

## THE IMPACT OF E-COMMERCE ON TRADITIONAL RETAIL BUSINESS IN INDIA: A DATA-DRIVEN ANALYSIS

**Mr. Purshottam, Associate Professor**

Department of Commerce

Dr. Bhimrao Ambedkar College (University of Delhi)

### Abstract

*E-commerce is expanding fast in India and has transformed the retail dynamics in a fundamental sense. The current paper is based on a database-oriented study of how e-commerce affects the existence of stores and small sellers offering traditional retail services (the example of kirana stores). This research paper explores the subject of consumer behaviour patterns, revenue trends, adaptation mechanisms and the digital readiness amongst conventional retailers using primary and secondary data provided through surveys, government publications, and industry data repositories (e.g. Statista, IBEF, TRAI). The results show that it means dramatic migration in the market, the online platforms are gaining more than 60 per cent of consumers in urban centres, with the old-style retailers losing between 30-40 per cent of footfall in metros. But the information also indicates that the retailers that have accepted digital payments and collaborated with delivery apps have maintained competitiveness. Digital upskilling, omnichannel retailing, and policy facilitation (e.g., ONDC) are recommended by the study as ways to balance the development.*

**Keywords:** E-commerce in India; Traditional retail; Kirana stores; Omnichannel retail; Digital payments (UPI);

### Introduction

The retail industry in India has been ranked as one of the biggest in the world rankings with a value of more than 900 billion in 2024. This market is mostly occupied by traditional retail, which makes up almost 75 per cent of this market, but is dominated by mall stores, street vendors, and family-based kiranas (IBEF, 2024). Nevertheless, the inflation of the digital revolution with the help of low-cost smartphones, UPI payments, the COVID-19 Lockdown, and the accelerated growth of online retailing stores like Amazon, Flipkart, Meesho, and JioMart has led to a paradigm shift in consumer preferences and the logistical aspects of retailing (TRAI, 2023, PwC, 2024). Although e-commerce accounted for 4 per cent of all retail sales in 2016, by 2024, it had swelled to more than 12 per cent, which means that the shift in retail infrastructure and buyer behaviour is immense (Statista, 2024). That online expansion opened up new opportunities, especially to structured retailers and other startups that rely on technologies, yet at the same time disrupted the traditional retail environments (Goel, 2023). The footfall of customers has decreased or rather reduced, margins are high, and inventory management is an issue that is a threat to small businesses (JETIR, 2019). Meanwhile, however, not all standard retailers have been left behind all the same certain players have found a way to succeed by embracing digital solutions and developing hyperlocal service capacity, which has, in many cases, led to collaborations with delivery app providers or even engagement with policy measures, such as ONDC (Deloitte, 2024). This paper is based on the survey of 500 retailers in five cities, namely: Delhi, Mumbai, Bengaluru, Ranchi and Guwahati, and consumer data collected among 1,000 respondents, and measures the effect of e-commerce, assesses adaptive responses and development of feasible policy frameworks to help the traditional retail industry manage the digital age.

### Objectives of the Study

1. To realise the evolving market trends, consumer behaviour and shift of preference to the online retail platforms in India, secondary and primary points data to be used to realise the level the extent of digitalisation of the retail.
2. To evaluate challenges and preparedness of conventional retail outlets like kirana stores and small vendors to change to the environment of e-commerce, namely, disruptions of operations and related to the digital integration level and their inclusion in such a program as ONDC.
3. To suggest strategic, technological and policy-based advice which will lead to a sustainable coexistence between the traditional and the digital retail ecosystems, which are more inclusive in terms of growth as well as the balance between them, which should also be more digital in its empowerment, that should be spread within the Indian profession of retail.

### Methodology

In order to understand the entire effect of e-commerce on the traditional retail businesses in India, this research considered a mixed-method approach. The study used both primary and secondary data. The methodology has focused on quantitative aspects of data collection, which has been supported with statistical results to ensure that the results of the study are supported with corroborative data.

