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Influence of delivery speed on consumer loyalty in E-commerce

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Abstract

This article examines the objectives and tasks of investigating the influence of delivery speed on consumer loyalty in e-commerce. The relevance of the topic is substantiated: in an environment of intensifying competition and ever-stricter last-mile requirements, delivery times have become a key element of the value proposition, directly affecting satisfaction, trust, and repeat purchases. The study aims to analyze how delivery promptness and the reliability of promised deadlines interact in shaping the behavioral intention to transact again. The novelty of the research lies in a comprehensive synthesis of industry statistics and primary empirical data, including structural modeling of trust and satisfaction mechanisms, assessment of the environmental and economic tail of ultra-fast delivery, and A/B testing of the Brave Books case. Net Promoter Score, CLV, and RPR metrics are combined for quantitative evaluation of returns on investment in delivery speed and accuracy. The main findings demonstrate that shortening the click-door cycle indeed increases conversion and repeat-order share; however, sustainable loyalty enhancement is attainable only by minimizing the service gap between promised and actual delivery times. An optimal promised speed strategy requires audience segmentation by time tolerance and willingness to pay, establishment of realistic SLAs, continuous monitoring of on-time delivery, and iterative acceleration through small improvements. Micro-fulfillment centers, AI-driven routing, and hybrid pricing models enable the combination of speed, accuracy, and economic sustainability, while integrated returns processes can turn even negative experiences into trust-building opportunities. This article will be useful for logistics managers, e-commerce marketers, supply-chain analysts, and researchers.

Keywords: Delivery Speed; Consumer Loyalty; E-Commerce; Last Mile; Reliability; Service Gap; Micro-Fulfillment; AI Routing; Hybrid Tariffs; Sustainability

1. Introduction

Global e-commerce continues to grow even after the pandemic surge, compelling each market participant to seek new competitive advantages amid intense rivalry and saturated demand. One such advantage has become the last-mile race. According to an aggregated trend review from April 2025, 74% of online shoppers expect their order to arrive within two days at most, and over half of younger consumers (ages 18–34) anticipate same-day delivery. Such stringent expectations directly influence platform choice: 63% of respondents admit they switch to another seller if a previous purchase took longer than promised, and even a single negative experience reduces the likelihood of a repeat transaction [1].

Notably, delivery speed has cemented itself in consumer consciousness as a crucial component of the value proposition alongside price and assortment. The mechanism framework is simple: shorter delivery times reduce the post-purchase uncertainty period, enhance satisfaction, and form the behavioral intention to return. Unsurprisingly, 43% of shoppers abandoned their carts due to overly long or opaque delivery windows, and 69% cite next-day delivery as the best purchase incentive [1].

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However, empirical data show that speed matters only if reliability accompanies it. In a McKinsey study from early 2025, 90% of respondents were willing to wait two to three days if delivery was free and arrived within the stated window; moreover, timeliness ranked higher than absolute speed [2]. In other words, consumers would rather accept an extra one or two days than forgive a delivery that misses its promised window. This shift underscores that loyalty is formed at the intersection of promptness and promise fulfillment, and that SLA breaches immediately negate the advantage of rapid logistics.

Consequently, the relevance of the topic is defined by its dual nature: businesses must shorten the click-to-door cycle to retain discerning customers, yet do so without sacrificing predictability and economic efficiency. Analyzing exactly how delivery speed influences long-term loyalty and what trade-offs different consumer segments are willing to accept constitutes a critical scientific and practical question for all participants in the e-commerce supply chain.

2. Materials and Methodology

The study combines analysis of industry reports with primary empirical data collection. First, eCommerce Delivery Statistics [1] and McKinsey data on customer expectations and tolerance for delivery times [2], PYMNTS findings on acceptable delivery windows [3], and Digital Commerce 360 data on cart abandonment due to lengthy delivery [5] were used. To assess the relationship between speed, failures, returns, and repeat purchases, results from the Journal of Retailing on increased returns with ultra-fast delivery [6], the Coresight & Jitsu report on conversion lift from two-day delivery [7], and structural modeling of trust and satisfaction impacts on loyalty in Southeast Asia [8] were incorporated. Additionally, Opensend data on average delivery times [9], Ware2Go CLV metrics [10], a q-commerce study on impulse purchases [11], Return insights on last-mile costs [12], and WEF analyses of expense growth in next-hour delivery [13], as well as environmental CO₂ emission estimates [14, 15], were taken into account. An A/B analysis of the Brave Books case study [19] was conducted to evaluate the impact of iterative SLA reductions on delivery accuracy and returns. Economic metrics (CLV and NPS) were analyzed using partner data from Ware2Go [10].

