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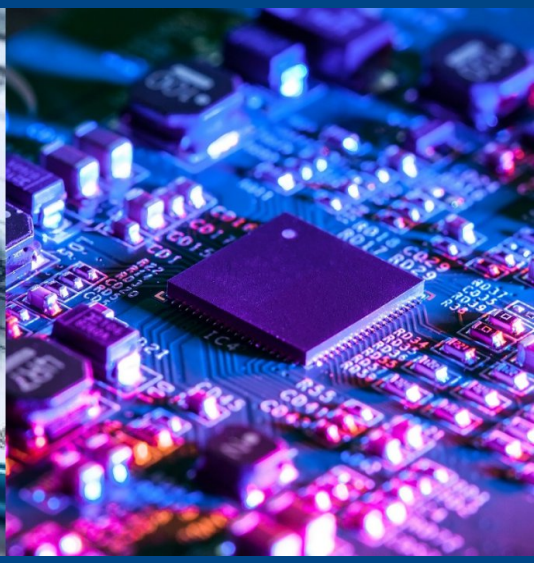

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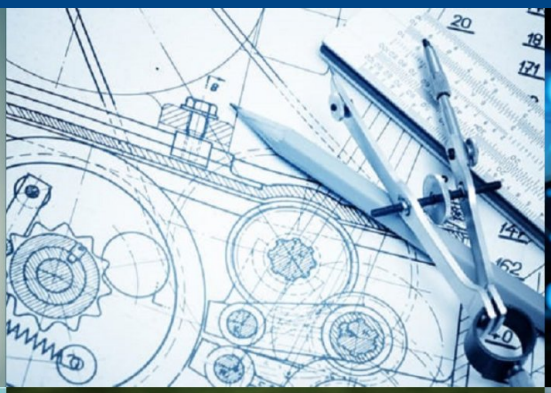

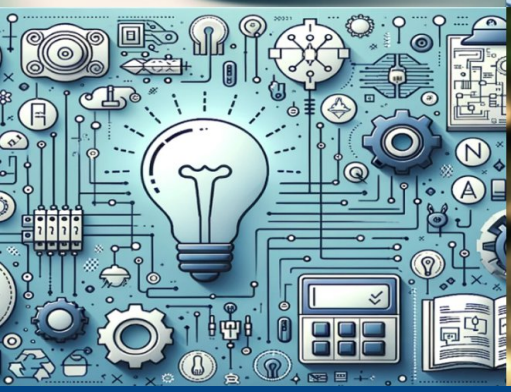

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Indian E-Commerce Evolution (2017–2024): Trends, Drivers, and Emerging Models

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ABSTRACT: The current paper describes a trend analysis of the Indian e-commerce market between 2017-2024, discussing its growth from USD 17.8 Billion to estimated USD 127 Billion based solely on secondary data from industry reports, government documents and research databases. It also addresses structural, technical and demographical growth drivers; affordable mobiles with internet access, enabled by Jio's entry, a sharp acceleration by COVID-19, a payments revolution with UPI, widening penetration to Tier 2/3 cities and the advent of ONDC. Challenges persist in last-mile logistics, digital literacy, and customer trust. The results of this paper indicate India as a future world leader, potentially one of top three, by 2030, should infrastructure and policy bottlenecks be resolved systematically.

KEYWORDS: E-commerce, India, Digital Economy, Online Retail, UPI, Mobile Internet, ONDC, Tier-2 Cities, Trend Analysis

I. INTRODUCTION

India’s e-commerce history has its roots in India's overall digital transformation story. What initially started as a convenience available to the English-speaking urban elite (booking air tickets and buying gadgets over smartphones), has now become a mass phenomenon-a homemaker in Patna is now buying kitchen utensils from a vernacular app, a farmer in Rajasthan is now buying seeds from an agri platform and a student in Coimbatore is now selling handmade items from an online marketplace. The confluence of structural forces-near free mobile internet following Reliance Jio’s launch in 2016, government impetus for digital payments after demonetization, proliferation of UPI and an young and aspiring population eager for convenience, contributed towards this shift. According to the IBEF and Annual Report by IAMAI (2024), India's e-commerce market grew at a CAGR of approx 27% between 2017 and 2024, which is a far better growth rate compared to countries with similar developmental curves.

The COVID-19 pandemic was clearly the watershed moment and a tipping point that made adoption happen over just a few years, an idea that was unimaginable until then. Against this background this paper aims to conduct a trend analysis of Indian e-commerce as a phenomenon and not an isolated statistical number but a multiple causation phenomenon-driven by technology, policy, infrastructure and behavior. The paper has made use of only secondary sources –peer reviewed journal papers, government data, and business intelligence reports, to narrate the growth trajectory of Indian e-commerce and to suggest future predictions for the domain.

