

A Review on E-Commerce Technologies in India – The Future

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ABSTRACT

E-Commerce is India's fastest growing and most exciting channel for commercial transactions. The Indian e-commerce market is expected to grow to US\$200 billion by 2026 from US\$ 48.5 billion as of 2018. This growth has been triggered by increasing internet and smart phone penetration.

The ongoing digital transformation in the country is expected to increase India's total internet user base to 829 million by 2021 from 560.01 million as of September 2018. India's internet economy is expected to double from US\$125 billion as of April 2017 to US\$ 250 billion by 2020, majorly backed by e-commerce. India's E-commerce revenue is expected to jump from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, growing at an annual rate of 51 per cent, the highest in the world.

Keywords

Department for Promotion of Industry and Internal Trade (DPIIT) , Open Network for Digital Commerce (ONDC), Bharat Interface for Money (BHIM), Government e-Marketplace (GeM), permanent account numbers (PAN), Gross Merchandise Value (GMV).

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I. INTRODUCTION

The E-commerce industry has been directly impacting micro, small & medium enterprise (MSME) in India by providing means of financing, technology and training and has a favourable cascading effect on other industries as well. Indian E-commerce industry has been on an upward growth trajectory and is expected to surpass the US to become the second largest E-commerce market in the world by 2034. Technology enable innovations like digital payments, hyper-local logistics, analytics driven customer engagement and digital advertisements will likely support the growth in the sector. The growth in E-commerce sector will also boost employment, increase revenues from export, increase tax collection by exchequers, and provide better products and services to customers in the long-term. Rise Smartphone usage is expected to rise 84% to reach 859 million by 2022.

E-retail market is expected to continue its strong growth – it registered a CAGR of over 35% to reach Rs.1.8 trillions (US\$ 25.75 billion) in FY20. Over the next five years, the Indian e-retail industry is projected to exceed ~300-350 million shoppers, propelling the online Gross Merchandise Value (GMV) to US\$ 100-120 BILLION BY 2025.

According to Bain & Company report, India's social commerce gross merchandise value (GMV) stood at ~US\$ billion in 2020.2025, it expected to reach US\$ 20 billion, with a potentially monumental jump to US\$ 70 billion by 2030, owing to high mobile usage.

1.1 Scope of E-commerce Boom In India

According to NASSCOM, India's \$14 billion Indian e-commerce market which started as a niche industry a few years ago has been gaining momentum and shows more than 25 percent growth. Online travel is the largest segment with about 70 percent market share, a figure that's likely to escalate. E-commerce is expanding its reach to the general masses on the back of social media, which not only provides a mechanism for advertising but also for receiving feedback, building brand image, and promoting new launches. Online retailers also use social media to track the first-time and repeat buyers of a product. Social media has become a platform to study consumer lifestyles and spending patterns.

E-commerce, driven by digitization and internet penetration in the rural market, is creating huge opportunities for consumers. Competitive prices, deals, and efficient delivery coupled with the convenience of avoiding long queues have completely altered the buying experience. According to NASSCOM, India's e-

commerce market is forecasted to cross a whopping \$200 billion by 2030 due to increased analytics, transactions, and internet penetration.

E-commerce is revitalizing consumer demand and catalyzing growth in India's retail industry. The focus has shifted a pricing model to a more value-added model. Among the fastest growing domestic segments, the most popular categories are tours & hotel reservations; airline and railway tickets; and lifestyle and entertainment related products. The innovative business models of the "e-tail" market attract more repeat customers. Although there is a strong build-up of the e-commerce industry, a vast portion of the population is not yet aware of the benefits. This represents a huge potential untapped market for e-tailers.

Among many other components, product availability is one of the primary drivers that cannot be overlooked. In smaller cities where the consumers may be confined to limited brands and availabilities, online shopping with the flexibility of delivery options and possibility of getting what they are looking for has a wider scope.

A robust supply chain and a well-established reverse logistics network in India will enhance the success of e-commerce companies. E-commerce companies and similar enterprises seek a particular logistics requirement that may not be executed by traditional logistics suppliers. The courier companies that generally deliver documents are not experienced in delivering commercial goods. Thus, the e-commerce companies are establishing their own delivery network. One such example is Flipkart's logistics, which is called "eKart." On the other hand, logistics vendors like Express Logistics deliver bulk loads to the retailers and distributors. They have a pre-established working relationship with the dealers, enabling good execution.

