

# The Evolution of Indian E-Commerce Sector and its Future: An Analytical Study

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**ABSTRACT:** Electronic commerce, and also known as E-commerce, has evolved into a household affair for most of us. The E-commerce business in India has grown tremendously from its humble beginnings as a marketing platform to one-touch purchasing and selling. The purpose of this article is to identify and analyses the variables that have contributed to India's E-commerce boom, as well as to suggest tactics for accelerating the industry's growth. We look at historical trends and data to show how the Indian E-commerce market is poised for exponential expansion. We analyze developing markets, developments, and the implications of COVID – 19 on the sector through a review of the literature. According to this research, the focus has been solely on the demand side of the E-Commerce business, i.e., how to produce demand. With considerable progress in that direction, we recognize the need to shift our attention on interventions/support to the sector's supply side. Based on past tendencies, policymakers have been given a set of tactics for accelerating the sector's growth.

**KEYWORDS:**E-Commerce, Retail Marketing, COVID-19, MSMEs

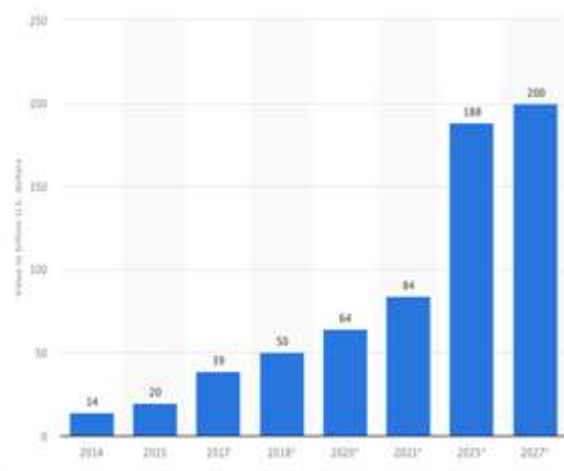
## I. INTRODUCTION

E-commerce exploded in popularity shortly after the internet was launched in India in 1995. In the mid-to-late 1990s, E-commerce primarily consisted of B2B client administrations and executive openings. By the late 1990s, moreover, it had expanded its scope to include Business to consumer, matrimonial, and online employment gateways.

Business - to - business E-commerce is typically an electronic business association between two corporations, such as a producer and a retailer, whereas Business - to - consumer E-commerce is an electronic business partnership in which firms directly provide to its individual

customers. When the IRCTC launched its e-tagging service in 2002, a new era of E-trade in India began. Following this event, online travel-related transactions dominated the Indian E-business industry. In the years 2011 and 2013, it accounted for around 87 percent and 79 percent of the absolute income share of the E-business industry, respectively (PwC, 2014). This trend began to reverse in 2013, when online retail advertisers began to establish themselves in the E-business industry. When online retail advertisers began to establish themselves in the E-business industry in 2013, this trend began to reverse. Before the end of 2015, online electronic commerce, also known as E-following, has grown to have similar responsibilities in the E-business sector to online travel (PwC, 2014). In the following years, many areas of the Indian E-trade industry grew, including mobile/DTH re-energizes, online sales of high-end products, and fashion E-business, with the vast majority of retail brands embracing E-business and anticipating a large amount of business via online channels. With improved data affordability, more consumption, and innovative financial products, the E-commerce sector is poised to expand, whether in e-commerce, travel, consumer services, or online financial services. According to PwC, "the next wave of online consumers is likely to come from Tier II cities or beyond, and the vast majority of them would be less tech-savvy, desire greater transparency from firms, and prefer consuming material in local languages" (PwC, 2018).

E-commerce was estimated to be worth USD 38.5 billion in 2017, making it India's fastest-growing business. Growth statistics indicate that by 2034, India would have surpassed the United States to become the world's second largest e-commerce market. As shown in Figure 1, the E-commerce market is predicted to grow to USD 200 billion by 2026, up from USD 38.5 billion in 2017. (IBEF, 2020).



