



## 5G TECHNOLOGY ERA IN E-COMMERCE

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### ABSTRACT

The design of your application must be such that a new user of your service does not feel lost in order to effectively respond to these queries. This website is a crucial component of your overall marketing strategy. It will be simpler for people to do business with you if your website is totally developed, professional, and aesthetically pleasing. Your revenue will soar if your website is simple to use. The products on your website will be even easier to locate, making it possible for your visitors to do so faster than ever. With the help of covid, many companies have shifted to offering products online, creating more E-commerce platforms. E-commerce now serves a variety of industries, including books, home goods, and cosmetics, in addition to retail and books. With the development of 5G, users will enjoy new features like augmented reality, chat capabilities, and suggested engines. Adding these new features will immediately give your company a competitive advantage over rivals. By offering products for elderly people as well as groceries and necessities, it has increased the business's target market despite cross-country differences and the Covid crisis. Persons can infer from these changes that E-commerce transactions have shifted in part from luxury products to everyday necessities. At smart Data, this put our clients' needs first by offering the top consumer service at every point of contact. With a staff of committed developers and industry expertise, it can offer you the best solution for the convenience of your customers. They are delighted to join and grow the smart Data family.

**KEYWORDS:**E-Commerce, 5G

### INTRODUCTION

E-commerce is the practice of purchasing or reselling goods through online channels or the Internet. Mobile commerce, electronic funds transfers, supply chain management, Internet marketing, online transaction processing, electronic data exchange (EDI), inventory management systems, and automated data gathering systems are just a few of the technologies that are used in electronic commerce. Although it may also use other technologies like e-mail, modern electronic commerce usually uses the World Wide Web (WWW), for at least one phase of the transaction's life cycle. Online purchases of books and music (via services like iTunes Store or other digital audio distributors) are examples of common e-commerce interactions. Customized or personalized online inventory services for liquor stores is less common.

### E-COMMERCE

The online mode of buying and selling goods and services is referred to as ecommerce. Tactics such as affiliate marketing can also be encompassed in the definition of ecommerce business. <sup>[7]</sup> To boost your online revenue, you have the option to leverage ecommerce platforms like your personal site, renowned merchant site such as Amazon, and social media. There are certain ecommerce companies that utilize a fully digital setup, while others make use of ecommerce as a supplement to their physical store, or as a means to develop their existing brands <sup>[7]</sup>.



### **TYPES OF E-COMMERCE**

- Business-to-Business(B2B)
- Business-to-Consumer(B2C)
- Consumer-to-Consumer(C2C)
- Consumer-to-Business(C2B)
- Business-to-Administration(B2A)
- Consumer-to-Administration(C2A)

#### **BUSINESS-TO-BUSINESS(B2B)**

The B2B business model pertains to the exchange of goods or services among two or more companies/businesses.<sup>[8]</sup> Typically, trading in such cases involve traditional wholesalers and manufacturers who engage with retailers<sup>[8]</sup>.

#### **BUSINESS-TO-CONSUMER(B2C)**

The aspect of e-commerce that deals with the retail side is known as the Business-to-Consumer model of business. Digital methods are utilized to sell merchandise and/or services directly to the final customer.<sup>[8]</sup> The innovation that has captured the attention of the business world allows customers to thoroughly examine their intended purchases before finalizing their orders. Once the orders are placed, the company/agent who receives them will then deliver them to the consumer within a suitable period of time. Well-known names such as Amazon, Flipkart and others are among the enterprises that are active in this particular platform<sup>[8]</sup>.

#### **CONSUMER-TO-CONSUMER(C2C)**

Through the digital medium, a consumer may utilize this business model to sell second-hand goods or services to other consumers.<sup>[8]</sup> The business performed on this site involves the usage of third-party platforms like OLX and Quikr<sup>[8]</sup>.

#### **CONSUMER-TO-BUSINESS(C2B)**

A C2B model is the complete opposite of a B2C model. The first option involves businesses providing a service to consumers, while the C2B model allows for consumers to sell their offerings to companies.<sup>[8]</sup> In crowdsourcing based projects, such as creating logos or selling royalty-free photos/media/design elements, this method is commonly used<sup>[8]</sup>.

