

Quick-Commerce and the Future of Small Retail: An Empirical Study of Consumer Shift and Retail Disruption in Delhi NCR


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The rise of quick-commerce platforms has significantly reshaped grocery delivery in Indian metros by providing ultra-fast delivery and hyper-competitive prices, sparking concerns over their influence on small retailers. This study aims to explore the impact of quick-commerce on the kirana stores in Delhi NCR, where the shop's disruptions are related to the consumers' shift behavior as the key behavioral mechanism between consumer perceptions and retailer-level outcomes. A cross-sectional dual-respondent design was employed and data were analysed using partial least squares structural equation modeling (PLS-SEM) software package (SmartPLS 4) with sample size of 400 quick commerce users and 300 Kirana store owners. The results indicate that perceived convenience and perceived pricing advantage are the most salient predictors of consumer shift, complemented by trust, and assortment breadth. Consumer shift, in turn, significantly amplifies perceived sales decline, footfall decline, and profitability compression among Kirana retailers. The proposed model accounts for 54% of consumer shift, and 28-36% of disruption outcomes, and is reasonably reliable, valid, and fits the data well. The study contributes to the literature of quick-commerce and retail disruption by incorporating constructs related to technology adoption, trust, and habit along with disruptive innovation outcomes within the context of an emerging market, and provides implications for Kirana retailers, platform companies, and policy makers.

Keywords: quick commerce, consumer shift, kirana stores, retail disruption, perceived convenience, disruptive innovation, PLS-SEM, Delhi NCR

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1. Introduction

Quick commerce, characterized by app-based food ordering and delivery within 10–30 minutes, represents one of the most significant shifts in urban retail, especially in Indian metros (Redseer, 2024; Deloitte, 2024). Quick-commerce firms are revolutionizing consumer expectations in dense and digitally connected markets like Delhi NCR, particularly with respect to convenience, speed, and value, especially for everyday grocery shopping (PwC, 2024; Verhoef et al., 2015).

The number of kirana stores is estimated to be 12–15 million, and they are small, typically located in a community, provide personalized service, rely on hyper-locality, informal credit, and community embeddedness, and are crucial for distribution of everyday groceries (BCG, 2023; Dholakia et al., 2020; Nielsen, 2022; Sinha & Banerjee, 2021). A new competition has emerged in this landscape with the entry of dark-store based quick-commerce players like Zepto, Blinkit, and Swiggy Instamart, which are also operating dense networks in the same catchment areas, changing this competitive landscape and placing pressure on traditional formats (Mehta & Kumar, 2024; Sharma & Gupta, 2023). As per industry assessments, a significant portion of grocery sales in Delhi NCR has gone over to alternate channels and quick-commerce has taken a bulk share of this transition (PwC, 2024; Redseer, 2024).

Empirical studies explicitly linking consumer drivers to kirana-level disruption is still limited, although the role of quick commerce has increasingly grown strategic. Previous research has mainly focused on the adoption determinants of consumers (Davis, 1989; Venkatesh et al., 2003; Gefen et al., 2003) or the reactions of retailers and the general industry (FRAI, 2025; PwC, 2024; BCG, 2023) separately. In this paper, we fill that void by proposing that consumers' shifts toward quick-commerce are mediated by behavioral mechanisms that occur between consumers' perceived convenience, pricing, assortment, trust, and habit, and the observed consequences of disruption, including sales decline, footfall decline and profitability compression, in the kirana store (Christensen, 1997; Verhoef et al., 2015).

Based on literature on technology adoption (Davis, 1989; Venkatesh et al., 2003); trust (Gefen et al., 2003 and Limayem et al., 2008); and disruptive innovation (Christensen, 1997; Christensen & Raynor, 2003), a structural model is developed and tested using PLS-SEM with dual-respondent data of consumers and kirana retailers in Delhi NCR. The research method is a dual-respondent approach which helps mitigate common method bias and combines the perspectives of consumers and retailers into one empirical model, as developed by Hair et al. (2019) and Ringle et al. (2022). In essence, it captures the relative impact of the most important perceptual drivers on measure of consumer shift and estimates the level of disruption facing small retailers in a major Indian metropolitan area (Kumar & Singh, 2024; Mehta & Kumar, 2024).

