



Customer Trust in Digital Commerce: The Role of Last-Mile Delivery Performance

Chidiadi Obinna Esi-Ubani^{1,*}, Nnebuife Emenike², Chosen Chinwe Ndukwe-Tochi¹

¹ Department of Marketing, Abia State University, Uturu

² Department of Procurement and Supply Chain Management, Federal Polytechnic Ukana

* Corresponding author: esiubanich@gmail.com

ARTICLE HISTORY

Received: 2 August 2026

Accepted: 19 September 2026

Published: October 2026

ARTICLE INFO



Vol. 1, No. 2 (2026), pp. 338–351

ISSN: 3141-6268 (Print)

3156-5077 (Online)

DOI: 10.67523/aujmss.v1i2.006

License: CC BY 4.0

HOW TO CITE

Esi-Ubani, C. O., Emenike, N., &

Ndukwe-Tochi, C. C. (2026).

Customer trust in digital commerce:

The role of last-mile delivery

performance. *Azman Univ. Int. J.*

Manag. Soc. Sci., 1(2), 338–351. <https://doi.org/10.67523/aujmss.v1i2.006>

06

ABSTRACT

This study systematically reviews and synthesises the literature on the relationship between last-mile delivery performance and customer trust in e-commerce supply chains. Using a Systematic Literature Review (SLR) approach guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, peer-reviewed journal articles published between 2015 and 2026 were identified, screened, and analysed through thematic analysis. Twenty-three studies met the inclusion criteria and were included in the final qualitative synthesis. The findings indicate that delivery reliability, timeliness, tracking visibility, communication quality, and delivery flexibility consistently strengthen customer trust, satisfaction, loyalty, and repurchase intentions, while delivery delays, failed deliveries, inadequate communication, and infrastructure constraints undermine customer confidence in e-commerce retailers and logistics providers. The review further highlights the importance of real-time tracking technologies, artificial intelligence, route optimisation, and proactive customer communication as effective strategies for enhancing delivery performance and fostering trust. By integrating dispersed empirical evidence, this study provides a comprehensive understanding of how last-mile delivery performance shapes customer trust.

Keywords: Customer trust; Delivery performance; E-commerce; Last-mile delivery; Supply chain management

1. Introduction

The expansion of internet connectivity, mobile commerce, digital payment systems, and online retail platforms has enabled organisations to overcome geographical barriers while providing consumers with greater convenience, wider product choices, and flexible purchasing options (Laudon & Traver, 2023; UNCTAD, 2024). As e-commerce continues to expand across developed and emerging economies, effective supply chain and logistics management have become critical determinants of organisational competitiveness, customer satisfaction, and long-term sustainability (Hubner et al., 2016). Within e-commerce supply chains, last-mile delivery is a strategically important logistics function because it represents the final stage of the distribution process, transporting products from fulfilment centres or distribution hubs to end customers (Lim & Srail, 2018a). Although it is the shortest segment of the supply chain, last-mile delivery is recognised as the most complex, resource-intensive, and customer-facing component of logistics operations (Boysen et al., 2020).

The continued growth of e-commerce has also raised customer expectations regarding delivery services. Consumers increasingly expect rapid and reliable deliveries, real-time tracking, flexible delivery options, accurate communication, and seamless fulfilment experiences (Vakulenko et al., 2019). To meet these expectations, retailers and logistics providers have invested significantly in advanced technologies such as predictive analytics, route optimisation systems, automated fulfilment centres, and smart delivery solutions to improve operational efficiency and customer satisfaction (Mangiaracina et al., 2019). Despite these innovations, operational challenges including delivery delays, failed deliveries, damaged products, inaccurate tracking information, traffic congestion, infrastructure deficiencies, and communication failures continue to undermine service quality and customer confidence.

Customer trust is important in e-commerce because online transactions are characterised by uncertainty and perceived risk. Customers cannot physically inspect products before purchase and therefore rely on the competence, reliability, integrity, and credibility of online retailers and their logistics partners (Gefen et al., 2003). Delivery performance has become a visible indicator of organisational trustworthiness. Reliable and timely deliveries, accurate tracking information, and effective communication strengthen customer confidence, improve perceptions of service quality, and encourage repeat purchasing, whereas poor delivery performance erodes trust, increases perceived risk, and reduces customer loyalty and repurchase intentions (Agatz et al., 2008). Although the relationship between last-mile delivery performance and customer trust has received increasing attention in supply chain management, logistics, and e-commerce research, existing evidence is divided across several disciplines. Previous studies have examined individual dimensions of delivery performance, including delivery speed, reliability, flexibility, visibility, communication quality, and customer satisfaction, while separate streams of research have explored trust as a determinant of online purchasing behaviour, customer commitment, electronic loyalty, and long-term customer relationships (Vakulenko et al., 2019; Gefen et al., 2003). Existing reviews primarily focus on logistics models, delivery innovations, and operational efficiency, with limited attention to customer trust. Three gaps emerge from the existing literature: evidence is fragmented across logistics, supply chain management, marketing, information systems, and e-commerce research, limiting an integrated understanding of how delivery experiences shape customer trust; there is limited comprehensive synthesis examining how specific delivery-performance dimensions, including reliability, timeliness, communication, transparency, and flexibility, influence customer trust; and the geographical concentration of existing evidence leaves the applicability of these relationships to infrastructure-constrained, emerging-market contexts largely untested. This systematic review addresses these gaps by integrating fragmented evidence and critically synthesising the relationship between delivery performance and customer trust in e-commerce supply chains (Lim & Srai, 2018a; Mangiaracina et al., 2019).

