

# Trends and Analysis of E-Commerce Market: A Global Perspective

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## Abstract

Surge of digitisation has significantly propelled the e-commerce market over the past years, with substantial growth expected across over the forecast period. Advent of technological innovativeness have led to an overall new retail experience for buyers as well as suppliers. Increasing continual user enthusiasm for online shopping with unparalleled Internet services and smartphone penetration rate have significantly boosted the overall demand. Latest trends and developments in web technologies are expected to pose opportunities for the businesses to accordingly strategise their business models, and thereby gain a competitive edge in the market. In today's scenario, key market players are increasingly focusing on complementing their conventional mode of retailing with the upcoming and latest online commerce trends.

This paper includes a market study of e-commerce across different regions in the world, based on estimating, analysing, and forecasting for the period of 2019-2025. The paper offers a descriptive study on the various market determinants which includes the market drivers, challenges, and the future aspects of e-commerce market. In addition to these, various technological developments in e-commerce market along with the impact of the ongoing COVID-19 pandemic has also been briefly described.

**Keywords:** E-Commerce, Online, Internet, Smartphone, COVID-19, Pandemic

## Introduction

Over the past few years, e-commerce has speedily geared its popularity owing to the convenience and ease in exchanging the goods and services across different regions in the world. Like other market segments, the retail sector is also witnessing considerable revolution

owing to the ongoing digitalisation, and the advent of advanced technologies (Coppola, 2021). E-commerce is becoming an essential part of businesses strategy, wherein, it contributes significantly to the economic development of a nation. The amalgamation of information and communications technology concept in the businesses have led to a revolutionisation of relationships among individuals and organisations as well as within the organisations. Advancements and incorporation of technologies such as artificial intelligence and big data concepts, in businesses offers mass customisation, increase in number of potential customers, along with enhanced productivity, and revenue generation of the overall businesses.

The e-commerce industry is anticipated to witness surge in growth due to number of other factors such as growing Internet services with hi-speed bandwidth, unprecedented smartphone penetration, market stability, product personalisation and localisation along with declining Internet charges. Additionally, increase in seamless and uninterrupted Internet services is expected to boost the online shopping exposure of consumers thereby favourably impacting the overall e-commerce market growth. In most of the markets, the consumers are shifting their shopping preference towards online platforms, in comparison to the brick-and-mortar options. This can mainly be attributed to the fact that these modes offer varied range of products, excellent customer convenience wherein, these offer seamless services to the customers. In addition to these, the online shoppers nowadays, emphasise on the factors such as assurance and faster delivery in their purchase decisions, and e-commerce caters to these requirements of the customers (Thakur, n.d.). Apart from benefits offered by the e-commerce sector to the retailers, it is strategically very essential for the firms to position themselves in the market, in order to cater to the changing competitive scenario.

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Rising number of small and medium-sized enterprises is also expected to propel the e-commerce segment growth. For instance, in countries, like India, wherein, the initiatives such as “Make-in-India” concept is gaining traction, thereby boosting the e-commerce sales as well. According to the reports, regions such as North America and Asia Pacific are expected to contribute most of the total retail e-commerce sales in 2020 (Cramer-Flood, 2020). The ongoing COVID-19 pandemic has exponentially spurred the growth of online sales and impacted the overall consumer behaviour across the world. In order to contain the situation, several restrictions, one being lockdown across the world, witnessed an increase, due to which digital channels became the alternative solutions for in-person shopping options. The crisis further boosted the overall sales, thereby maximising the profits and revenue generated by e-commerce businesses across the different regions in the world.

## Literature Review

The e-commerce market is expected to witness significant rise in demand across both the developing as well as developed countries. The retailers nowadays are focusing on understanding the consumers purchase patterns, hence, they are aligning with the customer’s desire to shop as per their convenience and ease. Rising change in consumer’s behaviour coupled with the accessibility to reliable and cheap technology for safe transactions has significantly contributed to the increase in online sales. Additionally, factors such as increasing mobile and smartphone penetration, is also expected to propel the demand for online sales across the world.

The online businesses are also impacted by the upcoming technological innovations such as social commerce, autonomous vehicles, 3D printing, and analytics. In today’s scenario, the companies are focusing on making investments in data analytics segment, thereby offering personalisation in consumer experiences, and hence, improving the real-time insights in consumer buying behaviour as well. The firms investing in digital operations of their businesses, is expected to offer several benefits, few of them being maximised brand awareness, increased potential customer base and few more. The e-commerce businesses largely depend upon maximising the conversion rate, thereby increasing the potential profit, overall revenue, and sales. In addition to these, investing in the e-commerce stores poses avenues or opportunities

for the untapped revenue streams for upcoming or new businesses.

