



# An Empirical Study on Emerging Trends of E-commerce in India

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## Abstract:

Electronic Commerce, often known as e-commerce, refers to the practice of conducting commercial transactions through the use of various forms of telecommunication, most prominently the internet. Not only is it a tool to assist already established corporate operations, but it has also brought about a paradigm shift in the way that trading is done around the world. An e-commerce ecosphere has emerged as a result of the increasing permeation of technology and the growing acceptability of the concept of online purchasing. The proliferation of internet connections, telecommunications services (3G and 4G), internet access (broadband), portable electronic devices (laptops, cellphones, and tablets), and internet access overall have all played a part in the increase of the popularity of online shopping. The progression of electronic commerce is without a doubt going to be documented in the present environment that the advent of digitization has brought about. The primary objective of this research is to highlight the growth of e-commerce in India, investigate the current trends of e-commerce, and investigate the future of e-commerce in India in terms of the challenges and possibilities that are on the horizon for the business there. To provide a more precise explanation, the primary objective of this study is to shed light on the rising market for online shopping in India. In order to accomplish the goals of this study, secondary sources of information such as previously published research papers, articles, journals, and reports, amongst other things, have been consulted.

The extent to which people in all parts of India have access to the internet is one of the factors that has had the single largest impact on the economic growth of the country. In India, there were roughly 354 million people using the internet as of June of 2015, and it is projected that this figure would surpass the threshold of 500 million in 2016. If this occurs, India would have the internet user base that is the second largest in the world, behind only China. China will continue to have the greatest user base in the world. According to the findings of a study that was carried out in 2016 by ASSOCHAM and Forester in collaboration, it is anticipated that India's e-commerce revenue will increase at an annual rate of 51%, going from USD 30 billion in 2016 to USD 120 billion in 2020. This is based on the findings of a study that was carried out in 2016 by ASSOCHAM and Forester in

collaboration. This prognosis is predicated on the assumption that India's population will reach 1.2 billion by the year 2020, which is the current projection for the country's population growth. This growth rate is projected to be higher than that of any other nation in the world.

As a consequence of this, the future of electronic commerce is extremely promising as a result of the fact that many new players are entering the market in a variety of different sectors, and the government is taking a variety of steps to assist merchants in broadening their horizons while also protecting fundamental rights such as privacy, the prevention of fraud, intellectual property, and so on. As a consequence of this, the future of electronic commerce is extremely promising. As a direct consequence of this, there is a great deal of optimism over the future of electronic commerce.

**Keywords:** E-commerce, Internet, technology, security, cloud computing.

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## Introduction

E-commerce is a relatively new kind of business that has emerged in the modern economy as a direct result of the creation and subsequent commercialization of the internet. Customers are given the opportunity to buy and sell goods and services over the internet, which constitutes a type of company. The term "e-commerce" refers to the process of performing commercial transactions through the utilization of various forms of networking technology, the most common of which is the internet. Transactions in business are being forcefully pushed toward taking place digitally rather than being carried out in person or through direct physical touch in this sort of firm, rather than these more traditional methods of conducting business. E-commerce encompasses not only the act of purchasing and selling products and services but also the marketing of goods and services via the internet, the generating of invoices and the processing of payments online, as well as the answering of queries that customer's pose in the same manner. Examples of the kinds of technologies that are typically utilized in e-commerce include electronic data interchange (EDI), electronic catalogues, electronic forms, technology that is used in finance and banking, electronic payment systems such as smart cards, fund transfers, digital cash, and other examples of this type of technology. In addition, e-commerce frequently makes use of other examples of this type of technology. Other examples of this type of technology include other similar technologies. Because of this, the phrase "e-commerce" can be used to apply to a huge range of different endeavors and environments. According to the kinds of applications that they are able to host, e-commerce platforms may be broken down into the following categories:

- 1) Business to Consumer, or B2C, E-Commerce: With B2C e-commerce, businesses give their products and services directly to the customers, who are the end users of such products and services. This type of e-commerce is also known as "business to consumer" (B2C). E-commerce that takes place between businesses and end users is frequently referred to as "business to consumer" (B2C) e-commerce. E-commerce that takes place between companies and individual customers is referred to by the phrase "business to consumer" (B2C for short)

(B2C). For e.g. Amazon

2) Commercial Transactions Between Companies (B2B) Transactions of a commercial nature take place in this form of online commerce between two or more businesses, but the consumers who use the website to complete their purchases do not take part in the process. It is also referred to as "business-to-business" (B2B) online commerce, which is another name for this kind of internet business. "Business to business" transactions, also abbreviated as "B2B" transactions, are a common term for exchanges that take place between two different companies.

3) "Customers to Customers" (C2C) e-commerce refers to circumstances in which individual customers sell their things to other individuals who are also consumers. One example of this type of e-commerce is the website Alibaba.com. The well-known online market place eBay provides a good illustration of how this concept works in practice.

4) Consumers to Businesses (C2B) - Also known as a demand gathering mechanism or an auction in reverse, C2B e-commerce refers to interactions between consumers and businesses. Companies will post their bids on the consumer's goods and services after the consumer has advertised those items and services online. A client investigates each of the deals, and then decides to purchase from the company that, in his opinion, will provide him the most bang for his buck. Examples like blogs on the internet, Fotolia, Google AdWords, and similar services are extremely widespread.