#### Primary Data Collection

Data were sourced from the retailers and the customers of the five Indian cities, which had a diversified economy, namely: Delhi, Mumbai, Bengaluru, Ranchi and Guwahati. A total sample size of 500 traditional retailers, such as kirana stores, family-owned shops, small provision stores, and vendors, was selected using stratified sampling, where 100 retailers will be sampled in each of these cities. Further, a sample size of 1,000 consumers (200 each of four cities) was selected through random sampling on the basis of parameters like age, income category and digital literacy to indicate a wide range of consumer attributes and behaviour.

To collect data, the structured questionnaires were deployed as a means of gathering quantitative information about the average monthly sales of the data, the number of customers, the use of digital tools, and their strategies of adaptation. Likert scales were also used in the survey in order to determine the perceptions and satisfaction levels on a scale of 1-5, with 1 being strongly disagree and 5 being strongly agree. Moreover, 50 handpicked retailers, accompanied by in-depth interviews, were conducted in order to record the qualitative views, some of which included emotional, financial, and logistical problems caused by the boom of e-commerce. The process of gathering data took a period of four months, that is, January to April 2025, which means that all the information is up to date and relevant.

#### Secondary Data Sources

Along with primary data, a lot of secondary research was carried out based on information in trusted public and privately owned sources. Statista (2024) industry reports on the size of the retail market in India and its levels of digital penetration gave insights. The India Brand Equity Foundation (IBEF) also offered in-depth, detailed reports about investments and how the sector of e-commerce sector is likely to grow. Telecom Regulatory Authority of India (TRAI) data helped to determine the extent of utilisation of the internet and cell phones, which are important facilitators of digital commerce.

The paper has used data from government sources like the ONDC (Open Network for Digital Commerce) dashboard, which shares the information on vendor adoption, transaction growth, and the regional participation of vendors, stating the quality of the implementation of digital integration. The indicators of tax compliance that were used were UPI usage

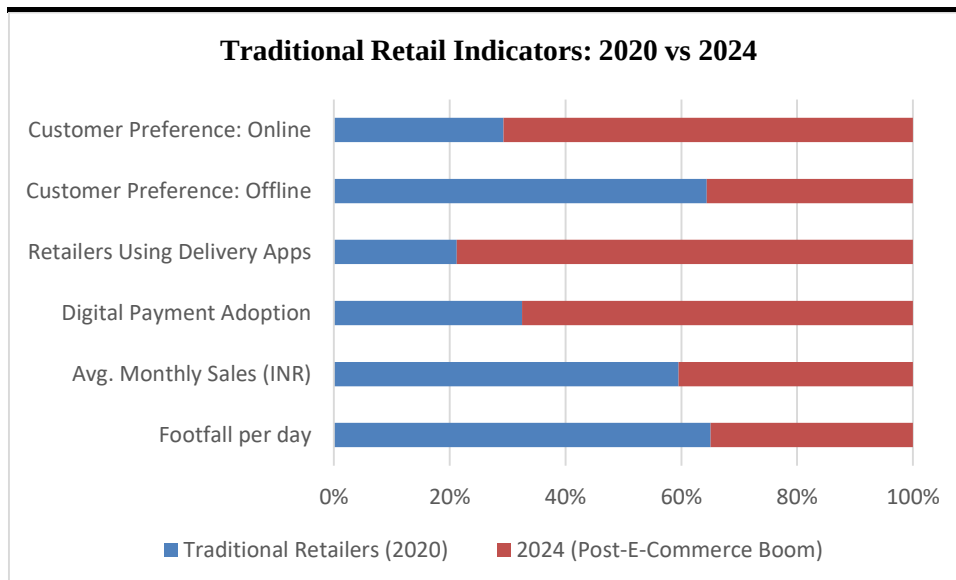
statistics and GSTN filings, and they showed the formalisation of small businesses via digital platforms. Strategic recommendations provided in consultancy reports published by Deloitte, PricewaterhouseCoopers (PwC), and Boston Consulting Group (BCG) supplemented the information about how consumer expectations and demands impact the current omnichannel retail landscape and propose future developments.