3. Results and Discussion

Over the past decade, the time from click to doorstep has been reduced radically. In 2015, consumers tolerated a 5–7-day wait as an acceptable trade-off for free shipping [3]. By 2023, actual speeds in the largest markets had accelerated by 40%—from 6.6 to 4.2 days [2]—while expectations shifted even more toward immediacy: in everyday-demand categories, approximately 40% of shoppers now expect same-day receipt, as illustrated in Figure 1. Thus, speed has become an integral element of the customer experience, setting the baseline service standard in e-commerce.

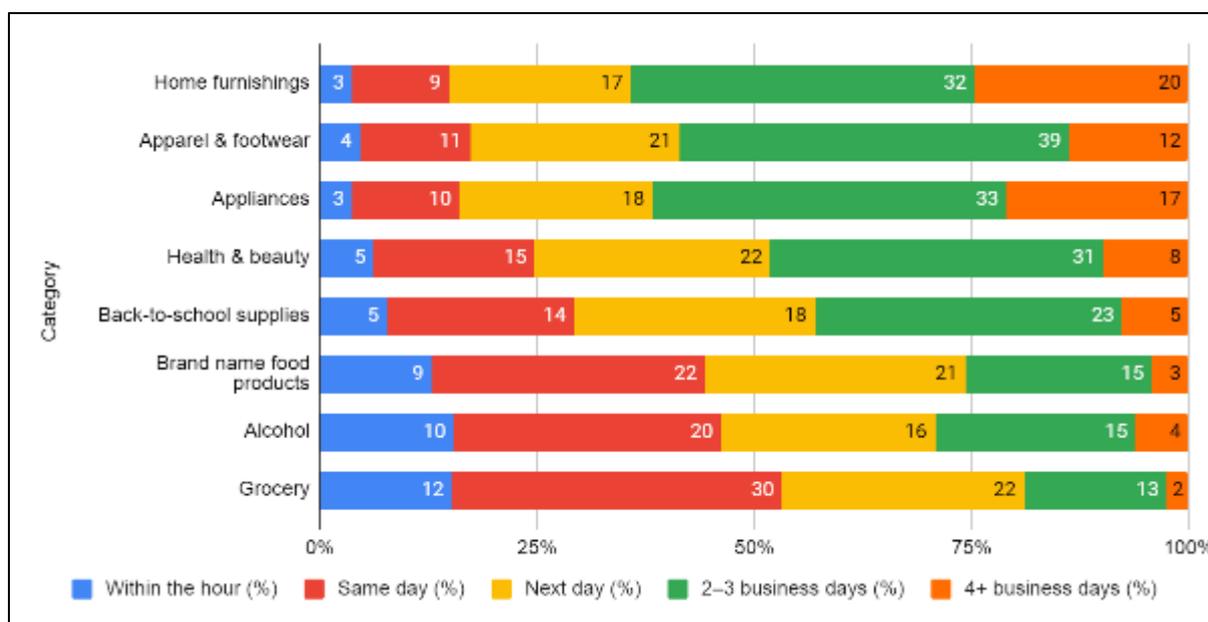


Figure 1 Global Preferred Home Delivery Timeframes by Product Category [20]

The pivotal node of this experience is the so-called last mile—the shortest physical segment of the chain connecting the local dispatch hub and the consumer’s door, as shown in Fig. 2. Despite its minimal distance, this segment concentrates costs: today, the last mile accounts for approximately 53% of total B2C delivery expenses [3].

