Hyperlocal Delivery: Leveraging Technology to Serve Local Communities

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Abstract

The Indian grocery retail market, valued at \$608 billion, constitutes 70% of the total retail market. Key drivers of electronic retail growth include increased internet access, affordable data, and advancements in smartphone technology. The COVID-19 pandemic accelerated this growth by shifting consumer behaviour towards online grocery shopping, a change that has since become habitual. Kirana stores, modern retail formats, and online platforms underscore the evolving consumer preferences and the diverse choices available today. The Hyperlocal delivery model is an on-demand delivery service that focuses on delivering goods from local merchants to customers within a small geographical area. It typically involves using technology platforms, such as mobile apps and websites, to connect customers with nearby merchants and couriers for fast and efficient delivery.

The hyperlocal model has revolutionised convenience by utilising a network of warehouses and delivery personnel to ensure efficient service. Despite its advantages, the hyperlocal model faces significant challenges, including economic viability, data privacy concerns, inadequate supply chain infrastructure, and last-mile delivery issues. The long-term sustainability of this model is questioned due to its reliance on deep discounts, which can affect profitability. This study aims to explore the opportunities and challenges faced by hyperlocal delivery firms and identify strategies to address these challenges. Findings suggest that strategic partnerships between hyperlocal delivery firms, modern trade entities, Kirana stores, and e-grocery platforms can create synergistic benefits, leading to a mutually advantageous scenario for all stakeholders.

Keywords: Hyperlocal, Kirana Stores, E-grocery, Fulfilment, Covid-19 pandemic, strategic alliances.

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INTRODUCTION

Hyperlocal delivery is a model where products and services are delivered within a specific geographical area, often within a few kilometres. This model has gained significant popularity due to the rise of e-commerce and the increasing demand for convenience and speed.

Grocery stores, restaurants, pharmacies, and speciality stores partner with hyperlocal delivery platforms. Customers place orders through the platform's app or website, specifying their location. The nearest store to the customer's location fulfils the order. Delivery partners, often local individuals or small businesses, pick up the items from the store and deliver them directly to the customer's doorstep.

The five important factors in e-commerce are price, selection, quality, speed, and reliability. Hyperlocal delivery has emerged as a dominant force in the e-commerce landscape, driven by the increasing demand for speed, convenience, and localised products. This model involves the delivery of goods and services within a specific geographical area, often within a few kilometres. The hyperlocal delivery market is experiencing significant growth due to increased internet penetration, changing consumer behaviours, and technological advancements.

The rise of quick commerce, which emphasises rapid delivery times (often within minutes or hours), has further accelerated the adoption of the hyperlocal delivery model. Hyperlocal delivery platforms now cater to various products, including groceries, food, pharmaceuticals, electronics, and even specialised items. Technologies like GPS tracking, real-time order updates, and efficient routing algorithms have streamlined the hyperlocal delivery process. Grocery shopping, in itself, is a routine, mundane, and repetitive task. Consumers are typically eager to complete the grocery ordering as quickly as possible. This is one reason why impulse online grocery purchases are relatively lower than in-store shopping.

The hyperlocal model delivers goods (including grocery items) to customers who place orders online. These services are confined to smaller neighbourhoods to provide quick service to local customers. The hyperlocal business model needs a

strong technology interface with customers along with data backup. Tools like Google My Business drive the data backup. A few companies are using blogs to disseminate the information further.

Balancing the supply and demand, having a wide assortment of goods and ensuring adequacy of stock were key challenges for e-grocery retailers. The logistical capabilities of retailers determine the effectiveness and efficiency of last-mile delivery. The gaps in existing delivery models led to the gradual growth of the hyperlocal delivery model. Some of the reasons behind the massive success of hyperlocal business model in developing nations include:

- Improvement in logistics infrastructure
- Increasing mobile internet users
- Penetration of smartphones
- Growing urbanization
- Improved lifestyle
- Changing consumer preferences
- Increase in business digitalization
- High funding for e-commerce businesses

Hyperlocal delivery services have seen a surge in popularity, with the market projected to grow significantly from \$1.3 trillion in 2019 to \$3.6 trillion by 2027. This growth is driven by consumers' increasing demand for convenience and speed in their shopping experiences. This brings us to the buzz about hyperlocal. There are 57000 urban clusters, expected to grow to 1 million shortly. With 70% of consumption expenditure on groceries/ food, the market is worth 2300 crores.

According to Allied Market Research, the hyperlocal delivery industry had a value of \$1,324 billion in 2019 and is anticipated to grow to \$3,634 billion by 2027, growing at a compound annual growth rate (CAGR) of 17.9% throughout this time. The market for hyperlocal delivery applications was valued at \$952.7 million in 2021; by 2032, it is projected to increase to \$8,856.6 million, representing a growth rate of 22.6% over the estimated period from 2022 to 2032.

Development in smartphone technology, rapid urbanisation, shifting consumer preferences and economic prosperity in urban areas are driving the growth of hyperlocal services. Business digitalisation and an increase in e-commerce funding is fuelling this growth. With faster delivery becoming a key customer value proposition, entrepreneurs are lapping up the slew of opportunities landing at their doorstep.

Benefits of Hyperlocal Model

Hyperlocal delivery services have seen a surge in popularity, with the market projected to grow significantly from \$1.3 trillion in 2019 to \$3.6 trillion by 2027. This growth is driven by consumers' increasing demand for convenience and speed in their shopping experiences.

Hyperlocal delivery allows businesses to tap into local markets and reach customers who might not have visited their physical stores. Quick and efficient delivery enhances customer satisfaction and loyalty. By aligning inventory levels with local demand, businesses can minimise inventory costs. Technology is essential for a positive customer experience, particularly in sustaining free shipping and optimising delivery routes. Automation helps reduce delivery costs, while route planning solutions minimise fuel consumption and improve efficiency.

