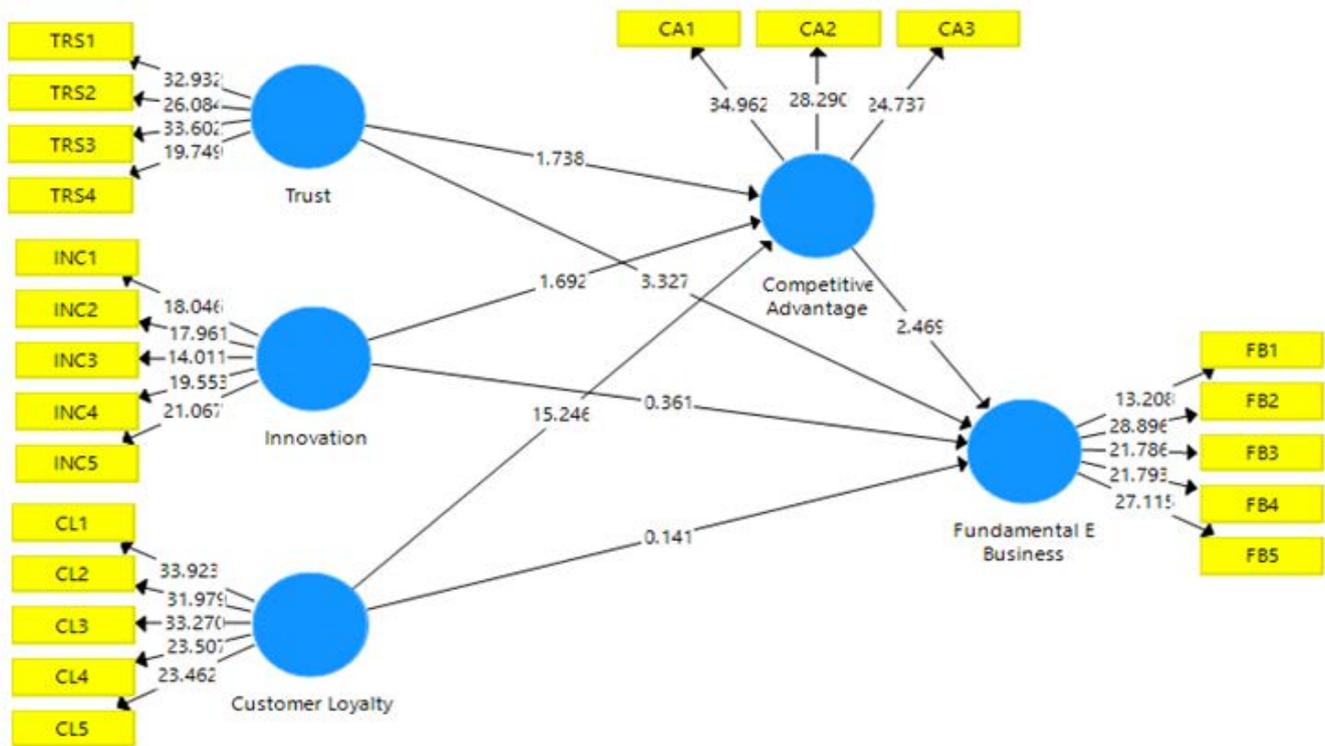| Construct	Competitive Advantage	Customer Loyalty	Fundamental E-Business	Innovation	Trust
Competitive Advantage					
Customer Loyalty	0.974				
Fundamental E-Business	0.716	0.613			
Innovation	0.826	0.766	0.679		
Trust	0.675	0.561	0.688	0.905	

Figure 3. Bootstrapping Results

Table 5 shows the bootstrapping analysis used to test the significance of structural relationships, with T-values ≥ 1.96 and P-values ≤ 0.05 indicating significance. Trust significantly affects Fundamental E-Business (β = 0.360, T = 3.327, P = 0.001), emphasizing its role in enhancing digital credibility and user confidence. However, it does not significantly influence Competitive Advantage. Innovation also has no significant effect on competitive Advantage or fundamental e-business. In contrast, Customer Loyalty strongly predicts Competitive Advantage (β = 0.752, T = 15.246, P = 0.000), confirming its role in driving strategic positioning. However, it does not significantly affect Fundamental E-Business. Competitive Advantage positively influences Fundamental E-Business (β = 0.400, T = 2.469, P = 0.014). These findings highlight Loyalty as the key to competitiveness and Trust as essential to digital effectiveness, while Innovation may require mediators to yield strategic benefits.

