

E-Commerce Growth and Its Impact on Logistics Performance, Service Quality, and Customer Experience in Indonesia

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ABSTRACT

Objectives: This study aims to analyze the impact of e-commerce growth on logistics performance, service quality, and customer experience in Indonesia. Based on Service-Dominant Logic (SDL), this study explores the role of logistics capabilities in creating customer value amidst the rapid growth of the digital commerce ecosystem.

Methodology: The study employed a mixed-methods explanatory design. Quantitative data were collected from 150 e-commerce consumers and analyzed using AMOS-based Structural Equation Modeling (SEM). Qualitative data were obtained through interviews with logistics practitioners to strengthen and validate the quantitative results.

Findings: The findings indicate that e-commerce growth has a significant positive effect on logistics performance. Logistics performance has also been shown to improve service quality, and service quality has a positive impact on customer experience. Furthermore, service quality mediates the relationship between logistics performance and customer experience. This indicates that operational capabilities create customer value through service perceptions.

Conclusion: Qualitative results highlight the importance of last-mile delivery innovation, transparency, responsiveness, and service recovery in building trust and customer experience. This study adds to the SDL literature by demonstrating that logistics performance is a strategic resource whose value is realized through service quality. These findings are also relevant for e-commerce companies and logistics providers in emerging digital markets.

Keywords: E-Commerce Growth; Logistics Performance; Service Quality; Customer Experience; Service.

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INTRODUCTION

According to Teece (2018), firms that possess dynamic capabilities are better positioned to reconfigure resources and business models in response to changing market conditions. In the era of digital commerce, logistics capabilities have become a strategic advantage. With these capabilities, companies can adaptably meet rising consumer expectations and navigate market complexities. Economic growth in developing countries like Indonesia is largely driven by digital commerce. Supporting factors include expanding internet access, widespread smartphone use, and the development of digital payment systems. Indonesia, the largest digital market in Southeast Asia, has seen a significant surge in online transactions over the past 10 years. Consequently, consumer demands for speed, accuracy, transparency, and responsiveness in delivery services are increasing. This makes logistics services a crucial role in shaping the overall customer experience.

Indonesia faces unique logistics challenges due to its archipelagic geography and uneven infrastructure development. According to the World Bank (2023), logistics efficiency remains a critical factor affecting national competitiveness and digital economic growth. Consequently, improving logistics performance has become increasingly important for supporting the sustainability of Indonesia's rapidly growing e-commerce ecosystem. In the modern digital ecosystem, logistics has evolved from a mere supporting operational service to a key strategic driver. Instead, logistics performance has become an essential strategic capability that directly influences customer perceptions, satisfaction, and loyalty. Marketing 5.0 emphasizes the use of advanced technologies to create human-centered value and enhance customer experiences (Kotler, Kartajaya, & Setiawan, 2021). In digital commerce environments, organizations increasingly leverage technology to improve service quality, optimize logistics processes, and deliver personalized customer experiences. The effectiveness of delivery services, order accuracy, shipment visibility, and service recovery mechanisms increasingly determine how customers evaluate e-commerce platforms and associated brands. Consequently, understanding the relationship between e-commerce growth, logistics performance, service quality, and customer experience has become an important area of inquiry in both marketing and logistics research.

The theoretical framework that serves as the primary reference in this research is Service-Dominant Logic (SDL). According to Vargo and Lusch (2008), value is not created solely by firms but is co-created through interactions among multiple actors, including service providers and customers. In the e-commerce ecosystem, the interaction between digital platforms, logistics providers, technology, and consumers throughout the purchase and delivery chain is the primary source of customer value creation. Therefore, logistics services should be viewed not merely as distribution activities but as service encounters that contribute directly to customer value creation and overall experience.

Within the SDL perspective, logistics performance represents an important operant resource that enables firms to deliver superior service experiences. Customers rarely evaluate operational performance directly; instead, they assess the quality of services generated from operational activities. As a result, service quality plays a crucial role in connecting logistics performance and customer experience. This framework conceptually explains how operational capabilities translate into customer value in the digital commerce era. Although previous studies have investigated various aspects of e-commerce logistics, several important research gaps remain.

First, existing studies predominantly examine logistics performance from operational or supply chain perspectives, emphasizing efficiency, delivery optimization, and cost reduction. Second, many studies investigate service quality and customer satisfaction independently

without integrating logistics performance into a comprehensive customer experience framework. Customer satisfaction and customer experience have become central objectives of contemporary marketing strategies. Kotler and Keller (2016) argue that organizations create competitive advantage by delivering superior value and consistently meeting customer expectations throughout the customer journey. Third, empirical studies that simultaneously examine the relationships among e-commerce growth, logistics performance, service quality, and customer experience within emerging markets remain limited.