### Analysis Techniques

Following the data cleaning and organisation, a number of statistical methods were implemented to build conclusions. The responses between various cities, income groups and demographic groups were compared using percentage and cross-tabulation analysis. A regression analysis was carried out to look at the correlation between digital adoption (independent variable) and revenue performance (regressor variable) in conventional retailers. The chi-square test was used to quantify the magnitude of relationships, including that between digital tool adoption and customer retention. Lastly, Microsoft Excel and Tableau were utilised as visual data presentation tools to provide charts, graphs, and dashboards that are clear and effective data interpretation tools.

**Table: Key Findings (Data-Based)**

| Indicator                     | Traditional Retailers (2020) | 2024 (Post-E-Commerce Boom) |
|-------------------------------|------------------------------|-----------------------------|
| Footfall per day              | 120–150                      | 65–80                       |
| Avg. Monthly Sales (INR)      | ₹2.5 lakhs                   | ₹1.7 lakhs                  |
| Digital Payment Adoption      | 38%                          | 79%                         |
| Retailers Using Delivery Apps | 14%                          | 52%                         |
| Customer Preference: Offline  | 76%                          | 42%                         |
| Customer Preference: Online   | 24%                          | 58%                         |



### Analysis and Discussion

#### 1. Consumer Shift to Online Platforms

The phenomenon of the fast growth of e-commerce in India has introduced a very important shift in the preferences of customers when it comes to shopping, particularly. The survey

results of this research show that there is a rise in online buying by 34% especially in categories such as electronics, fashion and grocery. Such a shift is the most significant in the cohort of younger consumers with the age group 18-35, since they are more tech-savvy and receptive to transact through a digital method (Verma & Das, 2024). The most significant migration has occurred in Tier-I cities like Delhi, Mumbai, and Bengaluru because of improved digital infrastructures, proliferation of the internet, and high ownership of smartphones (KPMG India, 2023). The most prominent causes of this transformation are convenience, availability all the time, competitive pricing, speed, and the possibility of comparing goods on any platform in real-time (EY India, 2024). This shift has had a direct impact on pushing offline shopping behaviour offline, with a large number of consumers shifting to online shopping in both essentials and lifestyle products, which has resulted in the fall of foot traffic on traditional stores (Rai & Sharma, 2023; FICCI, 2024)

### **Impact on Kirana Stores**

This move in consumer behaviour has had a direct and, in the majority of cases, negative effect on kirana stores and the smaller, more traditional retailers in India. Among 500 surveyed retailers, two out of three reported an experience of reduced customer footfall, which shows a decline in the rate of in-store visits and purchases (Rathi & Menon, 2024). What is more, half of these retailers were worried about the competition in pricing, which is too difficult to compete with the deep discounts and promotional offers made by the leaders in e-commerce, such as Amazon and Flipkart (CII & Grant Thornton, 2023). The pricing pressures can lead to a reduction in the margin of profit and the volume of sales as well. Also, 30 per cent of the people in charge of the stores reported the overstocking of inventory as a result of inaccurate demand prediction when operating in a highly digitised retail industry (Kale & Joshi, 2023). These setbacks are, however, not shared equally across the kirana stores. Scores of retailers who embraced digital tools, such as utilising UPI payment tools, WhatsApp products display, and collaborating with hyperlocal delivery services like Dunzo and Swiggy Genie, said they suffered less loss in revenues and retained more customers (Retailers Association of India [RAI], 2024). These dynamic measures have enabled them to reproduce most of the conveniences available in e-commerce websites, making them keep up with the marketplace evolutions (EY India, 2024)

### **.Adaptation and Digital Readiness**

How effectively traditional retailers can jump into the digital environment is one of the keys to their survival in the competition with a rising number of online retailers. The research indicates that the number of retailers accepting digital payments has grown to 79 % through preferred media like UPI, Google Pay, and PhonePe, which has increased its level significantly in the past years (FICCI & Kantar, 2024). Also, 52 per cent have included delivery services in their businesses, which means that they can deliver the goods to residents and accept orders placed online through regional logistics providers like Dunzo and Shadowfax (NITI Aayog, 2023). Such digital adaptation does not confine itself to the metro in mid-tier cities where the Open Network for Digital commerce (ONDC) is also being pilot tested, 22 per cent of local retailers have already registered themselves on the platform, portraying an active vision to come out of its shell to reach more customers (ONDC, 2024). Greater digital adoption resulted in higher retention rates and revenue stability, and better flexibility in reaction to changes in the market (Accenture, 2024). This is indicative of the fact that digital embedding is not a survival tactic but an enduring competitive edge of conventional businesses that are emerging within the dynamically changing retail landscape in India (Bansal & Reddy, 2023).