Classification of e-commerce businesses enables the businesses and strategists an insight in the financial as well as business aspects of any enterprise. On the basis of the services offered, different types of e-commerce business models can briefly be described as:

- *Business-to-Business (B2B)*: This e-commerce model includes the transactions between one business to another, thereby leading to high-value and high-volume relationship.
- *Business-to-Consumer (B2C)*: This e-commerce model is related to the relationships and transactions in between the businesses and end-customers. This model relates to the retail trade which takes place online, as considered opposite to the physical store.
- *Consumer-to-Business (C2B)*: This e-commerce model enables the consumers to offer different services or goods to businesses. The model is considerably equivalent to a sole proprietorship which caters to a larger business.
- *Consumer-to-Consumer (C2C)*: The model incorporates all the transactions of services and goods in between the consumers. These transactions are mainly conducted via a third party, which offers an online platform for the sales to be accepted (e-commerce).
- *Business-to-Administration (B2A)*: “Administration” refers to public governance or administrative entities. The model includes dealings in between the public administration and organisations. In addition to this, the business model also includes varied services in segments such as social security, fiscal, legal entities, employment documents, and few more.
- *Consumer-to-Administration (C2A)*: This model comprises transactions between the public governance and individuals. Most of the transactions in this model includes inquiring about the zoning codes, paying taxes, or fines, and few more.

Among all the above-mentioned business models, B2C and B2B are the most prominent types. Every addressee of the transaction has various needs, wants, as well as business requirements, thereby making the transaction totally different from the other categories. These listed

models are expected to comprise the same products or services, however, their order frequency, quantity, pricing, product expectations, fulfilment methods, or barriers to entry in the market are expected to be significantly diverse.

One of the factors bolstering the growth of e-commerce industry includes features such as ease and convenience for usage to the consumers. These prove to be essential for the consumers because of the fact, that the consumers can easily access various information and description of the products, via various consumer feedbacks and reviews, which helps them to further make their purchase results. Nowadays, the consumers emphasise more on the ease of payments as well as faster and safe delivery of the products. Several online apps offer at-the door delivery option, which favourably impacts the choices and preferences of the customers. The products are hence, easily available via online channels as well, which makes it further convenient for the consumers to make their choices and opt from the various models. Few benefits of e-commerce marketplace are illustrated below briefly:

## Benefits of E-Commerce Marketplace

### Benefits for Buyers

- Receiving real-time updated information in terms of availability and pricing, thereby making it easier for the buyers to get the finest pacts.
- Buyers can find varied options related to different products on a website. This helps the consumers to make the comparative study and analysis easily and accordingly, make their purchase decisions.
- It becomes easier for the buyers to find reliable well-known vendors, thereby enabling them to build a strong partnership with them.

### Benefits for Sellers

- These online platforms enable the vendors and small store owners who are not sure about establishing their own e-commerce websites, or who are not sure about minimising the marketing costs, with large-sized businesses, and accordingly gain distinguishability via their fulfilment selections.
- These also enables the exchange of estimates between the old and newer vendors, hence, maintain-

ing the standardisation processes.

- These acts as a stage for the sales channels to sell and market their goods efficiently.
- The online platforms offer trading in the international e-marketplace, thereby enabling overseas marketing and sales.

### Benefits for Businesses

- An e-commerce platform enables the businesses to operate with the charges being cut on products which the vendors sell, thereby leading to the increase in profit margins for the same.
- These platforms offer a transparent buying pattern, owing to the fact that the prices and product availability are all accessible on one platform.
- Enhanced prospects for both buyers and sellers to create a new trading bond within the supply chain.
- Elimination of time constraints owing to the online platforms.

These benefits and feasibility features provided by e-commerce is rapidly expected to transform the way in which the enterprises are collaborating with each other, and with the governments as well as the consumers. Usage of digital or online operations in the small and micro enterprises, has a notable impact on the performance of the same (Report, 2015). Few of the market players and enterprises, are from China or United States. These include: JD.com (China), Amazon.com (US), Dell (US), and few others. Table 1 illustrates the list of retailers and their overall web sales growth in 2018.