**Figure 1: India e-Commerce Industry Market Size in Billion US Dollar from 2014 to 2027(Data from Statista. Retrieved from <https://www.statista.com/statistics/792047/india-E-commerce-market-size/>)**

India's E-commerce sector has enormous potential. India's e-commerce revenue is expected to increase from USD 39 billion in 2017 to USD 120 billion in 2020, expanding at a pace of 51% annually, the world's highest (IBEF, 2020). With increased internet availability and an exponential growth in digital payments, e-commerce has the potential to be a determining element in the country's road to a trillion-dollar digital economy by 2025. Government programs such as Digital India, E-market, Skill-India, and the promotion of the Unified Payments Interface (UPI) across practically all national platforms are all steps toward transforming India into a digitally empowered society.

The alterations in customer behavior following COVID - 19 will have an impact on e-commerce, B2B, B2C, retail, and brick-and-mortar establishments. According to Technomic research, 52 percent of customers avoid crowds, while 32 percent leave their homes less frequently as a result of the Corona virus. As a result of social distancing attempts, grocery delivery businesses have seen record sales growth. Following the shutdown, Big Basket had twice as much traffic and income in March, with an average basket size that was 20% more than on usual days. Grofers claimed an increase of 80% in the number of orders and a 48% increase in the money spent by customers (Bhattacharya, n.d 2020). The economic recession has affected the majority of E-commerce industries, while some are predicted to develop faster than others.

### 1.1 Objectives of the Study

- This is a review article that tries to investigate the rise of e-commerce in India. Looking at historical progress is vital since it will help us develop a future plan.
- Identifying and examining the variables responsible for the E – commerce boom in India after 2010
- Examining new trends in the E – Commerce industry of India
- Briefly study the influence of COVID – 19 on the E – Commerce business of India
- Recommending ways to accelerate the expansion of the E – commerce sector

### 1.2 Methodology

Secondary research was used to locate existing literature on India's E-Commerce business. The obtained material was evaluated to detect developing patterns. This information was utilized to provide recommendations for future tactics to help the sector expand faster.

## II. KEY FACTORS DRIVING E - COMMERCE SUCCESS IN INDIA

**2.1 Increase in Digital Literacy:** Digital literacy in India has lately increased to substantial levels, attracting some large worldwide investors to participate in the Indian E-commerce business. Over 120 million individuals were predicted to purchase online in 2018, with the number of people shopping online increasing to 175 million.

**2.2 Government Initiatives:** The Indian government is working hard to make the country a trillion-dollar internet economy by 2025. The

following are some of the significant government measures that are accelerating the country's E-commerce boom.

**2.2.1 Government e-marketplace (GeM):** In October 2019, the Government of India and Union Bank of India signed a Memorandum of Understanding (MoU) to enable a cashless, paperless, and transparent payment system for a range of services.

**2.2.2 Digital India and Bharat Net:** The BharatNet Project was allotted Rs 8,000 crore (US\$ 1.24 billion) in the Union Budget for 2020-21, with the goal of providing internet services to 1,50,000 gram panchayats. By March 2020, the project aimed to reach 2,50,000 gram panchayats. In addition, the government planned to install 5,00,000 Wi-Fi hotspots to provide internet services to 5,00,00,000 rural residents. The Digital India movement also saw the debut of many government projects like as Udaan, Umang, and the Start-up India Portal. The government also launched Bharat Interface for Money (BHIM), a basic mobile-based platform for digital payments.

**2.2.3 Draft E-Commerce Policy and Favorable FDI Rules:** The Draft National E-commerce Policy of the Government of India supports FDI in the marketplace model of E-commerce. According to revised FDI standards for E-commerce, 100% FDI via the automated route is permissible in the marketplace model of E-commerce (Department of industrial Policy and Promotion, 2018).

**2.3 Investment:** Undoubtedly, India is emerging as the fastest growing internet economy and has attracted investors from across the world. Since 2009, the E - commerce sector has received around USD 13,338 million in 904 funding rounds. Due to an increase in investments in the E - commerce sector, new companies started to enter the market since 2009. Maximum number of new E - commerce companies i.e. 1650 were formed in 2015. At present around 4757 E - commerce startups are active in India. In 2017, Indian E - commerce industry bagged 21 private equities and venture capital deals worth USD 2.1 billion, and more than USD 7 billion in 2018. Favourable FDI policies increased FDI inflows. Domestic investment and support from key industrial players is fuelling the growth of E - commerce in India (IBEF, 2020).