## Objectives

The objectives of the present study are:

- 1) To do research into the current status of e-commerce in India and to look into the prospects it presents.
- 2) To investigate the elements that are contributing to the expansion of online shopping in India.
- 3) To investigate the possibilities for future expansion of online commerce in India.

## Research Methodology

For the purpose of the study, secondary sources of information such as research articles, journals, books, websites, newspapers, and reports among others have been utilized.

## E-commerce in India

E-commerce, which was until recently more of a buzzword than a reality, has experienced a meteoric surge in predominance in India over the past few years. This rise has been witnessed by India. People in India have traditionally done the most of their shopping in smaller, less organized markets and businesses as opposed to making the majority of their acquisitions at larger commercial venues. This has been the case throughout India's history. It is possible to attribute the rapid growth of e-commerce to the fact that Indian consumers who were

previously content with their shopping experiences are now looking for a method of purchasing goods that is not only convenient but also pleasurable. This has resulted in the search for an alternative to traditional shopping that satisfies their desire for a more enjoyable shopping experience. It only takes a couple of minutes for customers to complete their purchases from almost any location, including the coziness of their own homes, the convenience of their places of employment, and public venues. Customers have access to a wide variety of goods and services as a result of the existence of an online market in the country. These goods and services include, but are not limited to, those relating to travel, hotel reservations, matrimonial services, fashion accessories, electronic gadgets, virtual goods such as book and music downloads, software, games, and even groceries, among other things.

E-commerce eco-system has been formed in India as a result of India's market backdrop, the growing penetration of the internet, broadband, 3G, and 4G services, laptops, smartphones, and tablets; a wide variety of clients; and acceptance of the concept of virtual shopping. E-commerce eco-system has been formed in India as a result of India's market backdrop. As a direct outcome of India's market environment, an ecosystem conducive to e-commerce has emerged in India. An ecosystem that is favorable to online commerce has developed in India as a direct consequence of the market climate that exists there.

With a GDP growth rate that averaged 7.5% in the fiscal year 2015-16, the Indian economy has been displaying persistently encouraging signals of recovery, as evidenced by the country's rising stock market. (This is in accordance with the results of a survey conducted by the Ministry of Statistics and Programme Implementation in 2015). During the years of 2012 and 2016, Forrester anticipates that the e-commerce market in India will rise at a compound annual growth rate (CAGR) of greater than 57%. As a result of this, it is going to become the overall market in the region that is expanding at the fastest rate. The average Indian consumer is one who is keen to experiment with new kinds of technology. The overall tele-density was at 83.36 percent as of the 25th of May in the year 2016, while the number of broadband consumers was at 149.75 million. In addition to this, it is estimated that the number of people who use smartphones in India will increase to 204.1 million in 2016, up from 76 million in 2013. It is also anticipated that this number would increase to 317.1 million in 2019. In India, there are 76 million people who use smartphones as of right now. This surge in smartphone users in India can be ascribed to the availability of smartphones that are available at prices that are relatively accessible, in addition to features that are simple to operate. This availability has led to an explosion in the smartphone market. There is a possibility that the rise in the number of people using smartphones in India is tied to the larger rise in the number of people using smartphones all over the world. First-time computer users now have it much easier to make the switch from the phase in which they used a desktop computer or a laptop. This is because of the considerations listed above. At the same time, internet penetration is also growing, with the number of internet users reaching approximately 354 million as of June 2015, and it is projected that this figure will reach 500 million in 2016 if current trends continue. As of June 2015, the number of internet users had reached approximately 354 million. As of June of 2015, the total number of people who used the internet had roughly 354 million users (Wikipedia).

## **Status of e-commerce in India**

As a direct outcome of the contemporary setting in which we currently find ourselves, conducting business activities online has developed into an essential component of our typical day-to-day activities. There are businesses engaged in e-commerce that give customers access to a wide variety of products and services, and there are other businesses that specialize in a particular kind of product but also give customers a choice of supplementary services to go along with their products. Both types of businesses give customers access to a wide variety of products and services.

**Automobiles:** The process of marketing automobiles in India is currently going through a transition toward a form that makes greater use of digital technology at this time period. During the course of the previous few years, India has been a witness to the establishment of a number of exciting new businesses in the automotive sector of the economy. These businesses offer a wide range of services pertaining to automobiles, including rental cars, roadside assistance, online vehicle listings, automobile insurance, and online marketplaces for the purchase of pre-owned vehicles. On a website that is solely devoted to automobiles, one of the most essential components that have to be there is a part that is devoted to online reviews. Websites such as Zigwheels.com, Gaddi.com, and Carwale.com are a few examples of this. Other examples include OLX and the fast growing market for pre-owned autos.

In a similar line, a disproportionately big chunk of the overall market share of e-commerce is accounted for by the lifestyle sector. A wide variety of products are available, including clothing for adults, children, and infants, as well as accessories, home décor, mobile gadgets, books, and presents, amongst other things. Amazon, Myntra, Jabong, and Flipkart are just a few of the many well-known names in the world of online shopping, but there are many more. Real estate websites that also conduct e-commerce often contain information not only on newly constructed homes but also on pre-existing properties that are now available for purchase on the market. Housing financing, property management consulting services, home insurance, home loans, and various other services that are related with the business are some examples of the services that are provided. Websites pertaining to real estate that can be visited in India include, amongst others, indiaproperty.com, 99acres.com, and magicbricks.com. These websites are all accessible. These three websites are merely few instances among many others.