2. Literature Review

2.1 Quick Commerce and Retail Transformation

Quick commerce can be seen as a streamlined version of e-commerce with the incorporation of hyperlocal dark-store infrastructure, algorithmic order-processing, and last-mile delivery—providing ultra-fast fulfilment (Deloitte, 2024; Bhatia & Sharma, 2024). Unlike traditional e-commerce, where the focus is on product variety and price, fast commerce emphasises time – delivery of goods takes only 10-30 minutes (Redseer, 2024; Rao & Varshney, 2023; Singh & Kaur, 2024). According to market forecasts, quick-commerce in India is expected to see robust growth, driven by the increasing penetration of smartphones, digital payments, and evolving urban lifestyles (Redseer, 2024; Invest India, 2024). Prior research on digital retailing shows that changes in fulfillment speed and service experience can significantly alter consumer choice behavior, particularly for routine, high-frequency purchases (Verhoef et al., 2015; Inman & Nikolova, 2017; Grewal et al., 2020). The impact of e-commerce on traditional retail in the West has been well chronicled, with the result that demand has been diverted and margins squeezed (Brynjolfsson & Smith, 2000; Forman et al., 2009; Gauri et al., 2021). However, this phenomenon is exacerbated by quick-commerce which reduces the delivery time from days to minutes, and situates the micro-warehouses in direct competition with local kirana stores (FRAI, 2025; Mehta, 2024).

2.2 Consumer Behavior: Technology Adoption, Store Choice, Trust, and Habit

Theories of technology adoption, like TAM and UTAUT, have focused on the perceived usefulness, perceived ease of use, social influence, and facilitating conditions as important factors of technology adoption and use (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003). The perceived usefulness in the quick-commerce is expressed as time-saving and convenience, whereas ease of use is expressed as intuitive application interfaces and frictionless ordering (Gefen & Straub, 2000; Williams et al., 2015). Convenience, price/value, assortment, and location are key factors in consumer store choice (Bell et al., 1998; Hoch et al., 1995; Baker et al., 2002). When purchasing low-involvement grocery items, online shoppers are willing to sacrifice social and sensory cues to capture convenience and time savings (Pan & Zinkhan, 2006; Inman et al., 2009). Convenience plays a more significant role in grocery shopping, a high-frequency and routine purchase, as it does in other purchases (Bell et al., 2011; Inman & Nikolova, 2017). The importance of trust as an antecedent of online and mobile commerce adoption has been well established, because it lowers perceived risk and facilitates transaction intentions when physical inspection is not possible (Gefen et al., 2003; McKnight et al., 2002; Pavlou, 2003). Trust in the quality of the product, delivery, and payment security is especially crucial in quick-commerce, where customers often pay first and receive their items second (Sharma & Sharma, 2023; Gupta & Duggal, 2024). The automatic nature of the behavior that develops through repetition is known as habit, and has been documented to predict continued use of digital services beyond conscious choice (Limayem et al., 2008; Verplanken & Orbell, 2003; Ouellette & Wood, 1998). However, the information systems continuance research indicates that when usage is routine, the role of intention may be moderated or even superseded by habit (Kim & Malhotra, 2005; Limayem et al., 2008). In a quick-commerce environment, the repeat use can therefore create a default channel for grocery shopping and limit the possibility of consumers switching back to kirana stores (Jaspersen et al., 2005; Lankton et al., 2010).

2.3 Retail Service Quality and Disruption Outcomes

The research on retail service quality highlights reliability, responsiveness, problem solving,

and perceived ease as the four dimensions that form the basis of customer judgements (Parasuraman et al., 1988; Dabholkar et al., 1996; Brady & Cronin, 2001). Dabholkar et al. (1996) proposed an RSQS scale that includes physical aspects, reliability, personal interaction, problem solving, and policy as dimensions of retail settings. The rise of quick-commerce platforms that enhance service quality attributes that grocery-buyers care about, e.g., reliability and responsiveness can crowd out store traffic and revenues for small retailers that have thin profit margins (Christensen, 1997; Kumar and Singh, 2024).

According to disruptive innovation theory, disruptive firms enter the market with new performance characteristics and new value propositions that appeal to unmet needs in the low end of the market and then push upwards to erode the way incumbents are doing business (Christensen, 1997; Christensen & Raynor, 2003; Danneels, 2004). Fast-commerce can be described as such a disruptive innovation: it was initially used in emergency and convenience purchases and is now being adopted for planned weekly and monthly purchases (FRAI, 2025; Redseer, 2024). This path is similar to that seen in previous retail settings, where new store formats slowly steal the business of their established competitors (Brynjolfsson & Smith, 2000; Gauri et al., 2021; Tellis, 2006).

