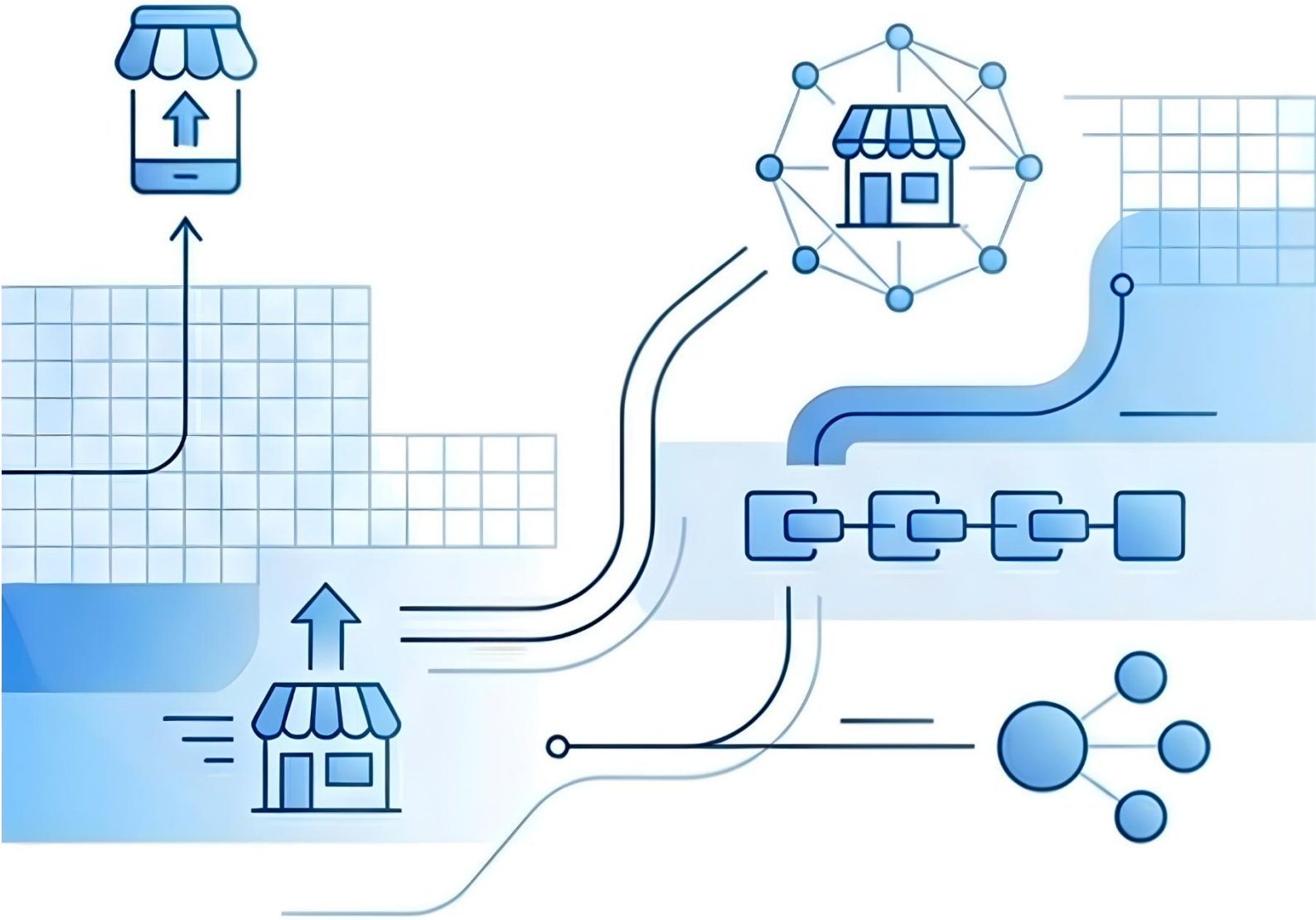
The Dialogue®
INFORM ENGAGE IDEATE

February, 2026

WHITE PAPER

# CATALYSING INDIA'S DIGITAL RETAIL REVOLUTION

## Revisiting Investment Framework for Quick Commerce



WHITE PAPER

# Catalysing India's Digital Retail Revolution: Revisiting Investment Framework For Quick Commerce

**Authors:** Bhoomika Agarwal, Viplavi Vinod Joshi, Saharsh Panjwani, and Anuradha Bhattacharya
**Research Assistant:** Anshika Bhadauria
**Thematic Designer:** Shivam Kulshrestha

**The Dialogue** is a public policy think tank with a vision to drive a progressive narrative in India's policy discourse. Founded in 2017, we believe in facilitating well-researched policy debates at various levels to help develop a more informed citizenry, on areas around technology and development issues. The Dialogue has been ranked as the world's Top 10 think tanks to watch out for, by the Think Tank and Civil Societies Programme (TTCSP), University of Pennsylvania in their 2020 and 2021 rankings.

**For more information**
Visit thedialogue.co

**Suggested Citation**
Agarwal, B., Joshi, V. V., Panjwani, S., & Bhattacharya, A. (February, 2026).White Paper: Catalysing India's digital retail revolution: Revisiting investment framework for quick commerce. The Dialogue.®

**Catalogue No.**
TD/CLP/WP/0226/02

**Publication Date**
February 10, 2026

# Table of Contents

# Abbreviations

| Abbreviation | Full Form |
|---|---|
| AI | Artificial Intelligence |
| AICPDF | All India Consumer Products Distributors Federation |
| BB Now | BigBasket Now |
| CAGR | Compound Annual Growth Rate |
| CoSS | Code on Social Security, 2020 |
| COVID-19 | Coronavirus Disease 2019 |
| D2C | Direct-to-Consumer |
| DOI | Diffusion of Innovation (Theory) |
| DPI | Digital Public Infrastructure |
| DPIIT | Department for Promotion of Industry and Internal Trade |
| E-commerce | Electronic Commerce |
| FDA | Food and Drug Administration (Maharashtra) |
| FDI | Foreign Direct Investment |
| FMCG | Fast-Moving Consumer Goods |
| FPO | Farmer Producer Organisation |
| FSSAI | Food Safety and Standards Authority of India |
| FY | Financial Year |
| GDP | Gross Domestic Product |

| | |
|---|---|
| GMV | Gross Merchandise Value |
| GOI | Government of India |
| GOV | Gross Order Value |
| GST | Goods and Services Tax |
| IT | Information Technology |
| KYC | Know Your Customer |
| MAU | Monthly Active Users |
| MSME | Micro, Small and Medium Enterprises |
| MTU | Monthly Transacting Users |
| ONDC | Open Network for Digital Commerce |
| PIB | Press Information Bureau |
| Q-commerce | Quick Commerce |
| RWAs | Resident Welfare Associations |
| SKU | Stock Keeping Unit |
| TAM | Technology Acceptance Model |
| UPI | Unified Payments Interface |
| VC | Venture Capital |

# CHAPTER 1: INTRODUCTION

Quick commerce (Q-commerce) has rapidly emerged as a significant segment of India's digital economy by enabling ultra-fast delivery of daily essentials, ranging from groceries and medicines to electronics, typically within 10 to 30 minutes.[1] It has positioned itself as a faster and more responsive alternative to traditional e-commerce, arising partly from the limitations of earlier e-commerce models, where delivery times often spanned several days.[2] In contrast, contemporary consumers increasingly expect near-instant fulfillment, driven by growing preferences for convenience, speed, and reliability.

Q-commerce operates on a hyperlocal delivery model supported by dark stores,[3] AI-enabled logistics, and real-time inventory management systems. This infrastructure makes it possible to deliver a wide range of consumer orders almost immediately. The model saw significant growth during the COVID-19 pandemic, when lockdowns and mobility restrictions made rapid online access to essentials a necessity.[4] As demand for faster delivery surged, platforms such as Blinkit, Zepto, and Swiggy Instamart, popularised the concept of "*instant delivery,*" fundamentally reshaping consumer expectations. India's demographic profile has further reinforced this shift, with a young, digitally native population readily adopting technology-led consumption model. The growth of the sector has been substantial: gross merchandise value (GMV) expanded from USD 0.10 billion in FY 2020 to USD 3.3 billion in FY 2024.[5] The addressable market is projected to reach USD 5.38 billion in 2025 and grow at a compound annual growth (CAGR) of 15.54% through 2030, reaching an estimated market size of USD 11.08 billion.[6] This rapid expansion not only reflects strong consumer acceptance but also underscores the need for regulatory frameworks capable of responding to the sector's pace and scale of transformation.

The dynamics of India's retail sector provides important context for the rise of the Q-commerce sector. Retail employs nearly 8% of the domestic workforce (~ 40 million), and contributes around 10% of the country's gross domestic product (GDP).[7] Traditional kirana stores lead the market, accounting for nearly 80% of retail activity. However, the share of organised retail has steadily increased, largely driven by digital innovation.[8] This ongoing transition has created significant opportunities for Q-commerce platforms, particularly those leveraging AI-driven demand forecasting and hyperlocal

[1] John Varun Bissell, "Blinkit, Zepto, Swiggy: A brief history of quick commerce, its rise, impact, and possible future in India" *Indian Express*, last updated July 27, 2025 https://indianexpress.com/article/explained/explained-economics/history-of-quick-commerce-future-in-india-10152934/

[2] Faraz Ahmed & Najla Shafighi, "Growth of Q-Commerce Industry in South Asia: Challenges and Opportunities" IOSR Journal of Business and Management 24, no. 12 (2022): 67- 74, 64.

[3] A "dark store" refers to a retail outlet or warehouse that is solely used for processing online orders and is not accessible to the public. They function as distribution hubs for storing inventory and packaging products.

[4] Anupamaa Chavan & Sanika Gujarath, "From Click to Doorstep: Examining Key Influences on Quick Commerce Usage" Academy of Marketing Studies Journal 29, no. 5S (2025): 1-12. https://www.abacademies.org/articles/from-click-to-doorstep-examining-key-influences-on-quick-commerce-usage-17588.html

[5] Palak Agarwal"The unstoppable rise of quick commerce: How Blinkit, Zepto, and Swiggy Instamart are dominating the market" *Business Today,* August 18 2024 https://www.businesstoday.in/magazine/deep-dive/story/the-unstoppable-rise-of-quick-commerce-how-blinkit-zepto-and-swiggy-instamart-are-dominating-the-market-440472-2024-08-07

[6] Statista, "Quick Commerce - India," *Statista Market Insights*, https://www.statista.com/outlook/emo/online-food-delivery/grocery-delivery/quick-commerce/india.

[7] "Retail Industry Report." India Brand Equity Foundation, May 2025. https://www.ibef.org/industry/retail-india.

[8] ANI,,"Market Share of Kirana Stores Gradually Shifting to Quick Commerce: Report," *The Economic Times*, November 20, 2024. https://economictimes.indiatimes.com/industry/services/retail/market-share-of-kirana-stores-gradually-shifting-to-quick-commerce-report/articleshow/115470437.cms?from=mdr.

delivery networks. Leveraging these tools allow Q-commerce platforms to effectively cater to an urbanising consumer base that is increasingly prioritising immediacy and convenience.[9]

However, despite its rapid growth and widespread consumer acceptance, the Q-commerce sector continues to face several policy and regulatory challenges that may hinder further expansion. The sector operates on an infrastructure-intensive model that demands substantial and sustained investment to scale operations effectively. Its reliance on dense networks of urban dark stores and last-mile logistics systems makes Q-commerce inherently capital-intensive, requiring large upfront commitments. At the same time, restrictive foreign direct investment (FDI) policies governing inventory-based e-commerce have limited access to long-term capital, narrowing the pool of available funding. This paper examines these constraints in detail and recommends revisiting the FDI framework to allow calibrated foreign investment in inventory-led quick commerce through phased liberalisation supported by robust safeguards.

The remainder of the paper is organised as follows - Chapter 2 outlines the research methodology, which integrates primary insights gathered through questionnaires and stakeholder consultations with academics and Q-commerce firms, alongside an analysis of secondary sources. Chapter 3 presents a comprehensive overview of the Q-commerce ecosystem in India, including its emergence, business models, value addition, operational structures, and key challenges. Chapter 4 identifies and evaluates the principal policy issues surrounding FDI liberation in the sector. Chapter 5 concludes by reflecting on the broader implications of Q-commerce for India's retail economy and reiterates the case for revisiting the existing FDI policy framework.

[9] Aprajeeta Tripathi, "How AI Runs India's Quick Commerce," *ETBrandEquity.Com*, September 1, 2025, https://brandequity.economictimes.indiatimes.com/news/marketing/how-ai-runs-indias-quick-commerce/123624257

# CHAPTER 2: RESEARCH METHODOLOGY

## 2.1 Research Design

This study adopts a mixed-methods design, integrating qualitative and quantitative approaches to capture the challenges facing India's Q-commerce sector. This design was chosen because the sector is both nascent and rapidly evolving, making it essential to draw evidence from multiple sources to ensure validity.

The research is exploratory in nature, seeking to map emerging regulatory, operational, and business challenges, while also adopting evaluative techniques to analyse the potential impact of policy reform on sectoral growth.

## 2.2 Research Questions

The central aim of this paper is to examine how financial investment influences the trajectory of India's Q-commerce sector. It is guided by a key research question i.e., how would liberalisation of FDI policy for inventory-based models impact employment, MSME integration, and investment in the sector?

## 2.3 Data Sources

The study draws on both primary and secondary data sources:

a. Primary data was collected through structured questionnaires and semi-structured interviews with 15 stakeholders from diverse backgrounds, including government officials across various ministries, lawyers, civil society representatives, professors, and representatives of leading Q-Commerce firms. These individuals were selected based on their direct or indirect association with and impact on the quick commerce sector. A roundtable discussion was also organized, bringing together prominent individuals from diverse fields including academia, industry, and law. The session comprised around twenty participants, whose insights and recommendations proved highly valuable. This helped capture first-hand perspectives on operational realities and regulatory challenges.

b. Secondary data came from a comprehensive review of government policy documents, including the Consolidated FDI Policy and DPIIT notifications, industry reports, press coverage, and company disclosures. These sources were essential to situate stakeholder insights within the broader legal, policy, and market context.

## 2.4 Data Collection and Analysis

Quantitative data focused on estimating market shares, order volumes, warehousing footprints, and employment potential in the Q-Commerce sector. Where firm-level data was limited, proxy measures from allied sectors such as e-commerce were used for extrapolation. For policy evaluation, an econometric scenario analysis modeled the potential impact of liberalizing FDI in inventory-based models. Two alternative scenarios: 74% and 100% FDI allowance were tested to assess effects on parameters such as MSME onboarding, farmer participation, consumer welfare, and job creation.

Qualitative data, drawn from stakeholder interviews and case studies, was thematically coded to identify recurrent regulatory challenges. Together, these methods provided a robust basis for assessing how regulatory reforms could influence the sector's future trajectory.