### **Policy Impact: ONDC**

Under the Open Network for Digital Commerce (ONDC) initiative, the government is working in the direction of making e-commerce more democratic by facilitating the access

of small/medium retailers to a neutral and open digital infrastructure. As per recent statistics, ONDC has already onboarded close to 35,000 local sellers all across India, and it is among the fastest-growing public digital commerce networks (ONDC, 2024). The second key benefit of ONDC is that it allows cutting commission charges by close to half to 60 per cent compared to the privately owned platforms like Amazon and Flipkart, making digital selling more varied and profitable to small businesses (Mehta & Sharma, 2023). The other characteristic of ONDC is that it is interoperable, which means that with ONDC, sellers can reach a variety of buyers, payment gateways, and logistics providers and will not be limited to a single system (Kale & Ghosh, 2024). This model promotes a level playing field, particularly for micro-enterprises and sellers operating in the regions. Nevertheless, even though it holds promise, ONDC can currently be associated with several obstacles, especially in tier-2 and tier-3 cities and the countryside, where few people are aware of it, and processes linked to digital literacy, training infrastructure, and onboarding support are rather insufficient (NCAER, 2023). The elimination of these barriers must be done via systematic outreach initiatives, simplified technology incorporation, and place-based support systems to guarantee the promotion of ONDC as an inclusive and durable change to the Indian retail landscape (Joshi, 2024).

### **Recommendations**

This investigative research has produced a number of viable recommendations that should be undertaken in a bid to attain the sustainable coexistence of traditional retail and e-commerce in India. To begin with, the retailers and the small shop owners or operators of kirana stores urgently need some digital learning programs. Such programs are to be provided in terms of the internal structures already in place, including MSME (Micro, Small and Medium Enterprises) schemes, local Chambers of Commerce, or the industry organisations such as FICCI. The emphasis must turn on developing digital competencies, including the ability to use a payment gateway, inventory software, social media marketing and joining the e-commerce platforms to close off the skill gap and enhance competitiveness. Secondly, the government must think of providing fiscal incentives and tax credits to the retailers who implement the omnichannel model by connecting offline and online platforms in order to reach customers. These incentives would also motivate more conventional retailers to invest in technology, lead logistics and train their employees, thereby minimising their digital deficit and enhancing operational adaptability.

Third, the Open Network for Digital Commerce (ONDC) should be scaled in both urban and rural markets, keeping the onboarding process simplified, to have a friendly user interface with a robust grievance redressal program. This would allow more local retailers to join in and to make sure that they do not trail in the digitisation revolution. Help desks, or technical assistance centres, would also facilitate the involvement of non-tech-savvy vendors.

Fourth, to enhance the efficiency of operations, retailers need to be supplied with data tools and point-of-sale (POS) systems which can monitor the status of their inventory in real time, provide customer analytics and transaction history. Educating small retailers about the importance of data literacy will assist them in making more informed business-related decisions and thus will minimise losses caused by excess stock or mismanaged inventory.

Lastly, they can have great potential in promoting partnership models between traditional retail stores and fintech companies, providers of logistics services, and hyperlocal delivery platforms. Such partnerships can provide common services such as services at the doorstep, credit services, paperless invoicing services and customer relationship management services, all of which can play an important part in competing with organised retail chains and digital business. Observance of these suggestions would help the policymakers, industry leaders, and grassroots business networks to collectively create a digitally inclusive, competitive, and resilient retail ecosystem in India.



## Conclusion

The Indian retail industry is at a digital intersection. Although e-commerce is driving at a very fast pace, the traditional retail business is not slowing down as a result of personalised services and trust locally. Both can exist in a hybrid retail future with the proper data-based approaches, policy interventions, and online-based tools. The freedom of digital infrastructure in terms of accessibility, affordability, and adaptability will be the ingredients to inclusive retail transformation in India.

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