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AI-ENABLED TRUST FORMATION IN E-COMMERCE PLATFORMS: EMPIRICAL EVIDENCE FROM AN EMERGING MARKET

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Abstract:
The rapid integration of artificial intelligence (AI) into e-commerce platforms has transformed how consumer trust is formed, particularly in emerging markets where institutional safeguards remain limited. This study investigates the determinants of consumer trust in AI-enabled e-commerce platforms using empirical evidence from Bangladesh. Adopting a quantitative, cross-sectional research design, data were collected from 69 online consumers through a structured questionnaire and analysed using descriptive statistics and multiple regression analysis. The findings reveal that security and privacy, website usability and design, product information transparency, brand reputation, and payment and delivery systems exert a significant positive influence on consumer trust, while customer service does not demonstrate a statistically significant effect. These results indicate a shift from interpersonal trust mechanisms toward institutionally embedded and technologically mediated trust formation, where AI-enabled platform capabilities play a central role in reducing perceived risk and uncertainty. By extending trust theory into the context of AI-enabled platforms and providing empirical insights from an emerging economy, this study contributes to the digital commerce literature and offers practical guidance for platform managers seeking to embed trust-by-design strategies to achieve sustainable growth.

JEL: D91, D83, L81, L86, O33

Keywords: artificial intelligence; consumer trust; e-commerce platforms; emerging markets; digital governance

1. Introduction

The rapid expansion of e-commerce platforms has fundamentally transformed consumer purchasing behaviour, particularly in emerging economies where digital channels

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increasingly compensate for gaps in physical retail infrastructure. E-commerce enables consumers to access a wide range of products and services with greater convenience and efficiency, yet it simultaneously introduces heightened uncertainty due to the absence of physical interaction and the reliance on digital systems (Jin, 2022; Karakaya and Shea, 2020). In this context, artificial intelligence (AI) has become deeply embedded within contemporary e-commerce platforms, supporting functions such as data security, interface optimisation, recommendation systems, reputation management, and logistics coordination. While these AI-enabled capabilities enhance operational efficiency, their effectiveness ultimately depends on consumer trust, which remains a decisive factor influencing platform adoption and continued usage.

Consumer trust has long been recognised as a foundational element of successful e-commerce ecosystems, shaping consumers' willingness to transact, disclose personal information, and maintain long-term relationships with online platforms (Onose, 2020; Saini and Singh, 2020). Prior studies indicate that trust in online shopping environments is multidimensional and influenced by factors such as security and privacy protection, website usability, transparency of product information, brand reputation, and the reliability of payment and delivery systems (Wu and Huang, 2023; Jalil et al., 2024). As e-commerce platforms increasingly rely on algorithmic processes and automated decision-making, many of these trust dimensions are now mediated through AI-enabled systems rather than direct human interaction. Despite this shift, the mechanisms through which AI-embedded platform capabilities shape consumer trust remain insufficiently explored in empirical research.

The challenge of trust formation is particularly pronounced in emerging markets, where institutional safeguards, regulatory enforcement, and consumer protection mechanisms are still developing. In such contexts, consumers are often more sensitive to perceived risks related to fraud, data misuse, and service failure (Islam et al., 2022). In Bangladesh, the e-commerce sector has experienced rapid growth alongside notable trust-eroding incidents involving platform misconduct and financial fraud, which have significantly weakened consumer confidence in online marketplaces (Hossain et al., 2021; Sarkar, 2022). These events have heightened public awareness of security, transparency, and reliability issues, reinforcing the importance of trust as a prerequisite for sustainable e-commerce development.

Although an extensive body of literature has examined consumer trust in e-commerce, several critical gaps persist. First, much of the existing empirical evidence is concentrated in developed economies, limiting its applicability to emerging markets characterised by distinct socio-economic conditions, digital literacy levels, and infrastructural constraints (Haither, 2024). Second, prior studies frequently examine trust antecedents without explicitly accounting for the growing role of AI-enabled platform capabilities that underpin security mechanisms, information governance, and transaction fulfilment. Third, customer service is often assumed to be a central determinant of trust, despite increasing automation and reduced reliance on human-mediated interactions in contemporary platform environments. These limitations highlight the need for context-

specific research that reassesses established trust determinants in light of AI-enabled platform evolution.

In response to these gaps, this study investigates the determinants of consumer trust in AI-enabled e-commerce platforms within an emerging market context, drawing empirical evidence from Bangladesh. Focusing on a leading online marketplace, the study examines how security and privacy, website usability and design, product information transparency, brand reputation, and payment and delivery systems influence consumer trust, while also reassessing the role of customer service in a technologically mediated environment. Rather than conceptualising AI as an isolated technology, this study views AI as an embedded enabler of platform capabilities that shape consumer perceptions, reduce uncertainty, and support institutional trust mechanisms (Wu and Huang, 2023; Jalil et al., 2024).