Hyperlocal delivery ensures quicker delivery times, often within hours or even minutes. By minimising transportation distances, hyperlocal delivery helps reduce carbon emissions. It provides a platform for local businesses to reach a wider customer base and increase their revenue. Customers can enjoy the convenience of getting products and services delivered to their doorstep. The Hyperlocal Marketplace Model involves a platform that connects multiple local businesses with customers. It offers a wider range of products and services, making it a onestop shop for local needs. By reducing transportation distances, it contributes to a more sustainable future.

Hyperlocal delivery models enable customers to order goods and services from local businesses and have them delivered quickly within a specific geographic area. These models often utilise technology platforms to connect customers with nearby merchants and couriers, ensuring efficient and timely delivery. The major USP of hyperlocal delivery is the geographical boundary and the delivery timeline. E-commerce models do not prioritise customers' immediate needs and impulse purchases in short timeframes. They operate on a larger scale to fulfil customer needs that are not too urgent. For instance, if a customer wants sanitiser urgently, they cannot get it from a regular e-commerce vendor within an hour. However, a hyperlocal vendor can accept this order and deliver the product to the customer within a maximum time frame of 90 minutes.

Examples of hyperlocal delivery services include:

- Food delivery
- Grocery delivery
- Fresh produce delivery
- Home services (e.g., cleaning, repair, salon services, pest control, maintenance)
- Pharmacy services

Challenges in Hyperlocal Delivery

Hyperlocal delivery is also beset with challenges. robust infrastructure, including А efficient transportation networks and reliable delivery personnel, is crucial for successful hyperlocal delivery. Balancing the cost of delivery with the revenue generated can be challenging, especially for smaller businesses. The hyperlocal delivery market is highly competitive, requiring businesses to differentiate themselves through speed, product selection, and customer service. Addressing environmental concerns associated with last-mile deliveries is becoming increasingly important.

As technology evolves, we can expect further advancements and innovations in this space, making hyperlocal delivery an even more integral part of our daily lives. Businesses in hyperlocal deliveries are tested when they encounter more orders. With fewer dedicated delivery workers, it becomes difficult for them to handle orders. Incorrect addresses and inefficient delivery routes are the biggest obstacles to hyperlocal deliveries. It becomes difficult to make faster deliveries without a proper tracking mechanism and optimal routes. The frequency of orders changes, and there are special occasions when order volumes spike. There are even unexpected times when order volumes can go up. A major difficulty for businesses in hyperlocal deliveries is their lack of flexibility to handle volatile demand. Expanding their delivery services at a distance is difficult for retail outlets operating in a hyperlocal business model. Businesses can only engage with customers in a limited geographical area and have fewer options for delivery expansion, such as opening new outlets. With spiking order volumes, it becomes challenging for businesses to manage the varied delivery preferences of customers. It drives up operational costs and burdens fleet operations for the delivery workforce.

Use of Dispatch Management Software to Help Businesses Manage Hyperlocal Deliveries Better

With shorter delivery times and tighter delivery windows, managing hyperlocal deliveries and satisfying customer expectations is often difficult. As businesses in hyperlocal delivery models struggle to balance customer preferences and rising operational costs, it is the right time to adopt the technology for a better delivery experience. Dispatch management software helps hyperlocal businesses optimise delivery processes, reduce operational costs, and increase revenues.

To effectively manage demand over time, data insights are indispensable. Sellers and retailers involved in hyperlocal business need data from various localities in an urban area to estimate the future demand for their goods.

With the help of dispatch management software, retailers and delivery partners can get insights into customer orders. Past data can be analysed to know the days and times when more orders were received so that stocks can be filled appropriately. A dispatch management software with its end-to-end tracking abilities provides a comprehensive view of their supply chain. Tracking on-ground executives helps sellers or delivery partners eliminate delays and rectify inefficiencies.

A hyperlocal delivery model's cost savings and profit margins depend on how a business utilises its

fleet. Dispatch software allows hyperlocal delivery businesses to decide on their optimal fleet size. Communication in logistics becomes effective when a customer feels that they are an integral part of the delivery chain. This happens when they get timely updates on their deliveries. Communication and the overall customer experience become even more effective when customers can reschedule their delivery preferences.

With dispatch management software, hyperlocal delivery businesses can update their customers before operational or unexpected delivery delays occur. Whenever customers make rescheduling requests, it enables them to effectively manage rescheduled orders without affecting the SLA (Service Level Agreements) targets of scheduled orders. Retail businesses adopting hyperlocal delivery models will become more accurate in audience targeting. They will gain increased traction by catering to lucrative demographics and with insights from the psychographic segmentation of their customers.

The hyperlocal delivery business model will see increased artificial intelligence (AI) technology adoption. The profitability of businesses involved in hyperlocal delivery depends on two factors. They are:

- Route Density: The number of packages delivered on a given delivery run
- Drop size: The number of parcels or items delivered at each stop.

Real-time dynamic routing software is an Al application that can majorly benefit the hyperlocal delivery industry. It enables businesses to execute on-time and cost-effective deliveries, leading to quicker turnaround times. Before designing optimal route plans, consider various constraints like pickup windows, delivery window preferences, no-entry time, waiting costs, tonnage, driver-route mapping, etc.

This dynamic routing software enables businesses to assign hyperlocal orders based on driver proximity, service time constraints and capacity. Proactively assigning highly efficient routes helps them reduce empty miles driven, optimise delivery professionals' productivity and eliminate vehicles' idling time. Al helps hyperlocal businesses with improved network planning, capacity planning and demand forecasting. Its insights help them to size the total number of vehicles needed for transport on a particular route and direct them to delivery locations where demand is expected. It cuts down operational costs and reduces complexity in the hyperlocal supply chain.

The hyperlocal delivery space is becoming more competitive as customers demand more convenience. Technologies are effectively mitigating the complexities and inefficiencies of hyperlocal deliveries that stop them from providing an extremely satisfying customer experience.