Although digital commerce is expanding across Nigeria and sub-Saharan Africa, challenges such as inadequate road infrastructure, traffic congestion, inconsistent addressing systems, difficulties locating customers, and limited logistics capacity in suburban and rural areas can increase delivery delays and uncertainty. Diverse payment practices, including cash-on-delivery and digital payment systems, may also shape customer expectations regarding transaction security and delivery confirmation. Delivery performance is a critical mechanism through which customers assess the reliability and credibility of e-commerce retailers and logistics providers, and the sustained competitiveness of e-commerce depends on the provision of delivery services that are timely, reliable, transparent, flexible, and responsive (Hubner et al., 2016; Lim & Srai, 2018b). Delivery performance significantly influences customer perceptions of service quality, satisfaction, and trust (Vakulenko et al., 2019; Aljohani, 2024); however, delays, failed deliveries, damaged goods, infrastructure constraints, and communication failures can undermine customer confidence, loyalty, and repurchase intentions (Mangiaracina et al., 2019; Boysen et al., 2020; Kawa & Zdrenka, 2024; Ngo et al., 2025).

Accordingly, this review pursues three specific objectives: first, to synthesise the empirical evidence on how last-mile delivery-performance dimensions, including reliability, timeliness, communication quality, tracking visibility, and flexibility, influence customer trust in e-commerce supply chains; second, to identify the principal operational challenges that undermine customer confidence in last-mile delivery; and third, to examine the organisational strategies through which customer trust is strengthened through improved delivery performance. In

pursuing these objectives, the review integrates evidence across logistics, supply chain management, marketing, and information systems research to provide a comprehensive understanding of how last-mile delivery performance shapes customer trust.

2. Literature Review

2.1 Last-Mile Delivery

Last-mile delivery performance has evolved into a strategic capability that significantly influences customer experience, competitive advantage, and organisational performance within e-commerce supply chains. Logistics performance was primarily assessed through operational efficiency, cost reduction, and resource utilisation, with emphasis on transporting products from distribution centres to customers as economically as possible (Christopher, 2016). The rapid growth of e-commerce has repositioned last-mile delivery as the most visible customer-facing stage of the supply chain, making it a critical determinant of service quality, customer satisfaction, and organisational reliability (Hubner et al., 2016; Vakulenko et al., 2019). Despite broad agreement regarding its strategic importance, there is no universally accepted framework for defining or measuring last-mile delivery performance. Some scholars adopt a narrow operational perspective, focusing primarily on delivery speed and timeliness because rapid fulfilment has become a source of competitive advantage (Mangiaracina et al., 2019).

Customers evaluate delivery performance using multiple dimensions, including reliability, flexibility, responsiveness, order accuracy, tracking visibility, communication quality, convenience, and delivery security (Boysen et al., 2020; Lim & Srai, 2018a). This broader perspective recognises that delivery performance extends beyond the physical movement of goods to include the quality of customer interaction and information exchange throughout the fulfilment process, and features such as real-time tracking, proactive communication, flexible delivery scheduling, and responsive customer support are now regarded as integral components of high-quality delivery services (Ngo et al., 2025). The absence of a standardised measurement framework creates challenges for comparing findings across studies and identifying the delivery dimensions that most strongly influence customer outcomes. Here the literature is divided rather than uniform: whereas Mangiaracina et al. (2019) treat speed and operational efficiency as the primary competitive lever, Vakulenko et al. (2019) and Boysen et al. (2020) find that customers are frequently willing to accept longer delivery times provided that organisations deliver consistently, disclose accurate tracking information, and communicate proactively. This contrast suggests that delivery speed functions more as a baseline expectation than as the dominant driver of customer evaluation, and that reliability, transparency, and communication effectiveness carry comparatively greater weight once a minimum speed threshold is met. Taken together, the reviewed evidence demonstrates that customer evaluations of delivery performance are shaped by a combination of functional and relational factors that collectively influence satisfaction, trust, and loyalty (Lim & Srai, 2018a; Boysen et al., 2020).

2.2 Customer Trust

Customer trust is one of the most important constructs within e-commerce because it reduces uncertainty and perceived risk associated with online purchasing. Since customers cannot physically inspect products or interact directly with retailers before making purchasing decisions, trust serves as a mechanism that enhances confidence in online transactions (Gefen et al., 2003). Research consistently identifies trust as a key determinant of customer satisfaction, purchase intention, loyalty, and long-term customer relationships (Pavlou, 2003; McKnight & Chervany, 2001). Trust has traditionally been defined as customers' confidence in the competence, integrity, and reliability of online retailers (Gefen et al., 2003; Pavlou, 2003). However, as e-commerce supply chains have become more complex, trust has expanded beyond retailers to include logistics providers. While initial trust may be based on website quality, organisational reputation, and product information, customers' trust is increasingly reinforced or weakened through fulfilment experiences, particularly last-mile delivery (Hubner et al., 2016), and delivery dimensions such as timeliness, order accuracy, communication quality, and tracking visibility therefore play a central role in shaping perceptions of service quality and organisational trustworthiness (Vakulenko et al., 2019).

Contemporary research also conceptualises trust as a dynamic construct that develops progressively through repeated interactions rather than emerging instantaneously. Positive delivery experiences reinforce confidence, whereas delivery delays, damaged products, inaccurate tracking information, and poor communication quickly erode trust in both retailers and logistics providers (McKnight et al., 2002; Pavlou, 2003; Mangiaracina et al., 2019). Notably, the reviewed studies converge on delivery reliability as the strongest and most consistent trust antecedent, but diverge on secondary mechanisms: studies grounded in the marketing and information-systems traditions (e.g., Pavlou, 2003; McKnight & Chervany, 2001) emphasise cognitive evaluations of competence and integrity, whereas studies grounded in logistics and operations research (e.g., Mangiaracina et al., 2019; Boysen et al., 2020) emphasise the observable, behavioural evidence of trustworthiness generated by successful fulfilment. This disciplinary divergence, rather than being a weakness in the literature, indicates that trust in last-mile delivery is best understood as a construct with both evaluative and experiential foundations.