**Table 1: List of E-Commerce Retailers and their Web Sales Growth: 2018**

Retailer	Web Sales Growth	Country	Merchant Type	Merchandise Category
Amazon.com	20.0 %	US	Web only	Mass merchant
JD.com	29.8 %	China	Web only	Mass merchant
Suning Commerce Group Co. Ltd.	32.3 %	China	Retail chain	Mass merchant
Walmart	38.8 %	US	Retail chain	Mass merchant
Vipshop Holdings Ltd.	14.5 %	China	Web only	Mass merchant
Gome Electrical Appliances Holding Ltd.	14.9 %	China	Retail chain	Mass merchant

Hence, the e-commerce enterprises provide notable number of potential benefits such as lesser cost of dealings for both sellers and buyers, better accessibility to the market, enhanced market efficiency, enhanced value chains, and few more. However, the businesses engaged in selling their goods are expected to witness the challenges related to supply and logistics for delivering the goods at certain times. Hence, in order to cater to these issues, it is essential for the businesses to understand their core functionality with significant insights, thereby yielding smoother operations and desirable results.

### **Technological Advancements in E-Commerce Market**

With the increasing technological advancements, businesses, governments, and individuals need to synchronise with the same. Internet is considerably an important tool in our everyday lives for learning, shopping, communicating, and many more. In today's scenario, the businesses are increasingly focusing on connecting with their customers online, on digital platforms, thereby offering ease and convenience to both buyers as well as suppliers. Apart from the expansion of consumer base, the different technologies are anticipated to pose as a challenge for the e-commerce industry and at the same time focus on future growth as well (Palandrani, 2020).

Mentioned below are the few technologies for e-commerce:

#### **Analytics**

Increasing Internet penetration and adoption of smartphones have significantly embraced analytics in the businesses. Availability of e-commerce applications on different devices, is significantly impacting the overall revenue and sales of the products.

Plenty of consumer data in different businesses such as analytics and e-commerce enables the businesses to expand, and hence, serve the consumers in a better way. Increasing complexity of information from point of sales (POS) data, Enterprise Resource Planning (ERP), and Customer Relationship Management (CRM), along with the rise in the data volume, poses challenge to the businesses in terms of obtaining customer behaviour insights. Various analytics abilities with the e-commerce players includes average order value, conversion ratio,

and basket size analysis. However, with the increasing customer base and changing technological scenario, it is becoming an essential factor for the organisations to deploy deeper analytic solutions, which offers insights regarding the customer experiences. Further, these solutions should also encompass complete processes in between the vendor management to the supply chain and the consumers.

Hence, the analytics should encompass holistic view across all segments in the businesses, thereby offering them with better insights, and accordingly help to strategise their business decisions.

#### **Payment Gateways**

Convenience is one of the most important value propositions associated with the e-commerce businesses. Secure and efficient payment options are expected to contribute to the unparalleled growth of the e-commerce market over the forecast period.

Hence, payment gateway holds a significant position in today's digitalised world, in terms of sustainable e-commerce future trends. Implementation of payment gateways in businesses enables the e-tailers to receive the money instantly, thereby reducing the chances of theft and fraud while making the payment. The "mode of payment" in businesses tend to vary region-wise. For instance, according to a study conducted, in the European market, digital fund transfers and debit cards hold significant share, however, in the US and Canadian markets, credit card payment hold significant share.

#### **Artificial Intelligence (AI) Personalisation**

Digital commerce is expected to witness an expansion and development at an exponential rate. The technological advancements enable the marketers to create personalised messages and unique advertisements (ads) for customers in real-time. This includes the usage of machine learning and AI concept for analysing individual behaviours and finding out the elements which impacts the purchase patterns of the consumers.

The concept of AI nowadays is significantly being added by the vendors to transform their businesses. Personalisation of AI in the e-commerce businesses, enables the companies to perform their market research,

operations, as well as the customer engagement processes. Few instances wherein AI is profoundly being used in the e-commerce segment include the area of inventory management, product recommendations, as well as personalised shopping. One of the most important aspects for the e-commerce web stores nowadays, includes offering customised and innovative customer experiences. The AI powered e-commerce personalisation solutions enables the companies to interact with the customers in a realistic manner. AI plays a significant role in the businesses, owing to the fact that these hold the potential for adaptable and dynamic targeting. This type of targeting concept enables the companies to get the right pitch to the right consumer on apt platform. The AI companies nowadays are emphasising towards transformation of e-commerce businesses with unique technological solutions. E-commerce vendors are thereby focusing on the usage of technology, which offers a higher degree of personalisation, thereby treating every customer as an individual target segment.