1.2 Strategies for the E-commerce Boom in India

E-commerce in India has experienced rapid growth driven by the millennials' (Generation Y) purchasing power, influence of the internet leading to development of varied mobile applications and websites, and the much-needed infrastructure. Mobile penetration accounts for a vast market in India, making it more convenient for consumers to shop for a wide variety of retail products. Other factors enabling growth of the industry include:

- **Ease of access:** Growing internet usage at affordable rates and rise of Smartphone lead to easier access. This connectivity enables other services like booking train/hotel/cab/movie tickets; mobile and electric bill payments, etc.
- **Connecting the financial system:** People now use e-banking and other schemes. Soon, digitization of the financial system will become the norm.
- **Global reach of homegrown companies:** Indian startups in e-commerce industry are utilizing global channels, thereby increasing their customer base and broadening the scope of growth.
- **Attracting repeaters:** A strong focus on customer service is the prime reason that attracts and retains buyers. Cash on delivery (COD), reasonable pricing, deals & discounts, faster delivery turnarounds with zero prices, and reverse **logistics are some of the drivers transforming the industry into a booming sector.**
- **Leveraging technology for innovation:** Information sharing between all stakeholders in the supply chain is very crucial. The integration between various supply chain aspects will help the e-commerce company have an edge over the competition. Some of the initiatives may include the use of bar-coding in logistics systems; EDI for communicating between partners; visibility into the operations; tracking and tracing of the goods at any given point.
- **Analytics:** Capturing real-time data and understanding purchasing dynamics form the crux of this industry. The buying preferences, tastes, and demographics of a customer can be addressed by gathering customer data. The volume and complexity of data require analytics to derive customer insights, optimize channels, and calculate ROI.

II. E-commerce Challenges in India

While this sector shows immense promise, certain challenges need to be addressed. Some of the pressures that constrain growth include:

- **Logistics:** Logistics, a key element in providing customer service, is one of the major challenges confronting the e-commerce players. Local logistics firms in India are generally not up to meeting the requirements of e-tailers; hence e-commerce firms have to make huge investments to build their own logistics.
- **Infrastructure:** E-commerce players also need to address the infrastructure needed to overcome payment problems, build offline presence, implement more push-marketing, manage price-sensitive customers, and compete on a global turf. The payment gateway infrastructure is still at the nascent stage. The merchants have yet to make amendments on the mobile front. As an example, one of the leading e-commerce players in India could not handle the requests of its customers on Big Billion Days' sale program due to unorganized delivery framework.

- **Competitive Analysis:** E-commerce companies have to focus on issues pertaining to rapid additions of customer segments and product portfolios. Information should be collected related to market intelligence on growth, size and share, and managing multiple customer engagement platforms in order to expand into new geographies, brands & products; while simultaneously controlling a very competitive pricing environment.
- **Digitization of Available Networks:** At present, social media plays a significant role in the life of an internet surfer/customer. Thus companies have to provide a rich experience by managing erratic demands and inconsistent brand experience across platforms, in addition to handling time-to-market efforts for new launches, applications, and websites.
- **Mode of Transactions:** Concerns about security, privacy, and tracking fraudulent purchases are some external forces that impact a business. Other factors like cross-border tax, back-end service tax, and regulatory issues can have serious implications for e-commerce companies.
- Other issues e-commerce businesses must deal with include inability of the organizational structure to keep pace with the rapid changes, cybersecurity for preventing fraudulent transactions and insider threats, tax restructuring, and legal compliance.

2.1 Standardization of the E-commerce Network

- The e-commerce sector in India is maturing and there is ample scope for growth. However, growth comes incumbent with challenges on multiple fronts: operational, management, regulatory & compliance, along with the fluctuating consumer demands. The expansion of the internet user base and people buying online suggests that the e-commerce companies should focus on customer experience and technological advancements to accelerate growth. Apart from this, to provide a gamut of offerings and increase reach, companies should ensure faster speed for their websites and devise easier-to-use mobile applications to enhance user experience.
- Companies should also develop omni-channel business strategies to retain customer loyalty. Addressing the right market with continuous innovation for a better operational framework, same day delivery options like the Kirana shops ("mom and pop" stores); and convergence of online-offline shopping are some of the innovations that the e-commerce companies are executing to meet the growing competition.
- Large e-commerce companies are on an acquisition spree to garner market share and enhance their capabilities in a cash-intensive sector. These players are trying to wield more clout, enhance variety, and increase their respective customer bases through these strategic acquisitions.