**2.4 Internet content in local languages:** With over 22 major languages, 720 dialects spoken written in 13 different scripts, the language of available online content is a key factor in attracting consumers. With such a diverse linguistic crowd, it became a must-to-do thing for websites, portals and

pages to offer their content in local languages. This factor also drew attention from all the major E - commerce giants. In August 2018, Flipkart acquired an artificial intelligence company, which converts speech to text in 10 Indian languages (Sen, 2018). Currently, almost all government and private portals offer content in local languages. This has led to an increase in the consumer demand even in small towns and cities. (Hidden, 2016). More than half of total Sales from E - commerce was generated from Tier - II cities like Asansol, Ludhiana, Rajkot, Dhanbad (Hidden, 2016).

**2.5 E-Transactions:** India is swiftly moving towards becoming a cashless economy and digitalization of transactions is the best way out. Since 2010, India has been gradually growing when it comes to cashless transactions, but there was a steep jump after Demonetization when the country fell short of cash. More people shifted to cashless transactions including internet banking and UPI payments. According to data from the Bank for International Settlements (BIS), India topped the list in terms of percentage rise in volume of cashless payments in 2018, with 55% increase, compared to 48% in China, 23% in Indonesia, 10% and 7% in the UK and USA, respectively (Bank for International Settlements, 2018). The volume of digital payment transactions as a proportion of GDP has also grown dramatically, from 7.14 percent in 2016 to 8.42 percent in 2018. (Reserve Bank of India 2019). In FY18, India had an average of 67 million cashless payments each day.

This achievement, according to KPMG, is due to progressive government decisions focusing on electronic money technologies such as intermediate payment service (IMPS), UPI, USSD-based payments, national common mobility card (NCMC), and literacy initiatives, as well as the arrival of mobile payment service providers, strong payment infrastructure, growing smartphone user base, and POSs compatible with cashless/device-based transactions (KPMG, 2019). There's still a lot of room for improvement. Payment firms have become some of the fastest growing and most valuable businesses throughout the world as digital transactions have replaced cash. According to KPMG, India has about 45 mobile wallet providers and about 50 UPI-based wallet providers (Detrixhe, 2019).

COVID - 19 has altered customer purchasing habits. Customers, particularly older folks, who had never used mobile grocery shopping before have easily converted. This shift in behavior would not have occurred without the necessity for

seclusion, yet these habits may persist beyond the crisis (Davis et al., 2020). According to the most recent IPSOS survey, consumers have increased their frequency of purchasing things online (UNCTAD, 2020). The quantity of online transactions has grown significantly as a result of COVID - 19-induced outages. As illustrated in

Figure 2, India had a 55 percent growth in online purchasing, while Vietnam, China, and Italy saw a 57 percent, 50 percent, and 31 percent increase in online commerce, respectively (Clapp, 2020). According to the statistics shown above, the recent shift in consumer behavior as a result of COVID – 19 would drive E – commerce growth in India.

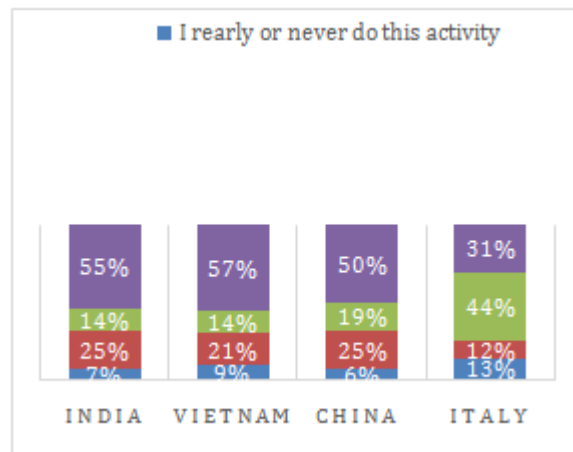


Figure 2: E – Commerce purchase frequency change due to Corona virus outbreak 2020, by country. Data from Statista. Retrieved from <https://www.statista.com/study/71767/coronavirus-impact-on-the-global-retail-industry/>

### III. INDIA'S E-COMMERCE EMERGING MARKETS

**3.1 E-retailers:** Wholesale and retail trade account for a sizable portion of the Indian economy. The industry employs 8% of India's workforce and contributes for 22% of the country's GDP (Khanna, 2020). Small mom-and-pop businesses dominate India's retail industry. In 2018, the retail business was worth USD 950 billion, and by the end of 2021, it is predicted to surpass a trillion dollars. The retail market in India is expected to expand to USD 1,200 billion by 2022. (IBEF, 2020). However, in India, currency is used in more than 80% of retail stores. This figure compares to 55 percent of Chinese retailers and 35 percent of Brazilian retailers (Kaka et al., 2019).