II. REVIEW OF LITERATURE

The adoption and feel secure over the payment was by perceived ease and usefulness and barrier was absence of strong buyer protection legislations (Sharma & Mittal, 2013; Panda & Swar, 2014). Backtracking, both the papers were counterfactual. The entire lists of barrier given by the two papers broke down, by almost ubiquitous problem-solution since all of the products and services became affordable (affordability by 4G-powered entry of Reliance Jio in 2016).
In their turn, Bhatnagar (2017) observed a 200% growth in mobile data usage after Jio's arrival thus suggesting that it was merely an enabler of further growth rather than a cause per se. This was echoed by Kaur and Singh (2018) who attributed UPI's success with zero MDR, instant settlement structure and zero- transaction costs with extending the reach to low-ticket payments in tier-2 cities.

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Verma and Deb (2021) described shifts in categories during the pandemic, with groceries rising by over 80%, electronics and fashion falling temporarily and crucially, with most of the first-time pandemic shoppers now continuing to shop online after lockdown-thus forever increasing the market. Choudhary (2022) evaluated the response from regulators and followed platform-retailer conflicts through the difficult history of the Consumer Protection (E-Commerce) Rules, 2020.

1. Roy and Chakraborty (2023) used platform economics to justify Flipkart and Amazon's stable duopoly arguing that network effects, data and logistics investments would be enough to shut out any competitors like Meesho, Blinkit, and ONDC. Krishnamurthy (2024) compared the open protocol of ONDC to UPI arguing that on a large enough scale, ONDC would break super-app dominance and enable thousands of small sellers to operate their own businesses in e-commerce, similarly to how UPI has disrupted digital payments.

Objectives of the Study

1. To examine the growth trend of Indian e-commerce from 2017 to 2024.
2. To identify the structural drivers shaping Indian e-commerce growth during 2017–2024.
3. To analyze COVID-19's impact on consumer behavior and digital buyer retention.
4. To assess the emergence of quick commerce, social commerce, and ONDC by 2024.

Research Design

This paper uses a descriptive-analytical research design in the sense of collecting, organizing, interpreting and analyzing of secondary data to throw light on Indian e-commerce expansion over time. Descriptive-analytical research design is adequate as macroeconomic trends are analyzed through pattern in aggregation of data than an experimental or inferential method.

Nature and Source of Data

This research uses only secondary data. The secondary data have been collected from four distinct categories of sources, namely, (i) industry reports (IBEF, NASSCOM, Bain & Company, Red Seer Consulting); (ii) government publications (Ministry of Commerce, DPIIT, NPCI, TRAI); (iii) academic journals (International Journal of Electronic Commerce, Journal of Retailing and Consumer Services, Vikalpa); and (iv) analytic portals (Economic Times Tech, Inc42, Mint, Entrackr) for current trends.

Data Collection Procedure

Data was extracted from the systematic review of the sources above for 2017 to 2024.

Data Analysis Tools

The basic techniques employed were descriptive statistics- Comparative analysis was applied to place India's journey in context with the world at large, where it was possible. No modeling of any kind (econometric) was carried out as the nature of research was descriptive and source of data was secondary.

Period Of Study

Analysis ranges from 2017 to 2024. 2017 is chosen as the base year as it represents the first complete calendar year after the Jio 4G launch and the demonetization-the two exogenous shocks that are believed to be inflection points for Indian digital commerce. Data for 2024 are derived from available estimates up to mid-2024 (marked by an asterisk in tables).

Data Analysis

Table 1: E- Commerce Market Size

YEAR	MARKET SIZE (USD Bn)	YoY Growth (%)	Key Driver
2017	17.8	-	Demonetization & digital push
2018	22.0	23.6%	Rise of Tier-2 city buyers