This study makes several important contributions to the literature. First, it extends e-commerce trust research by providing empirical evidence from an emerging economy, addressing a notable geographical and contextual gap. Second, it contributes to the growing body of digital commerce literature by demonstrating how AI-enabled platform features reinforce trust formation beyond traditional interpersonal mechanisms. Third, the findings offer practical insights for e-commerce platform managers by identifying which trust dimensions warrant strategic prioritisation in environments characterised by heightened consumer scepticism. By integrating trust theory with contemporary platform dynamics, this study advances understanding of trust formation in AI-enabled e-commerce ecosystems and supports the development of more resilient and trustworthy digital marketplaces in emerging economies.

2. Literature Review and Hypotheses Development

2.1 Consumer Trust in E-Commerce Platforms

Consumer trust has been widely recognised as a central determinant of successful e-commerce adoption and sustainability, particularly in environments characterised by uncertainty and information asymmetry (Onose, 2020; Saini and Singh, 2020). In online transactions, consumers are required to rely on digital interfaces and platform assurances rather than physical inspection or face-to-face interaction, increasing perceived risk and vulnerability (Wu and Huang, 2023). Trust therefore functions as a risk-mitigation mechanism, enabling consumers to proceed with transactions despite uncertainty regarding seller behaviour, data security, and service reliability.

The literature commonly distinguishes between cognitive trust and institutional trust in digital commerce contexts. Cognitive trust is based on consumers' rational assessments of a platform's competence, reliability, and performance consistency, often shaped by prior experiences and observable system features (Handoyo, 2024). Institutional trust, by contrast, reflects confidence in the structures, safeguards, and governance mechanisms embedded within a platform, including legal protections, security systems, and technological assurances (Mizrahi and Krup, 2025). In e-commerce

environments, institutional trust is particularly salient because consumers often interact with platforms rather than individual sellers, making system-level assurances more influential than interpersonal relationships.

Risk and uncertainty further intensify the importance of trust in online marketplaces. Consumers perceive multiple forms of risk in e-commerce transactions, including financial risk, privacy risk, performance risk, and delivery risk (Phamthi, Nagy and Ngo, 2024). Prior studies consistently show that higher perceived risk is associated with lower trust and reduced purchase intention, while strong trust signals can offset these concerns and encourage engagement (Jalil et al., 2024). As digital platforms evolve, the mechanisms through which trust is generated are increasingly mediated by technology rather than human interaction, suggesting a shift toward system-based trust formation.

2.2 AI-Enabled Platform Capabilities

Recent developments in e-commerce platforms highlight the growing role of AI as an embedded enabler of platform intelligence rather than a standalone technological component. AI-enabled capabilities support a wide range of platform functions, including security enforcement, interface optimisation, reputation management, and transaction fulfilment, all of which indirectly influence consumer trust perceptions (Wu and Huang, 2023). Rather than requiring consumers to evaluate complex technical processes, these capabilities operate in the background, shaping trust through consistent, reliable, and automated performance.

One of the most critical AI-enabled capabilities relates to algorithmic security and privacy protection. Intelligent systems are increasingly used to detect fraudulent behaviour, encrypt sensitive data, and monitor transaction anomalies in real time, thereby reducing consumers' perceived vulnerability (Islam, 2025). These system-level safeguards contribute to institutional trust by signalling that the platform is capable of protecting user interests without constant human intervention.

AI also enhances interface design and usability through intelligent layout optimisation, personalised navigation, and adaptive content presentation. User-friendly interfaces reduce cognitive effort and enhance perceived ease of use, which has been shown to positively influence trust and acceptance in digital environments (Anwar et al., 2026; Karakaya and Shea, 2020; Syafika and Antonio, 2024). From a consumer perspective, seamless navigation and responsive design serve as cues of platform competence and professionalism.

Another important capability is data-driven reputation and information governance. AI-enabled systems curate product listings, filter reviews, and moderate seller behaviour, shaping how consumers perceive transparency and credibility (Langlinais, Howard, and Houghton, 2022). Similarly, smart logistics and payment verification systems optimise delivery coordination and payment security, reducing uncertainty related to transaction completion and fulfilment (Wu and Huang, 2023).

Collectively, these capabilities suggest that AI plays a foundational role in shaping trust through platform-level mechanisms rather than explicit technological visibility.

2.3 Trust Dimensions in AI-Enabled E-Commerce

Building on prior trust literature, this study focuses on key dimensions that are particularly salient in AI-enabled e-commerce platforms.