## 2.5 Limitations

As the Q-commerce sector in India is still in its formative stage, the study faced limitations in accessing comprehensive datasets. Since many firms are privately held and do not disclose detailed financial information, data on profitability and employment remains fragmented. Furthermore, the econometric analysis is illustrative rather than predictive. It is intended to provide directional insights for policy choices, not definitive forecasts.

Despite these limitations, the mixed-methods approach offers robustness by combining empirical evidence, stakeholder perspectives, and comparative policy analysis.

# CHAPTER 3: OVERVIEW OF INDIA'S QUICK COMMERCE SECTOR

## 3.1 Factors Driving the Rapid Growth Of Q-commerce in India

The rapid growth of Q-commerce in India can be attributed to several factors including technological advancement, shifting consumer lifestyles, and expanding urban infrastructure. These drivers have created the conditions for ultra-fast delivery to become a mainstream expectation rather than a niche service. At the same time, the pace of this growth also places new pressures on urban planning, logistics, and regulatory frameworks, making it important to view these enablers in both market and policy terms.

### 3.1.1 Digital Infrastructure as an Enabler

The country's extensive mobile and internet penetration, with over 969.1 million internet users,[10] and one of the world's lowest data costs, has created an enabling environment for digital-first services.[11] Simultaneously, the Unified Payments Interface (UPI) has revolutionised digital transactions, processing 18.74 lakh crores transactions worth ₹3.66 lakh crore in FY23-24.[12] Together, these advancements have significantly lowered barriers for new platforms and simplified the user experience, turning ultra-fast delivery into a mainstream expectation rather than a luxury. However, this reliance on digital infrastructure also raises policy considerations, from data security and payment regulation to ensuring equitable access across regions.

Additionally, a defining feature of Q-commerce is its reliance on advanced technologies. Recent developments in AI and machine learning models assist companies in forecasting order patterns and manage inventory in real time across dark stores. These tools optimise routes and rider allocation in real time, reducing delivery times. For instance, platforms apply analytics to understand consumer buying trends and dynamically adjust stock keeping units (SKUs) through various phases of the day. Once an order is initiated, an alert is automatically transmitted to the warehouse staff via their individual handheld devices, directing them to the exact shelf location of the required products and merchandise.[13] Platforms have also made use of automated picking, robotic shelves and live tracking technology to make output more efficient and minimise errors.[14]

### 3.1.2 Evolving Delivery Patterns and Instant Fulfillment

The defining feature of Q-commerce is its promise of ultra-fast delivery, typically within 10 to 30 minutes. This shift has been driven by evolving delivery models that prioritize proximity and hyperlocal logistics. The success of these models was catalysed during the COVID-19 pandemic, when consumers grew accustomed to relying on digital platforms for immediate access to essentials. Today, consumer preference for speed and convenience has become a defining feature of the market, encouraging companies to invest in technology, micro-warehousing, and last-mile logistics.

---

[10] Simon Kemp, "Digital 2025: India" Data Portal, *Data Reportal,* February 25, 2025, https://datareportal.com/reports/digital-2025-india

[11] "IT & BPM Industry in India" India Brand Equity Foundation, May 2025 https://www.ibef.org/industry/information-technology-india

[12] Ministry of Finance, "DFS drives expansion of digital payments in India and Abroad."Press Release, September 20, 2024.https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2057013

[13] Jistesh Agarwal, "Quick Commerce in India: Disruption, Challenges, and Regulatory Crossroad" *Treelife* November 21 2024 https://treelife.in/startups/quick-commerce-in-india-disruption-challenges-and-regulatory-crossroad/#:~:text=Quick%20Summary.%20India's%20quick%20commerce%20sector%20has,catering%20to%20consumers'%20growing%20demand%20for%20convenience.

[14] "Explore the Impact of Micro-Warehouses on Deliveries & Stock Management" *Ginesys* May 22, 2025, https://www.ginesys.in/blog/micro-warehouses-the-future-of-faster-deliveries-and-stock-management

### 3.1.3 Changing Consumer Behavior and Lifestyle Shifts

Indian consumers, especially urban millennials and Generation Z, increasingly value convenience, time-saving, and reliability in their purchases. This trend is reinforced by steady urban migration and rising disposable incomes among these demographic groups.[15] Dual-income households and busy professionals increasingly show a willingness to pay a higher premium for instant delivery of essentials by Q-commerce platforms. Beyond speed and convenience, consumption patterns are shifting toward healthier lifestyles, with customers actively seeking locally sourced food.[16] Q-commerce platforms are responding to these more discerning consumer preferences by diversifying their assortments. Alongside traditional groceries, they now offer gourmet items and fresh produce, often sourced directly from farmers and local vendors. However, regional and cultural nuances add complexity.[17] Diverse culinary traditions and consumption habits across Indian states require Q-commerce platforms to tailor their inventory to cater to hyperlocal demands. For instance, the stocking of festival-specific ingredients or daily staples such as millets and indigenous spices varies significantly between the Northern and Southern part of India.[18] These evolving consumer expectations also carry specific policy implications, particularly in relation to food safety standards, MSME participation, and direct farmer integration into digital supply chains.

### 3.1.4 Indian Startup-led Growth

Unlike most sectors of India's digital economy dominated by large foreign firms, the Q-commerce space has been largely pioneered by domestic startups. Blinkit, Zepto, and Swiggy Instamart have emerged as the leading players, together holding nearly 90% of the market. Blinkit currently leads with 46% market share, followed by Zepto with 29% and Swiggy Instamart at 25%.[19] Despite their large size, these players are still struggling to sustain sub-30 minute deliveries at scale.

Beyond the market leaders, a new cohort of inventory-led Q-commerce platforms is scaling rapidly across specialised verticals. JioMart Express runs over 600 dark stores in 1,000 cities, offering 30 to 45 minute delivery through Reliance Retail's integrated network.[20] In fashion, NEWME Zip recorded ₹180 crore in FY25 revenue from over 7 million customers, delivering 1,500 styles within an hour through local dark stores.[21] It has raised approximately $23.4 million as of July 2024 in major funding rounds,

---

[15] Venkatesh Ganapathy and Dr. Chithambar Gupta, "Critical Success Factors for Quick Commerce Grocery Delivery in India: An Exploratory Study," Sustainability, Agri, Food and Environmental Research 12, no. 1 (2023), accessed December 17, 2025, https://www.researchgate.net/publication/383374532_Critical_success_factors_for_quick_commerce_grocery_delivery_in_India_an_exploratory_study.

[16] "Quick Commerce- India," Statista https://www.statista.com/outlook/emo/online-food-delivery/grocery-delivery/quick-commerce/india [Trends in the market]

[17] Venkatesh Ganapathy & Dr. Chitambar Gupta, "Critical success factors for quick commerce grocery delivery in India: an exploratory study." *Sustainability, Agri, Food and Environmental Research* 12, no. 1(2023), https://www.researchgate.net/publication/383374532_Critical_success_factors_for_quick_commerce_grocery_delivery_in_India_an_exploratory_study

[18] Ibef, "The Rise of Quick Commerce in India: Revolutionising Retail and Last-Mile Delivery," India Brand Equity Foundation (blog), July 24, 2024, https://www.ibef.org/blogs/the-rise-of-quick-commerce-in-india-revolutionising-retail-and-last-mile-delivery#:~:text=The%20quick%20commerce%20industry%20in%20India%20has,10%25%20to%20~45%25%20in%20the%20coming%20years.

[19] "Blinkit's weekly user base of over 30 million within striking distance of Zomato; widens lead over Instamart and Zepto: CLSA" *Money Control*, June 5, 2025. https://www.moneycontrol.com/news/business/startup/blinkit-s-weekly-user-base-of-over-30-million-within-striking-distance-of-zomato-widens-lead-over-instamart-and-zepto-clsa-13099185.html

[20] "Reliance Retail operationalises 600 dark stores pan-India to scale hyper-local delivery," The Economic Times, October 19 2025, https://economictimes.indiatimes.com/industry/services/retail/reliance-retail-operationalises-600-dark-stores-pan-india-to-scale-hyper-local-delivery/articleshow/124686861.cms

[21] Pooja Yadav, "How NEWME Hit Gen Z's Fashion Nerve To Clock INR 180 Cr In 3 Years." *Inc42.Com.,* https://inc42.com/startups/how-newme-hit-gen-zs-fashion-nerve-to-clock-inr-180-cr-in-3-years/

including a Series-A led by Accel and Fireside Ventures, with capital allocated for omnichannel retail expansion, technological upgrades, and supply chain enhancement.[22] Myntra's M-Now targets 16 million Gen Z shoppers with 30 minute delivery in certain major metros.[23] This uniquely Indian startup-led growth reflects the entrepreneurial dynamism of local firms. At the same time, the heavy reliance on venture capital and high burn rates[24] raises concerns about long-term sustainability.

Broader economic trends also play a significant role in shaping the growth of Q-commerce. The recent rise in urban middle-class spending supports the expansion of the Q-commerce sector, but external factors such as inflation, fluctuating fuel prices, and global supply chain disruptions increase costs and affect operational efficiency especially in the logistics and delivery.

On the positive side, government-led infrastructure development, including smart city initiatives and the rollout of 5G connectivity, provides a robust backbone for the continued digitisation of retail logistics.[25] These investments not only enhance efficiency but also create opportunities to align Q-commerce operations with urban planning and digital policy priorities. Together, such economic drivers highlight both the vulnerabilities and opportunities facing the sector, underscoring the need for regulatory frameworks that can adapt to changing market conditions.

## 3.2 Value Addition of Q-commerce

Q-commerce has rapidly moved beyond its image of being just about speed. Its true value lies in the way it is reshaping India's retail ecosystem supporting small businesses, formalising the workforce, creating employment opportunities, and expanding consumer choice.

### 3.2.1 Platform for Homegrown Brands and Startups

Q-commerce platforms increasingly serve as launchpads for domestic brands, MSMEs, and direct-to-consumer (D2C) startups, combining high-frequency consumer engagement with accessible digital shelf space. These platforms lower entry barriers for small businesses by offering ready access to urban consumers on these platforms without the overhead costs of physical distribution. Instead of negotiating retail shelf space or investing in complex supply chains, MSMEs can list products on platforms directly, run short-term promotions, and use platform analytics to track performance in real time. This enables rapid product testing, flexible price adjustments, and faster discovery of product-market fit.

For instance, in 2024, Zepto collaborated with over 500 local artisans during the Diwali season, listing handcrafted diyas and festive items directly on its platform. The program provided artisans with visibility to thousands of urban households, enabling them to test products and gather valuable sales insights that would have been difficult to obtain through traditional retail channels. Similarly, Blinkit's partner initiatives have been positioned around empowering thousands of local entrepreneurs to sell through its marketplace, using digital shelf space and targeted promotions to drive product discovery. Smaller platforms like FreshToHome have embedded MSME integration into their core supply chain model,

[22] "How Much Did Newme Raise? Funding & Key Investors"*Clay*, March 24 2025, https://www.clay.com/dossier/newme-funding

[23] Mariyam Jameela, "Top 11 Quick Commerce Companies in India (2025 List)", *WareIQ*, August 14 2025, https://wareiq.com/resources/blogs/quick-commerce-companies-in-india/

[24] Burn rate refers to the monthly rate at which a company consumes cash reserves through operational losses. Calculated as cumulative cash outflows minus cash inflows per month.

[25] Divya Gupta and Anisha Naik, "Beyond Instant Delivery: Industry Challenges, Market Gaps, and the Future of Quick Commerce, "*Atlantis Press*, (2025), https://www.researchgate.net/publication/392509239_Beyond_Instant_Delivery_Industry_Challenges_Market_Gaps_and_the_Future_of_Quick_Commerce

sourcing directly from over 1,500 fishermen and farmers across 125 coastal towns and cities, thereby creating a sustainable supply chain.[26]

The scale and velocity of this ecosystem underscore its potential for MSME growth. Q-commerce platforms now account for roughly two-thirds of all e-commerce grocery orders in India, with the sector's GMV estimated at USD 6 to 7 billion in 2024.[27] Zepto alone reported an annualised gross order value of about USD 3 billion (≈ ₹24,500 crore) as of January 2025, reflecting both the platform's reach and the frequency of consumer interaction. Industry estimates further project that India's Q-commerce market will triple to ₹1.5 to 1.7 lakh crore by 2027.[28] Within this rapidly expanding ecosystem, MSMEs benefit from a near real-time feedback loop that allows them to adapt and tailor offerings to consumer preferences, accelerating their journey from niche product producers to mainstream suppliers.

### 3.2.2 Formalising Workforce and Generating Employment

The Q-commerce industry has provided formal entry-level employment to hundreds of thousands of Indians, particularly among youth and migrant workers. For example, from October to December 2024, Q-commerce platforms hired about 40,000 blue-collar workers to service rising order volumes in festive demand.[29] Taken together, India's food delivery and quick commerce platforms are estimated to engage over 1.5 million outdoor delivery partners nationwide. [30] Zepto alone is estimated to work with around 200,000 delivery partners, while Flipkart Minutes employs roughly 100,000 workers across delivery and fulfilment operations. Zomato and Swiggy dominate the delivery workforce, together engaging an estimated 1.5 million delivery partners, split between food delivery and rapid grocery delivery via Blinkit and Instamart.[31]

While comprehensive public data on benefits such as training, insurance, and formal employment contracts remains limited, surveys indicate that employers are increasingly emphasising skill development including navigation, digital literacy and data analysis for delivery drivers, warehouse associates and micro-logistics coordinators. Warehousing, stocking, fulfillment centers, and dark store operations in major cities are generating parallel employment opportunities beyond just delivery-on-demand. Collectively, these developments contribute significantly to employment creation and suggest a gradual shift towards more formalized labour structures in urban blue-collar segments of India's workforce.

### 3.2.3 Logistics Support for Startups and Small Businesses

Many small startups find that setting up independent supply chains (own warehouses, fleet and last-mile delivery) is prohibitively expensive. Q-commerce fills this gap by providing ready-made infrastructure: dark stores, route-optimized delivery networks, and last-mile connectivity. Dark stores

---

[26] Manish Singh, "India's FreshToHome raises $20M to grow its fish, meat, vegetable and milk e-commerce platform "*TechCrunch,* August 26 2019, https://techcrunch.com/2019/08/26/indias-freshtohome-raises-20m-to-grow-its-fish-meat-vegetable-and-milk-e-commerce-platform/

[27] "India's quick commerce sector made two-thirds of all 2024 e-grocery orders, report says," *Reuters.* March 27, 2025, https://www.reuters.com/world/india/indias-quick-commerce-sector-made-two-thirds-all-2024-e-retail-orders-report-2025-03-27/.

