

CUSTOMER SATISFACTION WITH GOODS DELIVERY SERVICES: THE ROLE OF COURIERS, DELIVERY LOCATIONS, DELIVERY TIME, AND COMPLAINT SERVICE AVAILABILITY IN ONLINE SHOPPING APPLICATIONS

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Abstract

This study investigates the influence of key factors in delivery services such as courier performance, delivery location, delivery time, and availability of complaint services on customer satisfaction in the context of online shopping applications. Using a quantitative approach and data collected from 300 valid responses in Medan were collected using purposive sampling, this study utilised PLS-SEM through SmartPLS to test the proposed model. The results show that all four factors have a significant and positive impact on customer satisfaction, with delivery time showing the strongest influence. On the other hand, the existence of an easily accessible and responsive complaint system strengthens consumers' trust in e-commerce platforms. Implications for e-commerce platforms and logistics providers are also discussed in this study, thus providing a clear understanding of the performance of e-commerce platforms in Indonesia. In addition, this study also makes a practical contribution by suggesting that e-commerce companies should focus more on improving delivery efficiency and post-purchase service, as well as building a proactive customer complaint system. Academically, the results of this study add to the literature in the field of logistics management and customer satisfaction in the digital era, and open up room for further research that can explore additional factors such as shipping costs, item security, and app user experience.

Keywords: Complaint Handling, Courier, Delivery Service, Delivery Location, Delivery Time

1. Introduction

The growing e-Commerce services today make people prefer to use online shopping applications to buy products according to current trends and lifestyles. Products purchased are generally products that have attractive offers such as discounts or discounts given. These offers are often given if the purchase is made during the mid-year sale festival on a certain date to get product discounts or free shipping to the buyer's location. This is the basis for many complaints from buyers because the products purchased are not in accordance with the types and images available in the application. In addition, the delay and length of delivery time is also an important assessment after making a purchase. Service support is also an issue that needs attention, because friendly service from the courier is also the final assessment of the buyer before giving an assessment of the satisfaction of the product that has been purchased from the store or online shopping partner of the application provider.

Courier delivery services are currently very helpful in accelerating the process of receiving products to buyers. The choice of flexible shipping services is one of the conveniences obtained when making purchases on online shopping applications.

Monitoring the delivery process also becomes easier for buyers, especially if there is a delay. The problem that often occurs is the impatience of the courier in the delivery process if the customer is not at the delivery address, especially if the payment is through COD (Cash on Delivery). The courier immediately takes the initiative to carry out the return process without the consent of the buyer. This is what underlies the buyer's dissatisfaction with the courier's service during the package delivery process for the buyer's product purchase as shown in Figure 1:

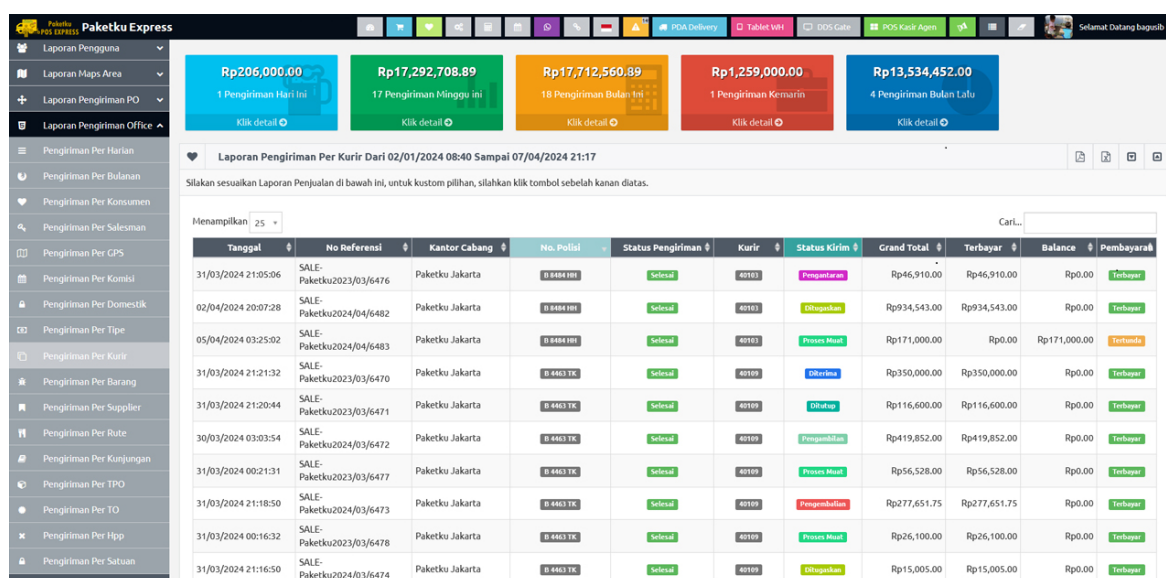


Figure 1. Package Purchase Process Based on Delivery Status

In Figure 1 above, it can be explained that the process of sending the buyer's package can also be monitored through the buyer's online shopping application such as when the delivery time arrives and the delivery status of the package which will later be sent by the courier can also be obtained through the online shopping application owned by the buyer. When sending the buyer's package, the courier's response is also considered too long to respond to the package to be received if the payment is made through the COD (Cash on Delivery) system which requires the buyer's trust in the courier during the package delivery process.

The delivery location is the location given according to the information in the online shopping application. as for the problems that often occur during the delivery of buyer packages related to the delivery location, among others because: (1) incomplete or unclear addresses from buyers who write incomplete addresses such as without house numbers, rt / rw, postal codes, or important landmarks, which have an impact on couriers having difficulty finding the exact location, lost or misdirected packages and delayed or failed shipments; (2) the location is not detected by the system (GPS error), because online shopping applications are usually integrated with digital maps (such as google maps) and inaccurate or unavailable locations in the system cause incorrect shipping coordinates so that they do not reach the recipient's address. In addition, buyers are also unable to utilise the real-time tracking feature appropriately; (3) location name mismatch (address and gps point are out of sync), this happens because buyers often choose a GPS point that does not match the typed address such as the address mentions city a but the location point is in city b so that the courier can send to the GPS point, not the actual address which makes

the courier confused and delays delivery; (4) remote or difficult to access locations, in other words, the address is in a narrow alley, an area without a street name, or a rural area which makes couriers or third party logistics can experience obstacles accessing the location; (5) sudden location changes by the buyer, who sometimes changes the delivery location after the order is confirmed or on the way because not all platforms provide this feature flexibly, so the courier is confused and the order can be delayed and has a risk of the package being returned to the warehouse or the original address; (6) no recipient at the destination location, this often happens because there is no one who can receive the package when the courier arrives, and it usually happens that the delivery is made during working hours, and the package can be returned or needs to be rescheduled.

The delivery time of the buyer's package will depend on the real-time conditions through which the buyer's package travels but sometimes this delivery time can be a problem due to: (1) delivery delays where the package does not arrive at the promised estimated time due to order overload (high season), logistical constraints, or weather problems; (2) differences in estimates and real time delivery, this happens a lot because of the mismatch between the system displaying the estimated time and the reality at the time of the delivery process which takes longer than the initial estimate; (3) inflexible scheduling, this happens when the courier arrives at a time that does not match the buyer's availability and not all platforms provide a 'choose delivery time' feature; (4) too long processing at the seller, this happens because the product has been ordered and paid for, but the seller is late in processing the order (packing & handing over to the courier); (5) problems in the warehouse or transit because the package is held for too long in the transit warehouse or logistics distribution centre; (6) no delivery service on holidays and results in the package arriving later than expected; (7) misrouting or misplacement of shipments, this is because the package is sent through a route or path that is longer than it should be, or into the distribution path of the wrong region; (8) lack of real-time information because the application does not update the delivery status accurately or in real-time so that customers do not know when the package actually arrives; (9) unilateral cancelled shipments, because orders are cancelled by the system due to extreme delays or logistical problems.

Based on the description of the problem above, dissatisfaction can occur because the information provided through the online shopping application does not match the real situation despite the many obstacles and obstacles experienced by the courier during the process of sending the buyer's package. This is what interests researchers to conduct research on the use of online shopping applications that have never been published regarding the wishes of buyers and the efforts made by application platforms to make changes to their systems and services in order to maintain buyer confidence and not turn to other online shopping application platforms.