3. Theoretical Background

The literature explains the relationship between last-mile delivery performance and customer trust through three principal theoretical perspectives: Trust Theory, SERVQUAL Theory, and Expectation-Confirmation Theory (ECT). Trust Theory proposes that customers develop trust when organisations demonstrate competence, reliability, and integrity, making them willing to accept vulnerability despite uncertainty (Mayer et al., 1995; McKnight & Chervany, 2001). Within e-commerce, delivery performance provides tangible evidence of organisational trustworthiness. Reliable deliveries, accurate fulfilment, transparent communication, and effective tracking strengthen customer confidence, whereas delivery delays, failed deliveries, damaged products, and communication failures weaken trust (Gefen et al., 2003; Pavlou, 2003; Vakulenko et al., 2019; Mangiaracina et al., 2019; Hubner et al., 2016). Although Trust Theory effectively explains the psychological foundations of trust, it offers limited guidance regarding which specific delivery dimensions exert the greatest influence (Mayer et al., 1995).

SERVQUAL Theory conceptualises service quality as the difference between customer expectations and perceived service performance across five dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988). These dimensions closely align with last-mile delivery activities: reliability reflects accurate and timely deliveries; responsiveness relates to prompt communication and customer support; assurance reflects confidence generated through secure logistics systems and transparent delivery procedures; empathy refers to personalised and flexible delivery services; and tangibles include packaging quality, delivery infrastructure, and tracking technologies (Ramanathan, 2010; Vakulenko et al., 2019; Hubner et al., 2016). Although SERVQUAL was developed primarily for traditional service encounters and has been criticised for not fully capturing technology-specific factors such as system usability, information quality, and digital security (Cronin & Taylor, 1992), its core dimensions remain valuable for evaluating reliability, responsiveness, assurance, and customer perceptions of last-mile delivery quality (Ramanathan, 2010).

Expectation-Confirmation Theory (ECT) explains customer satisfaction by comparing pre-purchase expectations with actual service experiences (Oliver, 1980; Bhattacharjee, 2001). When delivery performance meets or exceeds customer expectations, positive confirmation strengthens satisfaction, trust, loyalty, and future purchasing intentions; conversely, unmet expectations result in dissatisfaction and unfavourable behavioural outcomes (Hossain & Quaddus, 2011; Kim, 2012; Vakulenko et al., 2019). Compared with the other two theories, ECT provides a particularly strong explanation of how delivery experiences influence satisfaction, trust, loyalty, and repurchase intentions (Bhattacharjee, 2001), but, unlike Trust Theory, it does not on its own account for the vulnerability-based and relational character of trust as a willingness to depend on another party under uncertainty.

The integrated framework therefore suggests a sequential relationship in which perceived delivery service quality influences expectation confirmation, which subsequently contributes to customer satisfaction and trust, while consistent evidence of competence and reliability reinforces trust over repeated interactions. This integration also recognises that satisfaction and trust are related but conceptually distinct outcomes: satisfaction reflects an evaluative response to a specific service experience, whereas trust represents a broader willingness to rely on an organisation under conditions of uncertainty (Gefen et al., 2003; Pavlou, 2003). Each theory, used alone, is incomplete: Trust Theory does not specify which operational dimensions of service performance matter most to

customers; SERVQUAL provides a structured framework for evaluating service quality but has been criticised for difficulties in applying its original dimensions and expectation-performance gap logic uniformly across digital and technology-mediated services (Cronin & Taylor, 1992); and ECT offers a strong explanation of confirmation and satisfaction processes but does not fully explain the relational, vulnerability-based nature of trust. Accordingly, no single theory sufficiently captures the entire pathway from delivery operations to customer trust, and their combined use provides a broader framework linking operational service performance, customer evaluation, expectation confirmation, satisfaction, and the development of trust.

4. Methodology

This study adopted an interpretivist orientation and a predominantly inductive approach, using a Systematic Literature Review (SLR) to examine how existing research conceptualises and explains the relationship between last-mile delivery performance and customer trust in e-commerce supply chains. The interpretivist perspective supports the analysis of meanings, patterns, theoretical explanations, and contextual variations across diverse disciplines, and systematic and transparent procedures enhance methodological rigour and reproducibility (Tranfield et al., 2003; Denyer & Tranfield, 2009). Inductive reasoning enables themes and conceptual relationships to emerge from the evidence rather than testing predetermined hypotheses (Saunders et al., 2023; Hiebl, 2023). The study employs qualitative evidence synthesis to integrate heterogeneous findings and examine delivery dimensions, operational challenges, customer responses, and trust-building mechanisms; this approach is appropriate for interpreting diverse concepts and contexts without calculating pooled statistical effects (Creswell & Creswell, 2018; Snyder, 2019).

4.1 Search Strategy and Eligibility Criteria

A systematic literature search was conducted on Google Scholar to identify studies on last-mile delivery performance and customer trust in e-commerce supply chains. The search strategy used Boolean operators (AND and OR) to combine keywords relating to last-mile delivery, last-mile logistics, delivery performance, customer trust, customer satisfaction, e-commerce, delivery reliability, and delivery service quality. The Boolean search strings used were "last-mile delivery" AND "customer trust", and ("last-mile delivery" OR "last-mile logistics") AND ("customer trust" OR "customer satisfaction"). The searches were conducted on 20 April 2026.