[28] "Zepto's Annualised Gross Order Value Touches $3 Billion, up Three Times in 8 Months." *The Economic Times*, January 15, 2025. https://economictimes.indiatimes.com/tech/technology/zeptos-annualised-gov-touches-3-billion-up-three-times-in-8-months/articleshow/117274451.cms?from=mdr.

[29] "Q-commerce drives surge in demand for blue-collar jobs in India: Survey," *Business Standard*, n.d. https://www.business-standard.com/industry/news/demand-for-blue-collar-jobs-surge-led-by-quick-commerce-sector-survey-125010900388_1.html.

[30] Financial Express, " Flipkart Minutes Marks First Anniversary with 50% MoM Growth," August 2025. https://retail.financialexpressb2b.com/news/flipkart-minutes-marks-first-anniversary-with-50-mom-growth

[31] MoneyControl. "How much do delivery partners actually earn? A look inside the pay model for gig workers on Zomato, Swiggy," January 2026. https://www.moneycontrol.com/news/business/startup/how-much-do-delivery-partners-actually-earn-a-look-inside-the-pay-model-for-gig-workers-on-zomato-swiggy-13756512.html

are micro warehouses in urban regions of high population density that do not provide a customer-facing retail operation.[32] These centers stock items that are ordered frequently, so they can be dispatched immediately. Larger players such as Blinkit and Zepto have achieved efficiencies in logistics to operate within 1 to 2 km radius, so the time lost travelling and friction is minimal.[33] Typically, dark stores occupy 2,500 to 4,000 square feet and stock over 10,000 SKUs. Their assortments are updated in real time to reflect demand, seasonality, and emerging trends.

Dark stores are now widespread: in 2023, Q-commerce players in India leased ~24 million sq ft of micro-warehousing space for dark stores, with projections to reach ~37.6 million sq ft by 2027.[34] Startups that partner with Q-commerce platforms (rather than building massive new logistics themselves) are able to reach urban customers faster and at lower cost.

For example, Sweet Karam Coffee, a Chennai-based snack brand, moved from a centralized fulfillment model to a regionally hub-based supply chain, rationalized its SKUs, designed fulfillment-friendly packaging, and began distributing via Q-commerce platforms to reduce turnaround time.[35] Similarly, Baker's Dozen, a regional bakery brand, established warehouses in multiple cities to serve zones of high demand, rather than depending solely on a distant central facility. Dark stores themselves typically cost INR 6 to 7 lakh to set up (capex) and INR 1.5 to 2 lakh/month to operate for many locations, which is substantially less than what building a full-scale, own delivery and storage network would cost small players.[36]

For last-mile logistics, Q-commerce relies heavily on gig workers who deliver by bicycle, two-wheeler, or e-vehicles. These delivery personnel are algorithmically assigned routes to ensure minimum travel time, typically travelling less than 3 km per delivery.[37] The gig-enabled workforce provides flexibility in managing demand surges and supports the model of ultra-fast delivery.

### 3.2.4 Expanding Consumer Choice and Accessibility

Q-commerce has significantly widened the range of products consumers can access instantly, from everyday essentials to niche categories like electronics accessories, personal care, and stationery. For instance, small-ticket electronics (earbuds, chargers, cables, adapters) are seeing sharp growth on platforms such as Blinkit, Zepto, and Instamart, and Blinkit has introduced a "Content Creation Tools" section (tripods, LED lights, etc.) to cater to this demand.[38]

This expanded variety not only enhances convenience but also gives exposure to smaller or regional brands that traditionally struggled to secure shelf space in large supermarkets or big-commerce

---

[32] John Varun Bissell, "The Indian Express: Blinkit, Zepto, Swiggy: A brief history of quick commerce, its rise, impact, and possible future in India" *Indian Express*, last updated July 27, 2025 https://indianexpress.com/article/explained/explained-economics/history-of-quick-commerce-future-in-india-10152934/

[33] Dhisha S Babu, Singareddy Yaswanth, Thasmayi C and Prof. Sushmitha N, "Challenges in Quick Commerce: High Costs and Quality Disparities in Fresh Produce" *IRJET* 11, No. 5 (2024). https://www.irjet.net/archives/V11/i5/IRJET-V11I5256.pdf

[34] "Quick commerce dark stores poised to boost India's real estate demand," *Business Standard*. n.d. https://www.business-standard.com/industry/news/quick-commerce-dark-stores-poised-to-boost-india-s-real-estate-demand-124102900826_1.html.

[35] C, Priyamvada. "Fast and Furious: Early-stage Startups Tweak Supply Chain Operations as They Shift to Quick Commerce Lane | Company Business News." *Mint*, March 24, 2025. https://www.livemint.com/companies/startups-supply-chain-operations-quick-commerce-sweet-karam-coffee-blinkit-zepto-instamart-11742786754506.html.

[36] "Survival of the Fastest? Quick Commerce and Its Evolving Business Model." Grant Thorton, n.d. https://www.grantthornton.in/globalassets/1.-member-firms/india/assets/pdfs/quick_commerce_report.pdf.

[37] Swapnil Potdukhe et al, "Deep-Dive: Quick Commerce It always seems impossible until it's done" *JM Financial Institutional Securities Limited*, February 29, 2024, 5 https://www.jmfl.com/Common/getFile/3278

[38] Nabodita Ganguly. "India's $9.83 Billion Mobile Accessories Market Finds a Sweet Spot in Quick Commerce." *Outlook Business*, February 20, 2025. https://www.outlookbusiness.com/in-depth/indias-983-billion-mobile-accessories-market-finds-a-sweet-spot-in-quick-commerce.

platforms. Brands such as Ambrane, Nu Republic and Stuffcool have leveraged Q-commerce to reach urban consumers rapidly across many cities, with visible growth in daily volumes.[39]

By bridging this gap in product assortment and availability, Q-commerce promotes diversity of choice and helps build consumer trust in new and emerging brands. Consumers who may discover a personal care or electronics accessory product via Q-commerce are more likely to try it than go to physical retail or wait for scheduled online delivery. The immediacy and frequency of interactions in Q-commerce help reinforce brand visibility and credibility. For instance, niche D2C brands in smaller towns are experiencing emerging demand in categories such as curly hair care, sexual wellness, and electronics accessories via Q-commerce routes.[40]

## 3.3 The Business Model of Quick Commerce

Q-commerce operates less as a traditional retailer and more as a technology and logistics enabler. Unlike inventory-heavy models of e-commerce, Q-commerce platforms typically do not own or manage their own stock. Instead, they provide the digital interface, data-driven infrastructure, and last-mile delivery networks through which sellers can connect with consumers. The responsibility for inventory, pricing, and product assortment rests largely with third-party sellers, while the platform ensures convenience, visibility, and trust for all stakeholders.

### 3.3.1 Inventory-Led Model

Under an inventory-led model, a Q-commerce platform has its own or leases inventory, and operates a network of dark stores strategically dispersed in urban areas with high population density.[41] These dark stores stock thousands of SKUs, and are regularly replenished from the central mother warehouses. The Q-commerce platform takes care of the entirety of the operations, from sourcing and stocking the inventory, picking and packing the order, last mile delivery, etc. While this model is capital-intensive, requiring significant investments in infrastructure, supply chain, and workforce, it provides total control over inventory, product quality, and service levels.[42] A prominent example includes Blinkit which recently transitioned to an inventory-led model and now owns the inventory, rather than just storing it.[43]

### 3.3.2 Marketplace Model

The marketplace model is at the heart of Q-commerce in India. Under this model of business, platforms serve as intermediaries that host third-party sellers on their apps, while ensuring fast delivery and seamless consumer experience. Sellers ranging from local MSMEs to national FMCG brands are the ones who manage inventory and decide pricing. Such a model can also be restricted to being a multi-vendor platform, which may be restricted to only being a marketplace and not provide end-to-end logistics for sellers. On the other hand, the Q-Commerce platform provides order management, payments infrastructure, and delivery services. This arrangement creates an asset-light ecosystem where platforms can scale rapidly without the burden of warehousing, while sellers gain instant access to

[39] "What's Driving the Success of Electronics on Q-commerce," October 10, 2024. https://www.indiaretailing.com/2024/10/10/whats-driving-the-success-of-electronics-on-q-commerce.

[40] Jessica Ranjan, "Quick Commerce Fuels Niche D2C Boom in Smaller Cities." *The Economic Times*, Last updated June 13, 2025, https://economictimes.indiatimes.com/tech/technology/quick-commerce-fuels-niche-d2c-boom-in-smaller-cities/articleshow/121807337.cms.

[41] Gauri Ranjekar & Debjit Roy, "Rise of Quick Commerce in India: Business Models and Infrastructure Requirements" *Centre for Transportation and Logistics* (2023) https://www.iima.ac.in/sites/default/files/2023-06/Q-com%20-%20Ranjekar%20%26%20Roy_0.pdf

[42] Swapnil Potdukhe et al, "Deep-Dive: Quick Commerce It always seems impossible until it's done" *JM Financial Institutional Securities Limited*, February 29, 2024, 5 https://www.jmfl.com/Common/getFile/3278

[43] Economic Times, "Why Blinkit is shifting to an inventory-led model," July 2025, https://economictimes.indiatimes.com/tech/technology/ettech-explainer-why-blinkit-is-shifting-to-an-inventory-led-model/articleshow/122516474.cms?from=mdr

millions of customers who use Q-commerce apps for daily and discretionary needs. Prominent examples of marketplace models include Zepto and Swiggy Instamart.[44]

### 3.3.3 Hyper-Local Marketplace Model

The hyper-local model is differentiated from an inventory business model because it operates in real-time by aggregating inventory from timely sources such as a local retail store or a third-party vendor.[45] The Q-commerce platform acts as an intermediary, matching a customer's order to the nearest available inventory at a local store or vendor. It then assigns delivery personnel to fulfill the order.[46] Its flexibility allows for faster and more cost-efficient expansion into new geographies, offering a wider range of SKUs without the burden of maintaining inventory. PhonePe's Pincode is one example of such a model.[47]

### 3.3.4 Omnichannel Model

The omnichannel model represents the integration of both physical and digital retail channels, creating a seamless consumer experience across offline and online touchpoints.[48] In this model, Q-commerce functions as an extension of a larger retail ecosystem, allowing customers to order online and receive products from either a dark store, a local retail outlet, or even a nearby supermarket. Players like BigBasket (BB Now), Reliance's JioMart and Flipkart Minutes are embracing this model, leveraging their existing offline infrastructure and customer base while augmenting it with rapid delivery capabilities.[49] The key advantage of the omnichannel approach lies in data integration, allowing platforms to build unified customer profiles, personalize recommendations, and optimize inventory across channels.

## 3.4 Key Challenges Facing India's Quick Commerce Sector

As the Q-commerce space continues to embed itself within the fabric of India's urban consumption patterns, it is essential to critically examine the challenges and risks that accompany its rapid expansion. The sector's central value proposition, instant doorstep delivery within minutes, has redefined convenience but also introduced complex issues.

### 3.4.1 Displacement of Traditional Retail and Kirana Integration

For decades, local kirana stores have shaped India's retail landscape, serving as the primary channel for household grocery purchases. Present in every neighbourhood, these stores operate on a hyperlocal model, often offering home delivery and maintaining informal monthly credit accounts for regular customers. They continue to account for more than 90 percent of grocery sales, particularly in Tier-II,

---

[44] Mariyam Jameela,"Swiggy Instamart Vs Zepto: A Comparative Analysis of Quick Commerce Giants" *WareIQ* August 26, 2024, https://wareiq.com/resources/blogs/swiggy-instamart-vs-zepto/

[45] "Quick Commerce in India: Trends, Business Models & Challenges & Their Solutions" *Unicommerce,* December 18, 2024, https://unicommerce.com/blog/quick-commerce-india-business-models-challenges-strategies/#:~:text=With%20platforms%20like%20Blinkit%2C%20Swiggy%20Instamart%2C%20and,challenges%20that%20accompany%20such%20rapid%20service%20demands.

[46] "What is a Hyperlocal Business Model and How Does it Work?" *Fynd,* November 19, 2024, https://www.fynd.com/blog/what-is-hyperlocal-business-model

[47] PhonePe. "PhonePe's local commerce app 'Pincode' goes live on the ONDC network" PhonePe press release, April 4, 2023, https://www.phonepe.com/press/phonepes-local-commerce-app-pincode-goes-live-on-the-ondc-network/

[48] Tessa Roberts, "What Is Omnichannel Commerce? The Benefits and Ways to Build an Omnichannel Strategy for Retail" *Bloomreach,* August 28, 2024, https://www.bloomreach.com/en/blog/omnichannel-commerce-for-business

[49] Gauri Ranjekar & Debjit Roy, "Rise of Quick Commerce in India: Business Models and Infrastructure Requirements" *Centre for Transportation and Logistics* (2023), https://www.iima.ac.in/sites/default/files/2023-06/Q-com%20-%20Ranjekar%20%26%20Roy_0.pdf

Tier-III, and rural markets[50]. However, various retail bodies allege that the rapid expansion of quick commerce has begun to erode their dominance, as consumers increasingly shift to app-based platforms for convenience and speed. Reports indicate that kirana stores' market share declined from 95 percent in 2018 to 92.6 percent in 2023 and is projected to fall further to 88.9 percent by 2028[51]. This transition raises concerns about the sustainability of small retailers. According to the All India Consumer Products Distributors Federation (AICPDF), nearly 200,000 kirana stores shut down between 2023 and 2024 due to shrinking customer bases and reduced profitability.[52] The federation attributes this trend to deep discounting and alleged predatory pricing by quick commerce platforms, which have disrupted traditional retail networks that have long anchored India's consumer economy.

Despite these disruptions, there is broad agreement that quick commerce, e-commerce, and traditional retail can coexist within India's evolving retail ecosystem, each addressing distinct consumer preferences. Quick commerce primarily serves high-frequency, low-value purchases where immediacy and convenience are paramount, particularly in urban centres with time-constrained consumers. Conventional retail, modern retail and e-commerce remains the preferred channel for planned or bulk purchases, where variety and pricing play a greater role than delivery speed. Kirana stores, meanwhile, retain a structural advantage on cost and trust, especially outside major cities where nearly 60 percent of India's population resides and brick-and-mortar retail continues to dominate daily consumption.[53] This layered coexistence mirrors earlier transitions such as the ride-hailing sector and the shift from cash to digital payments, where new platforms disrupted behaviour without eliminating traditional systems. Rather than a zero-sum contest, India's retail landscape reflects an adaptive structure in which kiranas, much like during the pandemic, are likely to integrate technology and endure alongside emerging models as the market matures.