There are a number of websites that make it feasible for people who sell drugs to engage in stock and share trading in a variety of fraudulent securities. These websites make this possible for drug dealers. These establishments provide a vast array of services, some of which include the buying and selling of stocks and shares, the examination and analysis of requests, the comparison of various businesses, research on equity and collective finances, as well as the monitoring of trends in request patterns. There are a number of websites that are examples of such locations; some of these online destinations are [www.equitymaster.com](http://www.equitymaster.com) and [www.5paisa.com](http://www.5paisa.com), among other online destinations.

The expansion of the travel and tourism business is finding that the opportunities presented by the growth of internet commerce are proving to be helpful to the industry's overall progress. Users have access to a wealth of information through the website [www.tourisminindia.com](http://www.tourisminindia.com), which is run by the Indian government and is widely regarded as one of the most famous websites in its field. Additional services include obtaining a passport and a visa, providing information about rainfall and jubilee dates, and providing information on trips and accommodations, amongst other things. The travel planning market has been revolutionized with the emergence of online trip diligence platforms such as [makemytrip.com](http://makemytrip.com), [yatra.com](http://yatra.com), and others like them. These platforms provide speedy booking in addition to all-inclusive holiday packing and a choice of selections. The platforms described here are examples of what are referred to as "online trip diligence platforms."

It is believed that people meet their spouses in heaven, however in the world of e-commerce, couples meet on a website called marriage gate. Heaven may not be the place where people meet their wives. It's possible that they are conceived in heaven, but the marriage gate is where their form begins to take form. It has been stated that paradise is the best place for a person to start a family and have a happy marriage because the conditions are so perfect there. This website not only provides services like to those provided by match timber, but it also provides astrological services, information on rituals, information on legal issues, and so on. Information about match timber is one of the other things we offer. Many exemplifications includes [shaddi.com](http://shaddi.com), [jeevansathi.com](http://jeevansathi.com) etc.

Employment - E-commerce businesses are giving positions to those who are looking for work with nothing more than the click of a mouse, for a price that is not prohibitively expensive. This is happening in the sphere of employment. The websites [monsterindia.com](http://monsterindia.com), [Naukri.com](http://Naukri.com), and [shine.com](http://shine.com) are just a few examples of those that may be accessed online. These are only a few of the available choices.

## Growth of E-commerce

Despite the fact that its history can be summed up in a very short length of time, it actually dates back more than four decades. Despite the fact that it has profoundly affected the way in which we live our lives today, e-commerce has only been around for the past few decades (refer table 1). In the era before the development of the idea of plutocracy, there was a system of "trading" that entailed the buying and selling of various effects. The paradigm of a "plutocrat" developed contemporaneously with the concept of "business," which evolved at the same time. Several early settlers, after the development of enterprises, came to the realization that customers would be prepared to pay a premium price for the convenience of having things delivered directly to their houses, even if it meant paying more for the commodities themselves. The vast majority of "road merchandisers" came into being as a direct result of this. When the postal system was formed, merchants made the decision to capitalize on the new opportunity by beginning to utilize mailers to provide a description of the commodities they sold. In doing so, they were able to supply customers with more information about the products they offered. Alongside the development of the media vehicle, this is also the time when the "Tele shopping" network was established. The most recent generation of commercial activity is known as e-commerce, and it consists of transactions that take place between buyers and sellers of goods and services via the internet.

**Table 1. Technology advancement and emergence of e-commerce**

Year	Technology	Function/use
late 1970's	“EDI-Electronic data interchange, EFT-Electronic fund transfer.”	“Electronic sale and electronic exchange of information could be made.”
1971 - 1972	“ARPANET (Advance research project agency network)”	“Pioneering network for sharing digital resources among geographically separated computers in US became the foundation for internet today.”
1990 - 1991	“First web browser, world wide web created by Tim Berners-Lee opened for commercial use.”	“Internet is opened for marketable use, e-commerce come possible.”
1994	Netscape	“Netscape released navigation browser named Mozilla.”
1995	Internet in India	“VSNL formally launched Internet for public use in India.”
1996	Online banking	“ICICI is the first bank to champion its usage and introduced internet banking in India.”
2000's	“Many e-commerce companies entered the Indian marketplace and people began to get aware of e-commerce.”	“India times shopping, eBay, Flipkart, Myntra, Snapdeal, Jabong, Amazon etc.”

According to research carried out by Forrester, a well-known global and exploration advising firm, the demand for e-commerce in India is expected to expand at a compound annual growth rate (CAGR) of over 57% between the years 2012 and 2016, making it the fastest growing market in the Asia-Pacific Region. The company just released a study report with the title "Asia Pacific Internet Retail Forecast, 2011 to 2016." The estimates provided by Forrester Research for the e-commerce sales of different nations located in the Asia-Pacific area between 2012 and 2016 are summarized in the table below. These estimates are provided in billions of dollars.

Country	Sales in \$ Billion	
	2012	2016
India	1.6	8.8
Australia	23.2	35.4
Japan	63.9	97.6
China	169.4	365.1

The Indian retail market is anticipated to expand at a compound annual growth rate (CAGR) of around 39% from the fiscal year 2013 to the fiscal year 2016 due to an increase in the number of individuals utilizing mobile devices such as smartphones and tablets. RNCOS, an organization that specializes in the research and analysis of markets, is the source of this projection. According to the findings of the investigation, the installation of cash-on-delivery, discounts and incentives provided by online merchants, and changing and busy lifestyles in metropolitan regions are the three most important reasons that contribute to the rise of online shopping in India.