III. Market size and growth in India

The Indian online grocery market is estimated to reach US\$ 26.93 billion in 2027 from US\$ 3.95 billion in FY21, expanding at a CAGR of 33%. India's consumer digital economy is expected to become a US\$ 1 trillion market by 2030, growing from US\$ 537.5 billion in 2020, driven by strong adoption of online services such as e-commerce and edtech in the country.

According to Grant Thornton, e-commerce in India is expected to be worth US\$ 188 billion by 2025.

With a turnover of \$50 billion in 2020, India became the eighth-largest market for e-commerce, trailing France and a position ahead of Canada.

Propelled by rising Smartphone penetration, launch of 4G network and increasing consumer wealth, the Indian E-commerce market is expected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion in 2017. After China and the US, India had the third-largest online shopper base of 140 million in 2020. Indian consumers are increasingly adopting 5G Smartphone even before roll out of the next-gen mobile broadband technology in the country. Smartphone shipments reached 169 million in 2021 with 5G shipments registered a growth of 555% year on year in 2021. Indian consumers are increasingly adopting 5G Smartphone even before roll out of the next-gen mobile broadband technology in the country. Smartphone shipments reached 150 million units and 5G Smartphone shipments crossed 4 million in 2020, driven by high consumer demand post-lockdown. According to a report published by IMAI and Kantar Research, India internet users are expected to reach 900 million by 2025 from ~622 million internet users in 2020, increasing at a CAGR of 45% until 2025. For the 2021 festive season, Indian e-commerce platforms generated sales worth US\$ 9.2 billion Gross Merchandise Value (GMV), a 23% increase from last year's US\$ 7.4 billion.

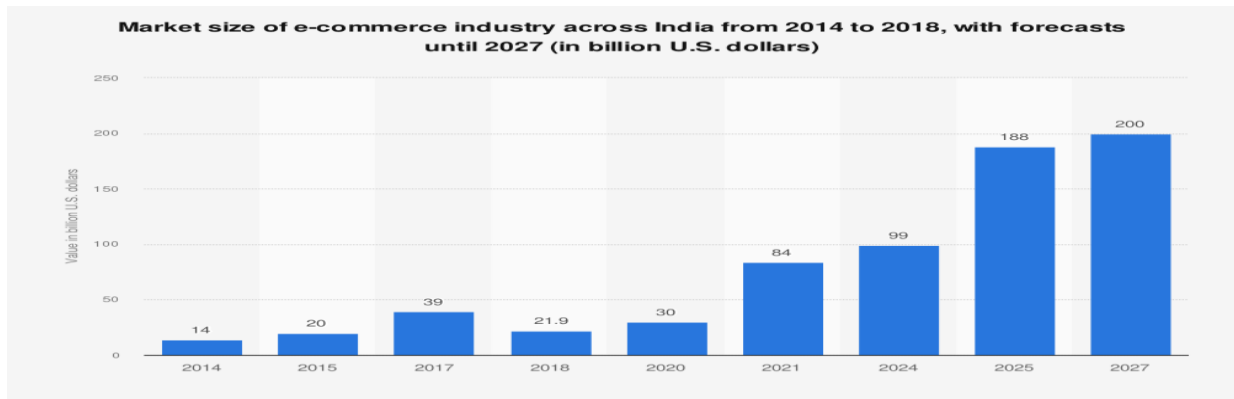


Figure 1 : Market size of E-commerce Industry across India

3.1 Mergers and acquisition in Indian E-commerce Market

In corporate finance, mergers and acquisitions (M&A) are transactions in which the ownership of companies, other business organizations, or their operating units are transferred or consolidated with other entities. As an aspect of strategic management, M&A can allow enterprises to grow or downsize, and change the nature of their business or competitive position.

From a legal point of view, a merger is a legal consolidation of two entities into one, whereas an acquisition occurs when one entity takes ownership of another entity's share capital, equity interests or assets. From a commercial and economic point of view, both types of transactions generally result in the consolidation of assets and liabilities under one entity, and the distinction between a "merger" and an "acquisition" is less clear. A transaction legally structured as an acquisition may have the effect of placing one party's business under the indirect ownership of the other party's shareholders, while a transaction legally structured as a merger may give each party's shareholders partial ownership and control of the combined enterprise. A deal may be euphemistically called a *merger of equals* if both CEOs agree that joining together is in the best interest of both of their companies, while when the deal is unfriendly (that is, when the management of the target company opposes the deal) it may be regarded as an "acquisition".