Efforts to integrate kirana stores into digital commerce are advancing through public digital infrastructure rather than through Q-commerce platforms themselves. ONDC allows small retailers to list inventories, receive real time orders, and access logistics providers without joining a proprietary platform, which creates an open channel for kiranas to participate in rapid fulfilment models.[54] This approach is complemented by initiatives from large domestic retailers, with Reliance Retail developing an integrated digital and physical distribution framework that connects neighbourhood stores to technology, supply chains, and fulfilment networks.[55] DigiHaat strengthens this shift by providing a government backed marketplace that brings neighbourhood shops online through standardised catalogues and interoperable payments. These systems reduce onboarding costs for traditional retailers and widen their access to digital demand.[56]

---

[50] Praveen Govindu, "The Battle for the Basket: Are Kirana Stores, Q-Commerce & D2C Brands Headed for a Collision?" *FERetail*, August 12, 2025, https://retail.financialexpressb2b.com/blogs/the-battle-for-the-basket-are-kirana-stores-q-commerce-d2c-brands-headed-for-a-collision

[51] "Market share of Kirana stores gradually shifting to Quick Commerce: Report". *The Economic Times.* November 20, 2024, https://economictimes.indiatimes.com/industry/services/retail/market-share-of-kirana-stores-gradually-shifting-to-quick-commerce-report/articleshow/115470437.cms?from=mdr\

[52] Abhijeet Kumar, "Quick commerce led to closure of 200,000 kirana stores: Retailers' body" *Business Standard.* October 30, 2024, https://www.business-standard.com/industry/news/quick-commerce-led-to-closure-of-200-000-kirana-stores-retailers-body-124103000841_1.html

[53] Madhav Krishna, "Quick commerce has created 450,000 Jobs in just 3 years—Is the kirana store still under threat?" *YourStory.* July 10, 2025. *https://yourstory.com/2025/07/q-commerce-450-000-jobs-3-years-kirana-stores*

[54] Pallavi Goel, "ONDC to digitize value chain, nourish ecosystem for kiranas to survive and thrive." *ETRetail.com*, Updated on June 18, 2022, https://retail.economictimes.indiatimes.com/news/e-commerce/e-tailing/ondc-to-digitize-the-value-chain-nourish-the-ecosystem-for-kiranas-to-survive-and-thrive/92293097

[55] Kapuria, Preeti. "Digitising Indian Retail: Analysing Challenges and Exploring Growth Models." *Observer Research Foundation*, October 15, 2024. https://www.orfonline.org/research/digitising-indian-retail-analysing-challenges-and-exploring-growth-models

[56] Money Control. "ONDC to Launch Own Buyer App &Lsquo;DigiHaat&Rsquo; to Stimulate Wider Adoption of the Network," October 25, 2024. https://www.moneycontrol.com/news/business/ondc-to-launch-own-buyer-app-digihaat-to-stimulate-wider-adoption-of-the-network-12851177.html.

### 3.4.2 Concerns around gig workers' social security and working conditions

Delivery agents form the operational backbone of the quick commerce ecosystem, ensuring the sector's promise of instant fulfilment. As per NITI Aayog, the gig and platform economy engaged 77 lakh gig workers in 2020-21 and is projected to increase to 2.35 crore gig workers by 2029-30.[57] This workforce comprises ride-hailing, professional services, e-commerce, quick commerce, logistics, food delivery and white collar services sector. Gig work is often characterized by the flexibility to engage with any sub-sector without any entry barriers and freedom to decide the time, extent and fee for such engagement. However, such flexibility comes at the cost of lack of social security contributions by the platforms, creating a significant distinction and disparity vis-a-vis traditional employment models. Another significant criticism of the gig economy is the poor working conditions, with gig workers and their unions alleging long working hours, impact of such work on their occupational health and safety and the lack of sufficient payout vis-a-vis the efforts being put in by them. The absence of any paid leave, statutory allowances and lack of bargaining power against the platforms are also highlighted by a vast number of workers engaged in the gig and platform economy. Lack of public amenities such as safe drinking water, adequate rest points, especially during extreme heat or cold, and toilets further aggravates the problem.

However, various pragmatic measures are being contemplated by industry and government alike, to address these concerns. On the concerns regarding lack of social security, the Code on Social Security, 2020 (CoSS),[58] specifically recognizes the unique aspects of gig economy and defines gig and platform workers as distinct from full-time employees and contract workers. Gig and Platform workers now become eligible for government-notified social security benefits such as accident insurance, health and maternity benefits.[59] The industry players are also working on addressing the concerns regarding lack of public amenities and rest points. Several quick commerce firms offer delivery partners group health and personal accident insurance, emergency medical support, and maternity benefits. Companies have also expanded physical amenities at delivery hubs and public rest points, with facilities such as seating, drinking water, toilets, charging points, and first-aid services.[60] For example, Amazon has committed to operationalize 100 rest points across India, open to gig workers of all platforms and having basic amenities such as seating area, clean drinking water, mobile charging points, washrooms, and first-aid kits.[61]

Although the gaps still persist, the system appears to be evolving while formalizing the workforce through transparency in engagement, bank payouts, safety and insurance protection to gig workers etc. Further, the large-scale livelihood opportunities created by the gig and platform economy, including Q-Commerce cannot be ignored. For many workers, especially those seeking supplementary income, the flexibility of gig work remains a key attraction.

---

[57] The Economic Times, Yogima Seth Sharma Gig workers in India to top 23 million by 2029-30: Niti Aayog report,", Last updated on June 27, 2022, https://economictimes.indiatimes.com/jobs/gig-workers-in-india-to-top-23-million-by-2029-30-niti-aayog-report/articleshow/92489976.cms?from=mdr&utm

[58] Ministry of Labour & Employment, "Code on Social Security, 2020 envisages social security benefits for gig and platform workers." Press Release, March 20, 2023, pib1908967.pdf

[59] Government of India. "Labour Reforms: Formalising and Safeguarding India's Gig & Platform Workforce" Press Release, December 9, 2025, https://www.pib.gov.in/FactsheetDetails.aspx?ModuleId=16&NoteId=150554&id=150554&lang=1&reg=

[60] Food delivery, e-commerce platforms unite to protect their delivery partners from heatwave." IndiaRetailing.com. June 5, 2024, https://www.indiaretailing.com/2024/06/05/food-delivery-e-commerce-platforms-unite-to-protect-their-delivery-partners-from-heatwave

[61] "Amazon's Project Ashray expands to 65 centres, boosting support to delivery partners ahead of festive season" Amazon. Last Updated on August 25, 2025, https://www.aboutamazon.in/news/operations/amazon-ashray-centres-for-delivery-partners-india

### 3.4.3 Regulatory Concerns around Dark Stores

Dark stores form another critical component of the quick commerce ecosystem, functioning as micro-warehouses that stock grocery and essential items for rapid order fulfilment. Typically ranging between 3,000 and 10,000 square feet,[62] these facilities are strategically situated within densely populated residential areas to reduce delivery time and logistics costs. Rental rates for such spaces usually range from ₹40 to ₹250 per square foot.[63] Their 24-hour operations and constant vehicular movement, however, have become a persistent source of tension with local communities. The continuous flow of delivery vehicles and workers within residential zones has prompted several Resident Welfare Associations (RWAs) to raise objections, citing increased congestion, noise, and violations of zoning regulations.[64]

Beyond zoning conflicts, dark stores have also faced regulatory scrutiny for non-compliance with safety and hygiene standards. Several facilities have been found operating without valid fire safety certificates or required licences. The Maharashtra Food and Drug Administration (FDA), for instance, has shut down multiple dark stores for breaching food safety norms and failing to maintain adequate hygiene[65]. Recent inspections by the FDA and the Food Safety and Standards Authority of India (FSSAI) revealed improper food storage practices and poor sanitary conditions, raising public health concerns.[66]

From the perspective of vendors and small scale operators, the regulatory and licensing framework presents significant operational hurdles. Cost remains the most immediate barrier since inventory led models require dedicated storage space, rented facilities, manpower for fulfilment, and consistent working capital to maintain stock. Vendors operating across multiple states must obtain separate GST registrations in each jurisdiction, which increases compliance expenses and administrative workload. They also navigate product specific licences, local trade approvals, and state level permissions that add layers of regulatory complexity. Infrastructural constraints intensify these difficulties because suitable commercial premises are hard to secure in dense urban markets where government owned land or compliant warehouse spaces are limited.

While concerns regarding the functioning of dark stores merit careful consideration, these facilities also operate within significant regulatory and infrastructure constraints. A more streamlined and clearly defined licensing framework, supported by improved coordination between industry stakeholders and government authorities, could help address compliance gaps while maintaining oversight and enabling the continued operation of quick commerce models.

---

[62] Sobia Khan, "Shedding light on dark stores." *The Economic Times.* Last updated on September 04, 2024, https://economictimes.indiatimes.com/industry/services/property-/-cstruction/shedding-light-on-dark-stores/articleshow/113040641.cms?from=mdr

[63] Prachi Pisal, "Quick commerce dark stores poised to boost India's real estate demand" *Business Standard. November 01, 2024,* https://www.business-standard.com/industry/news/quick-commerce-dark-stores-poised-to-boost-india-s-real-estate-demand-124102900826_1.html

[64] Rahul Sundaram, From Shelf To Scooter: The Legal Mess Behind India's 10-Minute Commerce Boom (Dark Stores, Quick Commerce & Zonal Compliance Chaos), *Mondaq,* June 18, 2025, https://www.mondaq.com/india/food-and-drugs-law/1638086/from-shelf-to-scooter-the-legal-mess-behind-indias-10-minute-commerce-boom-dark-stores-quick-commerce-zonal-compliance-chaos#:~:text=Dark%20stores%2C%20the%20fulcrum%20of,around%20which%20these%20stores%20operate.

[65] Aayushi Chaubey, "Quick Commerce Under Scrutiny: The Dark Side of 10-Minute Deliveries", *AngelOne*, Last updated on June 17, 2025, https://www.angelone.in/news/market-updates/quick-commerce-under-scrutiny-the-dark-side-of-10-minute-deliveries

[66] Rahul Sundaram, "From Shelf To Scooter: The Legal Mess Behind India's 10-Minute Commerce Boom (Dark Stores, Quick Commerce & Zonal Compliance Chaos) - Food and Drugs Law - India", *Mondaq,* June 18, 2025, https://www.mondaq.com/india/food-and-drugs-law/1638086/from-shelf-to-scooter-the-legal-mess-behind-indias-10-minute-commerce-boom-dark-stores-quick-commerce-zonal-compliance-chaos#:~:text=Dark%20stores%2C%20the%20fulcrum%20of,around%20which%20these%20stores%20operate.

# CHAPTER 4: EVALUATING FDI POLICY IN INDIA'S Q-COMMERCE SECTOR

## 4.1 Capital intensive nature of Q-commerce

The remarkable growth of Q-commerce in India has been driven by a combination of evolving consumer behaviour, domestic entrepreneurial energy, and the country's digital infrastructure. However, as with many sectors that emerge rapidly at the intersection of technology and urban life, Q-commerce has outpaced the frameworks within which it operates. What began as a convenience-led innovation is now a structural component of India's retail economy.

The Q-commerce sector is inherently capital-intensive, distinguished from many other technology-driven startups by its dependence on physical infrastructure and real-time service delivery. Unlike digital platforms that scale largely through software and user acquisition, Q-commerce companies must build and sustain dense networks of dark stores, warehousing facilities, and last-mile logistics systems. Each unit requires upfront capital for real estate, stocking, and staffing, with recurring costs for operations and fleet management. The real-time nature of the industry further limits the possibility of incremental or bootstrap growth. To fulfill the promise of sub-30-minute delivery, companies must achieve network density from the outset, making the need for large, long-term capital commitments unavoidable.

Yet, while the business model requires sustained capital inflows, the regulatory framework constrains access to one of the most significant pools of funding, foreign direct investment. While domestic venture capital, private equity, and corporate investors have shown significant interest in Q-commerce, the sheer capital intensity and long gestation periods of the model make reliance on these sources alone unsustainable in the long run. Q-commerce requires continuous investment in technology, warehousing, supply chain, and customer acquisition, all of which demand deep, patient capital.

## 4.2 Policy Constraints under the Current FDI Framework

As it stands, the consolidated FDI Policy 2020, released by the Department for Promotion of Industry and Internal Trade, allows for 100% FDI under the automatic route in the 'marketplace model' of e-commerce where platforms are just facilitators between buyers and sellers.[67] However, the 'inventory-based model' of e-commerce, where platforms own the inventory and directly sell to the consumer, is not permitted to receive FDI.[68]

In addition, marketplace platforms are required to maintain a level playing field. They are expressly prohibited from owning or exercising control over sellers' inventory defined under law as a situation where they own more than 25% of the inventory and from directly influencing product pricing. In practice, this means that entities which have received FDI can fund and operate technology platforms, warehousing, logistics networks, and marketing activities, but they cannot themselves hold more than 25% inventory or function as retailers.

To remain compliant, companies have adapted their structures to ensure that control over inventory remains largely with third-party sellers and that they do not own 25% inventory. In this framework, the ownership of dark stores themselves, whether by the platform or local entrepreneurs is not the determining factor, since warehouses can be operated by the platform so long as most of the goods stored within them belong to independent sellers. For example, Zepto has highlighted its "100%

[67] Department for Promotion of Industry and Internal Trade Ministry of Commerce and Industry Government of India, "Consolidated FDI Policy" (2020), 49, para 5.2.15.2.3, https://www.mofpi.gov.in/sites/default/files/fdi-policycircular-2020-28october2020.pdf

[68] Department for Promotion of Industry and Internal Trade Ministry of Commerce and Industry Government of India, "Consolidated FDI Policy" (2020), 50, para 5.2.15.2.3, https://www.mofpi.gov.in/sites/default/files/fdi-policycircular-2020-28october2020.pdf

compliance" by clarifying that while it manages logistics and fulfillment, the inventory ownership rests entirely with third-party vendors.[69] Similarly, Swiggy Instamart operates warehouses and dark stores through affiliated structures that provide storage, packaging, and dispatch services without taking ownership of the products.[70]

However, this separation between operations and ownership has attracted closer scrutiny from regulators. Reports note that the Department for Promotion of Industry and Internal Trade and other agencies have sought explanations from Zepto, Blinkit, and Swiggy Instamart on possible FDI violations involving inventory control and pricing.[71] Officials are examining whether these firms, although registered as marketplaces, in practice operate inventory-based systems through dark stores, dependent vendors, and linked logistics units. Notably, by September 2025, Blinkit has fully transitioned to an inventory-led model, with Swiggy Instamart similarly shifting toward direct inventory ownership.[72]

While some firms have sustained operations by leveraging the marketplace-based approach, others such as Blip struggled to attract fresh capital and were eventually forced to shut down.[73] The inability to access steady foreign capital risks constraining growth and innovation, particularly in a sector whose profitability horizons extend over years.