**3.2 MSMEs:** At least 2.5 crore merchants in India are micro and small businesses that lack the financial resources to weather a severe economic downturn (The Economic Times, 2020). The government's ongoing drive to boost MSMEs to go digital has resulted in it being one of the fastest-emerging E-commerce marketplaces, with enormous potential and opportunity. Nearly 43% of MSMEs in India participate in online sales, according to reports (Competition Commission of India, 2020)

For MSMEs, becoming digital and engaging in e-commerce has resulted in considerable cost

savings. MSMEs may enter the E-commerce industry with as little as \$100 USD in investment. Marketing and delivery expenditures are reduced by up to 60% for SMEs who use E-commerce. MSMEs that have embraced e-commerce have also recorded 27% better revenue growth than their offline competitors (United Nations Industrial Development Organization, 2017).

MSMEs in India account for 45 percent of overall work production and 40% of total exports, according to the latest available data from the Ministry of Micro, Small and Medium Enterprises (MSME). The odds of MSMEs exporting are five times higher when they use e-commerce platforms than when they use traditional methods, as studies have shown. These figures show that MSMEs are one of the fastest-growing sectors in the country, with the potential to strengthen the country's e-commerce sector.

### IV. COVID – 19 AND E-COMMERCE IN INDIA

While it is acknowledged that COVID – 19 has had varying effects on different sectors, it was clearly noticed that the outbreak had a favorable influence on the vital commodity market, while segments with non – essential items as their core segment suffered. The e-commerce business has had a wide range of effects in different parts of

the world. We'll look at how COVID-19 will affect India's e-commerce business.

#### 4.1 Demand Assessment

The almost multiple lockdown caused by the coronavirus outbreak halted the E-commerce business in India, with a total regulatory restriction on supplying online clients except for critical commodities. With numerous states currently battling COVID – 19, there are distinct instructions for commerce in each state, causing a disruption in the E – commerce industry, since big corporations have a fully interwoven distribution network with different nodes in different states. However, because to increased customer expectations for home delivery, E-commerce of vital commodities witnessed a jump in demand during and after the lockdown.

The Department of Telecommunications reported that Indians have used the Internet more than 13% more since the state-wide shutdown. Following the announcement of the shutdown, the Cellular Operators Association of India (COAI) reported a 30 percent increase in traffic in the last week of March. According to ACT Fibernet, one of the country's leading internet service providers, data usage has increased by 40%. Rural India's internet use is growing faster than urban India's. The fact that individuals are expenditure extra time online indicates that the internet is becoming more popular. This increased Internet penetration is unlikely to revert, as is the case with previous developments.

The Indian retail market has been severely impacted by Covid-19. The industry may face serious dangers as an outcome of the uncertain times and expected shift in customer behaviour. In the aftermath of the lockdown, reports Confederation of All India Traders (CAIT), Indian retailers have lost Rs 5.50 lakh crores. At least 20% of Indian merchants are expected to close their doors in the next months, according to reports. Furthermore, around 10% of other traders who are reliant on this 20% of traders are also likely to fail (The Economic Times, 2020).

Despite the closure and limits on the selling of non-essential items, all areas of E-commerce ceased operations. Crucial products account for just 8% of the current retail industry (Gandhi, 2020). While key e-commerce areas like as fashion, accessories, electronics, and so on remain closed, the food and grocery market – which accounts for the majority of offline retail – is increasingly dominating online shopping.