Finally, despite Indonesia's unique geographical characteristics as an archipelagic country, relatively few studies have explored how logistics capabilities contribute to customer experience in this context. The Indonesian context offers a particularly valuable setting for this investigation. As an archipelagic nation with more than seventeen thousand islands and varying levels of infrastructure development, Indonesia faces significant logistics challenges related to transportation connectivity, distribution efficiency, and last-mile delivery performance. Concurrently, the rapid expansion of e-commerce has triggered a surge in demand for reliable logistics services across a wide range of geographic regions. This creates a unique environment that positions logistics performance and service quality as critical elements in determining the customer experience.

From a theoretical perspective, this study contributes to the growing literature on Service-Dominant Logic, specifically by examining how service quality mediates the relationship between logistics performance and customer experience. Although a core tenet of SDL is value co-creation through service interactions, empirical studies on the contribution of logistics capabilities to realizing this process in emerging digital markets are still very limited. By incorporating logistics performance as a strategic antecedent of customer experience, this study extends SDL into the context of e-commerce logistics and customer value creation.

Practically, the results of this study offer important references for e-commerce players, logistics service providers, and policymakers aiming to improve service quality and customer satisfaction. By understanding the contribution of logistics performance to customer experience, organizations will be better able to develop customer-centric logistics strategies, differentiate their services, and strengthen their competitive position in the digital economy. Marketing 5.0 emphasizes the integration of advanced technologies and human-centered approaches to create superior customer value (Kotler, Kartajaya, & Setiawan, 2021). Within e-commerce environments, digital technologies enable firms to enhance service quality, personalize customer interactions, and improve overall customer experience.

Referring to the theoretical and empirical gaps found, this study formulates several research questions as follows:

RQ1: To what extent does the development of e-commerce impact logistics performance in the Indonesian context?

RQ2: To what extent does logistics performance influence service quality in e-commerce logistics services?

RQ3: To what extent does service quality influence customer experience in the Indonesian e-commerce context?

RQ4: To what extent does service quality act as a mediating variable in the relationship between logistics performance and customer experience?

Accordingly, this study seeks to examine how the growth of e-commerce affects logistics performance, service quality, and customer experience in Indonesia by applying both quantitative and qualitative approaches simultaneously. This study combines quantitative data from SEM with qualitative insights from logistics players to produce a complete picture of customer value creation in the rapidly expanding digital commerce landscape.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Service-Dominant Logic (SDL) as Grand Theory

This study is grounded in Service-Dominant Logic (SDL), which views value as being co-created through interactions among multiple actors rather than being embedded solely within products or organizational outputs (Vargo & Lusch, 2008). SDL emphasizes that customers actively participate in value creation processes through service interactions occurring throughout the customer journey.

Service-Dominant Logic continues to evolve as a foundational perspective in contemporary marketing and service research. Vargo and Lusch (2017) emphasize that value creation increasingly occurs within interconnected service ecosystems where multiple actors collaboratively integrate resources and competencies. Within the e-commerce ecosystem, customer value emerges through multi-party collaboration that brings together the roles of e-commerce platforms, logistics providers, the use of digital technology, and consumer participation. Therefore, logistics performance should be viewed as a strategic service resource that facilitates value co-creation rather than merely an operational function.

In the e-commerce environment, the logistics service aspect is one of the main and most determining service contacts in the relationship between business actors and customers. Delivery reliability, shipment visibility, responsiveness, and service recovery shape customer perceptions regarding service quality and ultimately determine customer experience. Therefore, logistics performance should not be viewed solely as an operational outcome but as an important service resource contributing to value co-creation.

Akaka, Vargo, and Lusch (2013) extend SDL through the service ecosystem perspective, emphasizing that value creation occurs within interconnected networks of actors, technologies, and institutions. In e-commerce settings, customers, logistics providers, and digital platforms collectively participate in value co-creation processes that shape customer experiences. SDL further suggests that operational capabilities generate customer value only when they are translated into meaningful service experiences. Consequently, service quality becomes a key link between logistics performance and customer experience outcomes. This theoretical framework is then used as a basis for formulating a conceptual model in research.

Research Gap Analysis

Although the topics of e-commerce, logistics, and customer experience have been extensively researched, the current literature does not fully address several important issues.

Table 1. Research Gap Analysis

Authors	Research Focus	Main Findings	Research Gap
Hübner et al. (2016)	Omnichannel distribution systems	Logistics supports distribution efficiency	Customer experience not examined
Lim et al. (2018)	E-commerce growth and logistics challenges	E-commerce increases logistics complexity	Service quality not incorporated
Blut et al. (2015)	E-service quality and customer satisfaction	Service quality influences customer satisfaction	Logistics performance not included
Vakulenko et al. (2019)	Last-mile delivery and customer value	Delivery quality affects customer perceptions	No integrated SDL framework
Singh & Jain (2021)	Logistics service quality and customer satisfaction	Logistics quality influences satisfaction	Customer experience not investigated comprehensively
Present Study	E-commerce Growth → Logistics Performance	Integrated model using SDL perspective	Addresses theoretical and empirical gaps in

Authors	Research Focus	Main Findings	Research Gap
	→ Service Quality → Customer Experience		emerging markets

Based on Table 1, previous studies have largely investigated logistics performance, service quality, and customer satisfaction separately. Limited empirical evidence exists regarding the integrated mechanism through which e-commerce growth enhances logistics performance, improves service quality, and ultimately creates superior customer experiences. Furthermore, studies applying Service-Dominant Logic in e-commerce logistics within emerging markets remain relatively scarce. Thus, this research is present to close this gap by formulating and testing an integrated conceptual framework specifically for the Indonesian context.