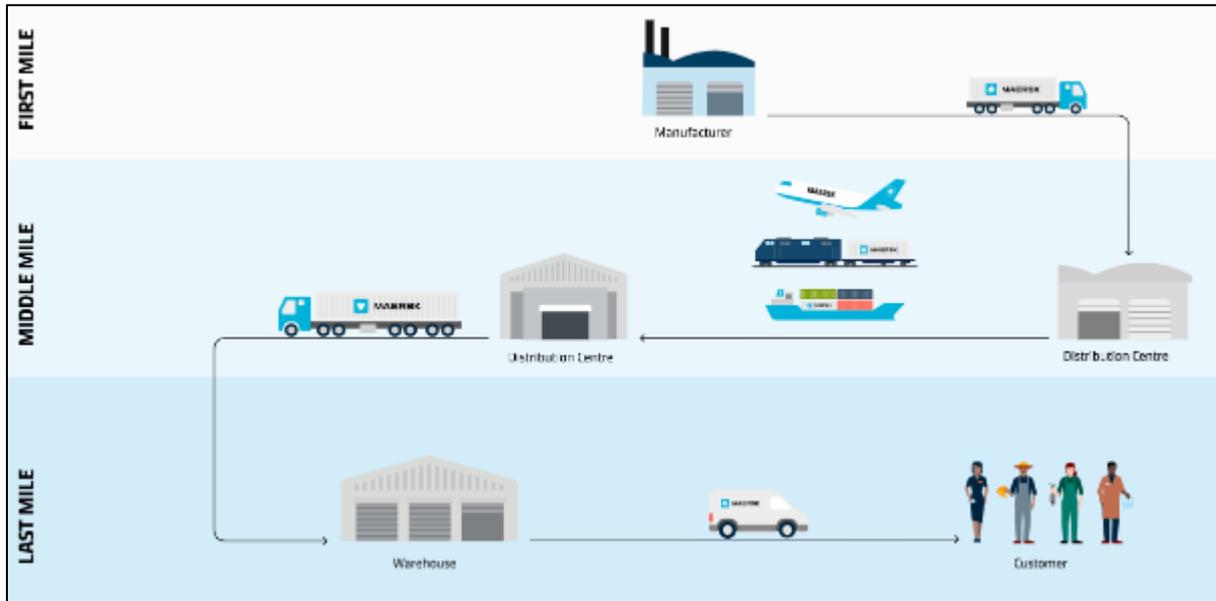


Figure 2 Last Mile Concept [4]

High cost arises from the fragmented nature of routes, traffic density, and the need to observe narrow time windows. Simultaneously, it is in the last mile that the brand comes into direct contact with the purchaser, so any failure is instantaneously translated into a deterioration of service perception and, consequently, a decline in loyalty.

Notably, most customers value not absolute speed but promised and fulfilled speed. According to a survey [5], 23% abandon their order as soon as they see an excessively long delivery time. Moreover, breaking the promise not only nullifies the acceleration effect but produces the opposite result: study [6] demonstrated that shortening the stated delivery window increases sales, yet when deadlines are missed, returns rise, most sharply among new customers. This confirms that loyalty is formed at the intersection of speed and reliability: promises must be realistic, and execution flawless.

Delivery speed constitutes the first tangible brand touchpoint for the customer after online payment, and thus it is directly embedded in the classic chain satisfaction → trust → repeat purchase. Empirical evidence validates each link: the study [7] found that offering two-day or faster delivery added 10.5% to conversion and 8.9% to repeat orders, meaning that satisfaction was immediately converted into loyal behavior. A statistically significant mediating role of trust between service speed and loyalty was also confirmed via structural modeling on data from major Southeast Asian marketplaces, where the path coefficient Customer Trust → Customer Satisfaction → Customer Loyalty reached 0.062, and Service Quality → Customer Satisfaction → Customer Loyalty reached 0.801 [8].

The key to maintaining this chain is expectation management, described by Parasuraman’s gap model: consumers evaluate not absolute speed but the deviation of actual speed from the promised. OpenStax service research shows that reliability—that is, promise fulfillment—is three times more important for perceived quality than cosmetic service attributes. The practical weight of this gap is illustrated by fresh data [9]: 69% of shoppers stated they would not return to a retailer if their package arrived later than two days after the promised date. Thus, minimizing the service gap becomes as crucial as acceleration itself; a company that honestly promises three days and delivers in two and a half days outperforms a competitor guaranteeing next day but often missing that window.