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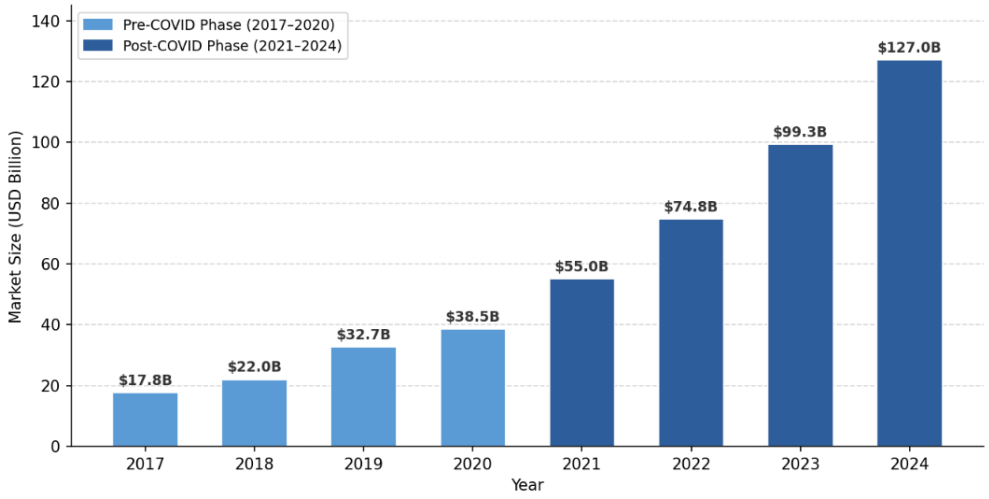
2019	32.7	48.6%	Jio effect – cheap data
2020	38.5	17.7%	COVID-19 accelerated adoption
2021	55.0	42.9%	Festive Season Boom
2022	74.8	36.0%	BNPL & fintech growth
2023	99.3	32.8%	Quick-commerce surge
2024	127.0	27.9%	ONDC & D2C expansion

Source: IBEF (2024); RedSeer Consulting (2023); Bain & Company India E-Commerce Report (2022). *2024 estimates.

Figure 1



I

nterpretation: From table 1 and Figure 1, it shows that the e-commerce market of India grew from 17.8B (2017) to 127.0B (2024) (CAGR is 27%). The growth rate achieved the fastest in 2019 (48.6%) due to rapid internet adoption (due to Jio) then decreased in 2020 (17.7%) because of the global COVID-19 supply chain disruption and recovered very rapidly to 42.9% in 2021 as the digital habit cultivated during pandemic continued.

Table 2: Category Wise Revenue Share

PRODUCT CATEGORY	2020 (%)	2022 (%)	2024 (%)
Electronics & Mobile	35	31	28
Fashion & Apparel	22	24	25
Grocery & FMCG	8	13	18

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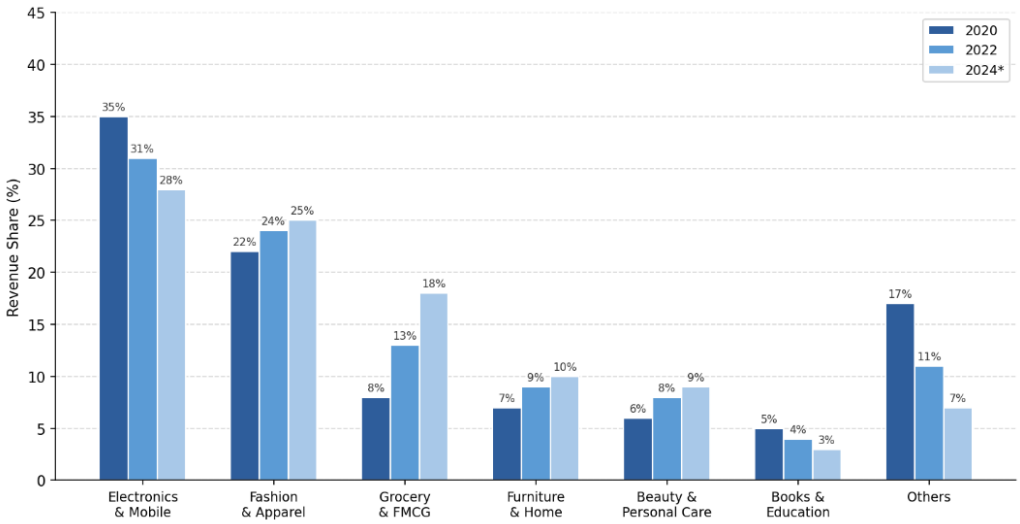
Furniture & Home Décor	7	9	10
Beauty & Personal Care	6	8	9
Books & Education	5	4	3
Others	17	11	7

Source: Bain & Company (2022); NASSCOM Strategic Review (2023); RedSeer Consulting (2024). *2024 estimates.

Figure 2



Interpretation

During the period from 2020 to 2024, categories saw an important shift in Indian e-commerce (Table 2 ,Figure 2). Electronics & Mobile continued to remain the largest category, but it lost its share (35%-28%), while other categories posted a faster growth. Grocery & FMCG nearly doubled from 8% to 18% due to q-commerce entities such as Blinkit, Zepto, and Swiggy Instamart, whereas Fashion & Apparel witnessed slow growth (22%-25%) due to Meesho's adoption in Tier-2 and Tier-3 cities. Rapid decline of 'Others' (17%-7%) shows the verticalization trends and development of e-commerce from a convenience offering to a full-fledged ecosystem.