E-Commerce Growth and Logistics Performance

The retail paradigm shift from multi-channel to omni-channel has revolutionized organizations' approach to building relationships with customers. According to Verhoef, Kannan, and Inman (2015), customer expectations for seamless integration between physical and digital channels continue to rise. This situation requires companies to improve their logistics capabilities and service quality to create a better customer experience. E-commerce growth refers to the expansion of online commercial activities reflected in increasing transaction volume, digital platform utilization, and customer demand. As e-commerce markets expand, firms face increasing pressure to improve delivery speed, order fulfillment accuracy, inventory management, and logistics responsiveness. Laudon and Traver (2023) define e-commerce as digitally enabled commercial transactions conducted between organizations and consumers through internet-based platforms. The continued expansion of e-commerce has transformed customer purchasing behavior and increased expectations regarding delivery speed, convenience, and service responsiveness.

According to SDL, increasing customer interactions create greater demands on organizational resources and service delivery systems. Consequently, firms must strengthen logistics capabilities to maintain service effectiveness and customer value creation. Previous studies indicate that rapid growth in e-commerce transactions significantly influences logistics operations by increasing delivery volume, expanding distribution networks, and requiring higher operational efficiency (Hübner et al., 2016; Lim et al., 2018). Laudon and Traver (2023) define e-commerce as digitally enabled commercial transactions conducted through internet-based platforms that facilitate the exchange of products, services, and information. The ongoing development of e-commerce is not only changing consumer behavior, but also making organizations increasingly dependent on the efficiency of logistics systems and services.

Thus, the formulation of the hypothesis in this study is as follows:

H1: Logistics performance is positively and significantly influenced by the growth of e-commerce.

Logistics Performance and Service Quality

Esper et al. (2020) emphasize that last-mile delivery represents one of the most critical components of logistics performance in online retailing. Delivery speed, reliability, and convenience significantly influence customer perceptions and ultimately affect overall customer experience. Consequently, logistics performance has become an essential strategic capability within e-commerce ecosystems. Logistics performance can be understood as the extent to which logistics activities are able to carry out the process of delivering goods and

services to customers effectively and efficiently. Key dimensions include delivery reliability, timeliness, order accuracy, flexibility, and information quality.

According to Grönroos (2007), service quality is determined not only by technical outcomes but also by the quality of interactions occurring during service delivery. Therefore, customer evaluations of logistics services depend on both operational performance and service encounter experiences. Within the SDL framework, operational performance contributes to value creation when customers perceive benefits from service interactions. In other words, the higher the logistics performance, the more positive the customer's assessment of service quality. Fast and accurate delivery, correct orders, and effective information delivery are factors that strengthen customer perceptions of reliability and responsiveness, key elements of service quality. Zeithaml, Bitner, and Gremler (2020) emphasize that service quality reflects customers' overall evaluation of service excellence based on reliability, responsiveness, assurance, empathy, and tangible service attributes. These dimensions remain critical determinants of customer experience within digital service environments. Previous studies consistently demonstrate that logistics performance significantly improves perceived service quality in e-commerce environments (Rita et al., 2019; Hidayat et al., 2025).

Therefore:

H2: The better the logistics performance, the higher the quality of service perceived by customers.

Service Quality and Customer Experience

According to Lemon and Verhoef (2016), customer experience includes all cognitive, emotional, behavioral, sensory, and social responses experienced by consumers during interactions in the customer journey. Customer experience is influenced by multiple touchpoints before, during, and after purchase, making it one of the most important indicators of service effectiveness in contemporary markets. Customer experience is influenced by various interactions at the pre, during and post purchase stages, customer experience is an important benchmark for service effectiveness in the modern market context. Hollebeek, Srivastava, and Chen (2019) highlight that customer engagement emerges through continuous interactions between customers and organizations.

Within SDL, customer engagement contributes to value co-creation and strengthens customer experience by fostering deeper relational connections throughout the service process. Mentzer, Flint, and Hult (2001) define logistics service quality as customers' perceptions regarding the effectiveness of logistics activities, including timeliness, order accuracy, information quality, and service responsiveness. The better the quality of logistics services, the greater the impact on customer satisfaction and the sustainability of relationships with the company. According to SDL, customer value emerges through service interactions rather than through products alone. Therefore, service quality plays a crucial role in shaping the customer experience, as this experience is the result of the customer's assessment of each service interaction. High-quality services reduce uncertainty, increase trust, and strengthen positive emotional responses. Parasuraman, Zeithaml, and Malhotra (2005) introduced the E-S-QUAL framework to evaluate service quality in electronic environments.