3.2 Investments

- ❖ Some of the major developments in the Indian e-commerce sector are as follows:
- ❖ India's e-commerce sector received US\$ 15 billion of PE/VC investments in 2021 which is a 5.4 times increase year on year. This is the highest investment value received by any sector ever in India.
- ❖ In February 2022, Xpressbees became a unicorn with a US\$ 1.2 billion valuation after raising US\$ 300 million in its Series F funding.
- ❖ In February 2022, Amazon India launched One district One product (ODOP) bazaar on its platform to support MSMEs.
- ❖ In February 2022, Flipkart launched the "sell back program" to enable trade in Smartphones.
- ❖ In January 2022, Walmart invites Indian sellers to join its US market place with an aim of exporting US\$ 10 billion from India each year by 2027.
- ❖ In January 2022, Flipkart has announced expansion in its grocery services and will offer services to 1,800 Indian cities.
- ❖ In November 2021, XPDEL US- based ecommerce announced expansion in India.
- ❖ In September 2021, CARS24, India's leading used car e-commerce platform, has raised US\$ 450 million in funding, comprising a US\$ 340 million Series F equity round and US\$ 110 million in debt from various financial institutions. In September 2021, Amazon launched Prime Video Channels in India. Prime Video Channels will give Prime members a seamless experience and access to a variety of popular video streaming services.
- ❖ In September 2021, Bikayi, a mobile commerce enabler, raised US\$ 10.8 million in a Series A funding round, led by Sequoia Capital India.
- ❖ Flipkart, India's e-commerce powerhouse, announced in July 2021 that it has raised US\$ 3.6 billion in new funding from various sources including sovereign funds, private equities and Walmart (parent company).
- ❖ In June 2021, Flipkart added a new fulfilment centre (FC) in Dankuni, West Bengal. The FC is spread over 2.2 lakh sq. ft. and has a potential to create ~3,500 direct jobs.
- ❖ In June 2021, Grofers, the grocery delivery start-up, reportedly entered the unicorn club, after raising US\$ 120 million from Zomato, the food delivery platform.

- ❖ In June 2021, Mastercard invested an undisclosed amount in Instamojo, a payments firm, to help digitise online stores and process their payments more seamlessly.
- ❖ In May 2021, Amazon introduced a video streaming service within its shopping app called MiniTV for users in India. MiniTV features web series, comedy shows and content on tech news, food, beauty and fashion.
- ❖ In May 2021, Flipkart strengthened its grocery infrastructure to cater to customer safety and demand across India. In this quarter, it is planning to further expand its fulfilment centre capacity for grocery by over 8 lakh square feet across Delhi, Kolkata, Chennai, Coimbatore and Hyderabad..
- ❖ In May 2021, Flipkart announced that it is in talks with sovereign funds, private equity majors and other investors to raise up to US\$ 2 billion at a valuation of US\$ 30 billion.
- ❖ In April 2021, Flipkart announced a commercial alliance with Adani Group to improve the company's logistics and data centre capabilities and create about 2,500 direct jobs.
- ❖ In April 2021, Flipkart announced to acquire Cleartrip, an online travel technology firm. Flipkart announced to purchase 100% shareholding of Cleartrip as the company expands its investments to broaden its digital commerce offerings for customers.
- ❖ In April 2021, Kirana commerce platform ElasticRun raised US\$ 75 million in a round led by existing investors—Avataar Venture Partners and Prosus Ventures.
- ❖ In March 2021, Amazon acquired Bengaluru-based retail tech start-up Perpule for Rs. 107.6 crore (US\$ 14.5 million).
- ❖ In March 2021, Purple, an online beauty store, raised US\$ 45 million from Sequoia Capital India, Verlinvest, Blume Ventures and JSW Ventures.
- ❖ In March 2021, Captain Fresh, a B2B marketplace for seafood, raised US\$ 3 million in seed capital led by Matrix Partners India and Ankur Capital.
- ❖ In March 2021, the Confederation of All India Traders (CAIT), which represents 80 million traders and 40,000 trader associations, announced the launch of a mobile app for its e-commerce portal, 'Bharat E-market'. The association aims to get more small traders to sell online easily through smartphones.