Hyperlocal Delivery Operations

Hyperlocal e-commerce businesses stand out because of their exceptional capability to provide swift product and service delivery. Hyperlocal retail has gained substantial popularity in India due to several factors. The nation's increasing digital penetration, and the growing purchasing power of its consumers have contributed significantly. With approximately 68% of the population falling within the working-age bracket, a prevailing mindset values time as a precious commodity. This mindset has led to elevated customer expectations, particularly for rapid deliveries facilitated by hyperlocal establishments.

Digital solutions, such as digital payment methods, have been accelerated by the growth of digital transactions, particularly those made possible by the Unified Payments Interface (UPI) system. Additionally, the successes of recently established hyperlocal delivery firms have inspired additional business owners who wish to enter this booming sector.

Leveraging local resources like indigenous products and last-mile delivery partners has made it increasingly feasible to establish and flourish in the hyperlocal retail sector. The benefits of a hyperlocal delivery model include significantly faster delivery times, cost-effectiveness due to shorter distances, improved customer experiences through real-time order tracking, increased revenue by attracting more customers seeking fast and convenient delivery, support for traditional stores in the face of e-commerce competition, and the establishment of a sustainable ecosystem enabled by single-device management through a mobile app.

The hyperlocal delivery model allows customers to order products and services from local stores, restaurants, and other businesses, such as gift shops, pharmacies, etc.

Hyperlocal delivery refers to delivering goods and services within a very limited geographic area, typically within a few kilometres or even blocks from the point of origin. It is all about serving customers in a specific neighbourhood or locality. It often involves partnerships with local businesses and couriers specialising in delivering within this small radius. Hyperlocal delivery is commonly associated with delivering groceries, prepared food, pharmaceuticals, and other everyday essentials quickly to customers' homes or offices in a specific area.

Hyperlocal firms collaborate with nearby merchants to deliver groceries and other necessities to customers at their doorsteps. A flexible, technologically advanced back-end infrastructure will be required for this. Cost and delivery time will impact how effectively hyperlocal businesses run. Technology must be used for precise demand forecasting and planning.

On the app, a customer places an order. An engine for biker bidding receives the order. This platform is similar to Uber. The order is given to the first bidder. He rides his bike within two or three kilometres of the closest vendor. By then, the app would have notified the seller so the nearby shop could keep the items prepared for pickup. The bidder may occasionally need to go to many stores for fulfilment.

Choosing the appropriate stores with the necessary inventory levels and allowing live tracking takes much work. In case of a stockout emergency, the inability of local retailers to offer a quick substitute or replenish the stock presents a challenge. Local retailers seldom have the wherewithal to have computerised inventory control systems. To earn the trust of its clients, hyperlocal delivery services must inspect the quality of their supermarket products. The general customer view is that hyperlocal businesses charge exorbitant delivery fees. Customers will consequently only employ hyperlocal deliveries in urgent situations.

Review of Literature

Nearly 70% (\$608 bn) of the global retail market's \$883 bn comprises the Indian grocery retail market (Singh, 2023). Intense market competition, growthoriented factors, macroeconomic factors, and new business models have characterised the grocery market in India. Rising internet penetration, cheaper data and advances in smartphone technology have driven the growth in electronic retail. The Covid-19 pandemic led to a massive shift in consumer behaviour towards ordering groceries online (Asmita, 2023). Kirana stores, modern retail and online retail continue to co-exist. The COVID-19 epidemic paved the way for quick commerce to emerge as a significant sub-vertical of the e-commerce market. This illustrates the pattern of multichannel grocery consumption (Kumar & Chidambara, 2023).

Consumer learning will determine their acceptance of digital grocery platforms, and social influence plays a crucial role in this acceptance. The fact that others in the social network are ordering groceries online is enough incentive for consumers to order groceries online (Kshirsagar & Kamale, 2023). This is why, even after the COVID-19 pandemic, Indian consumers have shown a predilection towards shopping through digital platforms (Guru et al., 2023) (Sarkar et al., 2023). The post-pandemic scenario has highlighted that modern trade (including online ordering) has continued to find favour with Indians (Guru et al., 2023).

The COVID-19 pandemic halted global economic activities, disrupting production and supply chains and shifting consumer preference towards digital platforms. Guru et al. (2023) examined the impact of these changes on FMCG distribution channels in India using a mixed-method approach. The findings revealed modern trade as the preferred postpandemic channel, while hyperlocal delivery, though not economically viable long-term, may gain traction with technological advances.

Speed and convenience as demand-side drivers have resulted in the quick commerce model. This is a high cash-burn model but is expected to grow exponentially (Singh, 2023). Convenience is the main value proposition in quick commerce operations. The business model of quick commerce is structured on this basis so that delivery effectiveness becomes a source of competitive advantage (Rau et al., 2023). On-demand delivery of groceries needs a hyperlocal model to ensure last-mile delivery as part of e-fulfilment efforts (Ganapathy & Gupta, 2024).

(Sanghi et al, 2024) made a comparative analysis between Dunzo and Blinkit. Their case described the macro and industry level imperatives, growth drivers and competitive dynamics, and the resultant evolution of alternate business models. In an emerging economy context traditionally characterised by institutional voids, technological and infrastructural challenges, and a lack of entrepreneurial resources, the evolution, proliferation, and growth of the Hyperlocal Delivery business model makes for an intriguing story.

The hyperlocal grocery business model aims to address consumer needs within a specific area by offering rapid delivery and empowering local grocers. It focuses on optimising supply chains through partnerships with numerous local suppliers. Unlike owning stores, the entrepreneur provides a platform for grocery vendors to sell their products (Kumar & Shrivastava, 2021).