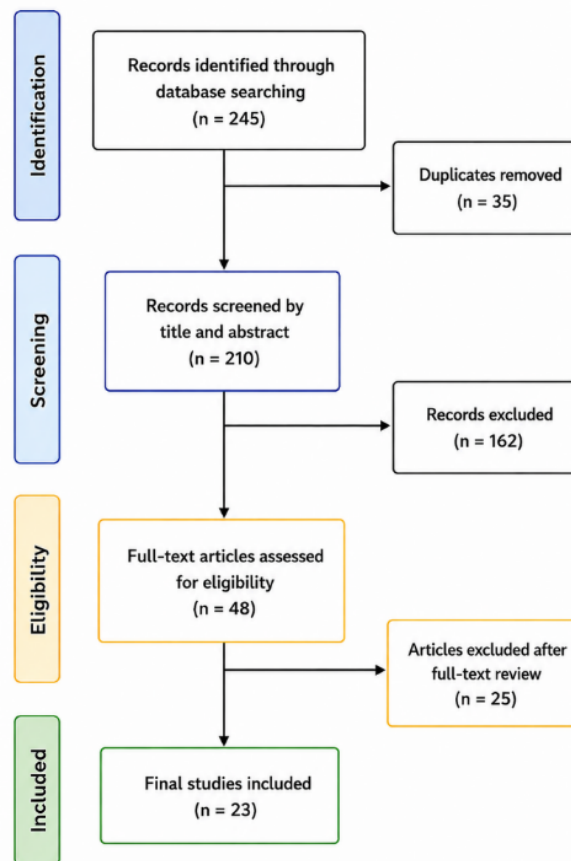
Studies were included if they met the following criteria: (a) published in a peer-reviewed academic journal or peer-reviewed conference proceedings; (b) written in the English language; (c) published between January 2015 and April 2026; (d) reported empirical, conceptual, or review evidence directly addressing last-mile delivery performance, e-logistics service quality, or related delivery dimensions in relation to customer trust, satisfaction, or loyalty within an e-commerce or online retail context; and (e) available in full text. Studies were excluded if they: (a) were not peer-reviewed (including theses, unreviewed working papers, and non-academic industry reports); (b) addressed logistics or supply chain performance without reference to customer trust, satisfaction, or loyalty outcomes; (c) focused exclusively on first-mile or mid-mile logistics, warehousing, or inventory management without a last-mile delivery component; (d) were duplicate records or duplicate reports of the same dataset; or (e) could not be retrieved in full text through the institutional access available to the authors.

It is acknowledged that restricting the search to a single database, Google Scholar, is a limitation of this review, since structured academic databases such as Scopus, Web of Science, and EBSCOhost offer more systematic indexing, controlled vocabularies, and advanced filtering capabilities that reduce the risk of selection bias. Google Scholar was selected for its broad indexing coverage across publishers and disciplines, which suited the interdisciplinary scope of this review, and the explicit inclusion and exclusion criteria above were applied to mitigate this limitation by ensuring that screening decisions were consistent, transparent, and reproducible. Nonetheless, this single-database approach means that some relevant studies indexed exclusively in subscription databases may not have been captured, and this constraint is revisited in the concluding section as a priority for methodological improvement in future reviews of this literature.

Screening followed the PRISMA framework through identification, duplicate removal, title and abstract screening, full-text eligibility assessment, and final inclusion (Page et al., 2021). The search identified 245 records; 35

duplicates were removed, leaving 210 records for title and abstract screening. Following screening against the eligibility criteria above, 162 records were excluded, 48 full-text articles were assessed for eligibility, and 25 were subsequently excluded, most commonly for lacking an explicit customer trust, satisfaction, or loyalty outcome, resulting in 23 studies being included in the qualitative synthesis. The full PRISMA flow diagram is presented in Figure 1.

Figure 1: PRISMA Flow Diagram



Source: Developed by the author

No geographical restriction was applied during the search; however, none of the studies that satisfied the final inclusion criteria was conducted in Nigeria or Sub-Saharan Africa, revealing an important geographical gap in the available evidence. A structured data extraction process was used to ensure consistency, accuracy, and transparency across the selected studies (Snyder, 2019). A standardised template captured study characteristics, methodologies, theoretical frameworks, delivery-performance dimensions, customer outcomes, findings, limitations, and information relevant to thematic coding. The extracted data supported comparisons and the identification of recurring concepts, methodological differences, geographical patterns, and research gaps. Thematic analysis was subsequently employed to synthesise the evidence using the six stages proposed by Braun and Clarke (2006): familiarisation, coding, theme development, review, definition, and interpretation. The analysis generated themes concerning delivery performance, operational challenges, customer responses, trust outcomes, and organisational trust-building strategies.