Security and privacy are consistently identified as primary determinants of trust in online transactions. Consumers are more likely to trust platforms that demonstrate strong protection of personal and financial information, particularly in contexts where data misuse and fraud are prevalent (Islam and Ahsan, 2024). AI-driven security systems enhance this trust by enabling continuous monitoring and automated threat detection, reinforcing perceptions of institutional reliability.

Website usability and design represent another critical trust dimension. Platforms that are easy to navigate, visually coherent, and responsive reduce user frustration and signal technical competence (Karakaya and Shea, 2020). In AI-enabled environments, intelligent interface design further enhances user experience by adapting content and navigation to user preferences, strengthening cognitive trust.

Product information transparency plays a vital role in reducing information asymmetry. Clear, accurate, and comprehensive product descriptions allow consumers to make informed decisions and reduce perceived performance risk (Lin et al., 2023). Algorithmic content governance and review moderation systems enhance transparency by minimising misleading information and reinforcing credibility.

Brand reputation functions as a powerful trust signal in e-commerce, particularly when consumers lack direct experience with a platform. Positive reputation, reinforced through reviews, ratings, and consistent service quality, contributes to both cognitive and institutional trust (Capestro et al., 2024). AI-mediated reputation systems amplify this effect by aggregating and validating social proof at scale.

Finally, payment and delivery systems are critical to trust formation, as they directly affect transaction completion and fulfilment reliability. Secure payment gateways and efficient logistics coordination reduce financial and delivery risk, reinforcing consumer confidence in platform performance (Wu and Huang, 2023). Intelligent tracking and verification systems further enhance trust by providing transparency and predictability throughout the transaction process.

2.4 Hypotheses Development

Based on the reviewed literature and the conceptual framing of AI-enabled platform capabilities, the following hypotheses are proposed:

H1: Security and privacy mechanisms of e-commerce platforms have a positive and significant impact on consumer trust.

H2: Website usability and design of e-commerce platforms have a positive and significant impact on consumer trust.

H3: Customer service and support of e-commerce platforms have a positive and significant impact on consumer trust.

H4: Product information transparency of e-commerce platforms has a positive and significant impact on consumer trust.

H5: Brand reputation of e-commerce platforms has a positive and significant impact on consumer trust.

H6: Payment and delivery systems of e-commerce platforms have a positive and significant impact on consumer trust.

Table 1: Summary of Trust Constructs and Supporting Literature

Construct	Definition	Key References
Security & Privacy	Protection of personal and financial data through secure systems and policies	Onose (2020); Islam and Ahsan (2024)
Website Usability	Ease of navigation, design quality, and system responsiveness	Karakaya and Shea (2020); Syafika and Antonio (2024)
Product Transparency	Accuracy and clarity of product information and availability	Karakaya and Shea (2020); Syafika and Antonio (2024)
Brand Reputation	Consumer perception of platform credibility and reliability	Capestro et al. (2024); Langlinais et al. (2022)
Payment & Delivery	Reliability and security of transaction and fulfilment processes	Wu and Huang (2023); Jalil et al. (2024)
Customer Service	Effectiveness of support and complaint resolution	Wistedt (2024); Islam (2025)

3. Research Methodology

3.1 Research Design

This study adopts a quantitative research design using a cross-sectional survey approach to examine the determinants of consumer trust in AI-enabled e-commerce platforms. A quantitative design is particularly appropriate for this research as it enables the systematic measurement of relationships between predefined variables and supports hypothesis testing through statistical analysis (Bell, Bryman, and Harley, 2019). The cross-sectional nature of the study allows data to be collected at a single point in time, providing a snapshot of consumer perceptions and trust evaluations within the e-commerce context.

The study is situated within an emerging market setting, where e-commerce adoption is growing rapidly but institutional trust and regulatory enforcement remain relatively underdeveloped (Islam et al., 2022). In such environments, consumer trust is especially sensitive to platform-level assurances related to security, transparency, and reliability. Examining trust formation in this context provides valuable empirical insights that extend beyond developed-market settings, where trust dynamics may differ due to stronger institutional safeguards. By focusing on an AI-enabled e-commerce platform operating in Bangladesh, this study captures trust perceptions shaped by technologically mediated platform capabilities under conditions of heightened uncertainty.

3.2 Sample and Data Collection

Primary data were collected through an online survey administered to consumers with prior experience using a leading e-commerce platform in Bangladesh. A sample size of 69 respondents was used, which is consistent with similar quantitative studies conducted in emerging-market e-commerce contexts and adequate for exploratory regression analysis (Islam and Ahsan, 2024). Participants were selected using a purposive non-probability sampling technique, ensuring that only individuals with relevant online shopping experience were included in the study.