The effect of speed is conveniently measured by basic loyalty metrics. The first is Net Promoter Score; the second is repeat-purchase rate—fast same-/next-day options both raise conversion and increase the share of loyal customers. The third is Customer Lifetime Value (CLV), where delivery acts as a dual lever: a 1–2-day promise boosts conversion by up to 25%, whereas missed deadlines can reduce the likelihood of repeat transactions by 87%—a difference directly translating into CLV loss or gain [10]. Together, these indicators form the analytical foundation that quantitatively demonstrates the return on investment in both speed and, above all, delivery accuracy.

Ultra-fast delivery amplifies the impulse nature of consumption: a study of 500 q-commerce users revealed a strong positive correlation between delivery speed and the probability of unplanned purchases ($r = 0.71$, $p < 0.001$) [11]. The same rush increases return rates. In a transaction dataset from a major fashion retailer, shortened delivery windows statistically significantly increased return probability, especially among new customers who lack a cooling-off time after purchase [6]. Thus, a within-hour promise simultaneously stimulates additional orders and generates a hidden financial tail in the form of return processing and discounting of opened goods.

The faster the promised service, the costlier the last mile: today it already constitutes about 53% of all delivery costs, as it requires small-scale routes, additional couriers, and duplicate home-based facilities [12]. World Economic Forum analysts report that moving to a next-hour model increases total logistics operator expenses by another 22% over the base scenario, eroding seller margins and pushing the market toward paid surcharges for speed [13]. Returns generated by impulse purchases add the cost of reverse logistics and re-sorting, rendering the economics of the instant channel significantly less sustainable than the traditional three-day model.

The environmental footprint of acceleration is no less pronounced. A shift to air and express transport has increased global air-cargo emissions by 25% in just five years [14], and urban fast-shipping modeling shows a 15% rise in CO₂ emissions and a 68% increase in operational costs compared with standard 3–5-day delivery [15]. Thus, rapid speed incurs a double penalty—both financial and carbon.

Mitigation of these effects is enabled by a shift from the race for absolute speed to a balance of speed + accuracy + sustainability. The combination of micro-fulfillment, electric transport, and consolidated delivery slots can reduce last-mile costs and emissions without noticeable detriment to the customer experience. The practical conclusion is clear: the optimal strategy is to promise a delivery speed that can be impeccably met, while simultaneously investing in green and technologically advanced operations that preserve both customer loyalty and business sustainability.

Distributed warehouses and micro-fulfillment centers have become the primary accelerators of the last mile: compact facilities within a few kilometers of the consumer allow for time-buffered inventory turnover while saving on logistics expenses. Industry estimates show that automated MFC modules lower total order-fulfillment costs compared to traditional regional warehouses, and for most online shoppers, a shorter delivery window constitutes the decisive criterion when choosing a platform.

Reducing not only kilometers but also minutes is facilitated by AI-driven routing. Algorithms that dynamically factor in traffic conditions, weather, and courier availability have both cut operational last-mile expenses and sped up delivery. Leading firms go further: Amazon employs generative models to map building entrances precisely and predictively position inventory in the neighborhood, thereby increasing same-day order share without raising costs or emissions [16]. In effect, AI becomes the critical link between speed and reliability, minimizing the service gap described above.

However, even the best algorithmic solutions are powerless if the pricing grid does not align with actual willingness to pay. Recent surveys confirm that 95% of consumers will opt for free standard delivery [2], as shown in Fig. 3, rather than a paid express option—and yet 55% remain willing to pay extra for today's delivery, and 45% for tomorrow's delivery [17].