In this model, efficiency, system availability, accuracy of fulfillment, and privacy protection are positioned as key determinants in shaping customer assessments of the quality of electronic services. Previous studies have consistently demonstrated that service quality plays a crucial role in shaping customer experience across both digital and traditional service environments, ultimately influencing customer satisfaction and long-term customer relationships (Becker & Jaakkola, 2020; Keiningham et al., 2020). Customer experience in online shopping environments extends beyond transactional interactions and encompasses the

holistic perceptions formed throughout the customer journey. Bilgihan, Kandampully, and Zhang (2021) argue that customer experience in digital environments is shaped by the integration of service quality, technology-enabled interactions, and fulfillment performance.

Therefore, creating a seamless and unified customer experience has become a strategic objective for e-commerce organizations. Becker, Jaakkola, and Hollebeek (2022) argue that customer experience represents a multidimensional phenomenon encompassing cognitive, emotional, behavioral, and social responses arising throughout the customer journey. In digital commerce settings, customer experience extends beyond product consumption and includes interactions with service providers, digital interfaces, and logistics systems. Consequently, customer experience has become a critical outcome variable in evaluating service effectiveness within e-commerce ecosystems.

Therefore:

H3: The better the service quality, the more positive the customer experience.

The Mediating Role of Service Quality

Service-Dominant Logic emphasizes that customer value is formed from the service exchange process, not just from the product or the company's operational results. Although logistics performance reflects internal operational capabilities, customers rarely evaluate logistics processes directly. Instead, customers assess the quality of services generated by those processes. Morgan and Hunt (1994) argue that trust and commitment are essential foundations of successful customer relationships. High service quality contributes to customer trust, which subsequently strengthens customer experience and long-term relationship development.

Recent studies in digital commerce have further demonstrated the importance of service quality in shaping customer behavior and experience. Rita, Oliveira, and Farisa (2022) found that superior e-service quality enhances customer satisfaction, trust, and behavioral intentions within digital commerce platforms. These findings suggest that service quality remains one of the strongest predictors of positive customer experiences in online environments. Therefore, the impact of logistics performance on customer experience is not direct, but rather mediated by perceived service quality. Efficient logistics operations improve delivery reliability, responsiveness, and transparency, which subsequently enhance service quality perceptions. These positive service evaluations then contribute to favorable customer experiences. The findings are consistent with Kumar, Kaushik, and Dwivedi (2024), who reported that digital transformation initiatives improve customer experience primarily through enhancements in service quality.

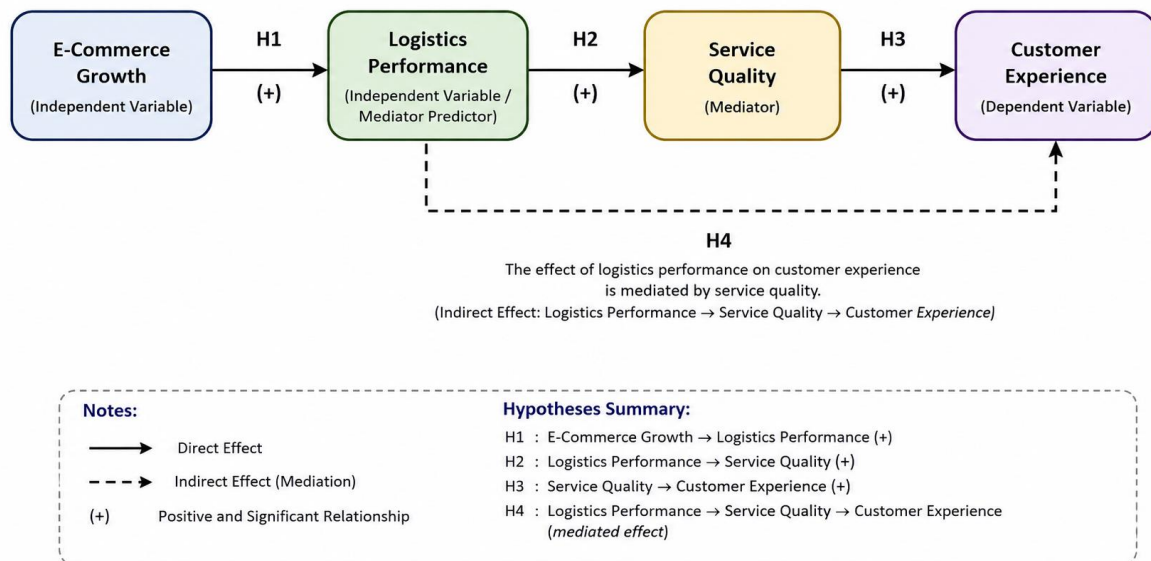
As organizations increasingly adopt digital technologies, customer evaluations are shaped not only by operational efficiency but also by perceptions of responsiveness, reliability, and service excellence. This perspective is particularly relevant in Indonesia's rapidly growing digital economy. This mediating mechanism is particularly relevant in Indonesia, where geographical complexity and infrastructure disparities create substantial logistics challenges. For customers, their assessment of a logistics service provider is determined not only by the accuracy of delivery, but also by how well they communicate, how quickly issues are handled, and how quickly the service responds. Empirical evidence suggests that service quality frequently serves as an intermediary mechanism linking operational performance to customer satisfaction, loyalty, and customer experience outcomes (Keiningham et al., 2020; Hidayat et al., 2025).