5. Results and Discussion

Table 1: Summary of Selected Studies

No.	Author(s) & Year	Study Context	Methodology	Key Findings
1	Aljohani (2024)	Saudi Arabia online retail customers	Machine learning classification and regression models	Delivery quality and reliability strongly predict customer satisfaction and future behavioural intentions.
2	Aqabneh (2025)	Palestine, e-commerce logistics services	Quantitative survey; SEM	Higher e-logistics service quality significantly improves customer satisfaction and strengthens loyalty intentions.
3	Asawawibul et al. (2025)	Thailand e-commerce logistics	Quantitative survey; SEM	Transportation performance and logistics service quality significantly increase customer satisfaction.
4	Briana & Malindretos (2025)	Greece e-logistics consumers	Quantitative empirical study	Delivery delays reduce customer satisfaction, loyalty, and trust toward online retailers.
5	Escudero-Santana et al. (2022)	Spain e-commerce distribution systems	Quantitative modelling	Flexible delivery windows and alternative delivery locations improve customer experience and trust.
6	Huyen (2025)	Hai Phong City, Vietnam	Customer survey; SEM	Delivery reliability is the strongest predictor of customer satisfaction with last-mile delivery services.
7	Jain, Gajjar & Shah (2021)	Central India e-tailing logistics	Cross-sectional survey; CB-SEM	Electronic logistics service quality significantly improves shopping satisfaction, leading to stronger repurchase intention.
8	Kawa & Zdrenka (2024)	Poland B2C e-commerce	Structural Equation Modelling (SEM)	Customer trust partially mediates the relationship between logistics value creation and customer loyalty.
9	Kumar et al. (2025)	India organic food e-commerce	Cross-sectional survey; PLS-SEM	Efficient last-mile logistics increase perceived trust and willingness to pay for products purchased online.
10	Lim & Srai (2018b)	United States omnichannel retailing	Supply network analysis	Well-designed last-mile distribution networks improve delivery performance and customer confidence.
11	Monoarfa et al. (2024)	Jakarta fresh produce e-commerce	Cross-sectional survey; CB-SEM	E-logistics service quality enhances customer satisfaction and continuance intention through improved delivery performance and logistics information quality.
12	Ngo et al. (2025)	Vietnam Generation Z e-commerce	Structural Equation Modelling (SEM)	Logistics service quality significantly predicts customer trust, loyalty, and repurchase intention.
13	Paulo, Oliveira & Farisa (2019)	Indonesia online retail	Quantitative survey; SEM	E-service quality positively affects customer satisfaction, which subsequently strengthens customer loyalty.
14	Shamout et al. (2024)	Australia Amazon last-mile logistics ecosystem	Case study	Real-time tracking, communication, and digital logistics technologies improve customer trust and delivery experience.
15	Sharma et al. (2025)	India e-commerce last-mile logistics	Industry modelling study	Industry 4.0 technologies enhance logistics transparency, efficiency, and customer trust.

No.	Author(s) & Year	Study Context	Methodology	Key Findings
16	Şişman & Demirci Orel (2025)	Turkey B2C e-commerce	Cross-sectional survey; SEM	Supply chain agility and logistics service quality positively influence customer satisfaction and repurchase intention.
17	Tandon, Kiran & Sah (2017)	Indian online shopping	Quantitative survey; SEM	Website quality, logistics fulfilment, and service quality are significant determinants of customer satisfaction in e-commerce.
18	Trung, Xuan & Thanh (2025)	Mekong Delta, Vietnam	Quantitative survey	Last-mile logistics service quality significantly improves customer satisfaction and the online shopping experience.
19	Vakulenko et al. (2019)	Sweden online retail customers	Survey analysis	Last-mile delivery quality mediates the relationship between the online retail experience and customer satisfaction.
20	Vu & Nguyen (2025)	Vietnam Generation Z e-commerce	Quantitative survey; SEM	E-logistics service quality positively influences customer attitudes, trust, and continued purchase intention.
21	Asdecker (2021)	Germany: alternative last-mile delivery locations	Consumer survey	Consumers prefer delivery options that maximise convenience, flexibility, security, and trust.
22	Rashid & Rasheed (2024)	Pakistan e-commerce logistics services	Quantitative survey; PLS-SEM	Logistics service quality positively influences product satisfaction, resulting in greater customer loyalty.
23	Salazar & Perez Castañeda (2025)	Metropolitan Lima, Peru	Quantitative survey; SEM	User experience and customer trust significantly enhance customer satisfaction, which in turn positively influences customer loyalty toward last-mile delivery service providers.

Source: Author's compilation

Following the application of the inclusion and exclusion criteria and the PRISMA screening process, 23 peer-reviewed articles were selected for the final analysis. The 23 studies represented 16 distinct national contexts: Saudi Arabia, Palestine, Thailand, Greece, Spain, Vietnam, India, Poland, the United States, Indonesia, Australia, Turkey, Sweden, Germany, Pakistan, and Peru. Various research methodologies were employed, including quantitative surveys, Structural Equation Modelling (SEM), cross-sectional surveys, Partial Least Squares Structural Equation Modelling (PLS-SEM), case studies, machine learning models, supply network analysis, and quantitative modelling. Nearly all of the included studies relied on quantitative, survey-based designs; only one (Shamout et al., 2024) adopted a qualitative case-study approach, and none used mixed-methods or longitudinal designs. This methodological concentration is itself a limitation of the underlying evidence base rather than of the present review alone, since a predominantly quantitative, cross-sectional literature can establish statistical association between delivery performance and trust but offers comparatively little insight into the lived, subjective experience of trust formation and erosion, or into how trust changes over successive delivery interactions over time. Despite this methodological homogeneity, the studies consistently examined the relationship between last-mile delivery performance, logistics service quality, customer trust, customer satisfaction, customer loyalty, and innovation in e-commerce logistics.

To facilitate systematic synthesis, the selected studies were subjected to an inductive coding process. Statements and findings relevant to the research objectives were extracted and assigned initial codes according to their conceptual meaning. Recurring concepts included delivery reliability, service quality, delivery timeliness, delivery flexibility, communication quality, tracking visibility, trust erosion, and customer trust (Aljohani, 2024; Asawawibul et al., 2025; Asdecker, 2021; Escudero-Santana et al., 2022; Shamout et al., 2024; Briana &

Malindretos, 2025; Ngo et al., 2025; Kawa & Zdrenka, 2024). These codes established the analytical foundation for subsequent category and theme development. To improve analytical consistency, a comprehensive codebook defined each code, including delivery timeliness, delivery reliability, tracking visibility, communication quality, delivery flexibility, customer confidence, customer satisfaction, customer loyalty, repurchase intention, failed deliveries, delivery delays, product damage, trust erosion, and responsiveness. The codebook ensured that concepts were interpreted consistently throughout the thematic analysis and strengthened the transparency of the review process. The individual codes were subsequently aggregated into five broader analytical categories: delivery performance, delivery transparency, trust outcomes, operational challenges, and trust-building practices, which simplified the analysis by consolidating conceptually related findings and formed the basis for the development of the final themes.