### Factors deriving growth of E-commerce in India

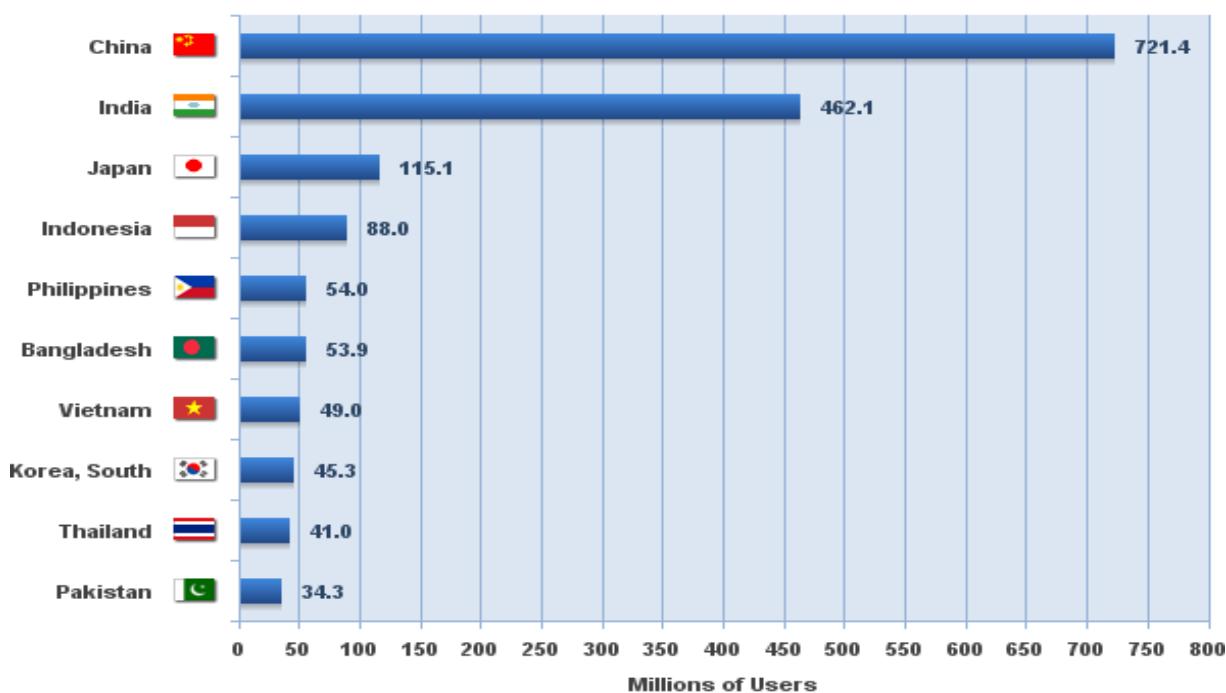
- The ever-evolving and hectic lifestyles that people currently lead are one of the factors that are contributing to the growth of e-commerce in India. Because of this, it can be difficult for individuals to find the time to go out and make purchases in person. E-commerce made shopping more convenient by allowing customers to shop from the comfort of their own homes while having access to a diverse range of products in a single location. As a result, customers did not have to wait in long checkout lines, and they saved money and time by avoiding costly and time-consuming road trips. The ever-evolving lifestyles of the country's urban population, in conjunction with rising levels of discretionary income, contributed to an increase in the people's reliance on the internet as a medium, which, in turn, contributed to the rise of online commerce.

- There are a number of factors contributing to the expansion of e-commerce in India, one of which is the rising number of individuals who have access to the internet. Broadband internet service is being subscribed to by a bigger percentage of the population, the number of individuals making use of 3G internet is expanding, and just lately, service for 4G internet was rolled out across the country. According to figures compiled by Internet World Stats as of



the 30th of June in 2016, the number of people using the internet around the world is estimated as follows

### Asia Top Internet Countries June 30, 2016



Source: Internet World Stats - [www.internetworldstats.com/stats3.htm](http://www.internetworldstats.com/stats3.htm)  
 3,611,375,813 Internet users in the World estimated for June 30, 2016  
 Copyright © 2016, Miniwatts Marketing Group

- Because of the limited product range offered by the traditional brick-and-mortar form of selling, the market for internet shopping has grown significantly in recent years. Online shoppers have the advantage of being able to easily search for products through a huge database of products, check the price of the product, and compare the price of the product to the pricing of other products supplied by other retailers who also sell their wares online. This makes shopping online a substantially more convenient alternative to purchasing in traditional stores made of brick and mortar. Users of a variety of websites, including OXL and eBay, amongst others, are given the opportunity to buy and sell secondary products through the websites' respective marketplaces. The dramatic decline in popularity of personal computers and other portable computing devices, coupled with the rise of mobile devices such as smartphones and tablets, has fundamentally altered the way in which people access the internet at this time and has contributed to the expansion of online shopping. India is now the second largest smartphone market in the world, according to a study that was conducted and released by negation inquiry (2016). India has overtaken the United States to take this position. This ranking was established based on the fact that the country surpassed the threshold of 220 million drug addicts during the first three months of the year 2016. This progression can, at least in part, be linked to the rising popularity of smart mobile devices that are available at prices that are affordable to consumers all throughout the country.