3.3. Government Initiatives

- ❖ Since 2014, the Government of India has announced various initiatives, namely Digital India, Make in India, Start-up India, Skill India and Innovation Fund. The timely and effective implementation of such programs will likely support growth of E-commerce in the country. Some of the major initiatives taken by the Government to promote E-commerce in India are as follows:
- ❖ As of February 15, 2022, the Government e-Marketplace (GeM) portal served 9.04 million orders worth Rs. 193,265 crore (US\$ 25.65 billion) to 58,058 buyers from 3.79 million registered sellers and service providers.
- ❖ As of November 2, 2021, the Government e-Marketplace (GeM) portal served 7.96 million orders worth Rs. 152,315 crore (US\$ 20.40 billion) to 55,433 buyers from 3.06 million registered sellers and service providers.
- ❖ As of October 11, 2021, the Government e-Marketplace (GeM) portal served 7.78 million orders worth Rs. 145,583 crore (US\$ 19.29 billion) to 54,962 buyers from 2.92 million registered sellers and service providers.
- ❖ In a bid to systematise the onboarding process of retailers on e-commerce platforms, the Department for Promotion of Industry and Internal Trade (DPIIT) is reportedly planning to utilise the Open Network for Digital Commerce (ONDC) to set protocols for cataloguing, vendor discovery and price discovery. The department aims to provide equal opportunities to all marketplace players to make optimum use of the e-commerce ecosystem in the larger interest of the country and its citizen.
- ❖ National Retail Policy: The government had identified five areas in its proposed national retail policy—ease of doing business, rationalisation of the licence process, digitisation of retail, focus on reforms and an open network for digital commerce—stating that offline retail and e-commerce need to be administered in an integral manner.
- ❖ The Consumer Protection (e-commerce) Rules 2020 notified by the Consumer Affairs Ministry in July directed e-commerce companies to display the country of origin alongside the product listings. In addition, the companies will also have to reveal parameters that go behind determining product listings on their platforms.
- ❖ Government e-Marketplace (GeM) signed a Memorandum of Understanding (MoU) with Union Bank of India to facilitate a cashless, paperless and transparent payment system for an array of services in October 2019.
- ❖ Under the Digital India movement, Government launched various initiatives like Umang, Start-up India Portal, Bharat Interface for Money (BHIM) etc. to boost digitisation.
- ❖ In October 2020, Minister of Commerce and Industry, Mr. Piyush Goyal invited start-ups to register at public procurement portal, GeM, and offer goods and services to government organisations and PSUs.

- ❖ In October 2020, amending the equalisation levy rules of 2016, the government mandated foreign companies operating e-commerce platforms in India to have permanent account numbers (PAN). It imposed a 2% tax in the FY21 budget on the sale of goods or delivery of services through a non-resident ecommerce operator.
- ❖ In order to increase the participation of foreign players in E-commerce, Indian Government hiked the limit of FDI in E-commerce marketplace model to up to 100% (in B2B models).
- ❖ Heavy investment made by the Government in rolling out fiber network for 5G will help boost E-commerce in India.

3.4 Market landscape

- ❖ E-commerce in India continues to gain traction, with total market size expected to reach USD 188 billion by 2025
- ❖ 974 million internet users, 220 million online shoppers in India by 2025
- ❖ With various sectors going online, e-commerce continues to operate through multiple channels – based on industry and business models.
- ❖ Most segments are anticipated to witness significant growth. For instance, fashion is one of the major categories searched on various e-commerce sites. Consumer buying patterns have changed within categories including health and pharma, groceries and food delivery have witnessed growth
- ❖ Significant opportunity to improve the online shopping penetration, especially in the auto sector E-commerce channels are becoming the preferred mode of shopping, surpassing brick and mortar and kirana stores.