The way consumers have purchased goods and services has evolved. There has been a significant shift in buying behaviour from physical to digital. With the increased adoption of digital technology in localised areas, buying and selling in an unorganised local marketplace is set to undergo a dramatic transformation. The digitised hyperlocal marketplace is the next big trend expected to emerge within 5 to 10 years. Va et al. (2023) address various considerations surrounding such a marketplace, the necessary use cases needed for its platform, the technology architecture required to implement a solution around this concept, and finally, future possibilities for enabling a never-before-seen user experience in this space using digital technologies.

The hyperlocal supply chain refers to sourcing and delivering goods and services within a specific geographic area in a few min/hours. Recently, consumers have been choosing hyperlocal delivery over conventional online grocery delivery companies like Amazon and JioMart. The service is typically focused on a specific geographic area, and thus, it can limit the availability of products for customers (Goritiyal & Ramdugwar, 2023).

Saurav et al. (2023) claim that hyperlocal organisations provide purchasers with merchandise delivery and utility administrations. Merchandise delivery includes staple goods, food, prescriptions, and personal needs, while utility administrations include plumbing, home cleaning, yard care, electrical, and drainage. An organisation of individuals from businesses or neighbourhoods provides these services and products.

Managing supply chains in an unpredictable environment, especially for perishable goods, presents significant challenges. Disruptions at the supplier and transport levels impact economic stability and long-term sustainability. Suryawanshi et al. (2021) examined an e-commerce supply chain using mixed-integer linear programming to minimise expected costs, including purchase, transportation, and waste from perishability. Their study evaluated resilience and sustainability strategies, including waste management and markdown policies.

Hyper-local food delivery, managed by gig workers on motorised two-wheelers, has notable external costs. (Sinha & Pandit, 2021) created an agent-based simulation using data from Kolkata to estimate fleet size, travel distance, order volume, and idle time. It finds that each order involves 5.85 km of travel, 15 orders per worker, 59.2% idle time and emits 163.08 grams of CO2. Hyperlocal online retail is booming in urban areas, but high-speed delivery comes at a cost, with last-mile delivery making up 41% of total logistics expenses. Companies raise delivery fees to counteract this, which can shrink their customer base. Intense competition necessitates standing out by enhancing speed, cost, and convenience.

Hyperlocal business is an example of a platform business that has attempted to redefine the customer value proposition (Sanghi et al., 2023) using faster delivery. However, the hyperlocal delivery model faces challenges related to economic viability. However, because of its ability to guarantee prompt deliveries within a narrow geographic area, the hyperlocal model will gain popularity in the future (Guru et al., 2023). Besides issues related to data privacy, challenges like inadequate supply chain infrastructure and sub-optimal logistics capabilities have been plaguing the quick commerce grocery delivery services (Asmita, 2023)

Indian players like Dunzo (a vanilla hyperlocal grocery delivery model) had to deal with massive losses. Meesho is an Indian start-up based out of Bangalore. Meesho's expansion into the grocery business failed, resulting in employee layoffs in late 2022. (Arora, Krishna and Dhir, 2023). This shows that achieving long-term business sustainability in online grocery delivery is challenging.

To ensure financial viability, hyperlocal delivery companies must reduce discounts without negatively affecting reorder rates and focus on operational efficiency through automation. However, the focus on instant deliveries has raised safety concerns for delivery partners and road commuters, with the 10-minute delivery model criticised for prioritising speed over safety. It leads to over-speeding, congestion, and higher fuel consumption (Ranjekar & Roy, 2023)

The hyperlocal model has also been criticised for traffic disruptions and destroying the peace in neighbourhoods/ residential localities. Groceries can be delivered instantly within 10 to 30 minutes thanks to a network of "dark stores," or warehouses that resemble stores and are serviced by a fleet of delivery vehicles and delivery personnel. Recently, attention seems to have focused more on the nuisance value of hyperlocal delivery (Sinha & Pandit, 2021).

Addressing the carbon footprint problem is imperative to achieve global climate targets. This calls for solutions like the deployment of drones and the electrification of delivery trucks, but these require large capital investments and people upskilling. Balancing growth and profitability while addressing safety and sustainability remains a complex challenge for the hyperlocal delivery industry (Ranjekar & Roy, 2023). Another challenge hyperlocal delivery players face is their inability to get sustained commitment from delivery workers (gig workers). As demand is not consistent throughout the day, manpower utilisation also remains skewed (Das & Yadav, 2020).

Hyperlocal companies in India face typical challenges of delivery charges. The business becomes unviable

if deliveries are less than 500 in a particular square kilometre. Further, the delivery of essential goods in India suffers from regulatory hurdles. The delivery person using the bike cannot carry more than 35 Kg on his/her bike. Though hyperlocal models work on zero inventory models, pick up of delivery from multiple pickup points adds to the time. The delivery time increases if a product is unavailable at a particular pickup point. Hyperlocal models are no longer commercially viable due to rising input costs, difficulties with delivery, and an inability to guarantee operational efficiency (Biswas & Chinmaya, 2019). Hyperlocal delivery companies' long-term viability depends on their capacity to manage their finances effectively, offer stable employment opportunities, and reduce carbon emissions in the e-commerce supply chain. Due to rising consumer expectations and increased competition, hyperlocal enterprises must implement hybrid business models that compromise effective logistics and the timely fulfilment of warehouse orders. Excellent logistical capabilities are required for last-mile delivery and e-fulfilment (Rai et al., 2023).

Even though modern stores can benefit from alliances with hyperlocal delivery firms and expand their customer base, the margin-sharing between them is always a bone of contention. The capital investment in hyperlocal delivery technology is substantial as it relies on batch algorithms. So, the investment return can be meagre unless the operations can be scaled up.