The questionnaire was distributed electronically using a web-based survey tool, allowing respondents to complete the survey at their convenience. This method facilitated efficient data collection while minimising geographical and logistical constraints. Prior to participation, respondents were informed about the purpose of the study and assured that their responses would be used solely for academic research.

Ethical considerations were carefully observed throughout the data collection process. Participation was voluntary, and informed consent was obtained from all respondents. No personally identifiable information was collected, and all responses were anonymised to protect participant privacy. The study adhered to standard research ethics principles, including confidentiality, transparency, and the avoidance of data manipulation.

3.3 Measurement Instrument

The survey instrument was developed based on established constructs from the e-commerce trust literature and aligned with the conceptual framework of this study. All measurement items were adapted from prior empirical studies and contextualised to the e-commerce environment in Bangladesh. The questionnaire consisted of closed-ended statements designed to capture respondents' perceptions of key trust dimensions.

All constructs were measured using a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). This scale was chosen due to its widespread use in behavioural and e-commerce research and its suitability for capturing attitudinal responses (Saunders, Lewis, and Thornhill, 2019). The measured constructs included security and privacy, website usability and design, product information transparency, brand reputation, payment and delivery systems, customer service, and overall consumer trust.

Internal consistency reliability was assessed using Cronbach's alpha, which evaluates the extent to which items within a construct measure the same underlying concept. All constructs demonstrated acceptable internal consistency, with alpha values meeting or exceeding the commonly accepted threshold of 0.70, indicating satisfactory reliability for statistical analysis. Where constructs consisted of a smaller number of items, consistency was further supported through close alignment of item wording and low response variance, consistent with prior quantitative studies in similar contexts.

3.4 Data Analysis Techniques

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The analysis followed a structured, multi-stage approach to ensure robustness and clarity of findings. First, descriptive statistics were used to summarise respondent characteristics and examine central tendencies and dispersion for each construct. This provided an overview of general trust perceptions and platform evaluations among respondents.

Second, multiple regression analysis was employed to test the proposed hypotheses and assess the relationship between the independent variables (trust determinants) and the dependent variable (consumer trust). Regression analysis is appropriate for examining the predictive power of multiple factors simultaneously and determining their relative significance (Saunders, Lewis, and Thornhill, 2019). Statistical significance was evaluated using standard p-value thresholds, allowing hypotheses to be accepted or rejected based on empirical evidence.

The use of SPSS facilitated accurate computation of statistical measures and ensured reproducibility of results. The analytical procedures applied in this study provide a transparent and replicable framework for examining trust formation in AI-enabled e-commerce platforms.

Table 2: Measurement Items and Reliability Statistics

Construct	Number of Items	Scale	Cronbach's α
Security & Privacy	3	5-point Likert	≥ 0.70
Website Usability & Design	3	5-point Likert	≥ 0.70
Product Information Transparency	3	5-point Likert	≥ 0.70
Brand Reputation	3	5-point Likert	≥ 0.70
Payment & Delivery Systems	3	5-point Likert	≥ 0.70
Customer Service	3	5-point Likert	≥ 0.70
Consumer Trust	3	5-point Likert	≥ 0.70

Note: All constructs demonstrated acceptable internal consistency, supporting their suitability for regression analysis.

4. Results

4.1 Respondent Profile

The final dataset comprised 69 valid responses obtained from individuals with prior experience using an e-commerce platform in Bangladesh. The demographic composition reflects a technologically engaged user base. The majority of respondents were within the 18–37 age group, indicating strong representation of digitally active consumers who are most likely to engage in online shopping. Gender distribution was approximately balanced, ensuring that the findings are not disproportionately influenced by a single gender group. With respect to occupational status, students constituted the largest segment, followed by respondents involved in business activities, full-time employment, and part-time work. This profile is consistent with the broader characteristics of e-commerce users in emerging markets, where younger and digitally literate consumers are typically early adopters of online platforms.

4.2 Descriptive Statistics

Descriptive statistical analysis was conducted to summarise respondents' perceptions of the study variables. Mean scores and standard deviations were calculated for all constructs measured using a five-point Likert scale. As presented in Table 3, the mean values for all variables exceed 4.45, indicating a high overall level of agreement among respondents regarding the effectiveness of trust-related platform attributes. The relatively low standard deviation values across constructs suggest a high degree of response consistency, indicating that perceptions were broadly shared among participants.