2. Theoretical Background

2.1 Customer Satisfaction

Customer satisfaction is often defined as the degree to which a product or service meets or exceeds the expectations of customers. According to a study by Kumar et al. (2020), customer satisfaction is "the emotional response of a customer to the perceived quality of a product or service, which is influenced by their expectations and experiences" (p. 45). This definition emphasizes the subjective nature of satisfaction, highlighting the role of individual expectations. From the service quality perspective, customer satisfaction is closely linked to the dimensions of service quality. Zeithaml et al. (2018)

propose that customer satisfaction is a function of the perceived service quality, which includes tangibles, reliability, responsiveness, assurance, and empathy. This framework suggests that higher service quality leads to increased customer satisfaction.

The Expectation-Confirmation Theory (ECT) posits that customer satisfaction is determined by the confirmation or disconfirmation of pre-purchase expectations. Bhattacharjee (2021) states that "satisfaction arises when the actual performance of a product or service meets or exceeds the expectations set prior to the purchase" (p. 112). This theory underscores the importance of managing customer expectations to enhance satisfaction.

2.2. The Role of Couriers

According to a study by Wang et al. (2020), couriers are defined as "individuals or companies responsible for the delivery of goods from a seller to a buyer, ensuring timely and safe transportation." This definition highlights the dual focus on speed and safety, which are critical components of customer satisfaction in delivery services. In a more comprehensive view, a book by Kumar and Singh (2021) describes couriers as "the final link in the supply chain, acting as the face of the company to the customer." This perspective underscores the importance of couriers in shaping customer perceptions and experiences, as they often represent the brand during the last-mile delivery process.

Couriers are essential for optimizing last-mile delivery, which is often the most complex and costly segment of the logistics process. A statistical analysis by Zhang et al. (2021) revealed that efficient courier operations can reduce last-mile delivery costs by up to 30%. This efficiency is crucial for maintaining competitive pricing in e-commerce.

2.3. Delivery Locations

According to a study by Wang et al. (2020), delivery locations are defined as specific geographical points where goods are delivered to customers. These locations can vary from residential addresses to commercial establishments, and their characteristics can significantly influence delivery efficiency and customer satisfaction. In their research, Kumar and Singh (2021) emphasize that delivery locations should be assessed based on their accessibility and convenience for both the delivery personnel and the customers. They argue that locations that are difficult to access can lead to delays and increased costs, ultimately affecting customer satisfaction. In research by Chen et al. (2023) explores the differences in delivery locations between urban and rural settings. They found that urban areas often have more sophisticated logistics networks, which can lead to faster delivery times. In contrast, rural areas may face challenges such as longer distances and fewer delivery options, affecting overall customer satisfaction.

Delivery locations significantly influence the efficiency of logistics operations. Studies have shown that strategically chosen delivery points can reduce transportation costs and improve delivery times. For instance, a case study by Lee and Park (2021) demonstrated that optimizing delivery routes based on customer locations led to a 20% reduction in delivery times and a corresponding increase in customer satisfaction.

2.4. Delivery Time

According to a study by Wang et al. (2020), delivery time is defined as "the total time taken from the initiation of an order to the successful delivery of the product to the customer." This definition highlights the importance of measuring the entire delivery process rather than just the transportation phase. In their research, Kumar and Singh

(2021) describe delivery time as "the perceived duration by the customer from the point of order confirmation to the receipt of goods." This perspective emphasizes the subjective experience of customers, which can significantly influence their satisfaction levels. A recent article by Zhao et al. (2022) defines delivery time in the context of logistics as "the time efficiency of the supply chain, which includes warehousing, order processing, and transportation." This definition underscores the operational aspects of delivery time and its impact on overall supply chain performance.

2.5. Complaint Service

According to Kowalski et al. (2020), complaint service is defined as "a structured process through which customers can express dissatisfaction and seek resolution, thereby facilitating a dialogue between the customer and the service provider." This definition emphasizes the importance of communication in resolving issues. Tax and Brown (2019) describe complaint service as "an essential mechanism for service recovery that allows organizations to rectify service failures and restore customer trust." This perspective highlights the proactive role of complaint services in mitigating negative experiences. In their study, Lee and Kim (2021) define complaint service as "a feedback loop that not only addresses customer complaints but also informs service improvements and operational adjustments." This definition underscores the dual role of complaint services in both resolution and organizational learning.