2.4 Research Gap

Although previous work has investigated drivers toward adoption and service features (Sharma & Gupta, 2023; Bhatia & Sharma, 2024), there is a scarcity of empirical research that examines how the consumer shift translates into observable disruption outcomes for kirana stores using robust structural modeling—especially within the context of the Delhi NCR (Kumar & Singh, 2024; Mehta & Kumar, 2024). Most of the existing work addresses either consumer adoption (Davis, 1989; Venkatesh et al., 2003; Gefen et al., 2003) or retailer responses and perceptions (FRAI, 2025; PwC, 2024), but rarely both within an integrated model. The current paper aims to fill that gap by linking predictors of adoption and consequences of disruption by means of a mechanism model with adoption as the central mediator variable, and by estimating this model with SmartPLS-based PLS-SEM with dual-respondent data (Hair et al., 2019; Ringle et al., 2022).

3. Research Objectives

Based on the literature, this study pursues four objectives:

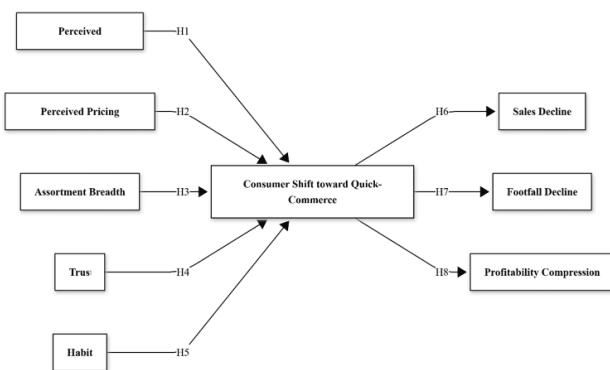
1. To identify the factors influencing consumer shift toward quick-commerce platforms in Delhi NCR.
2. To identify additional factors driving consumer shift, including Assortment breadth, Trust and Habit.
3. To assess the impact of consumer shift on kirana store disruption outcomes related to Sales decline and Footfall decline.
4. To assess the impact of consumer shift on kirana store profitability.

4. Conceptual Framework and Hypotheses

4.1 Conceptual Model

The conceptual model proposes that five consumer perception constructs—perceived convenience, perceived pricing advantage, assortment breadth, trust, and habit—drive consumer shift toward quick-commerce platforms. Consumer shift then affects three disruption outcomes for kirana stores: sales declines, footfall declines, and profitability compression. This model combines the adoption theories of technology (TAM and UTAUT) with the theory of the disruptive innovation (DI) to explain the impact of quick-commerce on small retailers from the perspective of consumer behavior.

Figure 1: Conceptual Model



4.2 Consumer Shift Hypotheses

- H₁: Perceived convenience positively influences consumer shift toward quick-commerce platforms.
- H₂: Perceived pricing advantage positively influences consumer shift toward quick-commerce platforms.

- H₃: Perceived assortment breadth positively influences consumer shift toward quick-commerce platforms.
- H₄: Trust in quick-commerce platforms positively influences consumer shift.
- H₅: Habit positively influences consumer shift.

These hypotheses reflect the idea that faster delivery, better prices, broader assortment, higher trust, and stronger usage habits all increase the likelihood that consumers will shift from kirana stores to quick-commerce platforms.

4.3 Disruption Hypotheses

Given that disruption outcomes are negative from the retailer’s perspective, the following hypotheses are framed in terms of increased perceived disruption:

- H₆: Consumer shift positively influences kirana store sales decline.
- H₇: Consumer shift positively influences kirana store footfall decline.
- H₈: Consumer shift positively influences kirana store profitability compression.

The underlying assumption is that as consumers allocate more of their grocery spending to quick-commerce, kirana stores experience fewer visits, lower transaction volumes, and squeezed margins.

5. Research Methodology

5.1 Research Design

This study is conducted through quantitative approach, cross sectional survey design to examine the impact of quick commerce platforms on the performance of small retail businesses (kirana shops) in Delhi NCR, India. A dual-respondent approach was used to minimize common method bias (Rindfleisch et al., 2008). The data collected from consumers was for the predictor variables (perceived convenience, pricing advantage, assortment breadth, trust, habit and consumer shift), and the data collected from the kirana stores was for the outcome variables (sales decline, footfall decline and profitability compression). The data cross-sectional design does not allow for causal inference but is commonly used for preliminary theory testing of new phenomena in retail that is generated by new technology (Hair et al., 2022;

Kline, 2016). 5.2 Study Setting and Sampling The study was carried out in Delhi NCR, one of the most competitive and established quick-commerce markets in India, with a high amount of platform density and fierce growth from key players (Blinkit, Zepto, Swiggy Instamart and BigBasket Now). This setting was deliberately chosen due to its suitability for studying platform disruption in traditional retail ecosystems (Bhatnagar et al., 2023; Gupta & Verma, 2024).