#### 4.2 Analysis of Supply:

In terms of raw resources, Indian MSMEs are heavily reliant on China. China is critical to

India's supply network as well as the global supply chain. Reduced raw material imports from China have created a danger to MSMEs, resulting in a drop in exports, a stop in production, a lack of labour, and a liquidity crunch in the market. As a result, consumers across the country are uncertain about how they will react. MSMEs, which account for up to 30% of India's GDP, can't be ignored for long. The government's recent relief measures, as well as backing from giant vendors like Walmart, may be beneficial in recouping the sector's losses as a consequence of the closure. Flipkart, which is owned by Walmart, is aggressively interacting with MSMEs to guarantee that company recovers and is assisting them in doing so. E-commerce retailers like Flipkart are also aiding economic activity, providing many opportunities for MSMEs to become digital. It is projected that the percentage of MSMEs involved in E-commerce would grow by the end of COVID – 19. (Yourstory, 2020). Even though India's government has already announced efforts to stimulate the economy, a breakdown in the distribution network caused by COVID – 19-related limitations imposed by many states has resulted in a longer fulfilment time for all businesses in the E-commerce industry.

## V. EMERGING TRENDS AND TECHNOLOGIES IN INDIA'S E-COMMERCE FUTURE

COVID – 19 as well as the shutdown linked with it have made E – commerce a need for several retail giants who were previously in conventional retail and were hesitant to explore the transition through E – Commerce. Berger Visualizer, for example, is a new online purchasing app released by Berger Paints, a famous Indian paint manufacturer. Amazon and other e – commerce platforms have also claimed a considerable growth in the quantity of vendors on their platforms. Amazon announced that about 50,000 new merchants joined its platform between mid-January and mid-April 2020, a considerable increase when equated to the similar time period previous year (Peermohamed, 2020). Below are two growing trends/technologies in the Indian e-commerce business.

**5.1 Virtual Shopping Experiences and Mobile Stores:** The shopping experience provided by a real store is a key downside of online retail or E-commerce. Smartphone shops and web - based technologies are being designed to give this interaction to the greatest degree practicable. In order to overcome this stumbling block, technologies such as augmented reality and virtual reality have

shown to be effective. Due to their low level of adoption, these technologies are not yet considered mature but have the potential to create a better consumer experience in the future (Sharma, S., Mahajan, S., & Rana, V. 2019).

**5.2 Regional Kiranas and Community shops are Expanding Their Online Presence:**The 2016 demonetization is seen as an important event that affected millions of Indians. During this time period, India's fintech sector had enormous development in terms of technological usage. In the Indian retail business, COVID – 19 is said to have produced a similar impact. Prior to COVID, e – commerce was not regarded as a big threat, owing to the fact that conventional retail remained robust in India, with a sizable trade volume. However, since the introduction of COVID, online presence and delivery have become a customer expectation across all categories. As a result, small kirana businesses and neighborhood stores were obliged to begin operating online in order to satisfy their clientele. This enormous change from offline market to digital market is projected to have a big influence on electronic retail adoption and growth in India. This has moved the emphasis to mobile-based platforms and other payment methods (Mahajan, S., & Rana, V. 2017).

## VI. LAWFUL, FISCAL, AND LEGISLATIVE MEASURES TO BOOST INDIA'S E-COMMERCE BUSINESS PLAN AND POLICY DECISION:

Until now, e-commerce was not a major priority for the Indian government. The policymakers connected the e-commerce industry with retailing and left it up to the merchants to sale and earn. However, as foreign investors have become much more enthusiastic in this industry, authorities have recognized its possibilities and been focusing on legislation to expand the market and govern the E-commerce ecosystem.

In this segment, we evaluate the necessity for different governmental initiatives to boost the E-commerce industry's commercial opportunities in India.

Due to intense competition, sub-optimal facilities, narrow profits, and heavy expenses, the majority of E-commerce businesses in India have yet to achieve profitability. Infrastructural development would improve the efficiency of the E-commerce industry's logistics activities, resulting in increased long-term revenue for the companies.

Moving ahead from the United States Postal Service (USPS), for example, the government may modernize Indian Post to handle B2B and B2C deliveries, enhancing the delivery capacity of SMB companies who fulfill orders online (Roggio, 2020).

Giant corporations such as Walmart, Alibaba, and others are interested in the Indian e-commerce business, and their involvement will surely boost the business's foundation and distribution network (Tandon & Nandy, 2020). According to current regulations, 100% FDI is permissible in Marketplace structure of E-Commerce, but none is authorized in the stock model (Department of industrial Policy and Promotion, 2018). Foreign direct investment (FDI) in inventory-led retail (B2C) would undoubtedly benefit the industry in the country. While FDI in B2C E-commerce has always widely debated in the country's administrative forums, it appears that politicizing the preservation of brick-and-mortar retailers appears to be gaining traction.