- Another crucial component in fostering growth is providing an outstanding experience for clients at prices that are accessible. With the advent of e-commerce, shopping comparisons have become much simpler. The guests have the ability to compare products, pricing, features, and other parameters with one another as well as with other venues both inside a single point and across several points. In addition, online retailers offer eye-catching deals, offers, tickets, occasions of customisation, cash on delivery installation, and relief programs, all of which draw a significant number of customers to their respective online websites. Moreover, online retailers offer eye-catching bargains, offers, tickets, occasions of customisation, and relief programs. In addition, Indian tourists have become more modern with the times and have increased their acceptability for a variety of payment options including net banking, debit card, credit card, e-wallet, etc. So, the breadth of e-commerce has expanded as a direct result of consumers becoming aware that making purchases online can take place in an atmosphere free from danger.
- A survey conducted by American Express and Nielsen in 2016 looked at the mindset of online visitors in India and discovered that the majority of internet guests in India prefer to use plastic plutocrat rather than pay cash on delivery. • This finding was one of the key findings of the survey. This predilection was observed in a number of different cities across India.
- The rise in the income level and discretionary income of Indian visitors, in conjunction with an improvement in their standard of living, increased the likelihood that they will turn to online shopping. According to Trading Economics' global macro models and judges, the disposable particular income in India is projected to be 147960218.03 INR million at the end of 2016, and it is projected to climb to approximately 231000000.00 INR million in 2020. This information was derived from the projections of the global macro models and judges.
- Amazon, Jabong, and Flipkart are just few of the online marketplaces that have lately set up shop in India with the intention of meeting the growing demand for online shopping in India over the long term. As a consequence of this, there was a vigorous competition among the battles, and the visitors were treated to a substantial number of druthers. Travel and retail have proven to be two of the most successful businesses in the field of e-commerce, and it is because to the triumphs of these two industries that other industries have been convinced to join in the India e-commerce request as well. According to the findings of a poll that was conducted by the Internet and Mobile Association of India, it is projected that the value of the e-commerce sector will reach Rs.211,0005 crore by the time the year 2016 comes to a close. Another study came to the conclusion that the field of online travel forms the largest share of the Indian e-commerce market, accounting for 61% of the overall market share. This information was presented in the form of findings.

### **Cloud computing and E-commerce**

Cloud computing is the process of storing data and apps online and accessing them over the internet rather than on the hard disk of a computer, which is what is meant by the name

"cloud computing." To put it another way, it is the method of storing, managing, and processing data that makes use of a network of remote waiters that are hosted on the internet rather than making use of a specific computer or an original garcon. This is in contrast to the traditional method, which makes use of a local garcon.

A look at some models of the cloud: There are three commonly employed models of the cloud, and they are as follows:

1) Software as a service, sometimes referred to as SaaS, is a business model in which end users or organizations can subscribe to gain access to the application software and database of an organization. According to this paradigm, it is the responsibility of cloud providers to deploy application software in the cloud, which cloud customers can then access from their user clients. The decrease in operational costs can be attributed to the fact that cloud customers are relieved of the responsibility of administering the cloud infrastructure and platform on which the application is hosted. This concept is illustrated by services like as Salesforce.com and Google Apps, amongst other comparable offerings.

2) Infrastructure as a service (IaaS) - structure Because of this, it is conceivable for the drug dealers to break into the safes that contain the warehousing, processing, and networking funds, in addition to the other computer funds. On demand, the pall providers draw these buckets from the large pool of equipment that they have put in data centers and make them available to their customers. The Amazon Elastic Encryption Cloud is a great illustration of this model that can be seen online.

3) Platform as a service (PaaS) is when companies in the pall offer a development platform to the druggies so that the business can produce their own custom operation for use in the company without the cost and difficulty of purchasing and managing the underlying hardware and software. This allows the business to produce their own unique operation for use in the company. Because of the nature of this platform, the corporation is able to develop their own own bespoke operation for internal usage. One example would be the Google App machine, but there are plenty of other examples as well.

The implementation of cloud computing has fundamentally changed how modern e-commerce companies perform their daily operations. All of the tasks involving information technology have been entirely changed, which has led to a substantial increase in overall productivity.

1. Businesses that take part in online transactions can reduce the expenses connected with the procurement of hardware and software by adopting cloud computing. This is possible because cloud computing allows businesses to rent rather than construct their own systems. The billing approach known as "pay-as-service" is particularly flexible, which enables an e-commerce company to adjust the amount it pays for its resources to correspond with the degree of demand for those resources.

2. Cloud computing, which enables e-commerce enterprises to do so, makes it possible to maximize the exploitation of idle resources to the greatest extent possible. Businesses are able to merge the best information technology resources onto the most advanced platform, which they can then rent out to customers. This enables organizations to reduce their operating costs and better prioritize how they distribute their resources.

3. The utilization of cloud computing offers increased adaptability and scalability of the aforementioned capabilities. There are some seasons of the year, including the holiday

season and sale periods, in which online retailers witness a rise in the amount of customers shopping with them. In situations like this, the cloud has the capability to scale up when necessary and scale down, which results in lower expenses.

4. Users can access their data whenever they want and from wherever they are as long as they have a basic web browser and make use of the cloud's accessibility at any time and from any location. Because of this, there is no longer a requirement to spend money on the installation of pricey equipment for an internal system.