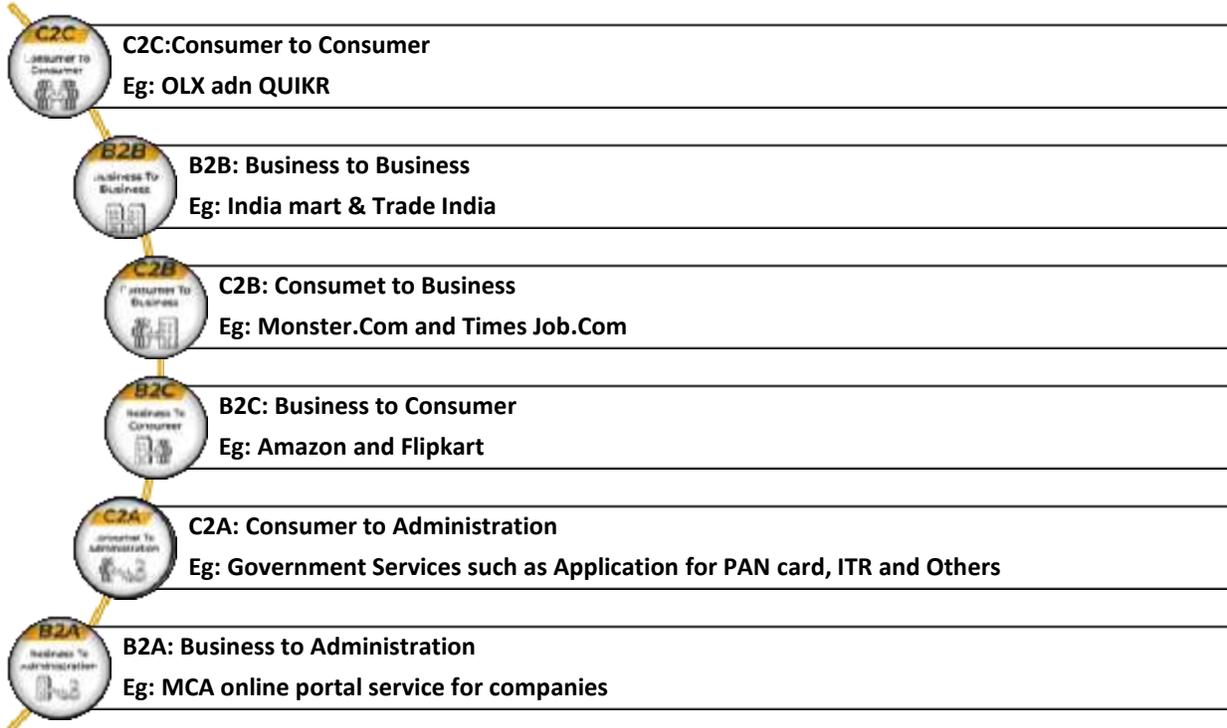
#### **BUSINESS-TO-ADMINISTRATION(B2A)**

This particular model facilitates digital transactions between organizations and governmental departments. By creating central websites, the government allows information to be exchanged. This platform offers companies the opportunity to compete for government opportunities like auctions, tenders, and submitting applications. Investments made towards e-government have expanded the reach of this model<sup>[8]</sup>.

#### **CONSUMER-TO-ADMINISTRATION(C2A)**

The purpose of the C2A platform is to allow consumers to communicate with government authorities/administration by requesting information or posting feedback about public sectors<sup>[8]</sup>.