5.2 Study Setting and Sampling

A dual sampling approach was adopted. Stratified random sampling was used for the kirana store owners (n = 300) distributed across 4 major zones in order to achieve geographic representation :- Central Delhi (n = 75) ,South Delhi / Gurugram (n = 85),East Delhi / Noida / Ghaziabad (n = 80) and West Delhi / Faridabad (n = 60).

The convenience sampling with quota controls on age, monthly household income and residential location was used to approximate the actual user profile of quick-commerce platforms in the region (KPMG, 2024) for consumers (n = 400). To be included in the study, consumers had to have used quick-commerce platforms at least once in the past three months, while retailers were required to have been in operation for at least one year in the active delivery areas of the major quick-commerce platforms. The data were gathered during the period of October 2025 to January 2026. The response rate for kirana retailers and consumers were 71.4% and 68.5% respectively. The rates are deemed acceptable in survey-based research in emerging markets (Baruch & Holtom 2008; Mellahi & Harris 2016).

5.3 Measurement Instrument

All constructs were assessed with multi-item reflective scales (using a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree). The scales were adapted from previous studies in the literature and adapted to the quick commerce and Indian Kirana retail environment.

5.3.1 Constructs

The key constructs and their measurement are given below:

- **Perceived Convenience** (4 items): Adapted from Davis (1989), Venkatesh et al. (2003), and Gefen and Straub (2000).

- **Perceived Pricing Advantage** (3 items): Drawn from Baker et al. (2002), Zeithaml (1988), and Bell and Lattin (1998).
- **Assortment Breadth** (3 items): Adapted from Dabholkar et al. (1996), Hoch et al. (1995), and Broniarczyk and Hoyer (2006).
- **Trust** (4 items): Measured using scales from Gefen et al. (2003), McKnight et al. (2002), and Pavlou (2003).
- **Habit** (3 items): Adapted from Limayem et al. (2008), Verplanken and Orbell (2003), and Ouellette and Wood (1998).
- **Consumer Shift** (4 items): Adapted from Verhoef et al. (2015), Gupta and Kim (2010), and Inman et al. (2009).
- **Kirana Sales Decline** (3 items): Developed with reference to Christensen (1997), Brynjolfsson and Smith (2000), and FRAI (2025).
- **Kirana Footfall Decline** (3 items): Adapted from Inman and Nikolova (2017), PwC (2024), and FRAI (2025).
- **Profitability Compression** (3 items): Based on BCG (2023), Dholakia et al. (2020), and Gauri et al. (2021).

5.3.2 Pilot Testing

A pilot survey of 45 consumers and 30 kirana store owners was carried out before the main survey to test the questionnaire. The results of this pilot study were used to streamline the wording of the items, clarify the instructions, make them more contextually relevant (e.g., using a more local term for "kirana" instead of general), and eliminate ambiguities. Some minor changes were made based on the responses received and item statistics before the final deployment (Churchill, 1979; DeVellis, 2017).

5.4 Sample Characteristics

This study was conducted on two different samples. The demographic profile of consumers and business profile of kirana retailers are given in Table 1 and Table 2 respectively.

5.4.1 Consumer Sample (n = 400)

Table 1 indicates that the majority of the consumers were young with 67.5% of them aged between 18 and 35 years.

This age profile is similar to the typical user profile of the quick-commerce platforms in India. The monthly household income reveals that a majority of respondents (65.0%) was in the middle and upper-middle income class (₹50,000-2,00,000). The geographical distribution was similar to the stratified sampling targets, providing good geographical representation across Delhi NCR.

Table 1: Demographic Profile of Consumer Respondents (n = 400)

Characteristic	Category	Frequency	Percentage (%)
Age group	18–25 years	118	29.5
	26–35 years	152	38.0
	36–45 years	85	21.3
	46+ years	45	11.3
Monthly household income	< ₹50,000	96	24.0
	₹50,000–1,00,000	152	38.0
	₹1,00,001–2,00,000	108	27.0
	> ₹2,00,000	44	11.0
Zone	Central Delhi	95	23.8
	South Delhi/Gurugram	118	29.5
	East Delhi/Noida/Ghaziabad	102	25.5
	West Delhi/Faridabad	85	21.3

Source: Authors Analysis based on Primary Data

5.4.2 Retailer Sample (n = 300)

Table 2 presents the business profile of the kirana retailers. The sample consisted of experienced retailers, with 50.0% operating their stores for more than 10 years. A majority of stores (52.0%) were medium-sized (200–500 sq. ft.), while 37.3% were small stores (< 200 sq. ft.), reflecting the typical structure of kirana retail in urban India. The zonal distribution matched the predetermined stratified sampling quotas.