Table 3: Digital Infrastructure

YEAR	INTERNET USERS (Cr)	SMART PHONE USERS (Cr)	UPI TRANSACTIONS (Bn)
2018	50.0	30.0	5.4
2019	62.5	39.0	10.8
2020	74.0	44.8	22.3

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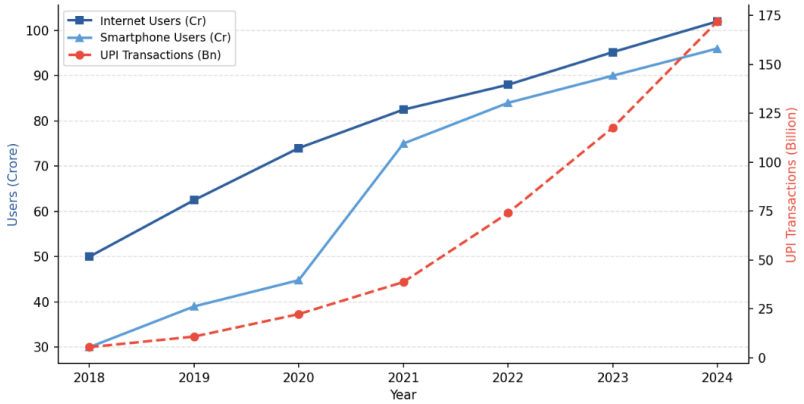
2021	82.5	75.0	38.7
2022	88.0	84.0	74.0
2023	95.2	90.0	117.6
2024	102.0	96.0	172.0

Source: TRAI (2024); NPCI Annual Report (2024); Statista India (2024). *2024 estimates. Cr = Crore (10 million).

Figure 3



Interpretation: Tables 3 and Figure 3 also tell the tale of the digital infrastructure that underpins the India e-commerce boom from 2018-2024. The users doubled from 50 Cr to more than 102 Cr and mobile subscribers from 30 Cr to 96 Cr (after a small covid bump) but what stands out is the 31X explosion in UPI transactions-from 5.4 Bn to 172 Bn-a surge well beyond infrastructural expansion, an exponential change in payment behavior which now accounts for the preferred payment instrument for most consumers in tier 2 and tier 3 towns.

III.FINDINGS

1.India is the quickest-growing e-commerce market. From $17.8 B in 2017, the market is predicted to grow to $127 B in 2024 at about 27% compound growth rate.
2.The long-term growth trends are expedited by the COVID-19 pandemic and after a dip in 2020 the market is witnessing rapid 42.9% growth in 2021, signaling lasting changes in consumer habits.
3.Growth will also spread beyond the fashion and electronics categories. The shares of groceries and FMCG are expected to grow from 8% in 2020 to 18% in 2024.
4.Barriers like payment are also slowly falling with UPI, witnessing a growth of 31 times from 2018 to 2024.
5.New customers acquired come from beyond metro cities with over 60% users originating from Tier 2 and smaller cities, boosted by better logistics and use of vernacular languages in user interface and experience.
6.Horizontals, verticals and social commerce alongside ONDC will drive future growth.
7.Problems will be associated with high rates of return, estimated at 25–30%, coupled with increasing customer acquisition cost and ever-changing regulatory policies.
8.By 2030, the market size is predicted to reach $300–350 B, with rural e-commerce, B2B business and exports contributing significantly to growth.

IV. CONCLUSION

All the results are in consistency with the aims of the study and suggest that the objectives have been fulfilled. In fact, the growth of e-commerce has arguably been one of the country's most impressive economic shifts in the past eight years. In essence, it has transformed from an urban, electronics-focused channel to a multi-category, pan-India retail experience that has significantly altered the nation's supply chains, job markets, and buying habits. Our belief is that

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this boom was not a happy accident nor a product of macroeconomic forces; instead, it can be attributed to proactive policy initiatives (demonetization, UPI, ONDC), private sector spending on technology and logistics, and its young, digitally adept populace. We are now of the opinion that the initial stage of establishing user penetration, payment systems and a logistics infrastructure is all but complete.

The second stage, which has now kicked in, consists of driving rural penetration, increasing average basket value and enabling digital access for all income strata. This will require ongoing private sector investment in last-mile logistics, in educating consumers on digital adoption, and in establishing regulatory guidelines that ensure platform accountability while encouraging competition and innovation. ONDC is undoubtedly a monumental bet for policy makers and will have a significant impact on the course of e-commerce in India for years to come. Further academic research might include carrying out primary surveys to analyze consumer behavior in tier 2 cities or to explore the causality between UPI transactions and the e-commerce channel. Regardless, there is one clear fact about India's e-commerce infrastructure.

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