5.1 Delivery Performance as a Driver of Customer Trust

The thematic analysis produced five principal themes that collectively explain how last-mile delivery performance influences customer trust within e-commerce supply chains. The first, delivery performance as a driver of customer trust, emerged as the dominant finding across the reviewed literature. Delivery reliability was consistently identified as the strongest determinant of customer trust: customers who consistently receive products accurately, on time, and in good condition develop greater confidence in both retailers and logistics providers. Studies by Huyen (2025) and Ngo et al. (2025) demonstrated that reliable delivery services strengthen long-term customer relationships by increasing confidence and reducing uncertainty, while Aljohani (2024) and Asawawibul et al. (2025) found that high-quality logistics services significantly improve customer satisfaction and encourage favourable behavioural intentions. The consistency of this finding across sixteen national contexts and multiple methodological traditions strengthens confidence in reliability as the central trust antecedent, even though the underlying studies rely almost exclusively on cross-sectional survey data and cannot establish the direction of causality with certainty.

5.2 Delivery Transparency and Visibility

The second theme, delivery transparency and visibility, highlights the importance of providing customers with accurate, timely, and accessible delivery information. Across the reviewed studies, transparency reduced customer uncertainty by enabling continuous monitoring of order progress. Shamout et al. (2024) reported that real-time communication and tracking technologies substantially improve customer confidence by keeping customers informed throughout the fulfilment process, and the review further indicates that customers increasingly expect detailed notifications regarding order status, estimated delivery times, and potential service disruptions.

5.3 Customer Trust Outcomes

The third theme, customer trust outcomes, demonstrates that positive delivery experiences generate several favourable organisational outcomes. The reviewed studies consistently associated effective delivery performance with increased customer confidence, satisfaction, loyalty, and stronger repurchase intentions. Kawa and Zdrenka (2024), Ngo et al. (2025), and Salazar and Perez Castañeda (2025) concluded that reliable and transparent delivery services positively influence customers' evaluations of organisational competence and service quality, and as trust develops, customers become more likely to remain loyal, continue purchasing from the same retailer, and establish long-term relationships. These findings demonstrate that customer trust functions as both an immediate outcome of successful delivery performance and a mechanism supporting sustainable competitive advantage.

5.4 Operational Challenges Affecting Trust

The fourth theme, operational challenges affecting trust, identifies the principal delivery-related problems that weaken customer confidence. Delivery delays emerged as the most frequently reported operational challenge; Briana and Malindretos (2025) demonstrated that delays reduce customer satisfaction, loyalty, and trust by creating discrepancies between promised and actual delivery performance. Failed deliveries were similarly identified as a significant source of customer dissatisfaction because unsuccessful delivery attempts increase inconvenience and create perceptions of operational inefficiency, while product damage also undermines customer confidence by reducing perceptions of reliability and service quality.

5.5 Trust-Building Strategies

The fifth theme, trust-building strategies, focuses on organisational practices that strengthen customer trust through improved delivery performance. One of the most widely adopted strategies is the implementation of real-time tracking systems; Shamout et al. (2024) found that digital tracking technologies enhance transparency and provide customers with continuous visibility throughout the fulfilment process. Proactive communication also emerged as a critical trust-building practice because it enables organisations to inform customers about delivery progress and respond effectively to unexpected service disruptions. Asdecker (2021) and Escudero-Santana et al. (2022) further reported that flexible delivery options, including alternative delivery locations and flexible delivery windows, significantly improve convenience and customer satisfaction, while Sharma et al. (2025) demonstrated that Industry 4.0 technologies improve logistics transparency, operational efficiency, and customer confidence, and responsive customer service strengthens trust by resolving delivery-related concerns promptly and effectively.

5.6 Synthesis and Geographical Limitations of the Evidence

The selected studies broadly agree that delivery reliability, timeliness, communication, tracking visibility, and flexibility positively influence customer outcomes. However, the findings suggest that reliability and transparency may be more important than speed alone, as customers value accurate information and consistent fulfilment over sheer velocity. Studies also consistently show that delays, failed deliveries, and damaged products weaken satisfaction, loyalty, and customer confidence, and this convergence across sixteen national contexts lends reasonable confidence to these relationships as general patterns. The evidence is nevertheless geographically concentrated in contexts such as Saudi Arabia, Vietnam, Poland, and other markets with comparatively developed logistics and addressing infrastructure. Since none of the selected studies examined Nigeria or Sub-Saharan Africa, and since none employed a qualitative or longitudinal design capable of capturing how trust develops or erodes over time, the findings cannot be directly generalised to infrastructure-constrained Nigerian e-commerce environments, and any application of these relationships to that context should be treated as a proposition for empirical testing rather than an established conclusion.

6. Conclusion

This study systematically reviewed the relationship between last-mile delivery performance and customer trust within e-commerce supply chains by synthesising evidence from logistics, supply chain management, marketing, and e-commerce research. The review demonstrates that last-mile delivery is not merely an operational activity but a strategic determinant of customer trust and long-term organisational success. Among the various dimensions of delivery performance, delivery reliability emerged as the most influential factor affecting customer trust, followed by delivery timeliness, communication quality, tracking visibility, delivery flexibility, and service responsiveness. Customers largely evaluate the trustworthiness of online retailers and logistics providers through their delivery experiences: reliable, timely, and consistent delivery services enhance customer confidence, satisfaction, loyalty, and repurchase intentions, whereas operational failures erode trust and weaken customer relationships. The review also identified key trust-building strategies adopted by organisations, including the use of real-time tracking technologies, proactive communication, flexible delivery options, advanced logistics systems, and effective service recovery practices, all of which contribute to improved customer experiences and stronger trust.