Table 2: Business Profile of Kirana Retailers (n = 300)

Characteristic	Category	Frequency	Percentage (%)
Years in operation	< 5 years	62	20.7
	5–10 years	88	29.3
	11–20 years	102	34.0
	> 20 years	48	16.0
Floor area	< 200 sq. ft.	112	37.3
	200–500 sq. ft.	156	52.0
	> 500 sq. ft.	32	10.7

Zone	Central Delhi	75	25.0
	South Delhi/Gurugram	85	28.3
	East Delhi/Noida/Ghaziabad	80	26.7
	West Delhi/Faridabad	60	20.0

Source: Authors Analysis based on Primary Data

5.5 Common Method Bias

This study utilized both procedural and statistical remedies for common method bias (CMB). Both the predictor and the outcome variables were collected from two different groups of respondents, consumers and kirana retailers, which significantly reduces the risk of CMB (Rindfleisch et al., 2008). Additional measures included respondent anonymity, clear scale anchors, and physical separation of predictor and criterion items in the questionnaire (Podsakoff et al., 2012).

A full collinearity test was conducted as suggested by Kock (2015). Variance inflation factors (VIF) were between 1.82 and 2.94, which are well below the conservative VIF of 3.3. These results suggest that common method bias and multicollinearity were not significant concerns in this study.

5.6 Data Analysis Procedure

The data were analysed using partial least squares structural equation modeling (PLS-SEM) software by SmartPLS 4.0 (Ringle et al., 2022). The study is exploratory with complex relationships and not necessarily multivariate normal distributed so PLS-SEM was chosen (Hair et al., 2019; Henseler et al., 2015; Ringle et al., 2022).

The analysis was conducted in two steps as recommended by Anderson and Gerbing (1988) and Hair et al. (2019). First, the reliability and validity of the measurement model was validated. Later the structural model was assessed. All assessment criteria followed the most recent guidelines of PLS-SEM (Hair et al., 2019, 2022; Henseler et al., 2015; Sarstedt et al., 2022).

6. Results

6.1 Measurement Model

The measurement model was evaluated for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity following established PLS-SEM guidelines (Hair et al., 2019,

2022; Henseler et al., 2015). All indicator loadings were above the recommended threshold of 0.70, ranging from 0.72 to 0.91. As presented in Table 1, all constructs demonstrated strong internal consistency, with Cronbach’s alpha values ranging from 0.76 to 0.85, composite reliability (CR) between 0.85 and 0.90, and average variance extracted (AVE) values from 0.65 to 0.75. These results exceed the recommended cut-off values (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2019), confirming satisfactory convergent validity and reliability.

Table 3: Results of Convergent Validity and Reliability Assessment

Construct	No. of Items	Outer Loadings (Range)	Cronbach’s α	CR	AVE
Perceived Convenience	4	0.78–0.86	0.84	0.89	0.67
Perceived Pricing Advantage	3	0.81–0.89	0.82	0.88	0.71
Assortment Breadth	3	0.75–0.83	0.76	0.85	0.65
Trust	4	0.79–0.88	0.83	0.89	0.68
Habit	3	0.77–0.85	0.79	0.87	0.66
Consumer Shift	4	0.72–0.88	0.83	0.88	0.66
Kirana Sales Decline	3	0.79–0.91	0.85	0.90	0.75
Kirana Footfall Decline	3	0.82–0.88	0.83	0.89	0.73
Profitability Compression	3	0.77–0.85	0.79	0.87	0.69

Source: Authors Analysis Using SmartPLS4

Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio (Henseler et al., 2015). As shown in Table 2, all HTMT values were below the conservative threshold of 0.85, and none of the 95% confidence intervals included 1.0, thereby confirming adequate discriminant validity.