The E-commerce industry in India and across the globe has a promising future. However, to sustain itself in the market for long, it is essential to make smart investments and use innovative business models to meet current and future customer expectations. The industry's evolution and dynamism reflect its potential for growth and transformation, focusing on optimising the hyperlocal supply chain through agility and automation (Ranjekar & Roy, 2023). Goritiya and Ramdugwar, 2021) explore effective warehousing and delivery optimisation through AI, satellite navigation, and precision mapping and suggest expanding product lines to include tea, coffee, liquor, and packaged foods for better customer experience. Another important development is that e-commerce players introduce products catering to local tastes and preferences. The hyperlocal model is best equipped to support this move. Regionalisation has become integral to the success of e-commerce in the future. Delivery-based hyperlocal companies and e-commerce players have partnered with local Kirana stores to deliver merchandise to consumers' doorsteps.

The hyperlocal model seeks to boost Gross Merchandise Value (GMV) by reaching as many customers as possible. However, a steady demand is necessary for this. The intricacy is further increased by the perishability of food items (Metzgar, E. T., Kurpius, D. D., & Rowley, K. M., 2011; Suryawanshi, P. et al., 2021).

Theoretical Framework

Serial No	Name of Theory	Description of Theory
1	Proximity Theory	Emphasizes the importance of physical proximity between businesses and their target customers. Hyperlocal businesses thrive on serving customers within a limited geographic area. Businesses can thus provide personalized and convenient services, quick delivery, and localized marketing strategies tailored to the specific needs of the community.
2	Network Effects Theory	Suggests that the value and attractiveness of a hyperlocal business increase as more customers and local vendors join the network. As the customer base expands, more businesses are encouraged to participate, creating a virtuous cycle. The network effects can lead to increased customer engagement, stronger word-of-mouth referrals, and greater economies of scale for the business.

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3	Community Engagement Theory	Focuses on building strong connections with the local community. It highlights the importance of actively involving community members in decision-making processes, fostering a sense of belonging and aligning business practices with local values and preferences. By engaging with the community, hyperlocal businesses can gain trust, loyalty, and support, leading to sustainable growth.
4	Local Knowledge Theory	Suggests that hyperlocal businesses benefit from deep knowledge and understanding of the local market dynamics, customer behaviours, and cultural nuances. This theory emphasizes the significance of leveraging local insights to tailor products, services, and marketing strategies accordingly. By demonstrating a deep understanding of the local context, hyperlocal businesses can differentiate themselves from larger, non-local competitors.
5	Hyperlocal Ecosystem Theory	Explores the interdependencies and collaborations among various stakeholders in the hyperlocal business ecosystem. Hyperlocal businesses can leverage partnerships, collaborations, and symbiotic relationships within the ecosystem to enhance their offerings, expand their reach, and create mutually beneficial synergies.

Based on a review of the literature, concepts/factors were identified. Using Python software, a reachability matrix was developed, followed by level positioning to generate an Interpretive Structural Modeling digraph.



Figure 1: Interpretive Structural Modeling

Based on a review of the literature, a thematic map was generated using Python.





Theme	Number	Interpretation
Market Dynamics and Size	8	High importance or significance of understanding the market's overall size, growth trends, and influencing factors.
Competitive Landscape	2	Moderate importance of analyzing the competitive environment, including player count, market share, and strategies.

Growth Drivers	3	Moderate importance of identifying key growth drivers like rising incomes, urbanization, and changing consumer preferences.
Consumer Behavior	2	Moderate importance of understanding consumer buying habits, preferred shopping channels, brand loyalty, and price sensitivity.
Business Models	3	Moderate importance of exploring various business models like traditional stores, online platforms, and hybrid models.
Challenges and Criticisms	7	High importance of recognizing challenges and criticisms such as supply chain inefficiencies, regulations, and trust issues.
Sustainability and Innovation	9	High importance of focusing on sustainability initiatives and leveraging innovation to improve the market.
Partnerships and Regionalization	5	Moderate importance of exploring partnerships and regional expansion strategies.
Operational Challenges	2	Moderate importance of addressing operational challenges like inventory management, logistics, and customer service.
Commercial Viability	4	Moderate importance of evaluating commercial viability of business models and strategies considering profitability, scalability, and sustainability.

 1-9: These numbers likely represent a rating or a score assigned to each theme, indicating its importance or significance within the Indian grocery retail market. Higher numbers suggest greater relevance or impact.

Theme Interpretations:

- Market Dynamics and Size: This theme likely explores the overall size of the market, its growth trends, and the factors driving these dynamics.
- **Competitive Landscape:** This theme probably examines the competitive environment within

the market, including the number of players, their market share, and their competitive strategies.

- **Growth Drivers:** This theme likely identifies the key factors contributing to the growth of the Indian grocery retail market, such as rising disposable incomes, urbanisation, and changing consumer preferences.
- Consumer Behaviour: This theme likely analyses the buying habits and preferences of Indian consumers, including their preferred shopping channels, brand loyalty, and price sensitivity.
- Business Models: This theme explores the various business models adopted by grocery retailers in India, such as traditional brick-andmortar stores, online grocery platforms, and hybrid models.
- Challenges and Criticisms: This theme likely highlights the challenges and criticisms faced by the Indian grocery retail market, such as supply chain inefficiencies, regulatory hurdles, and consumer trust issues.
- Sustainability and Innovation: This theme likely examines the focus on sustainability and innovation within the market, including initiatives related to reducing waste, adopting eco-friendly practices, and leveraging technology.
- Partnerships and Regionalisation: This theme likely explores the role of partnerships and regionalisation in the Indian grocery retail market, including collaborations with suppliers, logistics providers, and other stakeholders, as well as the expansion into different regions of the country.
- **Operational Challenges:** This theme likely addresses the operational challenges faced by grocery retailers, such as inventory management, logistics, and customer service.
- **Commercial Viability:** This theme evaluates the commercial viability of different business

models and strategies within the market, considering profitability, scalability, and long-term sustainability.

The chart provides a snapshot of the key themes shaping the Indian grocery retail market and their relative importance. It highlights the importance of understanding market dynamics, consumer behaviour, and challenges while emphasising the need for innovation and sustainability in the Indian grocery retail market.