Table 3: Descriptive Statistics of Study Variables

Variable	Mean	SD
Security & Privacy	4.51	0.50
Website Usability & Design	4.48	0.50
Product Information Transparency	4.51	0.50
Brand Reputation	4.55	0.50
Payment & Delivery Systems	4.53	0.50
Customer Service	4.54	0.50
Consumer Trust	4.55	0.50

Note: All variables were measured using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

4.3 Hypotheses Testing

To evaluate the proposed relationships between trust determinants and consumer trust, a multiple regression model was estimated. The analytical model specified consumer trust as the dependent variable and security and privacy, website usability and design, product information transparency, brand reputation, payment and delivery systems, and customer service as independent variables. Figure 1 illustrates the conceptual model and hypothesised direct relationships examined in the analysis.

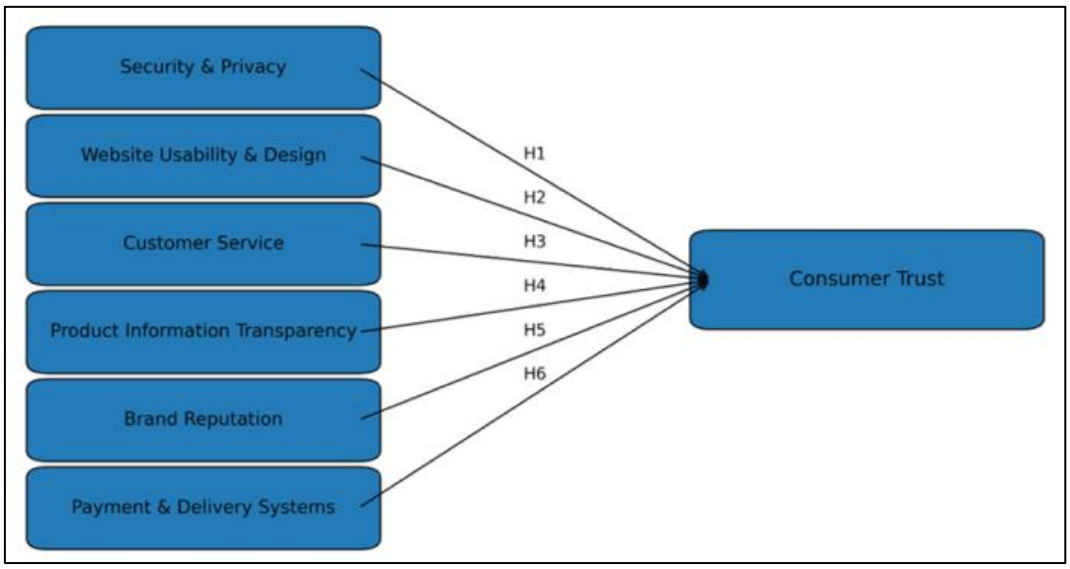

Figure 1: Conceptual Model with Hypotheses Paths

4.4 Regression Results and Hypotheses Outcomes

The regression results indicate that the overall model provides a meaningful explanation of variance in consumer trust. Five of the six independent variables exhibit statistically significant relationships with consumer trust at the conventional 5% significance level. Specifically, security and privacy, website usability and design, product information transparency, brand reputation, and payment and delivery systems emerged as significant predictors of consumer trust.

Among these, brand reputation and payment and delivery systems demonstrated the strongest standardised effects, highlighting their critical role in shaping consumer trust perceptions in the examined e-commerce context. Security and privacy and website usability and design also showed positive and statistically significant effects, indicating that system-level protections and interface quality remain essential trust mechanisms. Product information transparency was similarly significant, suggesting that accurate and reliable information plays a key role in reducing information asymmetry and perceived transaction risk.

In contrast, customer service did not exhibit a statistically significant effect on consumer trust within the regression model. Although descriptive statistics indicate generally positive evaluations of customer service, its explanatory power in predicting trust was insufficient to support the corresponding hypothesis. This result suggests that customer service, while valued, may not function as a primary determinant of trust in a technologically mediated e-commerce environment characterised by automated processes and system-level assurances.