Companies in the E-commerce industry would automatically relocate closer to customers as a consequence of GST and evolving taxation rules, increasing the efficiency of the E-commerce supply chain. Prior to the engagement of a consistent tax framework, minimizing tax requirements was some important criteria for procurement and warehousing considerations. E-commerce enterprises, on the other hand, are now prerequisite to pay duty on inventory held in their warehouses. The companies' operational costs would rise as an outcome of this. Because the GST rate is so high, In order to meet customer requests and preserve stock levels, companies need to take a balanced approach (Prabhu et. al., 2015).

Even though government's Digital India efforts and the implementation of the United Payments Interface (UPI) architecture have improved online purchases and business, further measures focused on extending formal banking infrastructure and credit availability for a substantial amount of the people are still needed. Policy simplification for payment infrastructure is also required.

In accordance with the General Data Protection Regulations of the European Union, India lacks a consumer information protection framework and data protection standards (GDPR). This is a constraint in terms of data dealing & security among the economy's online actors. According to the draft of India's new E-commerce legislation, corporations who acquire data from Indians and keep it overseas would be subject to periodic audits (Agrawal, 2020).

MSMEs make up a huge share of the Indian economy, and moving them to the digital economy may produce enormous wealth. According to the government's most current draft E-commerce policy, cross-border trade of MSMEs "may raise CBT income in B2C category by four times (assuming 2.5 lakh MSMEs shift into cross-border trade in the next upcoming four years)" (Agrawal, 2020). As a result, targeted governmental action that provides a supportive ecosystem for MSMEs can help to increase cross-border E-Commerce. In the latest draft E-commerce policy, measures such as establishing specialized E-commerce export promotion cells for MSMEs, establishing E-commerce export zones for MSME clusters, giving capacity development tools to MSMEs, and offering online funding through financial institutions were recommended (Agrawal, 2020). These ideas should be properly implemented on the ground in order to guarantee that even more MSMEs become digital and participate in cross-border E-Commerce, boosting the economic growth.

## VII. CONCLUSION

In a record amount of time, India's e-commerce business has established strong roots in the urban economy. However, reaching tier-2 and tier-3 cities remains difficult. The demographics of India properly set us to be an appealing industry for an E-commerce growth. The Indian economy is perfectly positioned for exponential expansion of the E-Commerce industry, thanks to COVID-19 caused changes in consumer behavior. Companies straining to meet online demand during the epidemic and after the country's economy has been reopened is a strong indicator that assistance or interventions on the supply side of the E-commerce industry are required. Our research shows that we have been engaging on creating E-Commerce demand for quite some time. Since we've been quite effective as a country in those efforts, authorities must now concentrate on the supply side. For our country to witness the alleged E-commerce boom, dedicated and directed government initiatives – on the monetary, infrastructure, and policy fronts – are required. Some of the necessary tactics in this approach have been mentioned in this paper. This would not only increase our economy's riches, but also get us closer to our objective of becoming an economic powerhouse.