**Case Study: Blip**

Blip emerged in 2024 as one of India's earliest attempts to verticalise Q-commerce for fashion. Founded by Ansh Agarwal and Sarvesh Kedia, the Bengaluru based startup positioned itself as an ultra fast fashion delivery platform, often described as aspiring to become the Zepto for fashion. Its core proposition was 30 minute delivery of apparel and accessories, enabled through technology driven integrations with a network of retail partners rather than ownership of inventory. At its peak, Blip listed over 25,000 SKUs sourced from more than ten in house labels and local fashion retailers.[74]

The company's app went live in October 2024. Despite early traction and a differentiated concept, Blip shut down within a year of operations. The founders cited lack of capital as the primary cause, with limited working capital, execution challenges, and high operational intensity straining the

[69] Digbijay Mishra, "We're 100% compliant with FDI regulations; aim to be majority India-owned: Zepto's Aadit Palicha" *The Economic Time*s, November 22, 2024, https://economictimes.indiatimes.com/tech/startups/zepto-fdi-laws-compliant-aims-to-be-majority-india-owned-zeptos-aadit-palicha/articleshow/115537939.cms?from=mdr

[70] Digbijay Mishra, "Government to quick commerce: throw more light on dark store ownership structures" *The Economic Times*, September 16, 2024 https://economictimes.indiatimes.com/tech/technology/govt-puts-spotlight-on-quick-commerce-dark-stores-modus-operandi/articleshow/113403030.cms?from=mdr

[71] Pranav Mukul and Kirtika Suneja, "Quick commerce companies: Quick commerce companies quizzed by government over FDI, operating model" *The Economic Times,* January 01, 2025*,* https://economictimes.indiatimes.com/tech/technology/quick-commerce-companies-quizzed-by-government-over-fdi-operating-model/articleshow/116839363.cms

[72] Karvi Rana, "EXPLAINED: Blinkit's New Inventory-Led Model"*Logistics Insider,* July 14, 2025, *https://www.logisticsinsider.in/explained-blinkits-new-inventory-led-model/*

[73] Ananya Bhattacharya, "Screaming customers, unpaid workers: Inside the chaotic demise of Indian online delivery pioneer Dunzo" *Rest of World,* March 20, 2025, https://restofworld.org/2025/dunzo-shutdown-india-quick-commerce/; "Startup Shutdown: This 30-minute fashion delivery startup closes operations due to funding challenges" *Z Business,* July 14, 2025, https://www.zeebiz.com/startups/news-startup-shutdown-news-30-minutes-fashion-delivery-startup-blip-shuts-operations-after-one-year-due-to-funding-crunch-indian-startup-news-373391#:~:text=Blip%2C%20a%20quick%20fashion%20delivery,finally%20called%20it%20a%20day.

[74] Roshi. "Blip, the 30-Minute Fashion Delivery Startup, Shuts Down in Less Than a Year", BharatLinkr, August 6, 2025. https://bharatlinkr.com/blip-the-30-minute-fashion-delivery-startup-shuts-down-in-less-than-a-year/

business.[75] Its partner-dependent model required deep coordination across retailers and supply chains, slowing scale and increasing costs.[76]

Operating as a fully bootstrapped company with no venture backing, Blip faced persistent cash constraints in a logistics- and technology-heavy sector.[77] Technology investments, partner onboarding, marketing, and geographic expansion all required upfront capital that could not be generated internally at sufficient scale. The founders acknowledged that bootstrapping such a business model was ultimately unsustainable.[78] Blip's closure highlights how capital scarcity and regulatory constraints can curtail innovative Q-commerce experiments despite evident market potential.

## 4.3 Towards a Calibrated FDI Liberalisation Framework for Q-Commerce

Against this backdrop, revisiting the FDI policy framework becomes essential. Liberalisation, with adequate safeguards, can catalyse investment in technology, supply chains, and urban warehousing; enable MSME onboarding at scale, by connecting small vendors to formal, digitised distribution networks; generate employment in last-mile logistics, warehousing, and ancillary services etc.

To illustrate, safeguards introduced for Single Brand and Multi Brand retail trading demonstrate how a measured approach can introduce FDI while maintaining domestic interests. At present 100% FDI is permitted for Single Brand retail trading and FDI upto 51% is allowed for Multi Brand retail trading. These limits are however contingent on certain safeguards, which are showcased below:

| Aspect | Single Brand Retail | Multi Brand Retail |
|---|---|---|
| *Local sourcing requirements* | For FDI beyond 51%, at least 30% of the value of goods purchased must be sourced from India (preferably from MSMEs, cottage/village industries, artisans, craftsmen). | At least 30% of manufactured/processed products must be sourced from Indian MSMEs (investment ≤ USD 2 million in plant & machinery). |
| *Exemption from Sourcing Norms* | Exemption for first 3 years from business commencement for products with state-of-art or cutting-edge technology where local sourcing is not possible. | No exemption |
| *E-commerce* | Permitted | Not-permitted. |
| *Minimum Investment Threshold* | No minimum limit prescribed. | Minimum USD 100 million FDI required. |

[75] "Quick fashion delivery startup Blip shuts down after one year amid execution, funding challenges," Money Control, July 12, 2025, https://www.moneycontrol.com/news/business/startup/quick-fashion-delivery-startup-blip-shuts-down-after-one-year-amid-execution-funding-challenges-13271136.html

[76] Apparel Resources News-Desk. "Quick Fashion Delivery Platform Blip Shuts Shop After a Year | Retail News India." Apparel Resources, July 14, 2025. https://apparelresources.com/business-news/retail/quick-fashion-delivery-platform-blip-shuts-shop-year/

[77] Tracxn. "Blip Company Profile - Blip's Competitors and alternates," n.d. https://tracxn.com/d/companies/blip/__KmqnMViYfv-nqfL-r2aBQL2zYy1DpEO3pttubbg1C-4#about-the-company

[78] "Press Trust of India. "Made tough choice to close fast-fashion delivery startup Blip: Co-founder Ansh Agarwal," n.d. https://www.ptinews.com/story/business/made-tough-choice-to-close-fast-fashion-delivery-startup-blip-co-founder-ansh-agarwal/2724013 "

| | | |
|---|---|---|
| *Backend Infrastructure Requirement* | Not prescribed. | At least 50% of the first USD 100 million FDI must be invested in back-end infrastructure (excluding front-end retail units and land cost). |
| *Location Restrictions* | No restriction. | Retail outlets may only be set up in cities with population >10 lakh (2011 Census) or as permitted by State Governments. |

A similar calibrated approach can also be taken for the Q-commerce field as well to ensure sustainable growth and innovation in the industry.

## 4.4 Cross-Country Perspective on FDI in Q-Commerce

A comparative review of foreign investment policies in countries at similar stages of digital retail evolution helps contextualise India's current approach. Turkey, Southeast Asia, and Latin America, offer relevant benchmarks. These economies combine large populations, rising urban consumption, and expanding digital infrastructure. Q-commerce has grown rapidly in these markets due to increased smartphone usage, demand for time-sensitive retail services, and investment in micro-fulfillment networks. Their regulatory environments reveal how foreign capital shapes the development of inventory-led platforms.

### 4.4.1 Turkey: Full Access for Foreign Investors

Turkey permits 100 percent foreign ownership across most sectors under its Foreign Direct Investment Law. Turkey's FDI law is based on a notification system rather than prior approval and gives foreign investors equal treatment with domestic investors, although some national security and strategic sectors may have restrictions. E-commerce per se is not subject to specific FDI limits under that law.[79] Therefore, inventory-led and marketplace e-commerce platforms operate without formal sectoral caps.[80] Getir's expansion illustrates this openness. The company secured large investments from Mubadala Investment Company, Sequoia Capital, and Tiger Global.[81] This capital funded its dark store network in Turkey and supported entry into European markets. The absence of restrictions on inventory-based models has enabled sustained foreign participation in its operations.

### 4.4.2 Southeast Asia: Liberalisation and Investment-led Growth

Singapore maintains an open investment regime.[82] Digital marketplace regulation focuses on data, competition, and consumer protection rather than investment controls. As a result, platforms such as

[79] Toksoy, M. Fevzi, Bahadir Balki, Can Sarıçiçek, and Ata Yanılmaz. "Foreign Direct Investment Regimes Turkey 2026." *International Comparative Legal Guides International Business Reports*, November 17, 2025. https://iclg.com/practice-areas/foreign-direct-investment-regimes-laws-and-regulations/turkey.

[80] Alican Babalioglu and Jerfi Dogan, "Ecommerce in Turkey" *CMS Expert Guide*, https://cms.law/en/int/expert-guides/ecommerce-in-cee/turkey#:~:text=Therefore%2C%20while%20a%20local%20presence%20is%20not,to%20avoid%20operational%20restrictions%20and%20potential%20fines.

[81] "Getir raises $768 million in Series E funding at $11.8 billion valuation" *PR Newswire*, March 17, 2022, https://www.prnewswire.com/news-releases/getir-raises-768-million-in-series-e-funding-at-11-8-billion-valuation-301505099.h

[82] Jon Nair, Teng Sen Tan and Priscilla Wang, "Investing In... 2025 - Singapore",*Global Practice Guides* / *Chambers and Partners*,January 15, 2025, https://practiceguides.chambers.com/practice-guides/investing-in-2025/singapore

RedMart[83] and GrabMart[84] receive funding from global investors including Temasek, GIC, and venture capital firms from the United States and Europe.

Indonesia's environment has shifted steadily toward liberalisation. In 2021, *vide* Presidential Regulation No. 10 of 2021 on Investment Sectors dated March 4, 2021, Indonesia removed a ban on foreign investment in e-commerce service providers, allowing foreign investors up to 100 percent ownership in platform intermediary e-commerce activities.[85] Reforms to the Negative Investment List and the Omnibus Law allow majority or full foreign ownership in many digital and retail subsectors with some regulations.[86] Q-commerce firms such as HappyFresh grew on the strength of foreign rounds led by Korea's Naver, Australia's Mirae Asset, and Grab's investment arms[87]. These reforms support micro-fulfillment and logistics-heavy business models that depend on long-term capital.

### 4.4.3 Latin America: Open Retail Investment and Platform Expansion

Colombia,[88] Brazil,[89] and Mexico[90] allow 100 percent foreign ownership in retail and e-commerce. This openness supported the rise of companies such as Rappi, JOKR,[91] and Cornershop. Rappi secured a one billion dollar investment from SoftBank in 2019, which financed warehouse expansion and rider fleet growth across the region.[92] Uber's acquisition of Cornershop further reflects cross-border interest in scalable delivery and grocery operations.[93]

---

[83] Kaylene Hong, "Online Grocer RedMart Closes Series A to Bring Total Funding to $4.6M", *Tnw*, July 18, 2013,https://thenextweb.com/news/singapore-based-online-grocer-redmart-closes-series-a-round-to-bring-its-total-funding-to-4-6

[84] "Temasek adds stakes in Grab, Robinhood and other consumer-focused companies" *The Straits Times*, February 15, 2022,https://www.straitstimes.com/business/economy/temasek-adds-stakes-in-grab-robinhood-and-other-consumer-focused-companies

[85] Darmawan, Santi, Cellia Cognard, Rebecca Ayuyantrie, Brandon Van Slyke, and Novita Wulandari. "Insights on Implementation of Foreign Direct Investment Changes to E-Commerce Since the Issuance of Indonesia's New Investment List." *Herbert Smith Freehills Kramer*, November 16, 2021. https://www.hsfkramer.com/notes/indonesia/2021-11/insights-on-implementation-of-foreign-direct-investment-changes-to-e-commerce-since-the-issuance-of-indonesias-new-investment-list/.

[86] Floris van der Velde, "Indonesia's omnibus law: A foreign investors' guide to the positive investment list"*Vistra*, March 03, 2021,https://www.vistra.com/insights/indonesias-omnibus-law-foreign-investors-guide-positive-investment-list

[87]Catherine Shu,"Indonesia-based grocery app HappyFresh reaps $65M led by Naver Financial and Gafina"*TechCrunch*, July 27,2021,https://techcrunch.com/2021/07/27/indonesia-based-grocery-app-happyfresh-reaps-65m-led-by-naver-financial-and-gafina/

[88] Dentons Cardenas & Cardenas, "Principles regulating foreign investment in Colombia"*Lexology*, https://www.lexology.com/library/detail.aspx?g=a3c8ed60-ced6-4d9a-86e1-0b7f596a1968&utm_source=chatgpt.com

[89] ASBZ Advogados, "The foreign investment regime in Brazil" *Lexology*, n.d., https://www.lexology.com/library/detail.aspx?g=79d08d16-f606-4e07-b3b3-1875c75c65c3&utm_source=chatgpt.com

[90] Hogan Lovells, "*A general introduction to foreign investment regulation in Mexico* - Lexology", n.d., https://www.lexology.com/library/detail.aspx?g=0c6aff4a-2e8c-4faa-bb87-5a537f51bdd0

[91] Ivan Levingston, "Fast-Delivery Startup Jokr Cuts Back US Operations to Focus on Latin America" *Bloomberg*, June 15, 2022, https://www.bloomberg.com/news/articles/2022-06-15/startup-jokr-cuts-back-us-operations-to-focus-on-latin-america

[92] Mary Ann Azevedo and Natasha Mascarenhas, "Colombian On-Demand Delivery Unicorn Rappi Raises $1B From SoftBank"*Crunchbase news*. April 30, 2019, https://news.crunchbase.com/venture/colombian-unicorn-rappi-reportedly-raising-1b-from-softbank/#:~:text=Colombian%20on%2Ddemand%20delivery%20startup,based%20company%2C%20according%20to%20Rappi.

[93] Aria Alamalhodaei, "Uber to become the sole owner of grocery delivery startup Cornershop"*TechCrunch*, June 21, 2021, https://techcrunch.com/2021/06/21/uber-to-become-the-sole-owner-of-grocery-delivery-startup-cornershop/#:~:text=Image%20Credits:Cornershop,with%20the%20matter%20told%20TechCrunch.

These cross-country examples show a clear pattern. Markets with open FDI rules coupled with some country specific safeguards have attracted substantial foreign capital into inventory-led platforms. This funding supports the development of dark stores, automated warehouses, and rider networks. It also enables integration of small vendors into formal supply chains. Foreign investment in Getir, Rappi, and HappyFresh illustrates how capital deepens logistics capacity and lowers per-unit delivery costs, which are critical for profitability.

### 4.4.4 Recommendations

As conversations around digital infrastructure and innovation continue, there's scope to revisit the FDI rules in a way that balances the need for investment with the interests of smaller players and local ecosystems. Legal scholars and industry experts in stakeholder interviews have noted that if inventory-led models allowed for controlled FDI - with potential thresholds (e.g., 80:20 own vs third-party inventory), category-specific permissions (e.g., perishables), or state-listed opt-ins, it would allow the sector to expand without endangering local considerations.