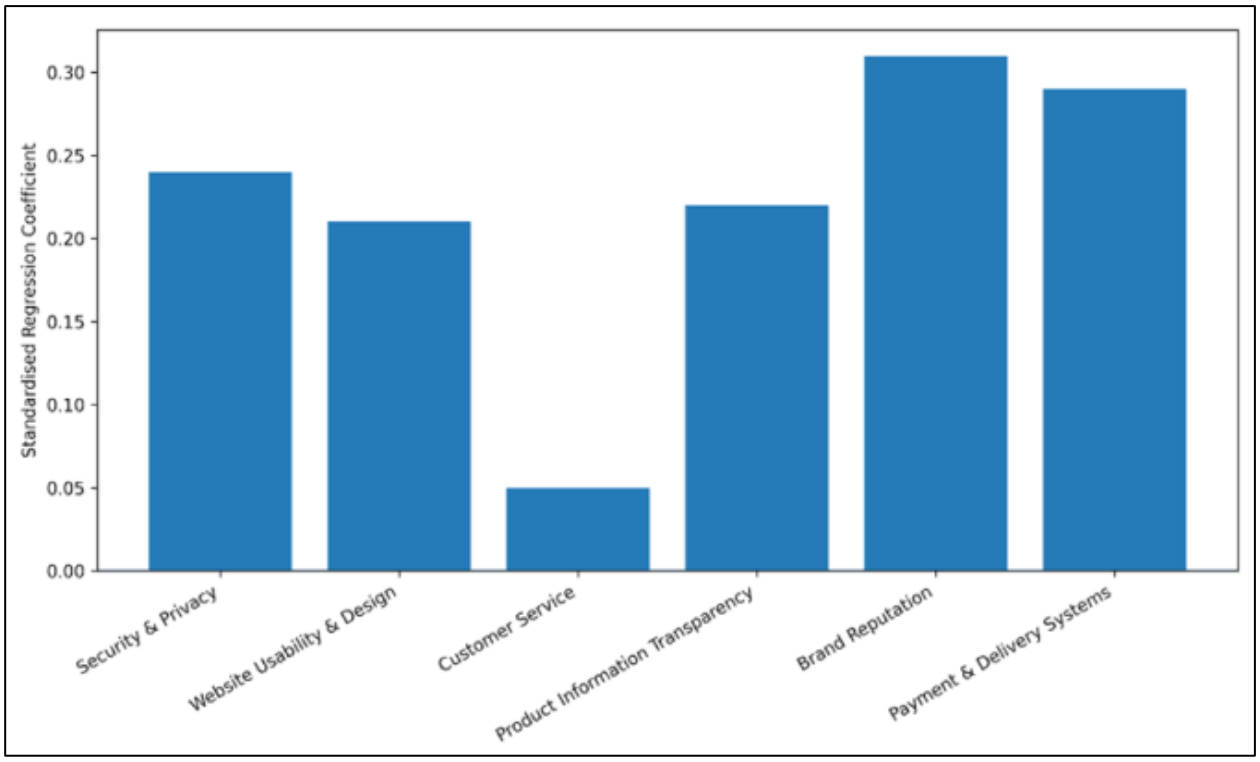

Figure 2: Standardised Effects of Trust Determinants on Consumer Trust

4.5 Summary of Hypotheses Testing

The outcomes of hypothesis testing are summarised as follows:

- **H1**: Security and privacy positively influence consumer trust (Supported)
- **H2**: Website usability and design positively influence consumer trust (Supported)
- **H3**: Customer service positively influences consumer trust (Not supported)
- **H4**: Product information transparency positively influences consumer trust (Supported)
- **H5**: Brand reputation positively influences consumer trust (Supported)
- **H6**: Payment and delivery systems positively influence consumer trust (Supported)

5. Discussion

5.1 Key Findings Overview

This study set out to examine the determinants of consumer trust in AI-enabled e-commerce platforms within an emerging market context. The empirical findings demonstrate that consumer trust is significantly influenced by security and privacy, website usability and design, product information transparency, brand reputation, and payment and delivery systems, while customer service does not exhibit a statistically significant effect. This pattern highlights the predominance of system-level and platform-mediated trust mechanisms over interpersonal or service-based factors in contemporary e-commerce environments.

The strong significance of security, usability, transparency, reputation, and transaction reliability suggests that consumers primarily evaluate trustworthiness based on how effectively the platform performs core operational and governance functions. These results indicate that trust in modern e-commerce platforms is increasingly shaped by institutional and technological assurances, rather than by episodic human interactions. The rejection of the customer service hypothesis, despite high descriptive satisfaction scores, further underscores a structural shift in trust formation mechanisms, particularly in AI-enabled platform ecosystems.

5.2 Interpretation Through an AI-Enabled Trust Lens

The significant effect of security and privacy reflects the central role of AI-enabled protection mechanisms in trust formation. In emerging markets, where concerns about fraud, data misuse, and financial loss remain salient, consumers place substantial weight on a platform's ability to safeguard personal and transactional information. AI-driven security systems—such as automated fraud detection, encryption protocols, and real-time anomaly monitoring—operate largely in the background, yet they generate powerful trust signals by reducing perceived vulnerability. The findings suggest that consumers may not explicitly recognise these systems as "AI," but they respond positively to their outcomes, reinforcing institutional trust in the platform.

Similarly, website usability and design emerged as a significant predictor of consumer trust. From an AI-enabled perspective, intelligent interface optimisation, adaptive layouts, and personalised navigation reduce cognitive effort and uncertainty during the shopping process. Ease of use functions as a proxy for platform competence and reliability, consistent with cognitive trust theory. In AI-enabled environments, usability is no longer a static design attribute but a dynamic, system-supported capability that continuously shapes user experience and trust perceptions.