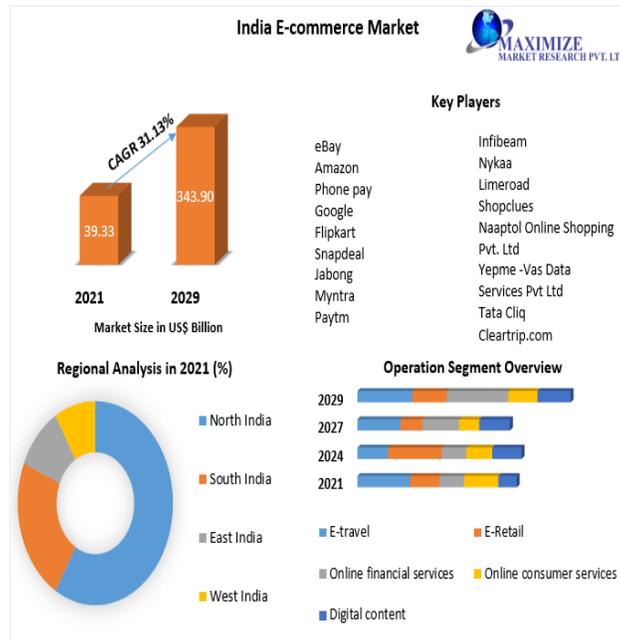
**Fig:1**



### E-COMMERCE IN INDIA

As of May 2020, there were 636.77 million Internet users in India, or roughly 40% of the country's total population. E-commerce penetration is modest compared to markets like the United States (266 million, 84%) or France (54M, 81%), despite having the second-largest user base in the world, only behind China (650 million, 48% of population), but it is expanding, adding about 6 million new entrants every month. According to industry agreement, growth is about to turn 75% of all e-retail transactions in India are made using the most preferred payment option, cash on delivery. Demand for foreign consumer goods (including long-tail products) is increasing more quickly than local supply from reputable wholesalers and online stores. Instead of only selling large volumes of a small number of popular items, long tail business strategy enables businesses to realise substantial profits by selling low volumes of difficult-to-find items to numerous customers. Chris Anderson first used the phrase in 2004. The three biggest online retailers in India in 2017 were Flipkart, Snapdeal, and Amazon. In terms of income, Amazon overtook Flipkart in 2018 to become India's largest e-commerce company. Flipkart significantly outsold Amazon in 2020 by a ratio of almost two to one during the holiday shopping season. The Open Network for Digital Commerce's trial programme began in 2022.

**Fig:2**  
**INDIA E-COMMERCE MARKET**



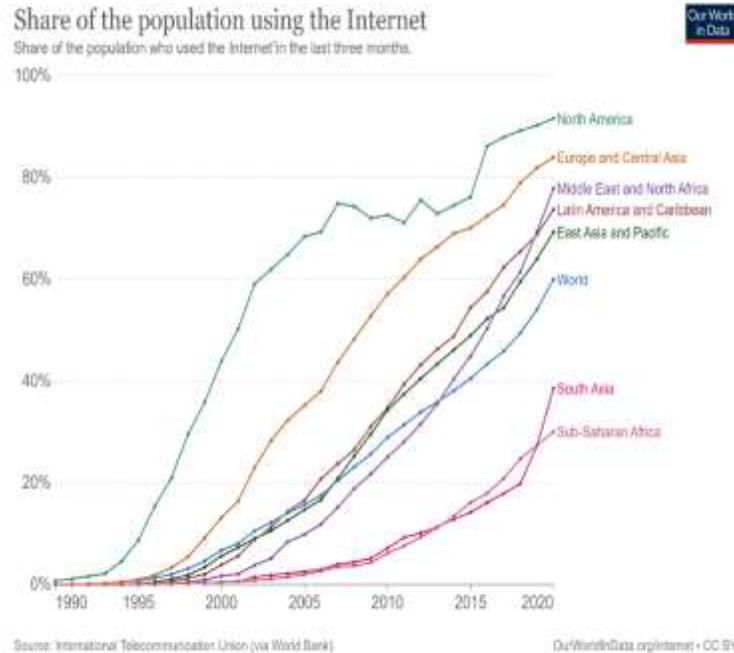
**Ref:** <https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.maximizemarketresearch.com%2Fmarket-report%2Findia-e-commerce-market%2F44404%2F&psig=AOvVaw2XTSmpzwmhs6AiV3kChOhS&ust=1681445885417000&source=images&cd=vfe&ved=0CBEQjRxqFwoTCLDD45iApv4CFQAAAAAAdAAAAABAE>