Table 4: Discriminant Validity (HTMT Ratio)

Construct Pair	HTMT
Convenience ↔ Consumer Shift	0.78
Pricing Advantage ↔ Consumer Shift	0.75
Assortment Breadth ↔ Consumer Shift	0.72
Trust ↔ Consumer Shift	0.81
Habit ↔ Consumer Shift	0.74
Consumer Shift ↔ Kirana Sales Decline	0.82
Consumer Shift ↔ Kirana Footfall Decline	0.80
Consumer Shift ↔ Profitability Compression	0.79
Convenience ↔ Pricing Advantage	0.68
Trust ↔ Habit	0.71

Source: Authors Analysis Using SmartPLS4

Overall, the measurement model demonstrated strong reliability and validity, providing a robust foundation for structural model evaluation (Hair et al., 2019, 2022).

6.2 Structural Model

The structural model was assessed through path coefficients, statistical significance, coefficient of determination (R^2), predictive relevance (Q^2), effect sizes (f^2), model fit, and collinearity statistics (Hair et al., 2019; Henseler et al., 2015).

6.2.1 Path Coefficients and Hypothesis Testing

Table 3 presents the standardized path coefficients, standard errors, t-values, p-values, and 95% bias-corrected confidence intervals obtained through bootstrapping with 5,000 resamples. All eight hypotheses were supported.

Table 5: Structural Model Results: Path Coefficients and Hypothesis Testing

Hypothesis	Path	β	SE	t-value	p-value	95% CI	Decision
H1	Convenience → Consumer Shift	0.42	0.050	8.34	<0.001	[0.31–0.53]	Supported
H2	Pricing Advantage → Consumer Shift	0.35	0.051	6.89	<0.001	[0.25–0.45]	Supported
H3	Assortment Breadth → Consumer Shift	0.18	0.052	3.45	0.001	[0.07–0.29]	Supported
H4	Trust → Consumer Shift	0.24	0.058	4.12	<0.001	[0.13–0.35]	Supported
H5	Habit → Consumer Shift	0.21	0.054	3.88	<0.001	[0.10–0.32]	Supported
H6	Consumer Shift → Kirana Sales Decline	0.47	0.051	9.23	<0.001	[0.37–0.57]	Supported
H7	Consumer Shift → Kirana Footfall Decline	0.52	0.050	10.45	<0.001	[0.42–0.62]	Supported
H8	Consumer Shift → Profitability Compression	0.44	0.054	8.12	<0.001	[0.34–0.54]	Supported

Note: Bootstrapping procedure with 5,000 subsamples. Significance level: $p < 0.05$ (Hair et al., 2019).

Perceived convenience emerged as the strongest predictor of consumer shift ($\beta = 0.42$), followed by pricing advantage ($\beta = 0.35$). On the outcome side, consumer shift exerted the strongest influence on kirana footfall decline ($\beta = 0.52$).

6.2.2 Explained Variance and Predictive Relevance

As shown in Table 4, the model explained 54% of the variance in Consumer Shift ($R^2 = 0.54$),

31% in Kirana Sales Decline, 36% in Kirana Footfall Decline, and 28% in Profitability Compression. All Q² values were positive, indicating adequate predictive relevance of the model (Hair et al., 2019; Shmueli et al., 2019).

Table 6: Coefficient of Determination (R²) and Predictive Relevance (Q²)

Endogenous Construct	R ²	Adjusted R ²	Q ²
Consumer Shift	0.54	0.53	0.41
Kirana Sales Decline	0.31	0.30	0.28
Kirana Footfall Decline	0.36	0.35	0.33
Profitability Compression	0.28	0.27	0.25

Source: Authors Analysis Using SmartPls4

6.2.3 Effect Sizes (f²)

Effect sizes (f²) were calculated to determine the substantive impact of each predictor (Cohen, 1988). Perceived convenience (f² = 0.22) and pricing advantage (f² = 0.16) showed medium effects on consumer shift, while consumer shift demonstrated medium to near-large effects on all three kirana performance outcomes.

Table 7: Effect Sizes (f²)

Relationship	f ²
Convenience → Consumer Shift	0.22
Pricing Advantage → Consumer Shift	0.16
Assortment Breadth → Consumer Shift	0.06
Trust → Consumer Shift	0.10
Habit → Consumer Shift	0.08
Consumer Shift → Kirana Sales Decline	0.28
Consumer Shift → Kirana Footfall Decline	0.34
Consumer Shift → Profitability Compression	0.24

Source: Authors Analysis Using SmartPls4

6.2.4 Model Fit and Collinearity

The model demonstrated acceptable fit with SRMR = 0.061 (< 0.08), NFI = 0.89 (> 0.80), and RMS_theta = 0.078 (< 0.12) (Hair et al., 2019; Henseler et al., 2015; Hu & Bentler, 1999). The inner model VIF values ranged from 1.00 to 2.34, all well below the threshold of 3.3(Kock, 2015; Diamantopoulos & Siguaw, 2006).These findings indicate that the model achieves acceptable fit while showing no signs of multicollinearity, thereby providing a reliable basis for subsequent hypothesis testing. Overall, the evaluation of model fit and collinearity supports the robustness of the proposed structural model.