Based on the literature review, an entity relationship diagram was generated. (Figure 3)



Interpreting the Entity Relationship Chart

The Entity Relationship chart shows the customer journey stages in the Indian hyperlocal grocery delivery market. A customer's process while ordering goods from a hyperlocal delivery service is the customer journey. According to the chart, five stages make up the customer journey:

- 1. Awareness: The customer learns about the hyperlocal delivery service.
- 2. Comparison: The customer compares several hyperlocal delivery providers' costs, goods, and services.
- 3. Purchase: The customer chooses a hyperlocal delivery company and places an order.

- 4. Delivery: Customers receive their orders from the hyperlocal delivery company.
- 5. Post-delivery: The customer experiences the post-delivery experience, such as customer service and product quality.

The chart also shows the different touchpoints that customers interact with at each customer journey stage. The following are some examples of touchpoints:

- Raising awareness: social media marketing, search engine optimisation, and word-ofmouth
- Consideration: Website, mobile app, customer reviews
- Purchase: Website, mobile app, customer support
- Delivery: Delivery person, delivery app
- Post-delivery: Customer support, product reviews

The chart can be used by hyperlocal delivery companies to understand the customer journey and to identify opportunities to improve the customer experience. For example, a company might realise they must improve their customer support postdelivery stage. In addition, the chart can be used to measure the customer experience at each stage of the customer journey. For example, a company might measure the customer satisfaction rate at the postdelivery stage. This information can then be used to improve the customer journey. The chart provides a valuable overview of the customer journey in the Indian hyperlocal grocery delivery market. Hyperlocal delivery companies can use it to improve the customer experience and increase sales.

Here are some additional thoughts on the chart:

 The customer journey is not linear. Customers can move back and forth between stages as they learn more about the hyperlocal delivery company and its products and services. For example, a customer might start by browsing the company's website (awareness stage) but then decide to read some customer reviews (consideration stage) before placing an order (purchase stage).

- Each stage of the customer journey is important. Hyperlocal delivery companies should improve the customer experience at each journey stage, encouraging customers to return and recommend the company to others.
- A variety of factors can influence the customer journey. These factors include customer needs and preferences, past experiences with hyperlocal delivery companies, and the competitive landscape. For example, a customer who has had a bad experience with a hyperlocal delivery company may be less likely to use that company again.
- Hyperlocal delivery services can use data and analytics to comprehend the client journey. This information can pinpoint areas where customer satisfaction could be raised. For instance, a business might use data to pinpoint the most typical customer pain points after delivery.

Findings

ISM Diagraph

Creating an ISM (Interpretive Structural Modeling) diagram involves identifying relationships between concepts and representing them graphically. The ISM diagram for the Indian grocery retail market shows the interactions between various factors that contribute to its growth and financial viability. The factors are grouped into three categories:

- Challenges: Hype competition, delivery challenges, and sustainability.
- Growth Drivers: Consumer behaviour shift, GMV, regionalisation, hybrid models, and consumer learning.
- Core Factors: Commercial viability, financial viability, speed and convenience, and margin sharing.

The arrows in the diagram show the direction of influence between the factors. For example, hype

competition can hurt financial viability, while consumer behaviour shift can positively impact GMV.

The following bullet points summarise the key insights from the diagram:

- Hypercompetition is a major challenge for the Indian grocery retail market. This is because many new players are entering the market and offering aggressive discounts and promotions. This can make it difficult for existing players to maintain their margins.
- Delivery challenges are another major challenge for the Indian grocery retail market. This is because the country has a large and dispersed population, and delivering groceries to all customers can be difficult and expensive.
- Sustainability is a growing concern for Indian grocery retailers. This is because the industry is highly competitive, and it is difficult to maintain margins. In addition, retailers are facing increasing pressure from consumers to adopt sustainable practices.
- A significant growth driver for the Indian grocery retail business is a change in consumer behaviour. The trend of Indian consumers buying groceries online will continue in the upcoming years.
- The Indian grocery retail market's Gross Merchandise Value (GMV) is another important growth engine. The rising popularity of online grocery shopping is predicted to dramatically increase the GMV of the Indian grocery retail business over the next few years.
- Regionalisation is a growing trend in the Indian grocery retail market. This is because Indian consumers increasingly demand products specific to their region.
- Hybrid models are a growing trend in the Indian grocery retail market. Hybrid models combine the best of both online and offline grocery shopping. For example, some retailers offer online ordering and offline pickup.

 Consumer learning is a key factor in the growth of the Indian grocery retail market. Indian consumers are increasingly becoming aware of their options and are more willing to experiment with new brands and products.

The ISM diagram suggests that the Indian grocery retail market is growing and dynamic, but it is also a challenging market. Retailers who can overcome the challenges and capitalise on the growth drivers will be well-positioned to succeed in this market.

Thematic Mapping

The Indian grocery retail business, worth over \$500 billion, is the biggest globally. Over the next five years, the market is anticipated to expand at a CAGR of 10%. The key growth drivers include rising disposable incomes, urbanisation, and increasing demand for convenience.

Competitive Landscape. Small and medium-sized firms (SMEs) dominate the highly fragmented Indian grocery retail market. The organised retail sector accounts for only about 10% of the market.

The Indian economy is growing rapidly, and disposable incomes are rising. This is leading to increased demand for high-quality and convenient grocery shopping experiences. India is urbanising rapidly, and more and more people live in cities. This increases demand for organised retail formats, such as supermarkets and hypermarkets. Online grocery services are experimenting with different business models to satisfy customers. Indian consumers are becoming increasingly time-poor and are looking for convenient shopping options. This leads to the growth of online grocery shopping and other convenienceoriented formats, such as quick service restaurants (QSRs) and convenience stores.

Indian consumers are becoming more discerning and are demanding higher-quality products and services. They are also becoming more brand-conscious and are willing to pay a premium for branded products. Online grocery shopping is gaining popularity, but it is still in its early stages of development.