7. Practical Recommendations and Policy Implications for Nigeria

Because none of the studies synthesised in this review were conducted in Nigeria or Sub-Saharan Africa, the recommendations below are offered as a proposed, hypothesis-generating framework for improving last-mile delivery performance and customer trust in Nigeria, rather than as direct, evidence-based conclusions drawn from the reviewed data. Given Nigeria's distinctive infrastructural, addressing, and payment-system characteristics, each proposal requires local empirical validation before it is adopted as policy or operational guidance. Subject to that caveat, the reviewed evidence suggests a phased approach. In the immediate term, e-commerce firms and logistics providers could plausibly benefit from improving delivery-time communication, monitoring failed deliveries, establishing service-performance standards, and strengthening customer-service procedures. In the short to medium term, priorities might reasonably include enhancing tracking visibility, address verification, and flexible delivery and collection options. Over the longer term, logistics providers could explore data-driven delivery-risk management, while policymakers could consider improvements to addressing, transport, and logistics infrastructure. If the global pattern identified in this review holds in the Nigerian context, customer trust would be best understood as the outcome of consistent, transparent, reliable, and responsive delivery performance rather than of isolated improvements in delivery speed alone, and sustainable trust would require coordinated action among e-commerce firms, logistics providers, technology providers, and public institutions, with operational improvements, effective communication, technological capabilities, and institutional support developing simultaneously. These propositions should be treated as a research and policy agenda to be tested, not as findings already established for Nigeria.

Future research should prioritise empirical investigation within Nigeria and Sub-Saharan Africa more broadly, particularly examining the effects of infrastructure, addressing systems, payment preferences, and logistics capacity on the delivery-trust relationship identified in this review. Longitudinal studies could examine how repeated delivery experiences influence trust over time, addressing the cross-sectional limitation of the studies synthesised here. Further research should also distinguish satisfaction, trust, loyalty, and repurchase intention as related but conceptually distinct outcomes, evaluate the role of artificial intelligence and predictive analytics in last-mile logistics, and test practical interventions such as collection points, flexible delivery, improved addressing, digital payments, and enhanced customer communication within the Nigerian context specifically. Future reviews of this literature would also benefit from a multi-database search strategy incorporating Scopus, Web of Science, or EBSCOhost alongside Google Scholar, to reduce the selection-bias risk associated with reliance on a single indexing source.

References

- Agatz, N. A., Fleischmann, M., & Van Nunen, J. A. (2008). E-fulfilment and multi-channel distribution: A review. *European Journal of Operational Research*, 187(2), 339–356.
- Aljohani, K. (2024). The role of last-mile delivery quality and satisfaction in online retail experience: An empirical analysis. *Sustainability*, 16(11), 4743.
- Aqabneh, M. I. (2025). The impact of e-logistics service quality on customer satisfaction, trust building, and customer loyalty among e-shoppers in Palestine. *Journal of Management World*, 1, 581–590. <https://doi.org/10.53935/jomw.v2024i4.743>
- Asawawibul, S., Na-Nan, K., Pinkajay, K., Jaturat, N., Kittichotsatsawat, Y., & Hu, B. (2025). The influence of cost on customer satisfaction in e-commerce logistics: Mediating roles of service quality, technology usage, transportation time, and production condition. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(1), 100482.
- Asdecker, B. (2021). Building the e-commerce supply chain of the future: What influences consumer acceptance of alternative places of delivery on the last-mile. *Logistics*, 5(4), 90.
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351–370. <https://doi.org/10.2307/3250921>
- Boysen, N., Fedtke, S., & Schwerdfeger, S. (2020). Last-mile delivery concepts: A survey from an operational research perspective. *OR Spectrum*, 43(1), 1–58. <https://doi.org/10.1007/s00291-020-00607-8>

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Briana, M., & Malindretos, G. (2025). The clock is ticking: A quantitative study of consumer expectations in last-mile e-logistics. *Global Business Review*, Article 09721509251391532.
- Christopher, M. (2016). *Logistics and supply chain management* (5th ed.). Pearson.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.
- Cronin, J. J., Jr., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(3), 55–68.
- Denyer, D., & Tranfield, D. (2009). Producing a systematic review. In D. Buchanan & A. Bryman (Eds.), *The Sage handbook of organizational research methods* (pp. 671–689). Sage.
- Escudero-Santana, A., Muñozuri, J., Lorenzo-Espejo, A., & Muñoz-Díaz, M. L. (2022). Improving e-commerce distribution through last-mile logistics with multiple possibilities of deliveries based on time and location. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(2), 507–521. <https://doi.org/10.3390/jtaer17020027>
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. <https://doi.org/10.2307/30036519>
- Hiebl, M. R. (2023). Sample selection in systematic literature reviews of management research. *Organizational Research Methods*, 26(2), 229–261.
- Hossain, M. A., & Quaddus, M. (2011). Expectation-confirmation theory in information system research: A review and analysis. In Y. K. Dwivedi, M. R. Wade, & S. L. Schneberger (Eds.), *Information systems theory: Explaining and predicting our digital society* (Vol. 1, pp. 441–469). Springer. https://doi.org/10.1007/978-1-4419-6108-2_21
- Hubner, A. H., Kuhn, H., & Wollenburg, J. (2016). Last mile fulfilment and distribution in omni-channel grocery retailing: A strategic planning framework. *International Journal of Retail & Distribution Management*, 44(3), 228–247. <https://doi.org/10.1108/IJRDM-11-2014-0154>
- Huyen, L. T. (2025). Factors influencing customer satisfaction with last-mile delivery services in e-commerce: Empirical evidence from Hai Phong City. *Advances in Consumer Research*, 2(6).
- Jain, N. K., Gajjar, H., & Shah, B. J. (2021). Electronic logistics service quality and repurchase intention in e-tailing: Catalytic role of shopping satisfaction, payment options, gender and returning experience. *Journal of Retailing and Consumer Services*, 59, 102360.
- Kawa, A., & Zdrenka, W. (2024). Logistics value in e-commerce and its impact on customer satisfaction, loyalty and online retailers' performance. *The International Journal of Logistics Management*, 35(2), 577–600. <https://doi.org/10.1108/IJLM-02-2023-0078>
- Kim, D. J. (2012). An investigation of the effect of online consumer trust on expectation, satisfaction, and post-expectation. *Information Systems and e-Business Management*, 10(2), 219–240. <https://doi.org/10.1007/s10257-010-0136-2>
- Kumar, V., Sindhwani, R., Zhang, J. Z., & Gaur, J. (2025). Optimizing short food supply chains through understanding consumer preferences for organic foods via e-commerce platforms and last-mile logistics. *British Food Journal*, 127(5), 1788–1809.
- Laudon, K. C., & Traver, C. G. (2023). *E-commerce: Business, technology, society* (17th ed.). Pearson.
- Lim, S. F. W., & Srai, J. S. (2018a). Consumer-driven e-commerce: A literature review, design framework, and research agenda on last-mile logistics models. *International Journal of Physical Distribution & Logistics Management*, 48(3), 308–332.
- Lim, S. F. W., & Srai, J. S. (2018b). Examining the anatomy of last-mile distribution in e-commerce omnichannel retailing: A supply network configuration approach. *International Journal of Operations & Production Management*, 38(9), 1735–1764.
- Mangiaracina, R., Perego, A., Seghezzi, A., & Tumino, A. (2019). Innovative solutions to increase last-mile delivery efficiency in B2C e-commerce: A literature review. *International Journal of Physical Distribution & Logistics Management*, 49(9), 901–920.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734.
- McKnight, D. H., & Chervany, N. L. (2001). What trust means in e-commerce customer relationships: An interdisciplinary conceptual typology. *International Journal of Electronic Commerce*, 6(2), 35–59.