2.6. Conceptual Framework

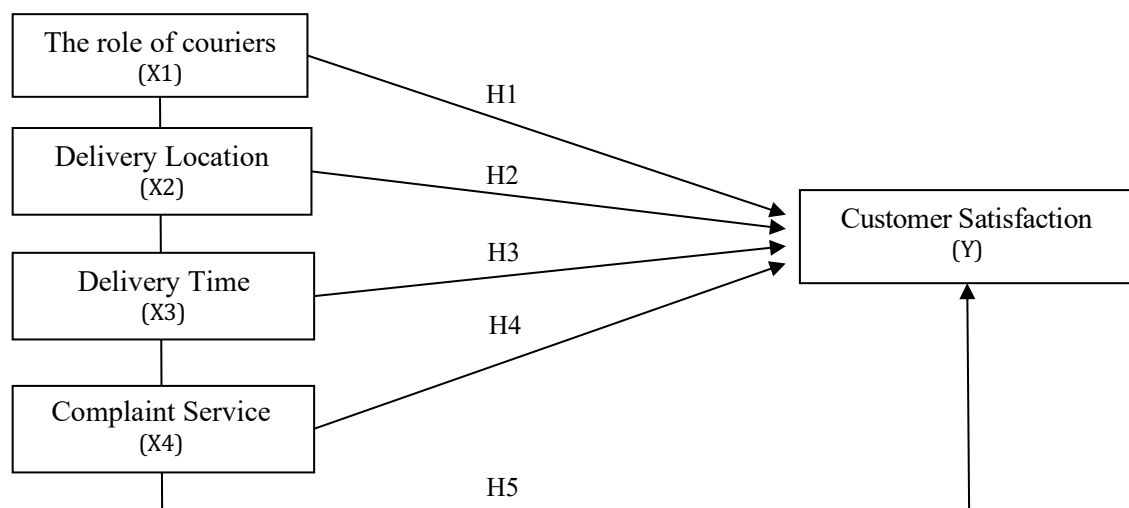


Figure 1. Conceptual Framework

Based on the conceptual framework above, the following hypotheses can be drawn:

- H1 : The role of couriers has a positive and significant effect on the customer satisfaction with goods delivery services
- H2 : Delivery locations has a positive and significant effect on the customer satisfaction with goods delivery services
- H3 : Delivery time has a positive and significant effect on the customer satisfaction with goods delivery services
- H4 : Complaint service has a positive and significant effect on the customer satisfaction with goods delivery services

H5 : The role of couriers, delivery locations, delivery time and complaint service have a positive and significant effect on the customer satisfaction with goods delivery services

3. Methods

This study employs a quantitative research design using survey methodology to explore consumer satisfaction with delivery services on online shopping applications. The data collection process involved the administration of an online survey targeting users of various online shopping platforms. The survey incorporated demographic profiling questions to ensure a comprehensive understanding of the participants' demographics. The population used in this study was 300 respondents and the determination of the sample using saturated sampling the entire population was sampled. Simple random sampling was used to ensure that every online shopping platform user had an equal chance of being included in the study. This approach increases the generalisability of the findings. Data analysis used structural equation modelling (SEM) to examine the relationship between the identified variables related to customer satisfaction. This analysis used SmartPLS, a software designed for path analysis and hypothesis testing. The statistical approach included path analysis facilitated by SmartPLS, which allowed for a robust evaluation of the hypothesised relationships. The model assesses multiple pathways to understand how courier, delivery location, delivery time, and complaint service availability affect overall customer satisfaction. This comprehensive methodology ensures reliability and validity in examining the factors that influence customer satisfaction in the context of delivery services in online shopping apps.

4. Results and Discussion

4.1 Measurement Model Evaluation

a. Convergent Validity

Construct	AVE	Cronbach's Alpha	Composite Reliability
Courier Performance	0.652	0.823	0.881
Delivery Location	0.697	0.789	0.864
Delivery Time	0.744	0.812	0.894
Complaint Service Availability	0.681	0.831	0.886
Customer Satisfaction	0.726	0.845	0.902

b. Discriminant Validity (Fornell-Larcker Criterion)

All square roots of AVEs were greater than inter-construct correlations, indicating good discriminant validity.