### GROWTH OF INTERNET

Day and night, internet is expanding all over the globe. The global community on the internet, or the average individual who works with technology or is involved in connecting information technology, is becoming more literate.<sup>[9]</sup> The use of internet tools on desktops, laptops, and mobile devices has increased recently. where a number of internet users are using connections to local and international networks to manage worldwide information. Where professionals, engineers, laypeople, individuals, students, even all worldwide communities, etc. have increased internet use. The majority of labour is now completed using a machine, artificial intelligence, or computer technology. As a result, with knowledge readily available, internet use in computer technology grows in popularity, 33.3 percent of the world's population, or 2336 million people, used the internet in June 2012. And it is now getting much bigger every day. which everyone uses for both personal and professional purposes. The largest, fastest-growing dynamic network in the globe is the internet. which creates a global network village that connects millions, billions, big and small, local and global connected networks. where your laptop, desktop, and phone are linked to the internet and where you connect and use a computer there. This knowledge about internet ownership is not conclusive because no specific government, organization, business, or country controls or operates internet technology. where a disconnected network, such as a tiny segment network, or the internet, both exist. which links to it via the internet, extranet, and numerous small private networks.<sup>[9]</sup> The Arpanet USA Defence Services created or constructed a tiny network that was the internet's precursor in early 1964. Even the internet used to run solely under the control of a collection of powerful organisations or corporations. those who purchase or trade telecommunications equipment for use at that time in the public, private, or academic sectors<sup>[9]</sup>.



**Fig:3**



**Ref:**

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.maximizemarketresearch.com%2Fmarket-report%2FIndia-e-commerce-market%2F44404%2F&psig=AOvVaw2XTSmpzwmhs6AiV3kChOhS&ust=1681445885417000&source=images&cd=vfe&ved=0CBEQjRxqFwoTCLDD45iApv4CFQAAAAAdAAAAABAE>

**5G IN INDIA**

- Mobile speeds in India grew by 115%. Since introducing 5G, India has moved up 49 spots on the Speed test Global Index™, moving from 118th in September 2022 to 69th in January 2023. [10] Since the rollout of 5G services, Ookla® data indicates an increase in LTE speeds for both Jio and Airtel, demonstrating the success of all their network modernization efforts [10].
- The average download speed over 5G is 25 times quicker than over 4G. [10] The majority of telecom circles have seen a rise in 5G performance, with Kolkata recording the fastest median 5G download rates in January 2023 at over 500 Mbps. In Kolkata, Jio recorded the highest median 5G internet speed of 506.25 Mbps, compared to 268.89 Mbps for Airtel in Delhi [10].
- The availability of 5G has grown 55-fold. With regard to the implementation of the 5G network, Airtel and Jio have high goals. Since the launch of 5G networks, 5G Availability has grown across 5G-capable devices, hitting 8.0% for Airtel and 5.1% for Jio [10].
- Further altering the competitive environment is 5G. [10] Users of Speed- test® are leaving Vi, and this trend has been accelerated by the operator's failure to introduce 5G [10].

**SERVICE PROVIDERS**

- Airtel
- Jio

**AIRTEL (5G PLANS)**

- Airtel has started rolling out 5G in India.
- Airtel 5G is likely to offer speeds up to 300Mbps.
- Airtel 5G will reportedly be offered at the existing 4G rates.



Airtel has started rolling out 5G in 8 cities, including Delhi, Mumbai, Varanasi, and Bangalore. The complete list hasn't been announced yet, but rumours have it that the other cities are Gurugram, Kolkata, Hyderabad, and Chennai.<sup>[10]</sup> That said, we are not sure whether Airtel's 5G services cover the entirety of all cities or are available at a particular point. What we do know is that telco is 5G-ready and in agreements with Ericsson, Nokia, and Samsung as network partners to deliver the 5G services in the country. Airtel announced the deployment of India's first state-of-the-art Massive Multiple-Input Multiple-Output (MIMO) technology, which is a key enabler for 5G networks, in 2017. The organisation has already deployed the generation in Bangalore, Kolkata, and numerous different areas within the country. Airtel will reportedly fee its 5G plans at the present 4G rates<sup>[10]</sup>.