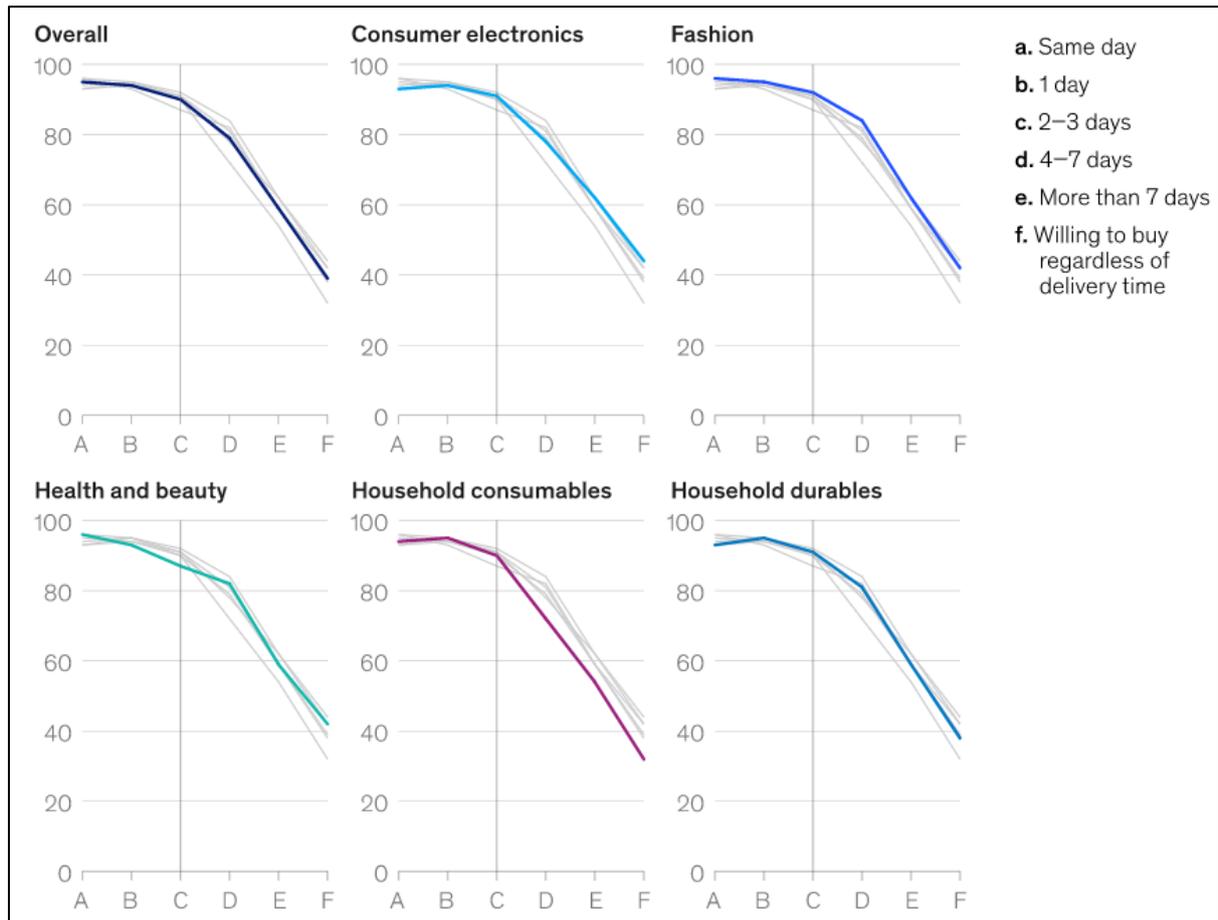


Figure 3 Delivery times consumers are willing to accept when purchasing an item, by category, % of respondents [2]

The solution lies in a hybrid model: a free basic SLA complemented by personalized delivery windows and surcharges for acceleration. Each such window boosts checkout conversion by enabling customers to integrate delivery into their daily schedules in advance.

Finally, loyalty is obliterated if the returns process becomes a quest. Eighty-four percent of customers lose trust in a brand after a negative return experience; in the UK, already 60% of respondents say they will defect to a competitor if charged for return shipping [18]. An integrated returns flow—from a pre-printed label to an instant track-update on refund crediting—transforms a potentially loss-making operation into a trust-reinforcing touchpoint and helps return the customer to the same satisfaction→trust→repeat transaction cycle, where speed again becomes an asset.

Thus, the suite of practical tools coalesces into a unified system: local warehouses shorten the physical distance, AI guarantees accuracy, hybrid pricing offers choice, and seamless returns eliminate the risk of a purchase error. Together, these elements close the satisfaction → trust → repeat transaction loop discussed in the theoretical section, transforming delivery speed from a cost center into a sustainable source of loyalty.