For instance, companies such as “Artificia”, involves the practice of discovery tools and visual search, in order to link the customer’s choice/interests with individual images, thereby recommending the products, which they are expected to purchase. In addition to these, “Infinite Analytics”, is also engaged in offering AI-powered solutions through interaction with users via voice and text messages.

### Artificial Intelligence Impact on E-Commerce Industry

AI enables the businesses to optimise their brand attractiveness, and offer enhanced shopping experience to the customers. Incorporation of AI offers optimises search results and precise product recommendations for the buyers, to enable them to make purchases according to their needs in minimum clicks. The growing demand of AI technology in the e-commerce market is expected to precisely and effectively cater to the increasing consumer needs and requirements.

The impact of AI on the e-commerce industry is briefly illustrated below:

*Predictive Analytic Solutions:* The AI powered e-commerce platforms help in forecasting the buying decisions of the consumers such as when will they buy something and how much are they ready to spend for the

same. This is mainly done by observing and gathering the data from their earlier purchase orders with the help of automated marketing and predictive marketing systems. These solutions help in revamping the customer experience, thereby increasing the overall customer sales. In addition, these solutions also enable the retailers to perform their routine tasks in an automated manner. This further includes analysing consumer behaviour, and the historical data in terms of user-product interactions, thereby personalising their experience. Hence, the consumers receive personalised recommendations according to their searches, thereby enabling the companies to become more customer-centric.

Convenience plays a significant role among the consumers as well as retailers. Anticipatory shipping is one of the latest concepts in e-commerce. For instance, in 2013, Amazon patented a “system and method for anticipatory shipping”. This concept states that, in spite of reminding the customers or relying on inviting them for their past purchases, the company is trying a process which owes the capability to anticipate a customer’s shopping list and accordingly pack and deliver the products to the nearest centre, even before the placement of an order. Amazon is also the source of the customer psychology which includes delight, deals, and discounts. Hence, implementation of this concept is expected to lead to tremendous boost in sales, and profit margins, along with the rise in customer convenience as well.

*Demand Forecasting:* Understanding the customer expectations is one of the significant aspects in any business. It is paramount to determine the situations which would act as a reason for the clients to change their opinions and act differently. The companies are focusing on deciding on options which makes the products or services very useful to the consumers. The concept of AI in e-commerce businesses offer an array of ways to enhance the businesses with technological innovations. For instance, with the reduction in costs, and the improvement of overall supply chain management, IKEA significantly poses an edge over to all its competitors in the market. IKEA is engaged in offering high-quality of goods at nearly 30% lesser cost, in comparison to its competitors. With the advent of automated technologies, it is becoming easier for the supply chain to gain accessibility to the accurate forecasts. The demand forecasting applications offer improved data visibility with an efficient risk management strategy.

**Solution to Inventory Management Issues:** For an e-commerce website, inventory management poses to be a challenging job. The concept of AI helps in efficient monitoring of the inventory level. This can be done via going through the historic trends in sales, and future market trends, thereby predicting the inventory requirements accordingly. AI-enabled inventory management focuses on maintaining the stocks on the basis of data relevant to (Countants, 2019):

- Forecasted product demand.
- Supply-related problems impacting the inventory levels.
- Historic trends in sales.

Managing inventory poses to be one of the prominent challenges in the e-commerce industry. Overstocking signifies the need for additional capital and running out of stock signifies losing the consumers. Incorporation of AI models in the businesses enables them to predict the inventory requirements with preciseness. In addition to these, the businesses can monitor the trends and fluctuations, thereby permitting effective inventory management.

AI and Big Data technologies are significantly expected to reshape the e-commerce industry. These are engaged in making it easier for the retailers to provide seamless, streamlined, and optimised services to the users. Integration of the Big Data concepts and strategies enables the businesses to gain a competitive edge in the market. However, incorporation of these technologies poses to be challenging for the small or medium sized businesses, owing to the high investments that these entails.