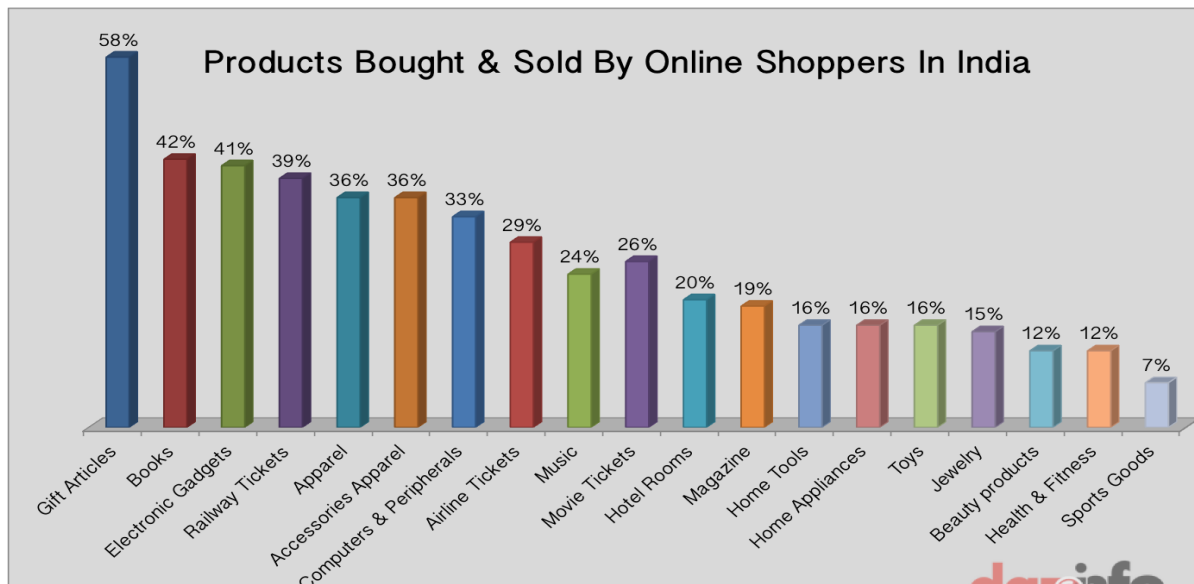


Figure 2: Online shoppers in India

3.5 Market Developments

- ❖ Government regulations: Increased digital payments and customer confidence, Increase influx of foreign investments, Regulation will ensure fair and transparent practices in the e-commerce sector
- ❖ Growth drivers: Demography, rising smartphone and internet penetration, increasing government support, improved digital infrastructure
- ❖ Challenges: Cash on delivery, uneven address and postal codes, delayed deliveries, high returns.

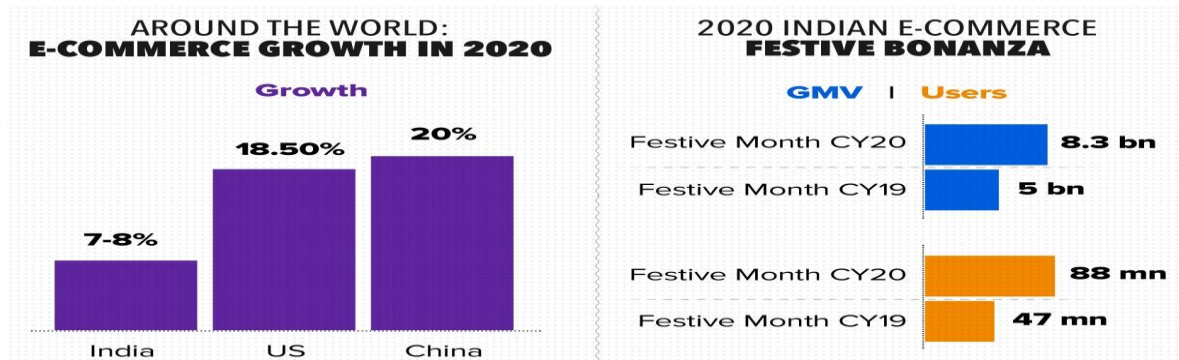


Figure 3 : E-commerce Growth in India

3.6 Emerging Trends

- ❖ According to a Cyber Media Research (CMR) report, the average usage of smartphones in India is estimated to have increased by 25% to almost seven hours a day, as people depend on gadgets for work/study from home and entertainment amidst the pandemic
- ❖ The country has taken rapid strides in advancing government e-payments, as a result it has moved up to 28th rank in 2018 from 36th in 2011 in Government E-payments Adoption Ranking (GEAR)
- ❖ The value of mobile payment app Bharat Interface For Money (BHIM) transactions increased significantly post 2018.
- ❖ Capitalizing on the strengths of large existing customer base and efficient payment gateways, banks are not only complementing the e-commerce players, such as Amazon and Flipkart, and non- bank payment aggregators, but also improving the backend supply chain of e-commerce in India.
- ❖ Delivery and fulfillment companies strengthen supply chain.
- ❖ Companies across sectors today are strategizing and revolutionizing their business around a hyper local delivery model.
- ❖ Online car trade market has also witnessed a surge.

IV. Conclusion

In this paper reviewed the E-Commerce Business technologies market size, Scope of E-commerce Boom In India, Emerging trends, Investments, Market landscape, Government Initiatives, Mergers and acquisition in Indian E-commerce Market.

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