### JIO (5G PLANS)

- Jio 5G services will be available in India by the end of October.
- The network is powered by original hardware and technology components.
- Jio 5G prices are the cheapest in the world.

Jio has officially confirmed the launch of its 5G network in India. The telco will go live in the country from Diwali, which is in October this year. Jio 5G will initially be available in Delhi, Mumbai, Kolkata and Chennai before spreading to other regions. Jio claims that it will take at least 18 months to mature the network in the country. Additionally, Jio's 5G services are based on a standalone (SA) 5G network, which has faster connection speeds and better latency than a non-standalone (NSA) network. The SA network is a completely different infrastructure and is independent of the existing 4G network.

### E-COMMERCE IN 5G

After years of imminent reports, 5G services have finally appeared in India. Users and businesses want to experience the magic of 5G, which is known for its ultra-fast speeds and the online experiences it offers.<sup>[3]</sup> Just as 4G had a big impact across the country, 5G promises to increase participation in small towns and rural areas when it becomes available across the country. E-commerce will greatly benefit from this and millions of consumers and SMEs from underserved areas of the country will experience what e-commerce is really all about the transition from store to online store becomes easier with 5G.<sup>[3]</sup> For example, it allows augmented reality and artificial intelligence to release their true potential, leading to many new shopping experiences. With the help of effective 3D interfaces, the customer can view the product from every angle and conveniently order it at home. More importantly, the increased bandwidth will boost live/video commerce, helping retailers provide a more immersive shopping experience for their customers. However, the availability and affordability of the hardware supporting these technologies is a crucial factor in its adoption<sup>[3]</sup>.

### CONCLUSION

Some of the present challenges in the development of e-commerce, such as IoT devices, can be overcome with the deployment of 5G networks. Addressing the exponential rise of IoT devices will be a difficult task. However, current 4G networks are incapable of handling all of the data that is being transmitted from IoT gadgets. This issue will be addressed by 5G's faster data transmission and processing rates. In particular, 5G (along with AI, VR, AR, and other technologies) will play a significant role in transforming the e-commerce business and market. A rich e-commerce ecosystem and an improved customer experience can come from such a combination.

### REFERENCE

1. Nir K.shetri is a professor of management at the Bryan School of Business and Economics at the University of North Carolina at Greensboro. <https://scihub.se/https://ieeexplore.ieee.org/document/842>.
2. Seth, A., Wadhawan, N., (2016). "Technology Revolutionizing Retail Practices in Digital Era". *International Journal of Research Aspects*.
3. Mrs. Sandhya Shinde, Amruta Nikam, Swati Joshi, "An Overview of 5G Technology," *International Research Journal of Engineering and Technology (IRJET)*, Volume: 03 Issue: 04 (April-2016).
4. A. G. Khan, "Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy," *Type Double Blind Peer Rev. Int. Res. J. Publ. Glob. Journals Inc*, 2016.
5. P. Kalia, N. Kaur, and T. Singh, "E-Commerce in India," in *Mobile Commerce*, 2017.
6. 5g An Introduction to the 5th Generation Mobile Networks by Trick and Ulrich, De Gruyter, February 2021
7. <https://www.indiafilings.com/learn/types-of-e-commerce/>.



8. [https://en.wikipedia.org/wiki/E-commerce\\_in\\_India](https://en.wikipedia.org/wiki/E-commerce_in_India).
9. <https://mitacademys.com/growth-of-the-internet/>.
10. <https://www.oookla.com/articles/5g-india-performance-jio-airtel-q1-2023>.
11. <https://retail.economicstimes.indiatimes.com/blog/how-5g-can-become-a-game-changer-for-e-commerce/95505003>.