Table 6 presents the indirect effects analysis, assessing whether Competitive Advantage mediates the relationship between Trust, Innovation, and Customer Loyalty in Fundamental E-Business. T ≥ 1.96 and P ≤ 0.05 indicate a significant mediating effect. The results reveal that Customer Loyalty indirectly affects Fundamental E-Business via Competitive Advantage (β = 0.301, T = 2.359, P = 0.019), confirming a mediating role. This implies that strong Loyalty can enhance e-business performance through improved market positioning. Conversely, Trust (β = 0.047, T = 1.408, P = 0.160) and Innovation (β = 0.045, T = 1.390, P = 0.165) do not show significant indirect effects. These findings underscore the strategic role of Customer Loyalty in driving digital success, while Trust and Innovation may require alternative pathways or direct mechanisms to impact e-business outcomes effectively.

Model fit assessment Table 7 was conducted using Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI), as recommended in PLS-SEM analysis (Hair et al. 2019). The SRMR value of 0.110 slightly exceeds the preferred threshold of 0.08, suggesting that the model may benefit from refinements to improve fit quality. The NFI value of 0.787 also indicates a moderate fit. While these values do not invalidate the model, they highlight potential areas for future model optimization, such as refinement of indicators or inclusion of moderating variables.

Table 5. Bootstrapping Impact Results (Hypothesis)

Construct	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Trust → Competitive Advantage	0.118	1.738	0.083
Trust → Fundamental E-Business	0.360	3.327	0.001
Innovation → Competitive Advantage	0.113	1.692	0.091
Innovation → Fundamental E-Business	0.037	0.361	0.718
Customer Loyalty → Competitive Advantage	0.752	15.246	0.000
Customer Loyalty → Fundamental E-Business	0.020	0.141	0.888
Competitive Advantage → Fundamental E-Business	0.400	2.469	0.014

Table 6. Explicit Roundabout Impacts

Construct	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Trust → Competitive Advantage → Fundamental E-Business	0.047	1.408	0.160
Innovation → Competitive Advantage → Fundamental E-Business	0.045	1.390	0.165
Customer Loyalty→ Competitive Advantage → Fundamental E-Business	0.301	2.359	0.019

Table 7. Model Fit Summary

Indicator	Saturated Model	Estimated Model
SUMMER	0.110	0.110
d_ULS	3.069	3.069
d_G	1.185	1.185
Chi-Square	1243.073	1243.073
NFI	0.787	0.787

The findings of this study provide nuanced empirical insights into how Trust, Innovation, and Customer Loyalty contribute to firms' Competitive Advantage and Fundamental E-Business performance. The results highlight both alignment and divergence with prior studies, revealing contextual complexities that shape strategic and digital outcomes.

Starting with H1, the study finds that Trust does not significantly affect Competitive Advantage (β = 0.118, T = 1.738, P = 0.083). This result contrasts with Pristiyono et al. (2022), Brenk et al. (2025), and Salam & Jahed (2023), who emphasized Trust as a determinant of sustainable competitiveness. The lack of significance suggests that Trust, while essential for credibility and collaboration, may not directly translate into strategic differentiation. In line with Ghuloum (2024), Trust strengthens stakeholder reliability but must be complemented by value co-creation and brand engagement to evolve into a genuine competitive advantage.

Turning to H2, Innovation also shows no significant impact on Competitive Advantage (β = 0.113, T = 1.692, P = 0.091). This finding diverges from Sulistyo and Ayuni (2020) and Zhang et al. (2023), who found Innovation to be a key competitive driver. The disparity may be due to limited technological maturity or incremental innovation practices within firms, as Azeem et al. (2021) argued that innovation contributes little when unaccompanied by managerial capability and customer alignment. These results imply that Innovation's potential remains underutilized unless strategically integrated into organizational and market structures.

In contrast, H3 is strongly supported, as Customer Loyalty significantly influences Competitive Advantage (β = 0.752, T = 15.246, P = 0.000). This outcome aligns with Desta & Amantie (2024), Al Karim et al. (2024), and Le et al. (2023), who confirmed that loyal customers strengthen firms through repeat purchases, brand advocacy, and retention. The conformity of these findings emphasizes that loyalty functions as a relational asset capable of enhancing market share and positioning.

Moving to the digital dimension, H4 is supported, demonstrating that Trust significantly affects Fundamental E-Business (β = 0.360, T = 3.327, P = 0.001). This result aligns with Chayomchai (2021), Ghuloum (2024), and Miao et al. (2020), highlighting Trust's pivotal role in reducing perceived risk, enhancing user confidence, and promoting digital engagement. The strong path between Trust and digital performance confirms that trustworthiness serves as a foundation for sustainable online operations.