## REFERENCES

- [1]. Nougaraahiya, S., Shetty, G., & Mandloi, D. (2021). A review of e-commerce in india: The past, present, and the future. *Research Review International Journal of Multidisciplinary*, 6(03), 12-22.
- [2]. Bhattacharya, n.d(2020) <https://qz.com/india/1831130/inside-covid-19s-impact-on-indias-grocery-delivery-boom/>
- [3]. BusinessToday.In(2020)<https://www.businesstoday.in/technology/news/story/coronavirus-87-percent-increase-in-social-media-usage-amid-lockdown-indians-spend-4-hours-on-facebook-whatsapp-253431-2020-03-30>
- [4]. [https://www.google.com/search?q=Government+of+India.+LANGUAGhttp%3A%2F%2Fcensusindia.gov.in%2F2011Census%2FC-16\\_25062018\\_NEW.pdf&rlz=1C1CHBF\\_enIN867IN867&oq=Government+of+India.+\(2011\).+LANGUAGhttp%3A%2F%2Fcensusindia.gov.in%2F2011Census%2FC-16\\_25062018\\_NEW.pdf&aqs=chrome..69i57j69i60.295j0j7&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Government+of+India.+LANGUAGhttp%3A%2F%2Fcensusindia.gov.in%2F2011Census%2FC-16_25062018_NEW.pdf&rlz=1C1CHBF_enIN867IN867&oq=Government+of+India.+(2011).+LANGUAGhttp%3A%2F%2Fcensusindia.gov.in%2F2011Census%2FC-16_25062018_NEW.pdf&aqs=chrome..69i57j69i60.295j0j7&sourceid=chrome&ie=UTF-8)
- [5]. [https://www.google.com/search?q=Bank+for+International+Settlements.+BIS+Statistics+Explorer%3A+Table+CT5+https%3A%2F%2Fstats.bis.org%2Fstatx%2Fsr%2Ftable%2FCT5&rlz=1C1CHBF\\_enIN867IN867&oq=Bank+for+International+Settlements.+BIS+Statistics+Explorer%3A+Table+CT5+https%3A%2F%2Fstats.bis.org%2Fstatx%2Fsr%2Ftable%2FCT5&aqs=chrome..69i57.385j0j9&sourceid=chrome&ie=UTF-8https://www.rbi.org.in/Scripts/BS\\_PressReleaseDisplay.aspx?prid=47045](https://www.google.com/search?q=Bank+for+International+Settlements.+BIS+Statistics+Explorer%3A+Table+CT5+https%3A%2F%2Fstats.bis.org%2Fstatx%2Fsr%2Ftable%2FCT5&rlz=1C1CHBF_enIN867IN867&oq=Bank+for+International+Settlements.+BIS+Statistics+Explorer%3A+Table+CT5+https%3A%2F%2Fstats.bis.org%2Fstatx%2Fsr%2Ftable%2FCT5&aqs=chrome..69i57.385j0j9&sourceid=chrome&ie=UTF-8https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=47045)
- [6]. Detrixhe, J. (2019, November 12). Cashless payments are growing faster in India than just about anywhere else. *Quartz India*. <https://qz.com/india/1746910/cashless-payments-growing-faster-in-india-than-almost-anywhere-else/>
- [7]. Davis, S. & Toney, L. (2020, March 12). How Coronavirus Is Impacting Ecommerce Roi *Revolution* <https://www.roirevolution.com/blog/2020/05/coronavirus-and-ecommerce/>
- [8]. Clapp, R. (2020, March). E-commerce shopping more frequent because of COVID-19 | *WARC* <https://www.warc.com/content/paywall/article/WARC->