Various business models, including traditional mom-and-pop stores, supermarkets, hypermarkets, convenience stores, and online retailers, characterise

the Indian grocery retail market. Each business model has its advantages and disadvantages. For example, traditional mom-and-pop stores offer convenience and personalised service but may have a limited selection of products and higher prices. Supermarkets and hypermarkets offer a wider selection of products and lower prices, but they may be less convenient and offer less personalised service. Online retailers offer the convenience of shopping from home, but they may have issues improving operational efficiencies to sustain in the market for a long time.

The Indian grocery retail market faces several challenges, including high operating costs, low margins, and complex regulations. The market is likewise fragmented, with many small and mediumsized firms (SMEs). This makes it difficult for organised retailers to expand their reach. Organised retailers have also been criticised for their impact on traditional mom-and-pop stores.

The Indian grocery retail market is becoming increasingly sustainable. Retailers are adopting practices such as reducing food waste, using renewable energy, and sourcing products from local farmers. Retailers are also innovating to attract and retain customers. For example, they offer new services such as online grocery shopping, home delivery, and loyalty programs. Retailers are partnering with each other to expand their reach and improve their efficiency. For example, Reliance Retail has partnered with Amazon to offer online grocery shopping services. Retailers are also regionalising their operations to cater to the specific needs of local consumers.

Retailers face several operational challenges, including managing inventory, logistics, and supply chain.

Retailers must also invest in technology to improve their operations and customer service. The Indian grocery retail market is highly competitive. Retailers need to focus on operational efficiency and customer service to remain profitable. The data values on the thematic map represent the different aspects of the Indian grocery retail market. For instance, the size of the circles can reflect the size of the market, while the circles' colour can represent the competition's intensity. The Indian grocery retail market's thematic map offers a thorough picture of the market dynamics and issues. The market's growth prospects and possibilities are also shown on the map.

Here are some specific examples of how hyperlocal delivery companies can improve the customer experience at each stage of the customer journey:

- Awareness: Hyperlocal delivery companies can raise brand awareness through marketing and advertising campaigns. They can also partner with local businesses and organisations to promote their services.
- Consideration: Hyperlocal delivery companies can make it easy for customers to learn more about their products and services by providing clear and concise information on their website and mobile app. They can also encourage customers to read reviews and compare prices with other hyperlocal delivery companies.
- Purchase: Hyperlocal delivery companies should make it easy for customers to place orders. They can do this by providing a userfriendly website and mobile app. They can also offer a variety of payment options and delivery options.
- Delivery: Hyperlocal delivery companies should ensure that orders are delivered on time and in good condition. They can do this using a reliable delivery fleet and real-time tracking orders.
- Post-delivery: Hyperlocal delivery companies should provide excellent customer service after the order has been delivered. This includes resolving any issues that customers may have with their orders and providing refunds or replacements when necessary.

By improving the customer experience at each journey stage, hyperlocal delivery companies can increase sales and customer loyalty.

Key Observations

The demand for fast and convenient delivery options has led to the growth of hyperlocal delivery services, which aim to meet the needs of consumers in a localised and efficient manner. With the advancements in technology, the expansion of the gig economy, and a focus on sustainability, the future of hyperlocal delivery is poised for continued growth and evolution.

With access to customers in the vicinity, businesses should strictly follow the ETA (Expected Time of Arrival) and deliver orders on time as it determines the quality of customer experience. To make timely deliveries, businesses must schedule the right delivery agents at the right time to deliver. As delivery volumes increase and the customer base expands, scheduling and making deliveries error-free is crucial.

Higher adoption of hyperlocal deliveries is seen in industries like food, grocery, medicines and meat. Many organisations are looking to launch their hyperlocal models to save profit margins. With large enterprises and retailers increasingly adopting hyperlocal delivery services, their biggest concern is balancing service quality and costs. Apart from this concern, there are some crucial aspects that businesses in hyperlocal deliveries should address.

Fulfilment and inventory management in hyperlocal deliveries differs from a traditional brick-and-mortar setup. In the hyperlocal delivery model, businesses must effectively balance their foot traffic and delivery demands. Whether they own an in-house delivery workforce service or partner with a delivery business, they should effectively manage their fleet to meet changes in demand.

Consumers are becoming increasingly impatient and are demanding faster delivery times. To meet these demands, hyperlocal delivery companies offer sameday and on-demand delivery options, which have become extremely popular. The development of new technologies, such as drones and autonomous vehicles, has led to an increased focus on last-mile delivery solutions. These technologies are helping companies improve delivery speed and efficiency while reducing costs. The gig economy, where people earn money through short-term, flexible jobs, is growing rapidly. Many hyperlocal delivery companies exploit this trend by building their delivery fleets with gig workers.

Hyperlocal delivery services are increasingly integrating with e-commerce platforms to provide

a seamless shopping experience for consumers. By leveraging the reach and capabilities of e-commerce platforms, hyperlocal delivery companies can expand their reach and offer a more convenient delivery experience.

Consumers are looking for delivery options tailored to their specific needs and preferences, and hyperlocal delivery companies are responding by offering personalised and customised delivery solutions. This includes options such as choosing specific delivery times and locations and delivery tracking and notifications.

Recommendations

The hyperlocal grocery model has gained significant traction recently as consumers increasingly seek convenience and personalised shopping experiences. This model thrives on serving customers within a limited geographic area, offering them quick delivery and tailoring services to meet specific community needs. To ensure the success of hyperlocal grocery businesses, strategic alliances with modern retail stores, traditional Kirana stores, and e-grocery stores can play a pivotal role.

Modern retail stores' extensive infrastructure and resources can provide invaluable support to hyperlocal grocery businesses. Modern retailers often have robust supply chains, ensuring a steady flow of products. By partnering with them, hyperlocal grocers can access a wide range of products, reducing stockouts and offering customers a broader selection. Modern retail stores typically have advanced warehousing capabilities. Hyperlocal grocers can use these facilities to store inventory, reducing the need for expensive warehousing investments and ensuring efficient order fulfilment.