Therefore:

H4: The effect of logistics performance on customer experience is mediated by service quality.

Conceptual Framework

Referring to the hypotheses discussed previously, this study proposes a conceptual framework that includes four main constructs as follows:



The framework reflects the SDL perspective that customer value is co-created through service interactions, where logistics performance contributes to customer experience through the mediating role of service quality.

Recent evidence from e-commerce ecosystems suggests that logistics service quality plays an important role in translating operational performance into customer value. Nguyen, Nguyen, and Nguyen (2024) found that logistics service quality significantly enhances customer experience by improving delivery reliability, responsiveness, and communication effectiveness. Therefore, service quality is expected to mediate the relationship between logistics performance and customer experience. The significant mediating role of service quality identified in this study is consistent with Nguyen et al. (2024), who reported that customers evaluate logistics capabilities primarily through service interactions rather than operational outcomes alone. This finding reinforces the SDL perspective that customer value emerges through service experiences generated by organizational capabilities.

METHOD

1. Research Design

To achieve the research objectives, an explanatory sequential mixed-methods design was implemented. The study first employed a quantitative approach to empirically assess the proposed relationships among e-commerce expansion, logistics performance, service quality, and customer experience through Structural Equation Modeling (SEM). The quantitative results were then complemented by qualitative evidence obtained from in-depth interviews with logistics practitioners, providing additional insights and a more comprehensive interpretation of the empirical findings. The mixed-methods approach was selected because customer experience in e-commerce logistics is a multidimensional phenomenon involving both measurable operational factors and contextual service interactions. Integrating statistical findings with qualitative perspectives allowed this study to develop a deeper and more comprehensive explanation of customer value creation in Indonesia's rapidly evolving digital commerce environment.

2. Population and Sample

Indonesian consumers with recent experience in online purchasing and logistics delivery served as the target participants for this study. Eligibility was limited to individuals who had completed at least one transaction through an e-commerce platform during the preceding six months. A purposive sampling strategy was adopted to recruit respondents who could provide relevant information based on their actual shopping and delivery experiences. Although 200 questionnaires were initially distributed, only 150 responses satisfied the predefined screening criteria and were therefore included in the statistical analysis. To enrich the quantitative results, qualitative data were gathered through semi-structured interviews with 15 logistics practitioners occupying various managerial and operational positions, such as logistics managers, delivery supervisors, and e-commerce fulfillment coordinators.

Operational Definition of Variables

Table 2. Operational Definitions and Measurement Indicators

Variable	Dimension	Number of Items	Indicators
E-Commerce Growth (ECG)	Market Expansion	4	Transaction volume, order frequency, digital adoption, product variety
Logistics Performance (LP)	Operational Efficiency	5	Delivery speed, order accuracy, reliability, flexibility, tracking capability
Service Quality (SQ)	SERVQUAL Dimensions	5	Reliability, responsiveness, assurance, empathy, tangibles
Customer Experience (CE)	Experiential Dimensions	5	Cognitive, emotional, behavioral, sensory, social experience

The survey instrument incorporated measurement indicators adapted from well-established empirical research to ensure content validity. Each statement was evaluated using a five-point Likert scale, with response categories ranging from **1 (strongly disagree)** to **5 (strongly agree)**.

Instrument Validity and Reliability

Before evaluating the proposed structural relationships, Confirmatory Factor Analysis (CFA) was carried out to verify the adequacy of the measurement model. The assessment of construct quality relied on standardized factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR), which were used to establish the validity and reliability of the measurement instrument.

A loading factor above 0.50 was considered acceptable

Table 3. Construct Reliability and Validity

Variable	Cronbach Alpha	Composite Reliability	AVE
E-Commerce Growth	0.842	0.881	0.598
Logistics Performance	0.865	0.897	0.635
Service Quality	0.887	0.914	0.682
Customer Experience	0.901	0.926	0.714

The results indicate that all constructs exceeded the recommended thresholds of Cronbach Alpha (>0.70), Composite Reliability (>0.70), and AVE (>0.50), confirming adequate reliability and convergent validity.

Table 4. Confirmatory Factor Analysis Results

Indicator	Loading
ECG1	0.742
ECG2	0.781
ECG3	0.805
ECG4	0.776
LP1	0.802
LP2	0.845
LP3	0.831
LP4	0.768
LP5	0.807
SQ1-SQ5	0.734 – 0.884
CE1-CE5	0.751 – 0.891

All factor loadings exceeded the recommended threshold of 0.50, indicating acceptable construct validity.