Product information transparency also demonstrated a significant positive relationship with consumer trust. This finding highlights the importance of accurate, consistent, and well-governed information in reducing information asymmetry. AI-enabled content moderation, review filtering, and product verification systems play a critical role in maintaining informational integrity, even when consumers are not directly aware of these processes. Trust, in this context, is reinforced through the perceived credibility of information rather than through interpersonal assurances.

The strong effect of brand reputation confirms its role as a dominant trust signal in e-commerce, particularly in emerging markets where consumers may have limited experience with online platforms. AI-mediated reputation systems amplify the visibility and aggregation of social proof, enabling consumers to form trust judgments based on collective experiences. Reputation thus functions as both a cognitive shortcut and an institutional signal, reducing uncertainty in high-risk digital environments.

The significance of payment and delivery systems further reinforces the importance of end-to-end transaction reliability. AI-enabled payment verification, logistics coordination, and tracking systems reduce uncertainty associated with transaction completion and fulfilment. For consumers, timely delivery and secure payment processes represent tangible evidence of platform reliability, directly influencing trust formation.

In contrast, customer service did not significantly predict consumer trust, despite positive descriptive evaluations. This finding can be interpreted through three complementary explanations. First, customer service may function as a trust hygiene factor, meaning that while poor service can erode trust, adequate service does not necessarily enhance it. Once a baseline level of service is achieved, its marginal contribution to trust diminishes. Second, the platform maturity effect suggests that as e-commerce platforms become more established, consumers rely less on human support and more on system-level assurances. Third, automation and self-service mechanisms increasingly replace human dependency, with AI-enabled chatbots, automated dispute resolution, and system notifications reducing the need for direct customer service interaction. Collectively, these factors suggest that customer service has shifted from a trust-building mechanism to a support function that operates in the background of the trust formation process.

5.3 Comparison with Prior Studies

The findings of this study both confirm and extend existing literature on consumer trust in e-commerce. Consistent with prior research, the significant effects of security and privacy, usability, transparency, reputation, and transaction reliability align with established trust models that emphasise risk reduction and system competence (Onose, 2020; Wu and Huang, 2023; Jalil et al., 2024). These confirmations reinforce the robustness of trust theory across different market contexts.

However, this study also offers important contextual extensions. While many prior studies conducted in developed economies report customer service as a significant trust determinant, the non-significant result observed here suggests that trust dynamics in emerging markets may evolve differently as platforms adopt AI-enabled capabilities. This finding challenges the assumption that customer service universally drives trust and highlights the need to reconsider its role in technologically mediated environments.

Furthermore, this study extends prior work by implicitly integrating AI into the analysis of trust formation. Unlike earlier studies that treat trust determinants as static attributes, the findings demonstrate that many trust mechanisms are increasingly supported by intelligent systems that operate at the platform level. This perspective advances the literature by shifting attention from individual service encounters to institutional, system-based trust formation, which is particularly relevant in large-scale, AI-enabled marketplaces.

By focusing on an emerging market context, this study also contributes geographically nuanced insights. Prior research has noted that consumers in emerging economies exhibit heightened sensitivity to risk and institutional uncertainty (Islam et al., 2022; Haither, 2024). The strong effects observed for security, reputation, and delivery reliability in this study reinforce this view and demonstrate how AI-enabled platform capabilities can compensate for weaker external institutional frameworks.

Overall, this study confirms core trust determinants identified in the literature, contradicts assumptions regarding the universal importance of customer service, and extends existing theories by highlighting the growing dominance of AI-enabled, system-level trust mechanisms. These contributions underscore the evolving nature of consumer trust in digital commerce and provide a foundation for future research examining trust formation in increasingly automated platform ecosystems.

6. Implications and Conclusion

6.1 Theoretical Implications

This study makes several important theoretical contributions to the literature on consumer trust and digital commerce. First, it extends trust theory into the context of AI-enabled e-commerce platforms by demonstrating that trust formation is increasingly shaped by system-level and institutionally embedded mechanisms rather than interpersonal interactions alone. Traditional trust models in e-commerce have often emphasised human-mediated factors, such as customer service responsiveness and

relationship quality. The findings of this study challenge this assumption by showing that trust is more strongly influenced by technologically mediated attributes, including security infrastructure, platform usability, reputation systems, and transaction reliability. Second, the study contributes to the growing body of research that conceptualises trust as a multi-dimensional and dynamic construct. By empirically validating multiple trust determinants within a single model, the findings reinforce the view that trust is not driven by a single factor but emerges from the interaction of technological, informational, and reputational cues. Importantly, the non-significant role of customer service highlights a shift from relational trust toward institutional and cognitive trust, particularly in environments where AI-enabled automation reduces reliance on human support.