<https://doi.org/10.1080/10864415.2001.11044235>

- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13(3), 334–359. <https://doi.org/10.1287/isre.13.3.334.81>
- Monoarfa, T. A., Sumarwan, U., Suroso, A. I., & Wulandari, R. (2024). The crucial role of e-logistic service quality to integrated theories to predict continuance intention on fresh produce e-commerce. *Cogent Business & Management*, 11(1), Article 2379569.
- Ngo, T. T. A., An, G. K., Dao, D. K., Nguyen, N. Q. N., Nguyen, N. Y. V., & Phong, B. H. (2025). Roles of logistics service quality in shaping generation Z customers' repurchase intention and electronic word of mouth in e-commerce industry. *PLOS ONE*, 20(5), Article e0323962.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hrobjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, Article n71. <https://doi.org/10.1136/bmj.n71>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Paulo, R., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon*, 5(10), Article e02690.
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101–134.
- Ramanathan, R. (2010). The moderating roles of risk and efficiency on the relationship between logistics performance and customer loyalty in e-commerce. *Transportation Research Part E: Logistics and Transportation Review*, 46(6), 950–962. <https://doi.org/10.1016/j.tre.2010.02.002>
- Rashid, D. A., & Rasheed, D. R. (2024). Logistics service quality and product satisfaction in e-commerce. *SAGE Open*, 14(1).
- Salazar, P. L. F., & Perez Castañeda, R. G. (2025). Impact of user experience and trust on satisfaction and their effect on loyalty in last-mile delivery services within electronic commerce in Metropolitan Lima, 2025. *GECONTEC: Revista Internacional de Gestión del Conocimiento y la Tecnología*, 13(2).
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson.
- Shamout, M. D., Alzoubi, H. M., Elrehail, H., Itani, R., Al-Gasaymeh, A., & Farouk, M. (2024, February). Streamlining e-commerce and last-mile delivery for enhanced customer satisfaction: An in-depth analysis of Amazon's strategies. In *2024 2nd International Conference on Cyber Resilience (ICCR)* (pp. 1–8). IEEE. <https://doi.org/10.1109/ICCR61006.2024.10532856>
- Sharma, V. P., Prakash, S., Singh, R., Ojha, R., & Ramtiyal, B. (2025). Strategic insights into last-mile delivery: Modelling the industry 4.0 enabler for e-commerce industry. *RAUSP Management Journal*, 60(1), 143–168. <https://doi.org/10.1108/RAUSP-07-2024-0146>
- Şişman, G., & Demirci Orel, F. (2025). The impact of e-commerce supply chain agility and logistics service quality on repurchase intention in a business-to-consumer context: Evidence from an emerging market. *The International Journal of Logistics Management*, 36(4), 1301–1325.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Tandon, U., Kiran, R., & Sah, A. (2017). Analyzing customer satisfaction: Users' perspective towards online shopping. *Nankai Business Review International*, 8(3), 266–288.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222.
- Trung, C. T., Xuan, T. P. T., & Thanh, H. T. (2025). The impact of last-mile delivery logistics service quality factors on customer loyalty: The case of online shopping in the Mekong Delta region. *International Journal of Business and Society*, 26(2), 793–805.
- UNCTAD. (2024). *Digital economy report 2024*. United Nations Conference on Trade and Development. <https://unctad.org/publication/digital-economy-report-2024>

- Vakulenko, Y., Shams, P., Hellström, D., & Hjort, K. (2019). Online retail experience and customer satisfaction: The mediating role of last mile delivery. *The International Review of Retail, Distribution and Consumer Research*, 29(3), 306–320.
- Vu, T. P., & Nguyen, D. T. (2025). The links between e-logistics service quality, attitude and repurchase intention of Gen Z in e-commerce. *Journal of Trade Science*, 13(2), 87–109.