

The convenience-cost paradox: An empirical study of consumer price sensitivity toward platform fees, surcharges, and cart-building mechanisms in quick-commerce

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Abstract---Urban retail has been revolutionized by Quick Commerce (Q-Commerce) in India, which uses hyper-local dark shop operations to fulfil orders in less than fifteen minutes. While websites like Amazon, Blinkit, Zepto, Swiggy, and Instamart. The necessary transition to unit-level economics has resulted in additional costs, such as handling charges, surge pricing, and minimum spend criteria, after initial market share was acquired through promotional discounts and zero-delivery models. The consequent "Convenience-Cost Paradox"—the behavioural conflict between consumers' appreciation of quick delivery and the cognitive strain caused by the accumulation of micro fees—will be examined in this research. The study assesses the connections between perceived convenience, fee tolerance, cart abandonment, and interface nudges using a cross-sectional descriptive survey of N = 400 active quick-commerce users in metro areas of India. The results show that while basic platform fee acceptance is supported by high convenience utility, multi-homing app switching is driven by dynamic surcharges, and unplanned impulsive additions are systematically induced by delivery threshold prompts. There are strategic suggestions for cart optimization and sustainable platform pricing.

Keywords---Quick Commerce, Convenience-Cost Paradox, Platform Fees, Surcharges, Impulse Buying, Choice Architecture, Cart Abandonment, Metro Cities.

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1. Introduction

Universal mobile internet connectivity, fast Unified Payments Interface (UPI) ecosystems, fast urbanization, and changing temporal values among urban households are driving an unprecedented structural transformation of the retail distribution framework in emerging economies, especially in India. While substantial catalogue discounting over multi-day delivery windows (usually 2 to 5 days) helped the first phase of digital commerce overcome geographic assortment barriers, modern urban customers increasingly view personal time as a limited, monetizable resource. The rapid rise of Quick-Commerce (Q-Commerce), an ultra-fast fulfilment model intended to reduce the entire purchasing lifecycle from order placed to doorstep delivery to 10 to 20 minutes, has been accelerated by this socio-cultural shift.

Prominent players in the Indian market, including Blinkit (Zomato), Zepto, Swiggy Instamart, and Amazon Now, have reorganized retail supply chains by substituting decentralized networks of hyper-local micro-fulfilment centres—also referred to as "dark stores"—for centralized regional warehouses. These 2,500–4,000 square foot facilities, which are strategically located near high-density residential and commercial catchments, keep strict inventory control over 3,000–5,000 high-velocity stock holding units. Dark businesses frequently achieve dispatch within two to three minutes of cart confirmation by combining localized inventory placement with algorithmic picking, automated packing queues, and specialized two-wheeler delivery fleets. As a result, the way that consumers shop has drastically changed. High-frequency, spontaneous, and inexpensive on-demand purchases are aggressively replacing the customary weekly or monthly pantry-stocking visits to local kirana stores and physical supermarkets.

1.1 Evolution of Quick-Commerce Pricing and Dark Store Economics

Quick-commerce platforms operated in an aggressive client acquisition regime significantly supported by venture capital funding during the initial market penetration phase (approximately 2021 to 2023). Platforms offered zero-fee shipping, eliminated minimum order value restrictions, and gave out large promotional coupons in an effort to break consumer inertia and foster habitual platform dependence. However, the underlying unit economics came under close scrutiny as capital markets turned their attention to operational discipline, contribution-margin positivity, and public market responsibility (as demonstrated by public market assessments of parent companies). Non-negotiable fixed and variable operating costs are associated with sub-fifteen-minute logistical operations:

Net Margin per Order = *Product Margin + Brand Monetization / Ad Revenue + Direct Consumer Fees - Picking and Packing Labor + Last-Mile Delivery Fleet Payout + Dark Store Rent and Utilities*

Platforms have significant unit-level deficits on low Average Order Values (AOVs) ranging from ₹150 to ₹250 since wholesale margins on conventional fast-moving consumer goods (FMCG) and packaged foods are structurally constrained between 12% and 18%. Operators have been compelled to steadily destroy blanket free fulfilment and replace it with tiered, multi-component checkout price systems because labour and logistics costs cannot be reduced below conventional floor rates without sacrificing service speed.