5. In addition to this, a cloud service provider ensures a high level of security to protect the data that their customers save in the cloud. A significant number of service providers are resorting to various types of security inspection, data encryption, and the ISO 27001 instrument in order to demonstrate to their customers the value that they bring to the table. In addition to this, businesses have the option of utilizing a cold-blooded cloud computing model, which allows them to keep sensitive data in a safe manner within a private cloud, while simultaneously storing public data within a public cloud.

6. The usage of cloud computing will also assist business organizations in improving their internal operations, which will enable them to concentrate more on their core competencies and boost the quality of their products, services, and other offers, amongst other benefits.

As a consequence of this, the introduction of cloud computing has resulted in the birth of a new service ecosystem. This ecosystem makes it possible for e-commerce businesses to make better use of the investments in information technology (IT) hardware and software that they have made, and it also gives these businesses a way to incorporate new ideas.

### **Challenges in growth of e-commerce and suggested solutions:**

- A challenge posed by the logistics when it comes to expanding e-commerce in India, one of the most fundamental hurdles that must be overcome is logistics. In more remote and rural areas, there are a reduced number of infrastructure facilities that may be used for the transportation of goods. Customers are aggravated by a number of issues, including, but not limited to, a lack of supply chain integration, exorbitant shipping prices for products, and delivery delays. The implementation of regionalization is one potential approach that can be used to address this issue. The problem with the logistics might potentially be fixed in a few different ways, some of which are as follows: At the moment, courier companies in India are in charge of managing logistical services, but their scope of operation is limited. As a potential answer to this issue, e-commerce enterprises could examine the possibility of establishing their very own internal logistical operations. Take, for example, the case. Amazon launched its very own logistics operation, which is currently known as Amazon Transportation Services Private Limited (ATS Private Limited).
- There is a possibility that the problem of delivery in the final mile can be solved by utilizing the services that are provided by the Indian post.
- The use of automated guided vehicles has the potential to overcome a significant number of the logistical challenges that are faced by online retailers (AGVs). Take, for example, the case. Amazon Prime is actively engaged in the research and

development of a drone delivery system for its products.

- Establishing a lot of smaller distribution centers and making efficient use of devices that are based on GPS could alleviate a significant number of the logistical issues that are now being faced.
- Customers in India are cautious to make their purchases via the internet because they have doubts about the dependability of the websites they visit. They frequently avoid exposing their banking and credit card information over the internet because they are concerned about becoming a victim of online fraud. This anxiety is understandable given the prevalence of online crime. To find a solution to this issue, the companies that are engaged should be willing to take any form of payment, such as e-wallets, cash on delivery, prepaid cards, and other similar methods. In addition, there is the "Touch and feel factor," which indicates that Indian consumers are more at ease making purchases in person as opposed to online, particularly for products such as apparel, jewelry, and other items that are comparable in nature. Hence, a lack of confidence is one of the issues that needs to be addressed and resolved.
- In India, cash on delivery is the favored mode of payment over other payment options. Because the majority of customers in India prefer to pay with cash upon receipt of their goods, traditional cash collection methods are prohibitively expensive, time consuming, and difficult for businesses that deal in e-commerce. Cash on delivery was the most common method of digital payment used in India in 2015, accounting for 57% of all digital purchasing transactions, as shown by the statistics (Sources: A.T. Kearney; GfK; Google). Because it has the ability to reduce the amount of time and money spent by e-commerce enterprises, the creation of a cashless payment system has the potential to provide the e-commerce industry a significant boost. Mobile wallets that have recently been made available on the market by digital companies such as Paytm, MobiKwik, Apple Pay, and Google Wallet are secure and easy to use at the same time. It is expected that as a result of the implementation of the financial inclusion project by the government of India, there will be a rise in the total number of individuals who have access to banking services. As a consequence of this, companies that conduct their operations online need to inform their customers about the benefits of utilizing cashless payment methods in order to earn their business.
- Online buyers in India send back a sizeable fraction of the items they buy through retail stores and marketplaces. There are a significant amount of first-time purchasers in the Indian e-commerce business. These customers visit the site to check out the products, but they often end up sending them back. When it comes to managing returns, both the sellers and the e-commerce marketplace end up shouldering a major portion of the financial burden.
- The Methods of Taxation As compared to that of industrialized countries like the United States of America and the United Kingdom, the tax rate system in India is another crucial component in the growth of e-commerce in India. This comparison is made because India is a developing nation. In some nations, the rate of taxation is the same across all of the many sectors, but in India, it varies from one industry to the next. In other countries, the rate of taxation is the same regardless of the industry.

This creates complications in accounting for businesses who conduct their operations online in India. In addition, the government of India has not enacted any specific regulations regarding the taxation of internet retail firms. Regarding the extent to which withholding limits actually apply, there is a significant amount of wiggle space for interpretation. When it is finally implemented, the Goods and Services Tax (GST) is likely to have a positive impact on e-commerce. This will occur because it will simplify the movement of goods between states, create a unified tax structure, make it easier for merchants to comply with tax regulations, and simplify the process of getting tax refunds.

- Confidentiality - Maintaining confidentiality is a major obstacle that must be overcome before moving on. Due to the ubiquity of online criminal behavior, customers have a natural reluctance to divulge their personal information. This reluctance is understandable. There is the possibility of harm coming to the servers, the danger of harm coming to the transmission of data, the risk of harm coming to financial transactions, the risk of harm coming to one's reputation, the risk of harm coming to key infrastructure, and so on. The following are some of the recommendations that, if implemented, could result in an effective security solution: It is important for companies that engage in online commerce to evaluate the level of risk they are willing to take and adapt their business plan accordingly.
- Management of cyber risk should be elevated to the level of an organization, and companies engaged in online commerce should consider contracting out the task of risk management. For businesses, this is an absolute requirement, and they have an obligation to completely incorporate cyber risk management into their IT discipline.
- Rearranging your security data, participating in penetration exercises, and engaging in other activities of a similar nature can help you get ready for a cyberattack.