Conversely, H5 is not supported, as Innovation does not significantly influence Fundamental E-Business (β = 0.037, T = 0.361, P = 0.718). This finding diverges from Sjödin et al. (2020) and Ilyas et al. (2024), who identified innovation as a catalyst for digital success. The inconsistency may arise from the gap between innovation capability and its digital implementation, echoing Apep Mustofa et al. (2022), who suggested that innovation only yields performance benefits when supported by adequate technological infrastructure and organizational agility.

Similarly, H6 is rejected, indicating that Customer Loyalty does not have a significant effect on Fundamental E-Business (β = 0.020, T = 0.141, P = 0.888). This contrasts with Rizan et al. (2020) and Belhadi et al. (2023), who found Loyalty to foster digital engagement. The result implies that loyalty's effect on e-business is not direct but mediated through strategic competitiveness, suggesting that customer commitment enhances digital outcomes only when translated into market-based advantages.

Finally, H7 is confirmed, as Competitive Advantage significantly impacts Fundamental E-Business (β = 0.400, T = 2.469, P = 0.014). This finding conforms with Qosasi et al. (2019) and Gao et al. (2023), affirming that firms with superior strategic positions are better able to implement digital initiatives and sustain online performance. The mediation analysis further supports this logic Competitive Advantage mediates the relationship between Customer Loyalty and Fundamental E-Business (β = 0.301, T = 2.359, P = 0.019) indicating that relational strength enhances digital outcomes through improved market positioning. However, the indirect effects of Trust and Innovation were insignificant, suggesting that these factors influence e-business performance primarily through direct rather than mediated pathways.

Overall, the results reveal a pattern of partial conformity with prior literature. Customer Loyalty and Competitive Advantage reaffirm their theoretical robustness, while the weaker roles of Trust and Innovation challenge the assumption that these factors universally lead to superior outcomes. These findings underscore that digital competitiveness relies not only on internal capabilities but also on contextual readiness, integration, and execution across strategic and technological dimensions.

Managerial Implications

The findings of this study offer several important implications for managers operating within the e-commerce industry, particularly in emerging markets like Indonesia. First, customer loyalty should be viewed as a retention metric and a strategic asset that directly contributes to competitive Advantage. Managers are encouraged to invest in long-term loyalty programs to strengthen customer attachment and advocacy, including personalized incentives, consistent service delivery, and emotional brand engagement. Second, while Trust does not directly enhance competitive Advantage, it significantly improves e-business effectiveness. Therefore, managerial focus should include trust-building strategies such as enhancing data privacy, ensuring secure transactions, and providing transparent customer communication to foster user confidence and platform credibility.

Third, the non-significant direct effect of Innovation highlights the need for a shift in how Innovation is managed. Managers should move beyond technological adoption for efficiency and instead align Innovation with customer needs, usability, and experience to derive strategic value. Finally, the mediating role of competitive Advantage underscores the importance of converting relational capital such as Loyalty into operational strategies. Managers should leverage their competitive positioning to drive digital transformation through AI-based personalization, customer analytics, and agile platform design. Integrating these elements will enable firms to optimize both relational and operational dimensions of digital performance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study investigated the effects of Trust, Innovation, and Customer Loyalty on Competitive Advantage and Fundamental E-Business within Indonesia's e-commerce sector. The results confirm that Competitive Advantage is primarily driven by Customer Loyalty, consistent with previous studies emphasizing the role of relational capital in sustaining competitiveness. Trust, while not a direct source of advantage, aligns with earlier findings that highlight its operational value in enhancing digital reliability and user confidence. Conversely, the insignificant effects of Innovation diverge from prior evidence suggesting its strategic importance, implying contextual limitations in its implementation. Furthermore, Competitive Advantage is shown to strengthen e-business performance and mediate the effect of Customer Loyalty, reaffirming theoretical perspectives on the strategic role of competitive positioning in digital transformation. Overall, these findings indicate partial conformity with existing research and demonstrate that loyalty-based competitiveness and strategic alignment remain key determinants of digital business effectiveness.

Recommendations

In light of these findings, several implications should be considered for future action. First, e-commerce firms should strengthen their customer loyalty management by implementing targeted engagement strategies that sustain brand preference. Second, Trust must be continually reinforced through transparent communication, data protection, and user-centric platform design to support digital performance. Third, innovation initiatives must be reoriented to ensure relevance to user experience and market trends, not just internal capability development. Additionally, companies should invest in transforming competitive Advantage into operational effectiveness by leveraging data analytics, personalization, and seamless service integration. Finally, future research should explore mediating or moderating variables that enhance the strategic role of Innovation and Trust in different digital ecosystems, particularly in emerging markets.

CONFLICTS OF INTEREST: The author declares no conflict of interest

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