Data Collection Procedure

The study began by collecting quantitative data through a web-based questionnaire shared within online communities and social networking groups related to e-commerce. To improve the quality of the research instrument, a pilot test involving 30 respondents was conducted before the full survey implementation, allowing the researchers to refine questionnaire clarity and confirm content validity. After analyzing the survey data, qualitative evidence was obtained through semi-structured interviews. With participants' permission, all interview sessions were audio-recorded and typically lasted between 30 and 45 minutes.

Data Analysis Techniques

The proposed research model was empirically evaluated by applying Structural Equation Modeling (SEM) with the support of AMOS software to analyze the quantitative dataset.

The analysis involved two stages:

1. Assessment of the Measurement Model (Confirmatory Factor Analysis)
2. Assessment of the Structural Model (Hypothesis Testing)

The mediating effect of service quality was assessed using bootstrapping procedures.

Goodness-of-Fit Assessment

The structural model was evaluated using several fit indices.

Table 5. Goodness-of-Fit Indices

Index	Recommended Value	Result	Conclusion
Chi-Square/df	< 3.00	1.94	Good Fit
GFI	> 0.90	0.921	Good Fit
AGFI	> 0.90	0.907	Good Fit
CFI	> 0.90	0.953	Good Fit
TLI	> 0.90	0.946	Good Fit
RMSEA	< 0.08	0.056	Good Fit

The results indicate that the structural model satisfies all recommended goodness-of-fit criteria and is therefore appropriate for hypothesis testing.

Qualitative Analysis

Qualitative data were analyzed using thematic analysis following six stages proposed by Braun and Clarke (2006):

1. Data familiarization
2. Initial coding
3. Theme generation
4. Theme review
5. Theme definition
6. Report preparation

The interview data were systematically examined through thematic analysis to uncover recurring themes and meaningful patterns associated with logistics innovation, service quality, customer trust, and customer experience. These qualitative insights were subsequently used to complement and enrich the interpretation of the quantitative findings.

Research Model

The structural model tested in this study consists of four constructs:

E-Commerce Growth → Logistics Performance → Service Quality → Customer Experience

The proposed framework further identifies Service Quality as the mediating mechanism through which Logistics Performance contributes to Customer Experience. This conceptual relationship is informed by Service-Dominant Logic (SDL), which maintains that customer value is created through collaborative service interactions and continuous value co-creation rather than being determined solely by operational performance.

RESULTS AND DISCUSSION

Structural Model Assessment

The proposed structural framework was empirically evaluated using Structural Equation Modeling (SEM) to investigate the relationships among E-Commerce Growth, Logistics Performance, Service Quality, and Customer Experience. Before assessing the research hypotheses, the adequacy of the structural model was verified by examining its overall goodness-of-fit indices. The results indicated that the model achieved an acceptable level of fit, providing empirical support for the suitability of the proposed conceptual framework.

The structural model yielded an R^2 value of **0.78** for Customer Experience, indicating that the combined influence of Logistics Performance and Service Quality explained **78%** of the construct's variance. This high proportion of explained variance reflects the model's strong explanatory capability and suggests that the proposed framework effectively captures the key factors influencing customer experience in Indonesia's e-commerce ecosystem.

Hypothesis Testing Results

Table 6. Structural Path Results

Hypothesis	Relationship	Path Coefficient (β)	p-value	Result
H1	E-Commerce Growth → Logistics Performance	0.487	0.000	Supported
H2	Logistics Performance → Service Quality	0.416	0.000	Supported
H3	Service Quality → Customer Experience	0.439	0.000	Supported
H4	Logistics Performance → Service Quality → Customer Experience	0.321	0.001	Supported

The hypothesis testing results confirmed support for each relationship specified in the proposed conceptual framework. E-Commerce Growth was found to significantly enhance Logistics Performance, while improved Logistics Performance contributed positively to Service Quality. Service Quality, in turn, exerted a significant positive influence on Customer Experience. Furthermore, the mediation analysis demonstrated that Service Quality constitutes a significant indirect pathway through which Logistics Performance influences Customer Experience.

Discussion of H1: E-Commerce Growth and Logistics Performance

The empirical findings confirm that the expansion of e-commerce exerts a statistically significant positive influence on logistics performance. This outcome indicates that the continuous increase in online transactions and digital commercial activities encourages organizations to strengthen their logistics capabilities, optimize delivery operations, improve inventory management practices, and enhance overall distribution efficiency. Viewed through the lens of **Service-Dominant Logic (SDL)**, greater customer participation in digital marketplaces intensifies the need for integrated service processes and agile operational responses. As digital commerce continues to expand, logistics providers must continually improve the flexibility, speed, and reliability of their delivery systems to sustain customer value creation and remain competitive.