## Future of E-commerce

1. India, which is the largest populous democracy in the world and ranks seventh globally in terms of land area, has a great amount of untapped potential for the expansion of its e-commerce industry. Moreover, India has the second-highest population in the world. As a result of the proliferation of internet purchasing, the gap that used to exist between customers and producers has been significantly reduced. According to [internetworldstats.com](http://internetworldstats.com), as of the 30th of June in 2016, the penetration rate of the internet in India was 36.5%, and it is growing at a quicker rate. Because of this, there is a massive amount of untapped potential for online business in India. Based on the average compound annual growth rate of retail e-commerce sales from 2016-2020 in the countries that were picked, it can be deduced that Indonesia will rank first in terms of the development of e-retail with a growth rate of 18.82% in the timeframe that was forecasted. Statista has been cited as the source for this information. After China and Mexico, which each have a compound annual growth rate (CAGR) of 16.57% and 14.28% respectively, India comes in at number two with a compound annual growth rate (CAGR) of 16.98% in retail e-commerce. Alterations in consumer lifestyle, increases in internet access, and increases in disposable income are the

key factors that will lead to the growth of e-commerce in India. These factors are all expected to play a role in the country's economic development. It is anticipated that the innovation and ongoing technologically-driven problem-solving that have been the primary drivers of the e-commerce industry up to this point would continue to do so into the foreseeable future. The following are some examples of some of the developments that are examples of some of the advancements that are projected to have a positive impact on the future of e-commerce in India:

#### 2. 1. Developments in payment methods—

The use of plastic money and the expanding use of digital wallets, in conjunction with the recently formed Unified payment interface (UPI), should drive innovation in payment and may also make cash on delivery seamless through the completion of cashless transactions at the time of delivery.

3. 2. A model for delivery that takes into consideration the "traffic" condition that prevails in India's metropolitan centers and causes deliveries to be late. E-commerce companies and logistic service providers are experimenting with new delivery methods such as drone delivery, taking deliveries from nearby Kirana stores (like Amazon Kirana, which is now available in Bangalore), crowd-sourced delivery models (like Flipkart's partnership with dabbawallas in Mumbai), and many more. Amazon Kirana is now available in Bangalore.

4. 3. The implementation of artificial intelligence and unmanned aerial vehicles E-commerce businesses, especially those operating during the busy holiday shopping season, present a formidable obstacle when it comes to the management of their supply chains in order to guarantee deliveries made on time. This may be made easier with the assistance of AI and drones. The solution to this issue is drone delivery services, such as those offered by Amazon Prime. Air is concentrating on developing a method that will involve the use of drones in the delivery of its products. In addition, artificial intelligence (AI) is presently going through a transition within the realm of e-commerce. This may soon make it possible for customers to locate exactly what they are looking for with a single click of the mouse.

5. 4. A tactic that is wholly reliant on mobile applications E-commerce, according to the opinions of a number of knowledgeable professionals in the field, will likely soon be conducted on mobile devices. In India, there were approximately 279.5 million people who accessed the internet through their mobile devices in 2015, and it is anticipated that this number will climb to 524.5 million in 2021. In 2015, there were approximately 279.5 million people who accessed the internet through their mobile devices. (According to the latest research from statistic digital market outlook). As a result of the expansion of mobile application platforms, e-commerce enterprises in India are now able to engage with a greater number of clients, even in more outlying and rural areas. Customers may obtain alerts and updates, browse product catalogues, place orders, and make payments all through a user-friendly mobile application.

6. Digital advertising is versatile, and it can be applied to the promotion of any kind of

product or piece of hardware. This feature makes digital advertising our number-five pick. Digital commercials are more effective than traditional ones because they enable greater levels of audience customisation. This, in turn, boosts engagement and brand loyalty while also creating opportunities for interactive contact in both directions.

7. Search Engine Optimization (SEO): SEO is a set of rules that website owners can follow to increase the search engine ranking of their website for the goal of web promotion. SEO stands for "search engine optimization." "Search Engine Optimization" is what "SEO" stands for in the industry. Customers could be made aware of hundreds of additional products that are already available in the digital catalogues with the help of technology known as search engine optimization (SEO). Websites that are up to date, don't have any errors, have content, and meet other criteria are given preference by bots that crawl search results. In order to make their online stores more appealing to search engines and, as a consequence, attract a greater number of customers who are actively looking to make a purchase, owners of businesses that engage in e-commerce should place their primary focus on enhancing the fundamental aspects of their online stores.