1.2 The Emergence of the Convenience-Cost Paradox

This change has created a unique conflict in behaviour known as the "Convenience-Cost Paradox." When consumers first embraced speedy commerce, they did so implicitly, believing that ultra-fast delivery was a standard, complementing function of digital retail platforms. Checkout interfaces now display a divided array of micro-charges as platforms strive for margin breakeven:

- Platform handling costs are required and range from ₹4 to ₹10 every transaction, regardless of the amount of the basket.
- Environmental and weather-related surcharges (applied dynamically during periods of harsh

- weather or excessive rainfall)
- Demand spikes during peak hours (levied during holidays, festival seasons, or periods of heavy traffic)
- Penalties for small-cart convenience (applied when orders are less than arbitrary operational limits, like ₹99 or ₹149)

When consumers encounter divided, non-negotiable micro-fees at the final payment screen, they experience severe psychological friction and perceive unfairness, despite the fact that consumers place significant subjective economic utility on rapid gratification and emergency availability. The unexpected emergence of checkout friction causes real-time multi-homing behaviour, cart abandonment, and quick cross-platform pricing comparisons since urban shoppers maintain multi-app environments—typically running Blinkit, Zepto, and Swiggy Instamart concurrently on a single smartphone device.

1.3 Digital Choice Architecture and Basket Inflation Mechanisms

Platforms heavily utilize behavioural choice architecture to reduce consumer fee resistance while raising average order values toward lucrative thresholds (usually ₹400 to ₹500). Real-time deficit visualizers, including dynamic progress bars that read "Add items worth ₹37 to unlock Free Delivery," are integrated by digital product designers just above the checkout button.

These interface interventions deliberately take advantage of cognitive biases, particularly Richard Thaler's Mental Accounting Theory and Kahneman and Tversky's Loss Aversion principle. Customers view spending an extra ₹50 to ₹80 on low-involvement impulsive goods (such beverages, confectionery, impulse snacks, or domestic commodities) as an economically reasonable, value-maximizing trade-off rather than paying a direct out-of-pocket delivery penalty of ₹25. By purposefully changing user behaviour from targeted replenishment to reactive, impulsive buying, this mechanism transforms fee-averse customer friction into intended basket inflation.

1.4 Statement of the Problem

Although current research confirms that quick-commerce platform acceptance is driven by operational accessibility and delivery speed, there is still a lack of empirical knowledge regarding how customers negotiate changing micro-monetization structures. The main conundrum arises as platforms continuously modify fee thresholds to reduce cash burn: at what quantitative tipping point does consumer price sensitivity take preference over perceived convenience utility, how do unforeseen surcharges cause cross-app platform switching, and how much does algorithmic choice architecture affect the composition of checkout baskets? To determine if rapid commerce will become a reliable everyday utility or fade into a specialized emergency channel, it is crucial to quantify these processes.

1.5 Significance of the Study

This study examines a crucial intersection of consumer psychology, digital pricing structures, and behavioural retail economics. Through empirical measurements of fee elasticity thresholds, price sensitivity, and the psychological effects of checkout option architecture on popular platforms, such as Blinkit, Zepto, Swiggy Instamart, and Amazon Now, the study offers:

- Empirical baseline measurements on fee thresholds that balance unit contribution margins without encouraging cart abandonment or rival app switching are useful for platform architects and pricing strategists.
- For FMCG Brand Managers: Understanding consumer basket-building mechanisms and how to employ free-delivery nudges and checkout carousels to generate co-funded impulsive placements.
- For Researchers in Retail: A thorough theoretical synthesis that links Partitioned Pricing, Mental Accounting, and Service Convenience Theory in the context of hyper-local digital logistics.

1.6 Scope of the Study

The study focuses on consumers who actively access at least one major quick-commerce platform (Blinkit, Zepto, Swiggy Instamart, or Amazon Now) at least twice a month and who live in Tier-1 urban cities, namely Mumbai, Bengaluru, Delhi NCR, and Hyderabad. The study examines behavioural and perceptual reactions to checkout-stage pricing partitioning and interface-level basket-building treatments, with a particular focus on non-durable grocery, food, and daily necessary transactions where delivery turnaround times range between 10 and 20 minutes.

2. Review of Literature

2.1 Study by Singhal and Sharma (2025)

Singhal and Sharma (2025) examined consumers' propensity for speedy transactions, concentrating on Zepto and Blinkit. They determined that the main factors influencing platform adoption were delivery speed, convenience, availability, and promotional offers. The authors noted that while speed increases initial acceptance, fair price perceptions and consistent fulfillment are necessary for long-term retention.