The Indonesian context provides an important explanation for this relationship. The rapid growth of online marketplaces such as Tokopedia, Shopee, Lazada, and other digital platforms has increased demand for logistics services across geographically dispersed regions. Consequently, logistics providers have invested heavily in fulfillment centers, route optimization systems, digital tracking technologies, and last-mile delivery solutions.

This finding supports previous studies conducted by Janjevic et al. (2021) and Mangiaracina et al. (2022), which found that e-commerce expansion significantly influences logistics development and operational performance.

Discussion of H2: Logistics Performance and Service Quality

The study findings demonstrate that enhanced logistics performance significantly strengthens perceived service quality. Customers form their evaluations of service quality largely through their experiences with logistics services, including dependable delivery, accurate order fulfillment, real-time shipment visibility, and timely responsiveness to service requests. These results suggest that continuous improvements in logistics operations are essential for delivering superior service experiences and reinforcing positive customer evaluations. Recent studies indicate that customers increasingly evaluate e-commerce providers based on the effectiveness and reliability of last-mile delivery services (Janjevic et al., 2021; Hidayat et al., 2025). Delivery reliability, communication quality, and shipment visibility significantly influence perceived service quality and customer value creation. These findings suggest that logistics performance directly contributes to service quality perceptions.

SDL argues that operational resources create value only when customers experience tangible service benefits. Therefore, logistics performance contributes to customer value not merely through operational efficiency but through improved service experiences.

In Indonesia, logistics performance plays an especially important role because customers frequently encounter challenges related to traffic congestion, infrastructure disparities, geographical fragmentation, and delivery uncertainty. When logistics providers successfully deliver products on time and provide accurate information, customers perceive higher levels of service quality.

This finding is consistent with previous studies that identified logistics performance as a major

determinant of perceived service quality and customer satisfaction in e-commerce services (Rita et al., 2019; Hidayat et al., 2025)

Discussion of H3: Service Quality and Customer Experience

The findings of this study demonstrate that service quality significantly enhances customer experience. Customers construct their overall assessment of the shopping experience through the cumulative quality of service interactions encountered from the purchase stage to final delivery. Accordingly, reliable, responsive, and consistent service delivery across the customer journey plays a crucial role in creating positive customer experiences and strengthening long-term customer relationships.

Within SDL, customer experience emerges through value co-creation processes involving continuous interactions between firms and customers. Service quality therefore serves as an important mechanism through which customers evaluate whether value has been successfully delivered.

The Indonesian e-commerce market is characterized by increasing consumer expectations regarding convenience, transparency, responsiveness, and delivery reliability. Customers who experience reliable service interactions are more likely to develop positive emotional responses, stronger trust, and greater satisfaction.

This finding supports previous studies demonstrating that service quality significantly influences customer experience, customer satisfaction, and long-term customer relationships in digital commerce environments (Keiningham et al., 2020; Becker & Jaakkola, 2020).

Discussion of H4: The Mediating Role of Service Quality

The mediation analysis identifies Service Quality as the primary mechanism through which Logistics Performance enhances Customer Experience. The results suggest that improvements in logistics operations create greater customer value when they are translated into higher levels of service quality during the purchasing and delivery process. This indirect effect provides robust empirical support for **Service-Dominant Logic (SDL)**, reinforcing the perspective that customer value is co-created through high-quality service interactions rather than being derived exclusively from operational efficiency. Customers do not directly evaluate operational logistics processes; instead, they evaluate the quality of services generated by those processes. Consequently, improvements in logistics performance create customer value only when customers perceive these improvements as superior service experiences.

This mediating mechanism is particularly relevant within Indonesia's e-commerce ecosystem. Due to geographical complexity and infrastructure challenges, customers often focus on communication quality, shipment transparency, responsiveness, and problem-solving effectiveness rather than merely delivery outcomes.

The results further demonstrate that Service Quality operates as the key intermediary through which organizational operational capabilities are translated into superior customer experience outcomes. This finding underscores the importance of delivering high-quality services to ensure that operational improvements generate tangible value for customers.

Theoretical Contribution

This research enriches the **Service-Dominant Logic (SDL)** literature by providing empirical evidence from the Indonesian e-commerce logistics context. The findings indicate that logistics performance should be conceptualized as a strategic service capability that enables value creation through superior service delivery rather than through operational efficiency alone. In addition, the study demonstrates that Service Quality acts as the central mediating mechanism through which improvements in logistics performance are translated into

enhanced customer experience. Collectively, these findings broaden the applicability of SDL and reinforce its relevance for explaining value co-creation within contemporary digital commerce ecosystems. This finding enriches existing SDL literature by providing evidence regarding how operational resources are transformed into customer value within digital commerce environments.

Third, the study contributes to customer experience literature by integrating logistics performance, service quality, and customer experience within a single conceptual framework, particularly within an emerging market context.

Practical Implications

The findings suggest that managers should view logistics activities as customer experience management tools rather than purely operational functions.