Two potential approaches merit consideration:

**i) Permitting 100% FDI in inventory-based Q-commerce, with safeguards, for 5 years**: Complete liberalisation could accelerate investment flows and global integration.

**ii) Allowing up to 74% FDI in inventory-based Q-commerce models for 5 years:** This would mirror India's policy in other sensitive sectors (e.g., defence production), ensuring significant domestic participation while unlocking foreign capital.

This FDI liberalisation could include specific conditions and safeguards to ensure maximum benefit for domestic stakeholders.

A. Investing entities would be required to incorporate in India with Indian board representation to ensure local accountability and regulatory oversight.
B. Eligible product categories under the initial phase of FDI-based inventory operations would include Fast-Moving Consumer Goods, fruits and vegetables, general merchandise, fashion, and electronics. These categories represent high-volume and employment-intensive sectors where integration with domestic supply chains is both feasible and desirable.
C. A mandatory domestic sourcing requirement would ensure that at least 50 percent of goods sold are procured from within India.
D. Platforms would also be obligated to integrate local kirana stores and small traders through technology onboarding and logistics partnerships built on the Government of India's Digital Public Infrastructure.[94]
E. Q-commerce platforms would be required to share consent based customer data with kirana stores, enabling them to undertake targeted promotions and improve market access.[95]

[94] Industry stakeholders are advocating for government-created technology platforms, similar to ONDC and Nammo Yatri, that would enable kirana stores to compete directly with quick commerce companies.
See also, ENS Economic Bureau. "Kirana Stores' Association Demands Govt-backed Quick Commerce Platform." *The New Indian Express*, December 10, 2025. https://www.newindianexpress.com/business/2025/Dec/10/kirana-stores-association-demands-govt-backed-quick-commerce-platform .

[95] Zomato has launched a similar initiative to boost restaurant visibility, allowing customers to opt and to receive marketing and promotional updates directly from restaurants. When explicit consent is provided, Zomato shares the customer's phone number with the restaurant, allowing direct communication within a consent based and transparency driven framework.
See also, Moneycontrol. "Zomato to Allow Sharing of Customer Contact Numbers With Restaurants in Transparency Push," November 20, 2025. https://www.moneycontrol.com/news/business/zomato-to-allow-sharing-of-customer-contact-numbers-with-restaurants-in-transparency-push-13688547.html.

F. To promote equitable market participation, sourcing for private label products would be restricted entirely to domestic producers i.e. sourcing for private label products shall be 100% from the domestic market.
G. Q-commerce platforms must ensure MSME products retain brand identity and visibility on Q-commerce platforms through clear labeling and platform-level recognition.
H. Farmer Producer Organizations (FPOs) shall be integrated into Q-commerce supply chains, strengthening transparency, improving price realization, and ensuring more equitable distribution of returns across the value chain.
I. The entities operating in e-commerce and quick commerce sector shall contribute a sum as specified by the government, to a government body which shall be set-up for the betterment, digitization, and benefit of kirana stores.

To ensure compliance with these provisions, each entity would be required to furnish an annual certificate from its statutory auditor to the Department for Promotion of Industry and Internal Trade (DPIIT).

Both options coupled with relevant safeguards would significantly ease the financing constraints currently faced by Q-commerce companies, enabling them to expand operations and innovate sustainably.

To assess the scale and scope of this policy change, an econometric analysis was conducted comparing two scenarios: a 74% cap versus 100% FDI. The impact of FDI liberalisation was estimated across key parameters, including market size, revenue, employment, and investment in major Q-Commerce platforms. The analysis also incorporated industry statistics and projections on warehousing, logistics, internet penetration, and the integration of MSMEs and farmers on Q-Commerce platforms.

As Q-commerce has experienced significant growth only in recent years, consolidated and verified data on the sector remains limited and fragmented. To approximate the potential effects of FDI liberalisation in inventory-based e-commerce, FDI trends from retail trading and manufacturing sectors were employed as proxy policy multipliers. Using a similar approach, the 74% FDI scenario was derived through calibrated multiplier adjustments.

The table contrasts two scenarios for liberalising FDI in inventory-based e-commerce. Option 1 permits 100% FDI with safeguards for five years, encouraging maximum foreign investment and integration. Option 2 caps FDI at 74%, balancing domestic participation with access to foreign capital.

**Table: Comparative Assessment of Policy Option – 100% FDI vs. 74% FDI in Inventory-Based E-Commerce**

| Area (5 years) | Benefit | Option 1: 100% FDI | Option 2: 74% FDI |
|---|---|---|---|
| Foreign Direct Investment | Inflow of FDI into warehousing, cold chains, rural logistics | USD 41 billion (32-53 billion) | USD 31 billion (23.5-39.3 billion) |
| MSMEs Onboarded | Increased market access, technology onboarding | 8.5-11 million | 6-7.5 million |
| Increase Consumers Base | Greater product variety, improved delivery standards | 53-59 million | 43-50 million |

| | | | |
|---|---|---|---|
| Farmers Income | Increased income due to direct digital procurement and improved logistics, warehousing | 11.5-17.5% rise | 8.5-12.5% rise |
| Infrastructure and Logistics | Capital for warehouse development; multi-tier warehouse networks; inventory management; route optimization, feeder network for tier 2-tier city delivery | USD 30-36.7 billion | USD 22.2-27.1 billion |
| Employment | Jobs in logistics, delivery, storage, warehousing | 3.2-6.7 million | 2.4-5.1 million |
| GST (Annual) | Significant improvement in GST uptick due to retail formalization | INR 43,072 crores (28,510 – 59,871 crores) | INR 32,660 crores (21,657 – 45,270 crores) |

Note: *A preliminary, ex-ante estimate based on limited and aggregate data, intended for directional policy assessment rather than precise forecasting.*

Following the introduction of FDI in inventory-based e-commerce, foreign investors are expected to recognize the scale and potential of India's Q-commerce market. Over a five-year horizon, FDI inflows are projected to range between USD 32–53 billion under a 100% FDI regime and USD 23 to 40 billion under a 74% FDI cap. As FDI flows into the sector, it generates a domino effect, with positive spillovers across multiple areas of the economy. Increased investment encourages greater MSME participation and onboarding onto Q-commerce platforms. To maximize these benefits, introducing a condition that requires at least 30% procurement from MSMEs and domestic producers would directly foster their growth by providing stable demand, higher sales, and enhanced revenues. Consumers also stand to benefit from expanded product variety, better quality, and faster delivery, particularly as rural logistics networks strengthen.

Farmers stand to gain directly by selling on these platforms, with projected income increases of 17.15% over five years under 100% FDI and 16.35% under 74% FDI, largely due to reduced post-harvest losses, improved storage, and disintermediation. On the employment front, FDI is expected to generate millions of direct jobs in warehousing, packaging, delivery, and inventory management, alongside additional opportunities in customer service and corporate functions. Indirect job creation is expected to be even higher. Finally, the formalization of retail through such platforms would shift sales from unregistered offline traders to GST-compliant e-commerce channels, further strengthening revenue collection and overall efficiency. The findings underscore that liberalisation, if carefully designed, can deliver broad-based benefits without undermining India's policy objective of protecting domestic enterprises.

# CHAPTER 5: CONCLUSION

Q-commerce in India has evolved from an experimental model of ultra-fast delivery into a defining component of the country's digital retail ecosystem. Its rapid ascent reflects both the adaptability of Indian consumers and the entrepreneurial agility of domestic startups. As this paper has demonstrated, however, the sector's sustained growth depends critically on the policy framework governing foreign investment.

Under the FDI Policy, 2020, restrictions on inventory-based e-commerce models prohibit foreign investment in inventory ownership and limit platforms to operating as pure marketplaces, with inventory largely held by third-party sellers. While this approach seeks to preserve competitive neutrality, it also restricts platforms' ability to innovate across supply chains, develop private labels, and establish direct farmer-to-consumer linkages. As Indian quick commerce platforms continue to scale, the question of whether the FDI regime can evolve to allow greater operational flexibility, without diluting safeguards against market concentration, has become increasingly salient.

The long-term trajectory of quick commerce will therefore depend on achieving an appropriate balance between openness to foreign capital and adherence to marketplace principles. A calibrated liberalisation of FDI rules could unlock fresh investment, strengthen technology and logistics infrastructure, and expand MSME participation in digital supply chains. In doing so, Q-commerce can mature not only as a driver of consumer convenience but also as a catalyst for employment generation, entrepreneurship, and inclusive economic growth.

# ANNEXURE: ECONOMETRIC ANALYSIS

This annexure provides a concise and descriptive overview of the methodologies, variables, data sources, assumptions, and limitations for estimating seven parameters related to inventory-based e-commerce under 100% and 74% FDI scenarios (2025 to 2029).

**Anticipated Benefits**

| Area (5 years) | Benefit | Option 1: 100% FDI | Option 2: 74% FDI |
|---|---|---|---|
| Foreign Direct Investment | Inflow of FDI into warehousing, cold chains, rural logistics | USD 41 billion *(32-53 billion)* | USD 31 billion *(23.5-39.3 billion)* |
| MSMEs Onboarded | Increased market access, technology onboarding | 8.5-11 million | 6-7.5 million |
| Increase Consumers Base | Greater product variety, improved delivery standards | 53-59 million | 43-50 million |
| Farmers Income | Increased income due to direct digital procurement and improved logistics, warehousing | 11.5-17.5% rise | 8.5-12.5% rise |
| Infrastructure and Logistics | Capital for warehouse development; multi-tier warehouse networks; inventory management; route optimization, feeder network for tier 2-tier city delivery | USD 30-36.7 billion | USD 22.2-27.1 billion |
| Employment | Jobs in logistics, delivery, storage, warehousing | 3.2-6.7 million | 2.4-5.1 million |
| GST (Annual) | Significant improvement in GST uptick due to retail formalization | INR 43,072 crores *(28,510 – 59,871 crores)* | INR 32,660 crores *(21,657 – 45,270 crores)* |

Note: *A preliminary, ex-ante estimate based on limited and aggregate data, intended for directional policy assessment rather than precise forecasting*

**DETAILED MODEL SPECIFICATIONS**

# 1. FDI Inflow

## 1.1 Variables and Data Sources

| Type | Variable | Description | Source |
|---|---|---|---|
| Dependent Variable | $FDI_{it}$ | Projected FDI inflow in inventory-based e-commerce for year $t$ | Derived |
| Independent Variables | $RetailFDI_t$ | FDI in single- and multi-brand retail | DPIIT |
| | $QuickCommerceGOV_t$ | Gross Order Value of quick-commerce platforms | India Briefing, 2024 |
| | $Logistics_t$ | Logistics and dark-store infrastructure investment | Mordor Intelligence |
| Policy Multiplier Variables | $M_{Telecom}, M_{Mfg}, M_{Ecom}, M_{Retail}$ | Historical FDI growth multipliers from liberalized sectors | IBEF, DPIIT, PIB |

### 1.1.1 Model Calculation

The model calculates a base inflow from weighted proxy streams, adjusted by a policy multiplier reflecting FDI surges in comparable sectors. Each multiplier captures investor response to ownership liberalization, validated across India's regulatory history. The weighted average of four sectoral multipliers produces two forecasts: a high estimate of 2.49 and a conservative estimate of 1.83. A 10% sensitivity margin accommodates estimation uncertainty.

| Sector | Multiplier | Weight | Justification |
|---|---|---|---|
| Retail Trading | 2.67× | 34.25% | Closest parallel: B2C consumer focus, capex-intensive, inventory-dependent |
| E-Commerce Market | 1.95× | 27% | Direct policy precedent from 2016 liberalization |
| Manufacturing | 1.7× | 23.75% | Supply chain integration enabling inventory models |
| Telecom | 4.3× | 15% | Digital infrastructure backbone; lower direct relevance to retail |

For the 74% FDI scenario, multipliers are linearly scaled to 1.84 (high) and 1.35 (low).

### 1.1.2 Base Inflow Variables and Weight Allocation

| Variable | Weight | Source | Rationale |
|---|---|---|---|
| Retail FDI | 20% | DPIIT | Enables offline-online integration (e.g., Reliance + JioMart); lower weight reflects enabling rather than core role |
| Quick Commerce GOV | 40% | India Briefing | Market dominance (Blinkit 45% share); direct FDI concentration in rapid-delivery platforms |
| Logistics & Dark Stores | 40% | Mordor Intelligence | Capex-intensive infrastructure (dark stores, cold chains); supply-side parity with demand drivers |

a) **Retail FDI (Weight: 20%)** captures traditional retail's digital transformation channel. Single-brand and multi-brand retail FDI reflects investor appetite for omnichannel retail models, which inventory-based e-commerce approximates (e.g., Reliance Fresh + JioMart Express integration). DPIIT data is government-verified, providing high reliability.
b) **Quick Commerce GOV (Weight: 40%)** directly proxies the inventory-based e-commerce market size and investor interest. Platforms like Blinkit (45% market share) and Instamart represent the core inventory-controlled model. A 40% weight reflects this segment's FDI primacy within the broader e-commerce ecosystem.
c) **Logistics & Dark Store Investment (Weight: 40%)** captures infrastructure capex essential for rapid delivery. Dark stores (micro-fulfillment centers, 500–2,000 sq ft) and cold-chain networks are inventory-control mechanisms specific to quick commerce. Mordor Intelligence tracks this segment as a distinct FDI stream, justifying equal weighting with Quick Commerce GOV.

### 1.1.3 Policy Multiplier Application

Policy multipliers quantify how investor response to liberalization translates into additional FDI flows, each drawn from sectors experiencing measurable FDI increases post-liberalization.

a) **Retail Trading (34.25%, 2.67×)** receives the highest weight due to structural parity with inventory-based e-commerce: both are capex-intensive, consumer-facing, and ownership-sensitive. Post-2006 liberalisation, retail FDI increased 2.67-fold.
b) **E-Commerce Market (27%, 1.95×)** provides direct policy precedent. Following 100% FDI allowance for marketplaces in March 2016, the sector multiplied 1.95-fold by 2017. The 27% weight reflects relevance while acknowledging operational differences between marketplace and inventory-based models.
c) **Manufacturing (23.75%, 1.7×)** supports supply chain integration. FDI grew 1.7-fold between 2014 and 2024 under Make in India policies, demonstrating moderate policy responsiveness.
d) **Telecom (15%, 4.3×)** serves as a digital infrastructure proxy. Though the multiplier (4.3×) is highest, its 15% weight reflects lower direct relevance to consumer-facing retail compared to Retail Trading.

The dataset covers 2014 – 2024 (FY) with 10 annual observations, drawn from DPIIT, PIB, Statista, and industry databases. All monetary values are converted to USD billion for consistency.