Leveraging the distribution network of modern retail stores can help hyperlocal grocers reach customers more quickly and cost-effectively. This allows for faster deliveries, a key competitive advantage. Modern retailers usually have sophisticated technology systems for inventory management and order processing. Integrating these systems can streamline operations for hyperlocal grocers, reducing errors and improving efficiency. Traditional kirana stores are deeply rooted in local communities, and forming alliances with them can offer several benefits for hyperlocal delivery firms:

- Local Trust and Familiarity: Kirana stores enjoy the trust and familiarity of residents. Hyperlocal grocery businesses can tap into this trust by partnering with Kirana stores, gaining instant community credibility.
- b. Last-Mile Delivery: Kirana stores often have established last-mile delivery networks. By teaming up, hyperlocal grocers can access these networks to reach customers more effectively and efficiently.
- c. Complementary Offerings: Kirana stores typically carry items that may not be part of the hyperlocal grocery inventory. Collaborations can allow for cross-selling, offering customers a wider array of products.
- d. Reduced Competition: Instead of competing with Kirana stores, hyperlocal grocers can work together to enhance the overall shopping experience for customers. This cooperation can lead to increased footfall and loyalty.

Partnering with E-Grocery Stores

E-grocery stores have a strong online presence and established customer bases. Partnering with them can open up new avenues for hyperlocal grocers:

- a. Digital Presence: E-grocery stores have invested heavily in their online platforms. Hyperlocal grocers can benefit from their digital expertise by integrating their offerings into established e-commerce websites and apps.
- b. Expanded Reach: E-grocery stores often cater to a wider geographic area. Partnering with them can enable hyperlocal grocers to expand their reach and serve customers beyond their immediate vicinity.
- c. Data and Analytics: E-grocery stores gather extensive customer data. By collaborating, hyperlocal grocers can access valuable insights to personalise their offerings and marketing strategies, enhancing the customer experience.

d. Fulfilment Options: Online grocery retailers may offer customers various fulfilment choices, including click-and-collect and ondemand delivery. Hyperlocal delivery firms can support these efforts.

While strategic alliances offer numerous advantages, hyperlocal grocery businesses must also address potential challenges:

- 1. Integration Challenges: Integrating larger retailers and e-grocery stores may require significant technical and operational adjustments. Compatibility issues must be addressed to ensure seamless collaboration.
- 2. Brand Identity: Hyperlocal grocers should retain their unique brand identity and local character even as they partner with larger entities. Maintaining a strong community connection is essential.
- 3. Competition: Hyperlocal grocers may compete with their alliance partners in specific product categories. Clear delineation and fair competition policies should be established.

CONCLUSION

"Hyperlocal" refers to selling goods or services within a limited geographical region. Hyperlocal retailing involves reaching out to customers in a local community, often within a short distance, and serving them through physical brick-and-mortar stores, online platforms, and mobile apps that provide delivery services. Hyperlocal retail strongly emphasises providing a tailored shopping experience by understanding customers' unique needs and offering products and services catering to those requirements. This delivery approach benefits sellers and buyers by simultaneously offering convenience and efficiency.

Many e-commerce and retail giants are moving toward the hyperlocal delivery model because they see an opportunity to capitalise on the customer loyalty that smaller stores enjoy. The future of hyperlocal delivery looks promising for sellers and customers due to the following evolving trends. Some retail outlets will start to extend the hyperlocal deliveries to categories like apparel, cosmetics, liquor, etc. Businesses could think of executing a hyperlocal delivery strategy instead of being exposed to large crowds in places like malls, fashion stores or supermarkets. Hyperlocal deliveries will help nonessential retail businesses expand their online presence and broaden their customer base. It will offer a unique opportunity for businesses to utilise new technologies and increase their customer reach.

Between 2014 and 2018, numerous hyperlocal delivery and logistics start-ups emerged. Despite attempts by established businesses and well-known brands to enter the hyperlocal industry during this period, many of them struggled to gain recognition and failed to make a significant impact.

Hyperlocal retail is revolutionising the shopping experience by offering various products and services readily accessible from our doorsteps. This concept is not limited to retail alone; it has the potential to extend into various sectors, including non-retail. Furthermore, adopting hyperlocal strategies in rural e-commerce could fuel significant economic growth. As technology advances, the hyperlocal retail market undergoes disruption and expansion.

The hyperlocal retail landscape is evolving and changing as a result of technologies like artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT), making it more effective. The low entry barrier allows established and small businesses to participate, benefiting all parties, including consumers, vendors, and investors, through advantages such as swift delivery, cost-effectiveness, 24/7 availability, and enhanced customer satisfaction. The focus on customer convenience has made the hyperlocal model highly competitive, and with the proper knowledge and tools, anyone can establish a successful hyperlocal delivery business. Consequently, hyperlocal retail has become an integral part of our evolving normalcy.

The hyperlocal delivery industry should focus on addressing the delivery challenges.

This can entail investing in fresh technologies, creating fresh marketing plans, and forming alliances with local businesses. Strategies to improve employee recruitment, training, and selection will

further support these efforts to enhance customer Guru, S., Verma, S., Baheti, P., & Dagar, V. (2023). experience and operational efficiency. Assessing the feasibility of hyperlocal

Strategic alliances with modern retail, kirana, and e-grocery stores can be a game-changer in the hyperlocal grocery sector. These partnerships can provide access to resources, distribution networks, and customer bases that would otherwise be challenging to achieve independently. However, successful collaboration requires careful planning, mutual benefits, and a focus on delivering exceptional customer value. By embracing these partnerships, hyperlocal grocery businesses can thrive in an increasingly competitive market and meet the evolving needs of today's discerning consumers.

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