7. Discussion

This study examined how quick-commerce platforms influence small retail businesses in Delhi NCR by modeling consumer shift as a behavioral mechanism connecting consumer perceptions to retailer-perceived disruption outcomes. The findings confirm that perceived convenience, perceived pricing advantage, assortment breadth, trust, and habit significantly drive consumer shift toward quick-commerce, and that this shift, in turn, is strongly associated with kirana retailers’ perceptions of sales decline, footfall decline, and profitability compression (Christensen, 1997; FRAI, 2025; PwC, 2024).

The findings on the consumer side emphasize the importance of perceived convenience in driving quick-commerce usage, with perceived pricing advantage as the secondary factor. This ordering indicates that in the realm of quick commerce, efficiency of time, reflected in fast delivery and decreased buying effort, outweighs purely economic aspects (Redseer, 2024; Verhoef et al., 2015). This trend is in contrast to earlier e-commerce studies that often found assortment and price to be the most prominent factors (Brynjolfsson & Smith, 2000; Pan & Zinkhan, 2006), and highlights how different quick commerce is as a speed-focused retail model. In addition to this, trust and habit have statistically significant and practically meaningful effects on consumer shift, which suggests that experiences of reliable service quality and frequent use routinize quick-commerce into the consumers’ grocery shopping repertoires (Gefen et al., 2003; Limayem et al., 2008; Lankton et al., 2010). Assortment breadth, which is relatively less important, is also a non-trivial predictor, at least for more planned and nonemergency purchases (Hoch et al., 1995; Bell et al., 2011).

The consumer shift is most visible on the retailer side with perceived footfall decline, then sales decline and profitability compression. This sequence follows the idea that the first measurable sign of channel migration is traffic erosion, with revenue and margin impacts occurring later (Inman & Nikolova, 2017; Verhoef et al., 2015). The moderate R² values of sales decline, footfall decline, and profitability compression suggest that consumer shift is an important but not the only factor influencing kirana performance (BCG, 2023; Dholakia et al., 2020; Sinha & Banerjee, 2021; Gauri et al., 2021).

Industry circles and analysts' report also show significant drop in the income of the kirana and risk of closure in quick commerce growth areas.

The study makes three contributions in theory. First, it applies technology adoption and store choice theories to a quick-commerce context, as it shows that the ultra-fast delivery makes convenience the primary technology adoption determinant, changing the relative importance of the technology's price, assortment, and other store characteristics (Davis, 1989; Venkatesh et al., 2003; Bell et al., 1998). Second, it adds to the field of trust and habit literature in information systems, demonstrating that both constructs remain relevant even when delivery times are shortened and frequency increased, which further supports channel lock-in effects (Gefen et al., 2003; Limayem et al., 2008; Kim & Malhotra, 2005). Thirdly, it contributes to this research area of disruptive innovation by adopting a bi-respondent structural approach to connect consumer perceptual and behavioral changes with retailer level disruptive outcomes in an emerging retail context, which has not been done in the past through single-source self-reports (Christensen, 1997; Christensen & Raynor, 2003; Kumar & Singh, 2024).

8. Managerial and Policy Implications

The findings of this study offer several practical implications for kirana retailers, quick-commerce platforms, FMCG companies, and policymakers.

For kirana retailers, the results suggest that competing purely on price or product variety is unlikely to be effective against the growing appeal of quick-commerce. Since convenience and speed have emerged as the strongest drivers of consumer shift, small retailers need to develop hybrid approaches. This could include offering local delivery, enabling phone-based or digital ordering, and partnering with aggregator platforms. Earlier research on technology adoption in small businesses indicates that improving trust, ease of use, and perceived usefulness can play a vital role in encouraging kirana owners to adopt digital tools.

For quick-commerce platforms, the strong influence of convenience and competitive pricing highlights the need to move beyond heavy discounting. While subsidies have helped rapid customer acquisition, over-reliance on them may not be sustainable in the

long run and can intensify negative effects on traditional retailers. Platforms may benefit from greater collaboration with kirana stores — by involving them as last-mile delivery partners, dark store operators, or collection points — which could create more balanced and inclusive growth models rather than zero-sum competition.