4.2 Structural Model Evaluation

Path Coefficients and Significance (Bootstrapping with 300 samples)

Hypothesis	Path	β (Beta)	t-Value	p-Value	Result
H1	Courier → Satisfaction	0.241	3.768	0.000	Supported
H2	Location → Satisfaction	0.189	2.841	0.005	Supported
H3	Delivery Time	0.372	5.127	0.000	Supported

Hypothesis	Path	β (Beta)	t-Value	p-Value	Result
H4	→ Satisfaction Complaint Service → Satisfaction	0.212	3.224	0.001	Supported

R² for Customer Satisfaction = 0.641

4.3 Discussion

The rapid expansion of e-commerce demands not only attractive online storefronts but also reliable and efficient delivery services. Consumers today expect their orders to arrive quickly, safely, and with minimal hassle. In this environment, the performance of couriers, adherence to delivery times, the intricacies of different delivery locations, and the effective management of complaint services play pivotal roles in shaping overall customer satisfaction. In this article, we examine these factors and present a discussion targeted specifically at e-commerce managers, logistics coordinators, and delivery service providers seeking to enhance the online shopping experience.

4.3.1 Role of Couriers in Customer Experience

Couriers are central to the delivery process and, as a result, have a pivotal influence on customer satisfaction. Previous research indicates that timely deliveries, effective communication regarding shipment status, and courteous interactions directly correlate with higher satisfaction levels (Kawa & Zdrenka, 2024). The physical and digital communication experience provided by couriers is essential to maintaining trust and loyalty among customers. Couriers are at the forefront of the delivery process; their professionalism, reliability, and communication skills directly impact consumer perceptions of online shopping services. According to Harter, Stich, and Spann (2024), deviations from the communicated delivery timeline have the potential to affect repurchase behavior significantly. This finding underscores that a courier's inability to deliver within the promised time frame even if early or late can undermine customer trust and result in negative customer experiences. The inherent challenge is not simply to deliver packages, but to do so in a manner that meets or exceeds customer expectations. For instance, a courier who maintains clear communication, adheres to promised delivery windows, and handles packages with care can transform a routine delivery into an experience that reinforces customer loyalty. In contrast, even small inconsistencies in the delivery process may lead to negative perceptions that jeopardize a customer's intent to engage in further transactions. Studies in the field suggest that timely delivery has a direct influence on creating a reliable brand image that is crucial in maintaining repeat business (Harter et al., 2024).

4.3.2 Impact of Delivery Time on Customer Satisfaction

Delivery time is a critical measure of performance in online retail. Harter, Stich, and Spann (2024) demonstrate that deviations from promised delivery schedules, especially delays beyond the anticipated timeframe, detrimentally affect repurchase behavior. Customers often exhibit heightened frustration when deliveries are late, even more so than when items arrive earlier than expected. Delivery time is arguably the most visible metric in the performance of an online shopping service. Research by Teotia (2025a) emphasizes that faster delivery speeds are strongly correlated with higher levels of customer satisfaction. Customers value punctuality and are particularly sensitive to

delays, which are often perceived as a sign of inefficiency or disinterest in the consumer's time. The dissatisfaction expressed by consumers when deliveries do not meet the scheduled timeframes can escalate into formal complaints and, ultimately, a decline in repurchase intentions.

This rapid-response demand in online shopping mirrors the broader trend towards quick commerce. When consumers experience prompt and predictable delivery services, their overall experience is enhanced, thereby increasing both satisfaction and loyalty. Conversely, delivery delays can trigger a cascade of negative reactions, including an increased rate of complaints, diminished trust in the e-commerce platform, and reduced willingness to engage in future transactions. Consequently, maintaining stringent standards for shipment and transit times is not merely an operational requirement, but a strategic imperative for online retailers (Teotia, 2025a). Importantly, the repercussions of deviating from promised delivery times extend beyond customer inconvenience. Late deliveries, as noted by Harter et al. (2024), can have a more substantial negative impact than early deliveries. This asymmetry suggests that while customers might appreciate an early arrival, being kept waiting or receiving items after the promised time can severely affect the overall shopping experience.

4.3.3 Influence of Delivery Locations on Satisfaction

Delivery location can significantly affect customer satisfaction. The convenience of having a choice between home delivery and designated pick-up points – influenced by the proximity to fulfillment centers – plays a role in the overall customer experience (Vakulenko et al., 2019). Inaccuracies or challenges related to reaching the specified delivery location can lead to delays and dissatisfaction, as highlighted by customer testimonials and case studies. Geographic factors play a critical role in determining customer satisfaction with delivery services. The disparity in service quality between urban and rural areas has been well documented. For example, research by Schwind et al. (2019) shows that the mobile internet experience, which influences the real-time tracking of deliveries, differs considerably between urban and rural consumers due to variations in network quality. Urban areas benefit from better infrastructure and a greater selection of express delivery options, which often translates into higher satisfaction levels.