2.2 Study by Saleem and Bhandari (2024)

The factors that influence consumer behaviour on digital quick-delivery systems were examined by Saleem and Bhandari (2024). Their synthesis verified that urban consumers' intentions to make repeat purchases are based on the effectiveness of the app interface, clear pricing breakdowns, and safe digital payment methods.

2.3 Study by Naik and Kapdi (2025)

Working professionals and students make up the main demographic basis for quick-commerce applications because of their high temporal pressure and lifestyle choices, according to Naik and Kapdi's (2025) analysis of consumer purchasing habits in India. They observed that low-value replenishment orders are more affected by minor price adjustments than emergency orders.

2.4 Study by Begum and Sultana (2026)

According to Begum and Sultana's (2026) analysis of platform preferences in metropolitan areas, Zepto and Swiggy Instamart trailed closely behind Blinkit, which retained a high market preference due to delivery turnaround, product range, and promotional discounts. According to their research, delivery speed continues to be the top factor influencing consumer happiness, and supermarket goods lead order categories.

2.5 Study by Chilaka and Basu (2025)

In their investigation of operational advances in hyper-local logistics, Chilaka and Basu (2025) discovered that platforms depend on automated checkout prompts and algorithmic warehouse routing to maintain unit margins. Their results highlighted checkout cross-selling's increasing contribution to average order values.

2.6 Study by Naik and Kapdi (2025)

Naik and Kapdi (2025) looked into Indian consumers' preferences and buying habits with regard to rapid commerce apps. According to their empirical investigation, the majority of users are young consumers and working professionals, who are primarily motivated by shortened workdays and a greater demand for convenience. Rapid fulfillment windows, steady inventory availability, and promotional discount programs are important factors that positively influence customer satisfaction and future purchase intentions, according to the study.

2.7 Study by Anusha, Abhishek, Iniyaa, and Jyothi (2025)

Anusha et al. (2025) assessed how consumer expectations and purchasing patterns changed in rapid-fulfillment retail models. The authors discovered that sub-30-minute delivery, faultless order fulfillment,

safe payment interfaces, and seamless application usability are becoming non-negotiable baseline expectations for urban buyers. They came to the conclusion that user expectations and checkout behaviours have been radically altered by the confluence of mobile application ergonomics and optimized micro-logistics networks.

2.8 Study by Nguyen, De Leeuw, Dullaert, and Foubert (2019)

With a focus on the psychological cost of fulfillment, Nguyen et al. (2019) assessed consumer trade-offs among online delivery qualities. The authors used mental accounting theory to demonstrate that, in comparison to base product pricing, delivery fees are given disproportionate weight during checkout evaluations. Three unique customer segments were found by the authors: value-for-money consumers who constantly evaluate whether speed justifies overall order prices, time-and-convenience-oriented purchasers who are willing to accept delivery markups, and price-oriented shoppers who actively oppose additional delivery charges.

2.9 Study by Chilaka and Basu (2025)

Chilaka and Basu (2025) investigated consumer perception and competitive distinction across prominent quick-commerce services, such as Blinkit, Zepto, and Swiggy Instamart. Pricing, discounts, and fee structures account for the biggest percentage of decision variance (28%), followed by delivery speed (24%), according to the study's factor analysis. The authors showed that whereas younger cohorts (18–25 years old) show high platform switching based on cost and discount availability, churn risk across platforms is significantly increased by hidden fees and user experience frictions.

2.10 Study by Goswami and Kumari (2024)

With an emphasis on impulsivity, speed of choice, and post-purchase happiness, Goswami and Kumari (2024) assessed how rapid commerce affected consumer decision-making processes. According to the study, the short delivery time of rapid shopping apps encourages impulsive, unexpected basket additions. However, their empirical investigation showed that overall consumer decision-making strategies maintain a reasonable baseline grounded in perceived service quality and pricing fairness, even though delivery speed and promotional methods change transactional patterns.

2.11 Study by Harter, Stich, and Spann (2024)

Using extensive transaction datasets, Harter et al. (2024) investigated the behavioural effects of fulfillment speed variances on repeat purchase dynamics. The authors found that while unexpected delivery delays considerably increase the period until a customer places another order, early deliveries strengthen customer trust and shorten interpurchase cycles. Their results highlight the clear relationship between consumer tolerance for platform pricing and continuous usage and fulfillment reliability.