E-commerce firms should invest in:

- Real-time shipment tracking systems.
- Last-mile delivery innovations.
- Customer communication platforms.
- Service recovery programs.
- Integrated logistics information systems.

Such investments can improve service quality perceptions and strengthen customer experience.

Implications for Policymakers

The findings of this study offer valuable guidance for policymakers in formulating initiatives that strengthen Indonesia's digital commerce ecosystem. By supporting improvements in logistics infrastructure, digital connectivity, and service quality standards, policymakers can foster a more efficient and customer-oriented e-commerce environment while enhancing the long-term competitiveness of the national digital economy.

Government agencies should prioritize:

- Logistics infrastructure development.
- Digital logistics ecosystem integration.
- Transportation network modernization.
- Last-mile delivery support programs.
- Digital transformation initiatives for logistics SMEs.

These initiatives can improve logistics efficiency and strengthen Indonesia's digital economy competitiveness.

Summary of Findings

The study demonstrates that:

1. E-commerce growth positively influences logistics performance.
2. Logistics performance positively influences service quality.
3. Service quality positively influences customer experience.
4. Service quality significantly mediates the relationship between logistics performance and customer experience.

SDL provides a useful theoretical framework for understanding customer value creation within Indonesia's e-commerce logistics ecosystem.

CONCLUSION

Guided by **Service-Dominant Logic (SDL)**, this study employed a mixed-methods research design to examine the relationships among E-Commerce Growth, Logistics

Performance, Service Quality, and Customer Experience in Indonesia. The findings demonstrate that the continued expansion of e-commerce significantly improves logistics performance, while enhanced logistics capabilities contribute to higher levels of service quality and ultimately lead to a better customer experience. Overall, the study highlights that customer value is created not only through operational excellence but also through the delivery of high-quality services that strengthen customers' experiences within the digital commerce ecosystem. The results reveal that logistics performance serves as an important operational capability within digital commerce ecosystems. However, the findings indicate that operational excellence alone cannot fully deliver superior customer experiences. Instead, the value of strong logistics capabilities is realized when they are translated into high-quality service that customers can directly perceive and experience. This evidence underscores the strategic importance of customer-centered service delivery as the mechanism through which operational performance is converted into meaningful and positive customer outcomes.

From a theoretical perspective, this research expands the explanatory scope of **Service-Dominant Logic (SDL)** by applying its principles to Indonesia's e-commerce logistics sector. The findings indicate that logistics performance should be conceptualized as a strategic service capability that creates customer value through improvements in Service Quality rather than through operational efficiency alone. In addition, the significant mediating role of Service Quality strengthens the empirical foundation of SDL by confirming that customer value is co-created through high-quality service interactions throughout the customer journey. Furthermore, this research advances the customer experience literature by introducing a unified conceptual framework that connects E-Commerce Growth, Logistics Performance, Service Quality, and Customer Experience. In contrast to earlier studies that have largely examined these constructs separately, the proposed framework demonstrates how their combined interactions contribute to customer value creation in emerging digital commerce ecosystems. This integrated perspective provides a more holistic understanding of the mechanisms through which organizations create and sustain customer value in the digital era.

From a managerial perspective, the findings indicate that sustainable competitive performance requires organizations to balance operational excellence with continuous improvements in service quality. Accordingly, e-commerce companies and logistics providers should direct investments toward both operational capabilities and customer-oriented service initiatives to strengthen customer value and enhance overall customer experience. Real-time tracking systems, responsive customer support, proactive communication, service recovery mechanisms, and flexible delivery solutions represent important strategic investments for improving customer experience and strengthening competitive advantage. The findings also provide important policy implications. Government agencies should continue supporting digital infrastructure development, transportation connectivity improvement, logistics network modernization, and last-mile delivery initiatives. Strengthening logistics ecosystems is particularly important in Indonesia due to its geographical complexity and unequal infrastructure distribution across regions.

Although this research provides meaningful theoretical and practical insights, several limitations should be acknowledged. The empirical data were collected predominantly from consumers residing in major urban areas, which may reduce the applicability of the findings to populations in rural settings. In addition, the cross-sectional nature of the study limits the ability to examine changes in customer perceptions and behaviors over time. The proposed model also focuses on a selected set of variables, whereas customer experience is likely to be shaped by other influential factors, including customer trust, engagement, platform usability, and perceived value. Future research could address these limitations by adopting longitudinal research designs, extending data collection to more diverse geographical regions, and

incorporating additional constructs to provide a more comprehensive understanding of customer value creation within digital commerce ecosystems. Comparative studies across Southeast Asian countries may also provide valuable insights regarding the generalizability of the proposed model in emerging digital markets.

Overall, this study concludes that service quality serves as the key mechanism through which logistics performance creates customer value within Indonesia's e-commerce ecosystem. Consequently, organizations seeking to improve customer experience should prioritize the integration of logistics excellence and customer-centered service strategies to achieve sustainable competitive advantage in the digital economy.

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