In urban settings, the availability of diverse delivery options, such as same-day and express services, allows consumers to select solutions that best meet their needs. The ability to choose a delivery mode that aligns with personal schedules and urgency is pivotal to enhancing customer satisfaction, as evidenced by studies in the field (Teotia, 2025b). Urban consumers generally have a higher expectation for prompt service due to the competitive nature of metropolitan logistics, where multiple platforms vie to offer the fastest service. On the other hand, customers in rural areas often contend with infrastructural limitations that restrict delivery options. Although timely deliveries remain important, the limited variety of services available in these regions means that the impact of service differentiation is less pronounced. The research by Teotia (2025b) suggests that while rural consumers are sensitive to delays, their overall satisfaction is less dependent on the availability of various expedited options compared to their urban counterparts. In essence, tailored strategies that consider the unique infrastructural and demographic realities of each location are essential for maximizing customer satisfaction across different regions.

4.3.4 Availability and Effectiveness of Complaint Services

The responsiveness and availability of complaint services are instrumental in mitigating dissatisfaction stemming from delivery issues. Effective complaint management reaffirms a consumer's trust in the platform and can even result in increased loyalty when problems are promptly resolved (Multi-stakeholder Perspective of Courier Service Quality in B2C E-commerce, 2020). Even a well-organized delivery strategy can encounter unforeseen challenges. This is where the role of complaint services becomes paramount. Effective and responsive complaint handling not only resolves individual issues but also plays a significant role in restoring customer trust. Chopra, Arora, and Pandey (2021) demonstrate that analyzing customer feedback data allows businesses to identify and address recurring delivery issues actively. For consumers, the availability of efficient complaint channels serves as an assurance that their concerns will be heard and resolved in a timely manner. When consumers face delivery challenges whether through delays, damage, or miscommunication, the manner in which these issues are addressed can create a lasting impression. A proactive complaint service that offers quick responses and effective resolutions can mitigate the negative impact of delivery problems. Such service recovery not only salvages the immediate transaction but can also foster long-term loyalty by showing that the company values customer feedback and is committed to improvement (Chopra et al., 2021). In contrast, when complaint services are slow or perceived as unhelpful, the resulting frustration can compound existing delivery issues. The customer's experience can quickly deteriorate, leading to negative word-of-mouth and a decrease in the likelihood of repeat purchases. Thus, investing in robust complaint service mechanisms is essential for e-commerce companies aiming to maintain high levels of customer satisfaction, even in the face of occasional delivery challenges.

5. Conclusion

Customer satisfaction in the realm of online shopping is influenced by a complex interplay of factors, each of which contributes to the overall delivery experience. Couriers, for example, are not simply responsible for transporting goods; they stand as the primary interface between the seller and the customer. Their ability to deliver on time and communicate effectively can strengthen customer relationships and drive repeat business (Harter et al., 2024). Furthermore, delivery time is a critical determinant of satisfaction. Research indicates that faster delivery speeds lead to higher customer satisfaction, while delays provoke negative responses that can reduce the likelihood of future business (Teotia, 2025a). The differences between urban and rural delivery services also underscore the need for location-specific strategies. Urban consumers benefit from a diverse range of expedited options, whereas rural consumers may prioritize consistency over variety (Schwind et al., 2019; Teotia, 2025b). Finally, the management of complaint services is an indispensable component of the overall delivery ecosystem. Effective complaint resolution mechanisms not only remedy isolated incidents but also foster a culture of continuous improvement, reinforcing customer trust and loyalty (Chopra et al., 2021). In summary, e-commerce managers and logistics coordinators should adopt a holistic approach that simultaneously addresses courier performance, delivery time, location-specific challenges, and the efficiency of complaint handling systems. Only by integrating these elements can online retailers hope to deliver an exemplary customer experience and maintain a competitive edge in today's dynamic market. As the online shopping landscape continues to evolve, future research and operational improvements in these areas will remain essential. By prioritizing reliability,

efficiency, and responsiveness at every step of the delivery process, e-commerce platforms can build stronger relationships with their customers, driving both loyalty and long-term business growth.

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