2.12 Study by Begum and Sultana (2026)

Begum and Sultana (2026) examined at buying patterns among consumers in Indian cities using Blinkit, Zepto, and Instamart. According to their empirical research, Blinkit and Zepto are the most popular choices among users between the ages of 18 and 35 because of their frequent promotions and quick delivery. Crucially, the authors came to the conclusion that although rapid convenience encourages frequent small-basket purchases, platforms must avoid arbitrary price adjustments and uphold transparent pricing regulations in order to sustain long-term customer retention and loyalty.

3. Research Gap

Prior studies on quick-commerce have mostly concentrated on broad customer happiness, operational logistics, delivery speed, and general adoption rates (Begum & Sultana, 2026; Singhal & Sharma, 2025). Nevertheless, little empirical research has been done on how dynamic fees cause real-time app switching (multi-homing), the psychological threshold at which delivery surcharges surpass

convenience, and the extent to which free-delivery threshold triggers cause unanticipated basket inflation. This particular intersection is the focus of this study.

4. Objectives of the Study

- 1) *To evaluate the relationship between perceived convenience value and consumer willingness to pay platform handling fees.*
- 2) *To assess the impact of surcharges (handling fees, weather surges, small-cart fees) on cart abandonment and competitor platform switching.*
- 3) *To analyze the extent to which free-delivery threshold pushes and checkout recommendations influence unplanned impulse spending.*
- 4) *To examine the moderating influence of demographic factors (age, monthly income, and occupation) on price sensitivity toward platform fees.*
- 5) *To provide actionable strategies for platform pricing managers and retail brand distributors.*

5. Research Hypotheses

- **Null Hypothesis (H01):** *There is no significant relationship between perceived convenience value and consumer tolerance toward platform handling fees.*
- **Alternative Hypothesis (Ha1):** *Higher perceived convenience value significantly increases consumer tolerance toward platform handling fees.*
- **Null Hypothesis (H02):** *Surcharges (handling fees, surge pricing, cart penalties) have no significant impact on cart abandonment or competitor app switching.*
- **Alternative Hypothesis (Ha2):** *Surcharges significantly increase the likelihood of cart abandonment and competitor app switching.*
- **Null Hypothesis (H03):** *Cart-building prompts (e.g., "Add ₹X for free delivery") do not significantly influence the proportion of unplanned items in the final order.*
- **Alternative Hypothesis (Ha3):** *Cart-building prompts significantly increase the proportion of unplanned impulse purchases.*
- **Null Hypothesis (H04):** *Demographic variables (monthly household income and age) do not significantly moderate consumer price sensitivity toward platform fees.*
- **Alternative Hypothesis (Ha4):** *Demographic variables significantly moderate consumer price sensitivity toward platform fees.*

6. Research Methodology

6.1 Research Design

This study employs a descriptive and cross-sectional empirical survey design to examine consumer pricing perceptions, fee elasticity, and impulse purchasing habits in quick-commerce environments.

6.2 Sources of Data

- **Primary Data:** Collected directly from consumers via a structured online questionnaire addressing usage patterns, fee perceptions, app switching, and reactions to digital prompts.
- **Secondary Data:** Sourced from peer-reviewed management journals, e-commerce industry reports, company filings, and market statistics.

6.3 Sampling Technique and Sample Size

A non-probability purposive and quota sampling technique was utilized to capture respondents who regularly use quick-commerce services. A total of $N = 400$ valid responses were gathered across metro cities of India, distributed across students, salaried professionals, and homemakers.

6.4 Data Collection Instrument

A structured questionnaire using a 5-point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree) measured key constructs:

- Perceived Convenience Value (PCV)
- Platform Fee Sensitivity (PFS)
- Digital Nudge Susceptibility (DNS)
- Platform Switching and Cart Abandonment (PSCA)

6.5 Statistical Tools Used

- Percentage and frequency analysis for demographic profiling
- Cronbach's Alpha for scale reliability
- Multiple Linear Regression for Hypothesis 1
- Binary Logistic Regression for Hypothesis 2
- Paired-Samples t-Test for Hypothesis 3
- Two-Way ANOVA for Hypothesis 4

7. Results and Discussion

7.1 Demographic Profile of Respondents

- **Age:** 71% of respondents were aged 18–35 years, confirming that younger, tech-literate consumers form the dominant user base.
- **Occupation:** 49% were salaried corporate professionals, 30% were students, and 21% were homemakers or self-employed individuals.
- **Platform Usage:** Blinkit was the primary application for 44% of respondents, Zepto for 32%, and Swiggy Instamart for 24%.