- DATAPOINTS/Ecommerce\_shopping\_more\_frequent\_because\_of\_COVID19/132077
- [9]. Anand, J. & Pillai, S. (2017, July). The dark side of starting up. The Times of India. <https://timesofindia.indiatimes.com/people/dark-side-of-starting-up/articleshow/59503174.cms>
- [10]. Jha, L. (2020, February). India's retail market to touch \$1.1-1.3 trillion by 2025: BCG. Mint. <https://www.livemint.com/industry/retail/india-s-retail-market-to-touch-1-1-1-3-trillion-by-2025-bcg-11582714221778.html>
- [11]. Credit Suisse. (2015, January 19). Emerging Consumer Survey, 2015. <https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/emerging-consumer-survey-2015.pdf>
- [12]. Peermohamed, Alnoor. (2020, April 17). More sellers opt for E - commerce platforms amid lockdown. The Economic Times. <https://tech.economictimes.indiatimes.com/news/internet/more-sellers-opt-for-E-commerce-platforms-amid-lockdown/75204783>
- [13]. Roggio, Armando. (2020, July 12). USPS Woes Could Impact Ecommerce SMB. Practical Ecommerce. <https://www.practicalecommerce.com/usps-woes-could-impact-ecommerce-smbs>
- [14]. Nandy, M. & Tandon, S. (2020, July 24). Flipkart buys Walmart India's wholesale biz.
- [15]. Department of industrial Policy and Promotion, Government of India. (2018). Press Note No. 2 (2018 Series). [https://dipp.gov.in/sites/default/files/pn2\\_2018.pdf](https://dipp.gov.in/sites/default/files/pn2_2018.pdf)
- [16]. Department of Consumer Affairs, Government of India. (2020, July 23). Consumer Protection (E - Commerce) Rules, 2020. <https://consumeraffairs.nic.in/sites/default/files/E%20commerce%20rules.pdf>
- [17]. PwC. (2014). Evolution of E - commerce in India. <https://www.pwc.in/assets/pdfs/publications/2014/evolution-of-E-commerce-in-india.pdf>
- [18]. Prabhu, G. et. al. (2015, October 15). Future Prospects for Indian E - commerce Industry. Tejas, IIM - B. <https://tejas.iimb.ac.in/articles/FUTURE%20PROSPECTS%20FOR%20INDIAN%20E-COMMERCE%20INDUSTRY-Tejas-Oct15.pdf>
- [19]. Agrawal, A. (2020, July 3). India's New Draft E - commerce Policy Focuses on Data, Competition, Counterfeiting, Consumer Protection. Medianama. <https://www.medianama.com/2020/07/223-second-draft-ecommerce-policy-india/>
- [20]. PwC. (2018). Propelling India towards global leadership in E - Commerce. <https://www.pwc.in/research-insights/2018/propelling-india-towards-global-leadership-in-e-commerce.html>
- [21]. Sen, P. (2018, August 22). Flipkart acquires AI startup Liv.ai, eyes more tech acquisitions. Mint. <https://www.livemint.com/Companies/G3xizf7B81qqaU3INYC49L/Flipkart-buys-AI-startup-Livai.html>
- [22]. Hidden. (2016, December 27). Snapdeal survey says 60 percent online sales comes from non-metro cities. Firstpost. <https://www.firstpost.com/tech/news-analysis/snapdeal-survey-says-60-percent-online-sales-come-from-non-metro-cities-3694911.html>
- [23]. UNCTAD. (2020, October). COVID - 19 and E - Commerce. [https://unctad.org/system/files/official-document/dtlstictinf2020d1\\_en.pdf](https://unctad.org/system/files/official-document/dtlstictinf2020d1_en.pdf)
- [24]. Mandavia, M. (2019, September 26). India has second highest number of Internet users after China: Report. The Economic Times. <https://economictimes.indiatimes.com/tech/internet/india-has-second-highest-number-of-internet-users-after-china-report/articleshow/71311705.cms?from=mdr>
- [25]. Khanna, S. (2020, May 6). India's economy needs the retail sector to grow. Mint. <https://www.livemint.com/opinion/online-views/india-s-economy-needs-the-retail-sector-to-grow-11588785884086.html>
- [26]. Tandon, S. (2020, September 18). E-commerce to touch 8% of India's retail trade by 2025: Report. Mint. <https://www.livemint.com/news/india/e-commerce-to-touch-8-of-india-s-retail-trade-by-2025-report-11600433789560.html>
- [27]. Gandhi, F. (2020, April 6). Retail industry will take almost a year to recover from Covid-19 shock. The Hindu. <https://www.thehindubusinessline.com/economy/retail-industry-will-take-almost-a-year-to-recover-from-covid-19-shock/article31271719.ece>
- [28]. Sharma, S., Mahajan, S., & Rana, V. (2019). A semantic framework for ecommerce search engine optimization. International Journal of Information Technology, 11(1), 31-36.



- [29]. Mahajan, S., & Rana, V. (2017). Spam detection on social network through sentiment analysis. *Advances in Computational Sciences and Technology*, 10(8), 2225-2231.
- [30]. M; Tsao, T-C; and Levin, M., 1998, "Adaptive Lift Control for a Camless Electrohydraulic Valvetrain," SAE Paper No. 98102
- [31]. Ashhab, M-S; and Stefanopoulou, A., 2000, "Control of a Camless Intake Process – Part II," *ASME Journal of Dynamic Systems, Measurement, and Control* – March 2000
- [32]. Gould, L; Richeson, W; and Erickson, F., 1991, "Performance Evaluation of a Camless Engine Using Valve Actuation with Programmable Timing," SAE Paper No. 910450.
- [33]. Schechter, M.; and Levin, M., 1998, "Camless Engine," SAE Paper No. 960581
- [34]. INTERNATIONAL JOURNAL OF ROBUST AND NONLINEAR CONTROL, *Int. J. Robust Nonlinear Control* 2001; 11:1023}1042 (DOI: 10.1002/rnc.643) (10)