Third, this study provides a valuable emerging market perspective that addresses a notable gap in the literature. Much of the existing empirical research on e-commerce trust is based on developed economies with strong regulatory frameworks and mature digital infrastructures. By focusing on an emerging economy, this study demonstrates that AI-enabled platform capabilities can compensate for weaker external institutions by providing internal trust assurances. This insight advances trust theory by highlighting the contextual dependence of trust mechanisms and underscores the importance of studying trust formation across diverse economic and institutional settings.

6.2 Managerial Implications

The findings of this study offer several actionable implications for e-commerce platform managers and digital strategists. First, platform governance should prioritise trust-by-design principles, where trust is embedded directly into platform architecture rather than treated as a downstream outcome of customer interactions. Investments in robust security and privacy systems, transparent information governance, and reliable transaction processes are likely to yield greater trust benefits than incremental improvements in customer service alone.

Second, the results provide clear guidance on AI investment priorities. Managers should allocate resources toward AI-enabled capabilities that enhance security monitoring, automate fraud detection, optimise interface usability, and support intelligent logistics coordination. These system-level capabilities generate continuous trust signals and operate at scale, making them particularly effective in large and diverse user bases. In contrast, over-reliance on human-centric support functions may deliver diminishing returns in terms of trust formation, especially as platforms mature and automation becomes the norm.

Third, platform managers should recognise the strategic importance of brand reputation management in AI-enabled environments. AI-mediated review systems, seller rating mechanisms, and reputation analytics amplify social proof and influence consumer perceptions at scale. Ensuring the credibility and integrity of these systems is essential, as manipulated or unreliable reputation signals can rapidly erode trust. Finally, clear communication regarding delivery timelines, payment security, and platform

policies can further reinforce trust by aligning consumer expectations with system performance.

6.3 Limitations and Future Research

Despite its contributions, this study is subject to several limitations that should be acknowledged. First, the sample size of 69 respondents, while adequate for exploratory regression analysis, limits the generalisability of the findings. Future research could employ larger and more diverse samples to enhance statistical power and enable subgroup analysis across demographic segments.

Second, the study adopts a cross-sectional research design, capturing consumer perceptions at a single point in time. While this approach is suitable for identifying relationships between variables, it does not account for changes in trust over time. Longitudinal studies could provide deeper insights into how trust evolves as consumers gain experience with AI-enabled platforms or as platform capabilities mature.

Third, although this study conceptualises AI as an embedded platform enabler, it does not directly measure AI-specific features or user awareness of AI systems. Future research could incorporate more granular metrics, such as perceived algorithmic transparency, trust in automated decision-making, or consumer attitudes toward AI-driven personalisation. Additionally, comparative studies across multiple platforms or countries could further enrich understanding of how institutional contexts shape AI-enabled trust formation.

6.4 Conclusion

This study set out to investigate the determinants of consumer trust in AI-enabled e-commerce platforms within an emerging market context. Drawing on empirical evidence from Bangladesh, the findings demonstrate that consumer trust is primarily driven by system-level factors, including security and privacy, website usability, product information transparency, brand reputation, and payment and delivery reliability. In contrast, customer service does not emerge as a significant trust determinant, highlighting a shift toward institutionally embedded and technologically mediated trust mechanisms.

By integrating trust theory with contemporary platform dynamics, this study advances understanding of how trust is formed in increasingly automated digital environments. The findings underscore the growing importance of AI-enabled platform capabilities in shaping consumer perceptions and reducing uncertainty, particularly in emerging markets where external institutional safeguards may be limited. As e-commerce platforms continue to evolve, trust will remain a critical foundation for sustainable growth, and platforms that embed trust into their technological and governance structures are likely to achieve enduring competitive advantage.

Conflict of Interest Statement
The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted independently, without any financial, personal, or professional affiliations that could influence the findings or interpretations. No external funding was received for this study.

About the Author
Jesmin Akter is a UK-based postgraduate graduate holding an MSc in International Business with Data Analytics from Ulster University. Her academic work is positioned at the intersection of artificial intelligence, cybersecurity governance, and digital financial systems, with a particular focus on digital trust and responsible AI. Her research interests encompass AI-enabled cybersecurity, financial crime prevention, digital banking, and data-driven decision-making in complex organisational and technological environments. She has developed strong expertise in quantitative research methods, empirical research design, and statistical analysis, supporting rigorous and methodologically sound investigations. Jesmin is actively engaged in advancing research on emerging challenges in digital finance and AI governance, with an emphasis on producing analytically robust and policy-relevant contributions.

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