7.2 Scale Reliability Analysis

All survey constructs exceeded the standard reliability benchmark of alpha 0.70:

- Perceived Convenience Value: (α) = 0.842
- Platform Fee Sensitivity: (α) = 0.811
- Digital Nudge Susceptibility: (α) = 0.796
- Platform Switching Behaviour: (α) = 0.854

7.3 Testing of Hypothesis 1: Convenience vs. Fee Tolerance

Multiple linear regression indicated that Perceived Convenience Value both positively and significantly predicts fee tolerance parameters ($\beta = .559$, $t = 13.42$, $p < .001$, $R^2 = .312$). The null hypothesis H 01 is rejected because consumers who place a high subjective value on time savings and emergency fulfilment are more willing to pay nominal handling costs (₹4–₹8).

7.4 Testing of Hypothesis 2: Surcharges and Switching Behaviour

Delivery surcharges (particularly weather and high-demand fees surpassing ₹20) significantly increase cart abandonment and app-switching probability, according to binary logistic regression (Wald $\chi^2 = 42.16$, $p < .001$, $\text{Exp}(B) = 3.27$). When surge charges were imposed, more than 68% of respondents said they switched between Blinkit, Zepto, or Instamart to compare final cart totals, refuting null hypothesis H02.

7.5 Testing of Hypothesis 3: Cart-Building Nudges and Impulse Spending

A paired-samples t-test compared planned order values against final checkout values after exposure to "Add ₹X for Free Delivery" prompts:

M = ₹238.50 (SD = 64.20) is the planned basket mean.

Mean final checkout: M = ₹312.40 (SD = 78.90)

Test statistic: $p < 0.001$, $t(399) = 16.84$

In order to avoid paying an overt delivery fee, consumers opt to spend more on tangible, low-involvement items (snacks, beverages), as evidenced by the significant rise in final basket size, which rejects null hypothesis H03.

7.6 Testing of Hypothesis 4: Demographic Moderation on Fee Sensitivity

Household income had a substantial main influence on fee sensitivity, according to a two-way ANOVA ($F(2, 394) = 28.45$, $p < 0.001$). In contrast to high-income cohorts, respondents in lower income categories showed acute sensitivity and greater abandonment rates over minor handling fees, refuting null hypothesis H04.

8. Major Findings

- 1) The most frequent users of quick-commerce apps are young urban consumers (18–35 years old).
- 2) When delivery speed and convenience are excellent, nominal handling fees (₹4–₹8) are acceptable.
- 3) The main causes of cart abandonment and rival multi-homing are unexpected surge fees and small-cart penalties.
- 4) An average basket inflation of 30% or more is caused by "Add ₹X for Free Delivery" offers, which turn fee-averse attitudes into impulsive, unplanned purchases.
- 5) Price sensitivity to microcharges at checkout is considerably mitigated by monthly household income.

9. Suggestions

- 1) **Maintain Fee Transparency:** Rather than adding unexpected surcharges at the payment gateway, platforms should show handling fees early in the user journey.
- 2) **Use Personalized Thresholds:** Dynamic thresholds based on each customer's past purchases help reduce cart drop-offs in place of strict minimum spend caps.
- 3) **Increase Loyalty Bundles:** Subscription services, including zero-fee passes, reduce transaction friction per order and deter users from multi-homing among competing apps.
- 4) **Curate Targeted Add-On Carousels:** To enable smooth basket building, checkout add-on sections should show pertinent, high-margin consumables priced close to usual threshold deficits (₹20–₹50).

10. Conclusion

In urban regions, quick commerce has become a crucial retail service. However, striking a balance between delivery convenience and checkout pricing barrier is crucial as platforms move from subsidized client acquisition to unit-level profitability. Customers are driven to multi-home and compare rates across competing platforms by surcharges that seem excessive or arbitrary. However, interface choice architecture is still a useful tool for basket construction. Maintaining pricing transparency, improving value-added delivery tiers, and upholding the fundamental convenience offering that propels the industry are all necessary for sustainable growth.

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