### 1.2 Model Description

The model calculates a base inflow from weighted proxy streams, adjusted by a policy multiplier reflecting FDI surges in comparable sectors (telecom: 4.3x, manufacturing: 1.7x, e-commerce: 1.95x, retail: 2.67x; weights: 15%, 23.75%, 27%, 34.25%). Multipliers yield a high estimate (2.49) and conservative estimate (1.83), scaled for 74% FDI with a 10% margin of error.

The framework rests on three core assumptions: (i) investor response in inventory-based e-commerce will mirror liberalization outcomes in structurally similar sectors; (ii) proxy streams (retail FDI, quick commerce GOV, logistics) adequately represent the potential investment base; and (iii) static five-year multipliers approximate medium-term inflows in the absence of granular dynamic growth data. The theoretical logic follows Dunning's Eclectic Paradigm, where market potential (captured by retail FDI and quick commerce GOV) enhances location advantages, infrastructure readiness (reflected through logistics investment) strengthens internalization efficiency, and policy liberalization (through multipliers) lowers institutional barriers. Together, these factors increase expected returns and reduce entry costs, translating into higher FDI inflows. Assumptions are anchored in government statistics (DPIIT, PIB), industry forecasts (Statista, Mordor Intelligence), and international precedents.

The model uses weighted-average estimation (deterministic simulation), not econometric regression, due to limited sector-specific time-series data. It is an ex-ante predictive framework, calibrated with historical multiplier effects. Sensitivity analysis provides confidence bounds around the median estimate.

### 1.3 Estimates

| FDI Scenario | 5-Year FDI Inflow (USD Billion) | Median (USD Billion) |
|---|---|---|
| **100% FDI** | 32–53 | 41 |
| **74% FDI** | 23.5–39.3 | 31 |

## 2. MSME Onboarding

MSME onboarding onto inventory-based e-commerce platforms follows a constrained adoption trajectory, where early-stage growth reflects expanding digital access and declining adoption barriers, while later-stage deceleration reflects market saturation. This framework rests on two complementary theories. First, the Diffusion of Innovation (DOI) theory posits that technology adoption exhibits S-shaped (logistic) growth patterns - slow initially, accelerating as awareness spreads, then decelerating as the addressable population saturates. Second, resource constraint theory recognizes that MSME digitalization depends on enabling infrastructure (internet penetration) and organizational readiness (adoption propensity), which limit the pool of eligible adopters. The model integrates these frameworks by using carrying capacity (derived from infrastructure constraints) as the adoption ceiling and applying policy multipliers to capture how FDI liberalization reduces adoption barriers and accelerates digital transition.

## 2.1 Variables and Data Sources

| Variable | Description | Value (2024) | Source & Rationale |
|---|---|---|---|
| Total MSMEs | India's MSME base | 63 million | MSME Annual Report, GoI.<br><br>Establishes the total addressable population for onboarding. |
| Current Online MSMEs | Existing digital adopters | 2.5 million | Invest India.<br><br>Baseline for logistic growth simulation; reflects current penetration rate (~4%). |
| Internet Penetration | Proportion with digital access | 52.4% | World Bank (2024).<br><br>Represents infrastructure constraint; limits MSME ability to operate online. Lower rates in rural areas significantly constrain the adoption pool. |
| Adoption Propensity | Willingness to adopt e-commerce | 56% | Kinara Capital.<br><br>Captures willingness among internet-enabled MSMEs, accounting for organizational, financial, and skill-based barriers to adoption. |
| Carrying Capacity (K) | Maximum eligible online MSMEs | 18.48 million | Derived from Total MSMEs × Internet Penetration × Adoption Propensity. Represents theoretical ceiling under current digital infrastructure conditions. |
| Baseline Growth Rate (r) | Historical adoption velocity | 0.2805 | Derived from 2023–24 MSME onboarding data using discrete logistic formula. Reflects organic adoption absent policy reform. |

Carrying Capacity Derivation: K = Total MSMEs (63M) × Internet Penetration (52.4%) × Adoption Propensity (56%) = 18.48 million

This represents the theoretical maximum MSMEs eligible for inventory-based e-commerce adoption under current digital infrastructure conditions. Growth in internet penetration (projected to 70% by 2030) will expand K proportionally; the static K assumption represents a conservative baseline.

## 2.2 Model Description

A logistic growth framework to forecast MSME onboarding onto inventory-based e-commerce, using total MSMEs, current online adopters, carrying capacity (based on internet penetration and adoption rate), and policy-adjusted growth rates derived from past FDI liberalization effects. The policy boost factor (1.95x for 100% FDI) is derived from India's e-commerce market response to 100% FDI liberalization in marketplace e-commerce (March 2016). Larger, better-capitalized e-commerce markets

(enabled by FDI inflows) offer improved infrastructure, lower commissions, better marketing support, and safer payment systems, all drivers of MSME adoption. The 1.95× multiplier reflects the elasticity of MSME onboarding to platform-side improvements financed by FDI. Growth trajectories are simulated under 100% and 74% FDI scenarios, with sensitivity analysis to capture uncertainty.

This model assumes that internet penetration and adoption propensity remain static and MSME response mirrors historical e-commerce expansion. A logistic growth framework is considered appropriate for modeling adoption in constrained environments, with linear scaling applied to capture the differential effects between 100% and 74% FDI scenarios.

### 2.3 Estimates

| FDI Scenario | 5-Year New MSMEs (Million) |
|---|---|
| **100% FDI** | 8.5–11 |
| **74% FDI** | 6–7.5 |

## 3. Increase in Consumer Base

Consumer adoption of inventory based e-commerce follows a constrained logistic growth pattern, where adoption accelerates as benefits become apparent and barriers decline, then decelerates as market saturation approaches. This framework integrates two complementary theories. First, the Technology Acceptance Model (TAM) posits that consumer adoption depends on perceived usefulness (faster delivery, lower prices) and ease of use (platform accessibility), with FDI enabling improvements in both dimensions. Second, market saturation theory recognizes that adoption is bounded by infrastructure constraints (internet penetration) and consumer preferences (willingness to adopt). The model operationalizes these theories by establishing a carrying capacity based on internet accessibility and adoption propensity, then applying a policy multiplier derived from historical FDI liberalization effects. This approach captures how policy-enabled investment improves platform quality and logistics, thereby accelerating consumer adoption toward the market ceiling.

### 3.1 Variables and Data Sources

| Variable | Description | Value (2024) | Source & Rationale |
|---|---|---|---|
| Internet Users (K base) | Total digital access pool | 886 million | KANTAR/IAMAI (2024).<br><br>Represents the maximum addressable population for online commerce; internet penetration is the binding infrastructure constraint for e-commerce adoption. Over half are in rural areas, enabling geographic expansion under improved logistics. |
| Online Shoppers Rate | Proportion of internet users shopping online | 25–30% | Bain & Co. (2025), McKinsey.<br><br>Reflects current adoption; approximately 270 million of 886M |

| | | | |
|---|---|---|---|
| | | | internet users shop online, indicating significant untapped demand. |
| Adoption Propensity for Inventory-Based | Willingness to adopt rapid-delivery models | 40% | Derived from market trends and IBEF (2024).<br><br>Quick commerce and social commerce are projected to exceed 25% of e-commerce by 2030; 40% reflects optimistic but defensible growth given infrastructure expansion and consumer shift toward convenience. |
| Carrying Capacity (K) | Maximum potential inventory-based consumers | 88.6 million | Derived: 886M × 0.30 (online shoppers) × 0.40 (adoption propensity) = 88.6M. Represents the theoretical ceiling of consumers who could benefit from inventory-based e-commerce under current and 2030 projected conditions. |
| Current Inventory Users ($N_0$) | Existing quick-commerce platform adopters | 26.2 million | Aggregated from major platform MTU/MAU data: Blinkit (30M), Zepto (30M), BigBasket (13M), Nykaa (42M), adjusted for 20–40% multi-platform overlap. Reflects ~2% national e-grocery penetration, consistent with market trends. |
| Baseline Growth Rate (r) | Historical online shopper adoption velocity | 0.321 | Derived from discrete logistic formula using 2021–2024 online shopper growth (150M to 270M). Captures organic adoption absent policy reform. |
| Policy Multiplier (100% FDI) | FDI liberalization boost factor | 1.95× | Derived from e-commerce market growth post-2016 liberalization (USD 20B → USD 39B); reflects investor response to ownership expansion. Higher platform capex enables better infrastructure and seller support, accelerating consumer adoption. |

## 3.2 Model Description

A logistic growth framework to estimate the number of consumers who would benefit from FDI liberalization in inventory-based e-commerce. It uses baseline online shopper growth, a policy boost factor derived from past FDI reforms, and carrying capacity based on India's internet penetration and potential adoption rate. Parameters include initial adopters, growth rate, and adjusted policy rates. A 1.95x policy boost factor (from 2016 e-commerce liberalisation) adjusts the growth rate, linearly scaled

for 74% FDI. Liberalization attracts foreign capital, enabling platform investments in technology, logistics infrastructure, and seller support programs. Improved platforms reduce friction (faster checkout, better payment options, live tracking) and lower delivery times through denser dark-store networks. These benefits accelerate consumer adoption, the elasticity is captured by the 1.95× multiplier, reflecting that a 95% increase in market size translates to proportional increases in consumer adoption rates as barriers decline.
The model assumes that adoption follows an S-shaped logistic curve bounded by market saturation, with internet penetration and consumer adoption rates held constant at 2024 levels. The effects of FDI are proxied using historical e-commerce liberalization trends, while linear downscaling is applied to differentiate between the 74% and 100% FDI scenarios.

### 3.3 Model Equations

$$N_{t+1} = N_t + R \times N_t \times (1 - \frac{N_t}{K})$$

Where:

- t: number of consumers benefiting at time $t$
- R: effective growth rate (adjusted for FDI)
- K: carrying capacity (maximum potential consumers)
- $N_0$: initial consumers (at baseline year 2024)

The policy-adjusted growth rate (R) is derived as:

$$R = r \times Policy\ Boost\ Factor$$

where r = 0.321 (baseline growth) and the policy boost factor = 1.95 (from 2016 e-commerce FDI reform).

Thus,

- For 100% FDI: R = 0.626
- For 74% FDI: R = 0.469

### 3.4 Estimates

| FDI Scenario | 5-Year New Consumers (Million) |
|---|---|
| **100% FDI** | 53–59 |
| **74% FDI** | 43–50 |

## 4. Farmers' Income

Farmer income gains from inventory-based e-commerce operate through two complementary channels. First, direct market access through digital platforms reduces intermediation, farmers bypass middlemen who historically capture 30–60% of retail prices, particularly for perishables and receive a larger share of consumer prices. Second, cold-chain infrastructure reduces post-harvest losses, enabling farmers to reach distant markets and preserve product value. These channels are amplified by FDI liberalization, which attracts capital for last-mile logistics, dark-store networks, and cold-storage facilities in rural areas. The framework recognizes that income gains depend on farmer adoption rates (constrained by digital literacy and platform awareness) and perishable output share (which faces higher losses and

market barriers). Digital technology adoption empirically increases farmer production and business income by 5–10% through information access and transaction cost reduction; combined with cold-chain loss reduction (25–35% losses eliminated), the aggregate income effect is substantial and policy-responsive.

### 4.1 Variables and Data Sources

| Variable | Description | Value (2024) | Source & Rationale |
|---|---|---|---|
| Total Farmers | India's farmer base | 146 million | GoI Agriculture Ministry.<br><br>Establishes an addressable population for income improvement. Includes small, marginal, and landless agricultural workers; however, digital adoption is concentrated among organized farmers and FPO members. |
| Digital Platform Adopters ($N_0$) | Farmers currently using digital platforms | 0.16% of 146M = ~233,000 | Aggregated from quick-commerce platform farmer supplier bases and digital agriculture platforms (DeHaat, AgroStar, BigHaat). Reflects early adoption; expansion is policy-dependent. |
| Perishable Share ($w_2$) | Proportion of farmer output that is perishable (fruits, vegetables, dairy) | 40% | YOURSTORY and agricultural sector surveys.<br><br>Perishables account for ~40% of India's agricultural output by volume, but 60–70% of farmer income is volatile due to post-harvest losses and price swings. |
| Digital Income Effect ($\varepsilon_{digital}$) | Income increase from direct market access | 22.5% (midpoint) | Farmonaut studies and academic literature.<br><br>Farmers using digital platforms for direct sales report income increases of 15–30% through reduced intermediation and improved price discovery. The 22.5% represents a conservative mid-range estimate. |
| Cold-Chain Income Effect ($\varepsilon_{cold}$) | Income increase from reduced post-harvest losses | 35% | The Lab (World Bank), Shell Foundation, FAO.<br><br>Cold-chain infrastructure reduces post-harvest losses from 30–40% to 5–15%, directly translating to 25–35% income gains for farmers whose output enters the cold chain. |

### 4.2 Model Description

Farmers' income gains from FDI-driven inventory-based e-commerce by combining two channels: direct digital market access and cold-chain adoption (reducing post-harvest losses). It applies a weighted income impact framework, where weights reflect projected farmer adoption of platforms ($w_1$) and share of perishable output ($w_2$). In the model, it is assumed that digital platform adoption and the share of perishables remain constant, while income effects are expected to mirror precedents from agritech adoption and cold-chain interventions.

#### 4.2.1 Model Equations

Farmers' income gains are modeled as a weighted combination of two channels: digital platform adoption (ε_digital) and cold-chain-enabled loss reduction (ε_cold). The model recognizes that not all farmers benefit equally; gains depend on adoption rate (policy-responsive) and perishable output share (sector-specific).

Income Increase = $(w_1 \times \Delta_{digital}) + (w_2 \times \Delta_{cold})$

$\Delta_{digital}$ = 22.5% (income gain from digital platforms)

$\Delta_{cold}$ = 35% (income gain from loss reduction)

$w_1$ = weight for digital channel (adoption-dependent)

$w_2$ = weight for cold-chain channel (perishable-output-dependent, 40%)

Policy changes (FDI liberalisation) accelerate both farmer adoption of digital platforms and cold-chain infrastructure deployment. Similar to FDI and consumer models, adoption rates are scaled by a policy multiplier derived from historical expansion:

Effective Income Increase (Policy-Adjusted) = Base Income Increase×Policy Boost Factor

The policy boost factor captures how FDI liberalization accelerates farmer digitalization and cold-chain access. Drawing parallels to e-commerce FDI effects, FDI in inventory-based platforms entails large logistics investments, which include rural last-mile networks and temperature-controlled hubs that benefit farmer suppliers. Historical precedent from India's agricultural technology adoption shows that policy reforms targeting rural connectivity and platform integration have yielded farmer income acceleration of 1.5–2.0×. For 100% FDI, a conservative factor of 1.5–1.8× is applied; for 74% FDI, linear scaling to 1.1–1.33× is applied.