For FMCG manufacturers and distributors, the shift in consumer traffic away from kirana stores calls for a rethink of channel strategies. As quick-commerce continues to grow, companies should carefully review their product assortments, pack sizes, promotions, and margin structures across different retail channels. Providing targeted support to kiranas — such as simplified digital ordering systems and localized incentive schemes — can help maintain the health of traditional trade while capitalising on the growth of quick-commerce.

Finally, for policymakers and retail associations, the findings underline the real pressure being faced by small retailers in terms of declining sales and potential store closures. There is a need for supportive policies that improve kiranas' access to affordable digital tools, promote fair competition, and encourage the development of inclusive local-commerce ecosystems. Helping small retailers upgrade digitally could play an important role in protecting local employment, entrepreneurship, and neighbourhood-level access to daily essentials even as platform-based delivery expands rapidly.

9. Limitations and Future Research

Several limitations of the present study need to be noted. The first is that the study is based on cross-sectional survey data gathered at one point in time. This makes it difficult to establish strong causal relationships between consumer perceptions, changes in buying behaviour and the level of disruption of the Kirana retailers. Future longitudinal research can monitor consumers and retailers over a longer timeframe to better understand the dynamics as quick-commerce platforms continue to grow.

Second, the study is restricted geographically to Delhi NCR region. While this is a mature and highly-penetrated quick-commerce market, the findings might not be fully applicable to smaller cities, Tier 2 and 3 towns, and rural areas,

where digital infrastructure, consumer behaviour, and the structure of retailing is very different. Comparative studies in a variety of geographic and economic settings would be useful to define the boundary conditions of the observed relationships.

Third, the conceptual model emphasized a series of antecedents for the construct based on prior theories, including convenience, pricing advantage, breadth of assortment, trust and habit. Although these constructs are very relevant, other important factors like perceived risk, technology anxiety, social influence, environment and labour ethics remained not included. These variables could be added to the model in future research and moderating effects of demographic and neighbourhood characteristics could be studied.

Fourth, the retailer-side measures were based on self-reported estimates of sales and footfall and profitability changes. This perceptual information can be affected by recall bias or pessimist attitude particularly in a very disruptive environment. Future research could be enhanced with actual point of sale system performance data, distributor records or financial transactions. Further, mixed-methods with in-depth interviews and ethnographic observations could be used to offer more in-depth insights into small retailers' perceptions and reactions to competitive pressures.

Lastly, this study mainly analyzed quick-commerce platforms and kirana stores as competing channels. But newer forms of collaboration – platform–kirana, retailer-owned dark stores, policy-supported digital upgrade of traditional stores – are not explored. Further studies on these hybrid models would be useful in understanding how disruption can be minimised, whilst retaining the best of both modern platforms and traditional neighbourhood retail.

10. Conclusion

This research presents a holistic behavioral and structural picture of the quick-commerce platforms' impact on urban grocery retail in Delhi NCR. It conceptualizes and empirically tests consumer shift as the mechanism connecting consumer perception to kirana-level disruption, quantifying the drivers of quick-commerce adoption and the extent to which adverse impacts are perceived by small retailers (Christensen, 1997; Hair et al., 2019).

The convenience and price advantages become major drivers of a consumer shift, which is also influenced by trust, habits, and the breadth of assortment – with consumer shift being strongly linked to kirana store footfall, sales, and profitability declines (Redseer 2024; FRAI 2025, PwC 2024).

The cross-sectional design and single-region focus may restrict causal and geographical generalizability; however, the dual-respondent approach and strong PLS-SEM results serve as a good base for additional longitudinal, comparative, and mixed-method studies of quick-commerce and small retail disruption (Hair et al., 2019). In the era of rapid expansion of quick-commerce in India and other emerging markets, it's essential to appreciate and tackle its various layers of influence on traditional retail models to foster a more inclusive and resilient retail landscape (BCG, 2023; WPP, 2023; BCG,).

In conclusion, the study indicates that quick-commerce is not just another distribution channel but a retail model with a disruptive power, whose convenience and cost advantages can profoundly impact local market dynamics and consumer habits. The strategic outlook of retailers, platforms and FMCG companies, as well as the policies shaping this dynamic and fast-changing environment will determine whether kirana stores are pushed aside, adjusted or become new hybrid roles.

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