## **Conclusion**

To provide a brief summary, e-commerce is the future of shopping in India, and it is already significantly affecting the ways in which people buy and sell goods and services in the modern world. If some of the concerns associated to India's weak cyber law and basic rights such as privacy, intellectual property, prevention of fraud, consumer protection, and so on are addressed, the future of e-commerce in India appears to have a lot of potential for growth. According to what has been stated in this article, a lot of different causes are what is driving the expansion of e-commerce in India. A move toward lifestyles that are more technologically advanced, an increase in the number of people who have access to the internet, the proliferation of mobile devices such as smartphones, tablets, 3G, and 4G, and an increase in the amount of discretionary income that is available to individuals in India are some of the factors that are contributing to this change. In spite of the fact that Indian shoppers are gradually warming up to the idea of making purchases online, they continue to display some level of resistance toward e-commerce. Because of this, e-commerce businesses that offer superior products and services, a replacement guarantee, a solution to the problem of logistic, multiple payment systems, a dedicated customer care service that is available 24 hours a day, seven days a week, and the elimination of online payment fraud can reduce the hesitance of customers and increase sales. This article also shown how the usage of cloud computing is transforming the way that modern e-commerce organizations operate by delivering a number of benefits to their customers, which is one of the ways that this article demonstrated this phenomenon. As a direct consequence of this, the e-commerce sector in India is poised to have an extremely promising future.



**References**

1. Abdulkader, S. J., & Abualkishik, A. M. Cloud Computing and E-commerce in Small and Medium Enterprises (SME's): the Benefits, Challenges.
2. Aljifri, H. A., Pons, A., & Collins, D. (2003). Global e-commerce: a framework for understanding and overcoming the trust barrier. *Information Management & Computer Security*, 11(3), 130-138.
3. Buyya, R., Yeo, C. S., Venugopal, S., Broberg, J., & Brandic, I. (2009). Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility. *Future Generation computer systems*, 25(6), 599-616.
4. Buyya, R., Yeo, C. S., Venugopal, S., Broberg, J., & Brandic, I. (2009). Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility. *Future Generation computer systems*, 25(6), 599-616.
5. Chanana, N., & Goele, S. (2012). Future of e-commerce in India. *International Journal of Computing & Business Research*, Proceedings of 'I-Society.
6. Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, present and future of mobile payments research: A literature review. *Electronic Commerce Research and Applications*, 7(2), 165-181.
7. Dholakia, M. P. Prospects of E-Commerce and its future implications in India.
8. Ghosh, D. (2014). Why Indian E-Retailing Market is Still a Partly Success and a Partly Failure Story?. *Journal of Accounting & Marketing*, 2014.
9. Grüşchow, R. M., Kemper, J., & Brettel, M. (2016). How do different payment methods deliver cost and credit efficiency in electronic commerce?. *Electronic Commerce Research and Applications*.
10. Hawk, S. (2004). A comparison of B2C e-commerce in developing countries. *Electronic Commerce Research*, 4(3), 181-199.
11. Ibikunle, O. (2013). E-Commerce in Developing Countries-Issues and Challenges. *Consumer Attitude in the Nigerian Market*.
12. Jank, W., Shmueli, G., Dass, M., Yahav, I., & Zhang, S. (2008). Statistical challenges in e-commerce: Modeling dynamic and networked data. *INFORMS Tutorials in Operations Research*, 31-54.
13. Kalia, P., Kaur, N., & Singh, T. (2015). E-Commerce in India: Evolution and Revolution of Online Retail. *Kalia, P., Kaur, N. and Singh*, 99-120.
14. Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for information systems*, 12(1), 50.
15. Mitra, A. (2013). E-commerce in India-A Review. *International Journal of Marketing, Financial Services & Management Research*, 2(2), 126-132.
16. Mitra, A. (2013). E-commerce in India-A Review. *International Journal of Marketing, Financial Services & Management Research*, 2(2), 126-132.
17. Ngai, E. W., & Wat, F. K. T. (2002). A literature review and classification of electronic commerce research. *Information & Management*, 39(5), 415-429.
18. Ray, S. (2011). Emerging Trend of E-Commerce in India: Some Crucial Issues, Prospects and Challenges. *Computer Engineering and Intelligent Systems*, 2(5), 17-35.
19. Runnemark, E., Hedman, J., & Xiao, X. (2015). Do consumers pay more using debit cards than cash?. *Electronic Commerce Research and Applications*, 14(5), 285-291.

20. Sarode, R. M. (2015). Future of E-Commerce in India Challenges & Opportunities. IJAR, 1(12), 646-650.
21. Sundar, A., & Vj, S. (2015). E-Commerce in India-with its whole bag of tricks. Innovare Journal of Business Management, 1-6
22. Tarafdar, M., & Vaidya, S. D. (2006). Challenges in the adoption of E-Commerce technologies in India: The role of organizational factors. International Journal of Information Management, 26(6), 428-441.
23. Vaithianathan, S. (2010). A review of e-commerce literature on India and research agenda for the future. Electronic Commerce Research, 10(1), 83-97.
24. Waghmare, G. T. (2012). E-commerce; A Business Review and Future Prospects in Indian Business. Internet Marketing in India: Indian Streams Research Journal, 2, 1-4.
25. Waghmare, G. T. (2012). E-commerce; A Business Review and Future Prospects in Indian Business. Internet Marketing in India: Indian Streams Research Journal, 2, 1-4.
26. Weisberg, J., Te'eni, D., & Arman, L. (2011). Past purchase and intention to purchase in e-commerce: The mediation of social presence and trust. Internet Research, 21(1), 82-96.
27. <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=IN>
28. [www.iamwire.com](http://www.iamwire.com)
29. [www.internetworldstats.com](http://www.internetworldstats.com)
30. [www.tradingeconomics.com](http://www.tradingeconomics.com)
31. [www.trai.gov.in](http://www.trai.gov.in)
32. Mobile Internet in India 2015, Report by IAMAI and IMRB.