For both scenarios, ±10% sensitivity reflects uncertainty in policy multiplier magnitude, adoption rate elasticity, and cold-chain loss-reduction effectiveness.

### 4.3 Estimates

| FDI Scenario | 5-Year Income Increase (%) |
|---|---|
| **100% FDI** | 11.5–17.5 |
| **74% FDI** | 8.5–12.5 |

## 5. Logistics and Infrastructure

Infrastructure investment in warehousing and logistics follows an exponential compounding trajectory driven by sectoral scale effects and policy-enabled capital mobilization. The theoretical foundation rests on two complementary mechanisms. First, infrastructure interdependencies create multiplicative growth: as cold-chain capacity expands, it enables faster e-commerce platforms, which drives demand for additional logistics hubs, dark stores, and last-mile networks, each iteration amplifying the prior.

Second, FDI liberalisation unlocks capital channels: foreign investors in inventory-based e-commerce require dense logistics networks to achieve rapid delivery (10–30 minutes for quick commerce), spurring coordinated capex across warehousing, cold storage, and transportation. CAGR-based exponential modeling captures this compounding effect, as sector-specific growth rates (warehousing 10.3%, logistics 7.7%) drive sustained capacity expansion. The policy multiplier (derived from retail trading FDI response, 2.67×) quantifies how liberalization removes capital constraints and investor hesitation, accelerating investment deployment toward the sector's structural growth potential.

### 5.1 Variables and Data Sources

| Variable | Description | Value (2024) | Source & Rationale |
|---|---|---|---|
| Base Investment (2024) | Starting FDI inflow level | USD 1.96 billion | Economic Times (2024).<br><br>Represents institutional FDI deployed into Indian warehousing and logistics; establishes baseline for compound growth projection. Accounted for 29% of total institutional investment in 2024, reflecting the sector's capital attraction. |
| Warehousing CAGR | Annual growth rate for warehousing segment | 10.3% (2025–2030) | Grand View Horizon.<br><br>Reflects expansion of Grade-A warehouse supply, automation adoption, and e-commerce fulfillment center demand. Higher than logistics CAGR due to rapid shift toward modern, technology-driven facilities. |
| Logistics CAGR | Annual growth rate for logistics segment | 7.7% (2025–2030) | Grand View Horizon.<br><br>Captures modal mix diversification (road, rail, maritime), last-mile optimization, and network density improvements. Lower than warehousing reflects established base and stable modal share. |
| Warehousing Market Share (2024) | Proportion of combined warehousing + logistics revenue | 20.28% | Derived from Grand View data: USD 58.1B warehousing ÷ USD 286.5B total (warehousing + logistics). Reflects warehousing's smaller but faster-growing segment within the combined sector. |
| Logistics Market Share (2024) | Proportion of combined warehousing + logistics revenue | 79.72% | Derived: USD 228.4B logistics ÷ USD 286.5B total. Reflects logistics' dominance in revenue, driven by large road transport and modal operations. Still grows at 7.7% CAGR as e-commerce and cold-chain accelerate efficiency demand. |

| | | | |
|---|---|---|---|
| Policy Multiplier (100% FDI) | FDI liberalization boost factor | 2.67× | DPIIT (2015–2017).<br><br>Derived from retail trading FDI response post-2006 liberalization. Reflects investor confidence multiplier when ownership barriers are removed; calibrated for inventory-based e-commerce infrastructure investment. |

### 5.2 Model Description

The model projects infrastructure inflows using a CAGR-based exponential growth framework, weighted sector shares (warehousing vs logistics), and a policy multiplier derived from past FDI liberalization in retail. Sector-specific growth rates drive compounding effects, while FDI scenarios (100% vs 74%) adjust scale via multiplier calibration. Constant growth rates (CAGR) are considered valid over the forecast horizon, while linear scaling is applied to capture the reduced inflows under the 74% FDI cap.

### 5.3 Estimates

| FDI Scenario | Logistics (USD Billion) | Warehousing (USD Billion) | Total (USD Billion) |
|---|---|---|---|
| **100% FDI** | 23.5–29 | 6.5–8 | 30–36.7 |
| **74% FDI** | 17.4–21.3 | 4.7–5.8 | 22.2–27.1 |

## 6. Employment

### 6.1 Variables and Data Sources

| Variable | Description | Value | Source |
|---|---|---|---|
| Jobs per GMV | Jobs per ₹1 crore monthly GMV | 27 | Kearney (2025) |
| FDI-to-GMV Multipliers | Sales-to-investment ratios | 4x, 5x, 6x | Adjusted based on industry turnover |
| Ramp-Up Factors | Operational maturation rates | 40% (Year 1), 80% (Year 2), 100% (Year 3–5) | Derived using Industry reports |

### 6.2 Model Description

The model estimates direct employment from FDI liberalization in inventory-based e-commerce by linking FDI inflows to gross merchandise value (GMV) generation. Employment elasticities are drawn from Kearney's retail benchmarks, assuming an average of 27 jobs per ₹1 crore of monthly GMV. This ratio reflects the labor composition of warehousing, logistics, management, customer service, and technology, with higher weight in logistics and warehousing. A ramp-up framework tests conservative (4x), base (5x), and aggressive (6x) GMV multipliers per dollar of FDI, adjusted downward to align with

the modest outcomes of India's single-brand retail FDI experience (2006–2012). Validation incorporates Indian e-commerce data (KPMG 2016) and international growth benchmarks, where sector revenues in Brazil, Indonesia, and China expand 10–30% annually. Assuming employment elasticity of 0.3 to 0.7, expected e-commerce employment growth ranges between 3% and 15% per year, rising to 10–20% in labor-intensive or high-growth phases. All estimates focus on direct employment, excluding indirect and induced effects.

### 6.3 ESTIMATES

| FDI Scenario | 5-Year Jobs (Million) |
|---|---|
| **100% FDI** | 3.2-6.7 |
| **74% FDI** | 2.4-5.1 |

## 7. GST Collection

Tax revenue gains from inventory-based e-commerce liberalization operate through a formalization channel rooted in the shift from informal to formal commerce. FDI inflows enable inventory-based platforms to expand market share, drawing sales from unregistered offline retailers (kiranas, street vendors) and reducing informal transactions. This formalization mechanism rests on two complementary dynamics. First, inventory-based platforms operate exclusively through registered digital channels with mandatory GST compliance, payment tracking, and real-time transaction records enforced by technology infrastructure. This contrasts with traditional retail where 88% of the market remains unorganized and outside GST registration. Second, FDI-financed logistics expansion (dark stores, cold chains, last-mile networks) enables platforms to compete on price and convenience, accelerating consumer migration from informal to formal channels. Regulatory data confirm that GST compliance improved from 12.3% growth in registrations (2023-2024) as digital platforms expanded, demonstrating the formalization effect. The model captures this shift through incremental sales volumes (policy-induced market growth minus baseline growth) multiplied by a weighted GST rate and compliance rate, yielding additional revenue collectable by the government. The policy multiplier (2.67 from retail liberalization) quantifies how capital inflows accelerate the competitive displacement of informal commerce.

### 7.1 Variables and Data Sources

| Variable | Description | Value (2024) | Source & Rationale |
|---|---|---|---|
| Total E-Commerce Market | Base market before policy adjustment | USD 125 billion (Rs. 10,82,875 crore) | IBEF (2024).<br><br>Represents India's entire e-commerce market, including marketplaces, inventory-based, and emerging channels. Source validates consistent year-over-year data. |

| | | | |
|---|---|---|---|
| Inventory-Based Share | Proportion of e-commerce that is inventory-controlled | 20% | Derived from platform data analysis: Blinkit, Zepto, BigBasket, and quick-commerce represent 15-25% of e-retail GMV, with marketplace platforms (Amazon, Flipkart) at 75-85%. The 20% midpoint reflects current market composition and excludes marketplace models where third-party sellers manage inventory. |
| Base Growth Rate | E-commerce market CAGR absent policy change | 15% per annum | IBEF.<br><br>Reflects structural e-commerce growth driven by rising internet penetration, digital payments adoption, and consumer behavioral shift toward online shopping. This baseline applies uniformly across marketplace and inventory channels. |
| FDI-Induced Growth Uplift | Additional growth percentage from 100% FDI liberalization | 1.67 (167%) | Derived from policy multiplier (2.67) from retail trading FDI liberalization (2006-2017). Uplift equals Multiplier minus 1. Represents incremental growth acceleration beyond baseline CAGR, reflecting investor confidence and capital availability when ownership barriers are removed. |
| Weighted GST Rate | Average GST rate across product mix | 11.5% | Razorpay, RBI studies.<br><br>Derived from product composition in inventory-based platforms: 40% groceries (0-5% GST), 50% electronics/fashion (12-18% GST), 10% luxury goods (28% GST). Weighted average reflects low-tax staples dominating order volume in quick commerce, while higher-tax electronics provide marginal revenue. |
| Compliance Rate | Percentage of transactions captured in GST filings | 95% | Derived. Inventory-based platforms operate through registered entities with mandatory GST registration, digital payment mandate, and transaction logging enforced by platform technology. The 95% rate reflects near-complete compliance relative to marketplace platforms (80-85%, due to third-party seller complexity) or unorganized retail (5-15%). |

## 7.2 Model Description

Incremental GST revenue from FDI in inventory-based e-commerce by linking policy-induced sales growth to tax collections. Market expansion is calculated using baseline growth, an FDI-induced uplift, and inventory share. Incremental sales are then converted to GST revenue using weighted tax rates and compliance assumptions. The policy multiplier is derived from retail liberalization effects (DPIIT data), while inventory share and GST rates are aligned with market-level analyses. A high compliance rate is assumed, reflecting strong digital traceability and regulatory enforcement in inventory-led models. Sensitivity analysis tests robustness across inventory share, uplift, GST rate, and compliance rate.

## 7.3 Estimates

| FDI Scenario | Annual GST (INR Crores) | Base Case (INR Crores) |
|---|---|---|
| **100% FDI** | 28,510–59,871 | 43,072 |
| **74% FDI** | 21,657–45,270 | 32,660 |

These figures represent annual incremental GST revenue attributable to policy-induced expansion of inventory-based e-commerce. The base case reflects realistic assumptions on market share, product mix, and compliance; the range captures uncertainty around each parameter. Revenue accrues exclusively from formalized digital transactions, as sales displaced from informal kirana stores lack GST registration and contribute no government revenue in baseline scenarios.

## KEY ASSUMPTIONS

### 1. Proxy Sector Selection:

The analysis applies policy multipliers derived from past FDI liberalization in telecom, manufacturing, and retail as proxies for inventory-based e-commerce. These sectors are considered appropriate comparators because they underwent similar policy transitions involving the relaxation of foreign equity caps, share structural linkages with e-commerce through retail trade integration, logistics networks, and digital infrastructure, and possess long, reliable FDI time series exceeding fifteen years from DPIIT and PIB sources.

### 2. Linear Scaling (74% FDI Scenario)

Estimates for the 74 percent FDI scenario are generated through proportional scaling of 100 percent FDI projections using a 0.74 multiplier, reflecting a quantitative restriction on capital inflows rather than structural divergence in market behavior. This approach preserves the inherent non-linearities and compounding dynamics embedded within the logistic and CAGR-based growth models.

## KEY LIMITATIONS

1. Reliance on proxy indicators (e.g., retail FDI or quick commerce) in the absence of sector-specific data.
2. Linear downscaling of results for the 74% FDI scenario without empirical validation.
3. Static growth and capacity assumptions, ignoring dynamic effects such as compounding, market saturation, and internet penetration (projected ~70% by 2030).
4. Subjective weighting and parameter choices due to lack of econometric derivation or firm-level data.
5. Limited time-series coverage (6 to 10 years), constraining long-run inference.
6. Neglect of regional disparities, rural logistics constraints, and cold-chain infrastructure gaps.
7. Sensitivity to high policy multipliers, potentially biasing results toward optimistic projections.
8. Omission of unmodeled external shocks, including regulatory reversals, global capital cycles, and macroeconomic downturns.

# About our Authors

## Bhoomika Agarwal

Programme Manager - Competition Law and Policy

Bhoomika Agarwal is a Programme Manager at The Dialogue, working across competition law and AI policy, where she has played a key role in strengthening the organisation's competition policy vertical. She has authored and contributed to several research reports, white papers, and policy briefs addressing regulatory challenges in the technology ecosystem, with her work spanning digital markets, e-commerce, and data protection. With a strong legal background and experience through voluntary engagements with organisations such as Amnesty International and the United Nations, Bhoomika is driven by a deep commitment to advancing informed and forward-looking tech policy discourse.

## Viplavi Vinod Joshi

Consultant Economist

Viplavi Vinod Joshi is a Consultant Economist at The Dialogue and a postgraduate in Economics from the University of Hyderabad, with a strong research orientation at the intersection of finance, data analysis, and public policy. Her work combines rigorous economic analysis with technical proficiency in Python, STATA, Excel, and SQL, and is informed by hands-on research experience, including her tenure at the Institute for Studies in Industrial Development (ISID), where she applied statistical and regression techniques to examine FDI inflows, trade integration, and global value chains across Indian and Asian sectors. Viplavi has also led independent, data-driven projects spanning machine learning–based credit card fraud detection and ESG-linked stock volatility analysis, reflecting her interest in model explainability, risk assessment, and decision science. GATE 2025 and UGC-NET qualified, she brings a blend of academic rigour, analytical depth, and strategic insight to her work in economic research and policy consulting.

## Saharsh Panjwani

Senior Research Associate

Saharsh Panjwani is a Senior Research Associate at The Dialogue, where he works within the Competition Law and Policy vertical. His research explores the intersection of market regulation, technology, and digital policy, contributing to informed and balanced approaches to competition governance in India.

A law graduate from GGSIP University, Delhi, Saharsh previously served as a Judicial Law Clerk-cum-Law Researcher at the High Court of Delhi, where he gained valuable experience in legal research, judicial processes, and the practical application of constitutional and commercial law.

## Anuradha Bhattacharya

Senior Research Associate

Anuradha Bhattacharya is a Senior Research Associate at The Dialogue, working with the Competition Law and Policy team, where she focuses on competition regulation in fast-evolving digital markets. She previously worked at the Vidhi Centre for Legal Policy, where she played a pivotal role in drafting the Report of the Committee on Digital Competition Law, commissioned by the Ministry of Corporate Affairs, which has significantly shaped India's digital competition discourse. Anuradha has worked closely with key government institutions, including the Ministry of Corporate Affairs and the Competition Commission of India, contributing to policy and regulatory development. She holds a BA LLB (Hons.) from the University of Calcutta and an LLM in Competition Law from University College London (UCL), and her research interests span competition law and artificial intelligence, sustainability, and the interface between data protection and competition law.

thedialogue.co

LinkedIn | The Dialogue

X | The Dialogue

Whatsapp | The Dialogue

Instagram | The Dialogue