The promised speed strategy is founded on a simple yet often overlooked principle: loyalty is shaped not by the fastest possible delivery, but by the delivery speed a company consistently meets. When a customer decides where to click buy, they mentally factor the interval between click and doorstep knock into the product's value; any misalignment between promise and reality destroys the trust built through prior transactions. Therefore, accelerating delivery makes sense only within a managed cycle in which each further time reduction is validated by repeat-order data rather than one-off applause on social media.

First step—segment the audience by acceptable wait time and willingness to pay. The majority will wait if delivery is free, whereas paid express options are chosen according to category and income; the share of those who truly demand two-hour receipt remains niche, yet this segment generates hype around ultra-fast services. Within categories, differences emerge: everyday-demand products are less tolerant of delay than fashion goods, and high-income urban

consumers are more inclined to pay for acceleration than rural buyers, who will wait a week to save costs. The company's task is to align these clusters with channel economics and offer each a rational set of options, so as not to subsidize unnecessary speed for those unwilling to pay.

Second step—establish a realistic SLA and transparent communication. Consumers are more willing to accept an extra day in transit than to forgive a delivery outside the promised window; most customers cite precise date and time indication as a criterion of good service, and real-world cases of high-precision EDD engine implementations show conversion increases already at the product-listing stage.

Third step—continuous measurement and control: the company records a baseline on-time delivery metric and systematically closes the service gap. Thus, the KPI dashboard must include not only speed but also the share of fulfilled promises, frequency of late slots, return dynamics, and volume of WISMO inquiries, so that any investment in acceleration is filtered through actual returns in NPS, RPR, and CLV.

Fourth step—gradually accelerate without loss of quality. The small steps practice is confirmed by cases: the publisher Brave Books reduced its promised SLA from five to three days over eight months while maintaining accuracy and planning to move to a one-day model without increased returns; concurrently, warehouse throughput doubled, providing resources for further A/B tests [19]. Such an iterative approach—where each new threshold is supported by data on OTD, returns, and margin—enables finding the speed–reliability–economics equilibrium and turning promised speed into a long-term loyalty asset rather than an expensive marketing gimmick.

Thus, the promised speed strategy is built on pledging realistically achievable delivery times and reinforcing each further time reduction with objective repeat-order metrics rather than one-off hype. To this end, the company segments its audience by acceptable wait and willingness to pay, establishes a transparent SLA, systematically measures on-time delivery rates, and gradually accelerates processes in small increments based on data on on-time delivery, returns, and profitability.

4. Conclusion

The study confirmed the key role of delivery speed as a fundamental factor in forming consumer loyalty in e-commerce. Analysis of theoretical and empirical data showed that accelerating the click–door cycle invariably enhances customer satisfaction, strengthens trust, and stimulates repeat purchases. At the same time, the effectiveness of fast delivery directly depends on the reliability of promise fulfillment: it is precisely the minimization of the service gap between stated and actual delivery times that plays a decisive role in maintaining loyalty, whereas SLA breaches immediately nullify the advantages of shortened deadlines.

A comprehensive examination of last-mile elements demonstrated that this segment concentrates a significant share of logistics costs and holds substantial potential to impact customer experience. The use of distributed warehouses, micro-fulfillment centers, and advanced AI-routing algorithms allows not only for delivery acceleration but also for improved promise-fulfillment accuracy without proportional increases in costs and carbon footprint. The implementation of hybrid pricing models—combining a free standard SLA with paid expedited options—provides consumers with transparent choice and cost optimization while preserving high conversion and satisfaction levels.

Particular attention is devoted to integrated returns processes, which can either negate the positive effect of fast delivery or, if properly organized, serve as an additional trust driver. Pre-filled documentation, instant notifications, and cost-free return shipping transform returns into a seamless touchpoint, reducing the risk of customer loss after a negative experience.

Thus, the developed strategic model of promised speed relies on four interrelated components: audience segmentation by acceptable delivery times and willingness to pay; establishment of a realistic and transparent SLA; systematic measurement of on-time delivery metrics; and iterative acceleration of processes in small steps based on objective metrics. Only by maintaining a balance of speed, accuracy, and economic sustainability can companies transform delivery from a cost center into a source of long-term loyalty and competitive advantage.

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