**Recommender Systems:** One of the most significant usage of AI includes Amazon's recommendation engine for creating recommendations. This concept offers personalised web page to the user, the moment they visit the Amazon website, thereby benefitting millions of users. In addition to Amazon, Netflix also delivers nearly 75% of the content to the customers via targeted recommendations. A recommender system is noticeably an essential concept for the online retailers and e-commerce providers. Implementation of these custom solutions enables the retailers to understand the user needs, boosts user satisfaction, as well as increase the overall sales of the companies.

Recommendation of products offer numerous benefits for retailers such as:

- Improvement in sales and customer retention.
- Personalised shopping experience for the customers online.
- Expansion of the customer base.

Hence, the occurrence of machine learning and AI is expected to witness an increase, owing to the fact that the retailers are targeting new methods of enhancing the customer services. AI and Big Data are the two concepts which are being embraced by the e-commerce industries in order to optimise their services.

**Big Data:** The "big data" concept focuses on being a productive source of analysis for the historical data and present trends to gain enhanced consumer satisfaction. Data analysis plays a significant role in creating value to the businesses. Incorporation of "Big Data" in problem solving solutions enables the business segments to address their challenges efficiently. These also enable accessibility to larger amounts of data, thereby streamlining the operational processes, converting the growth into revenue, and hence, expanding their customer base.

Few of the big data solutions which leads to the rise in the e-commerce businesses includes:

- **Optimising the Customer Experience:** Big data enables the e-commerce businesses to identify the browsing history, and consumer behavioural patterns with convenience. The online businesses hence, poses an opportunity for re-targeting the consumers by recommending the products on the basis of their recent purchases or for which they have shown interest. The "Big Data" technology also helps in expanding the number of consumers to the online apps/stores, hence, impacting the overall revenue of the businesses.

The concept thereby enables the businesses to create a 360° view of users. Compilation of previous offline/online transactions, product reviews, and social media feedbacks, offers seamless and optimised consumer experiences.

- **Optimising the Pricing of Products:** Usage of real-time analytics in big data enables the retailers to offer best prices for goods by tracking via historic data.
- **Enhance the Decision-Making on Micro-Moments:** Nearly 70% of the sales are made via the smartphones. Hence, the retailers emphasise on improv-

ing the micro-moment decisions by being connected with the latest technologies related to big data analytics (Bibrainia, 2020).

## Research Methodology

The key research objectives of the study are:

- To identify recent technological developments and advancements in the market.
- To emphasise on the future aspects and challenges in the e-commerce market.
- To identify the factors driving the market growth and the impact of COVID-19 on the overall e-commerce business over the forecast period.

Enclosed aspects comprise market size and estimates of the e-commerce market in terms of revenue over the forecast period; as well as segmentation on the basis of region covering North America, Europe, Asia Pacific, and the Rest of the World (RoW). This helps in determining overall size of the market over the forecasted period in terms of revenue, get insights about the factors which are engaged in propelling the market growth and the factors which poses to be challenging in its development. Recognising the competitors for e-commerce market helps to get an idea about the products and strategies offered, as well as web sales growth of these market players to sustain in the industry. The given information is derived from secondary sources collected and gathered via various investor documents, company annual reports, and statistics published by various market leaders. The data is analysed in view of the following factors:

- Demand and supply estimates.
- Market developments and trends.
- Future aspects and opportunities offering insights on product commercialisation as well as expansion in different regions.

The analysis is carried out on the basis of the historical market data and their respective trends. The data has been categorised based on varied parameters such as region, product, and application. Methodologies to study the gathered data can be illustrated as:

- **Top-Down Approach:** The data are collected for the global scenario and are then separated into different entities (which include product/region/application, in this case it is based on regional analysis).

- **Bottom-Up Approach:** The data are collected and estimated for regional segments and are then combined to obtain the global numbers. The data are then forecasted on the basis of different market initiatives and trends for over the forecast period of 2019 to 2025. This helps to gain holistic information and understand the current market scenario as well as future trends of the same.

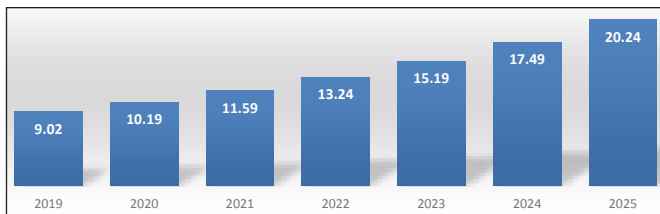
## Analysis

### Global Market Overview

Larger markets are expected to activate significantly larger investments in the e-commerce innovation and technology, thereby boosting the overall market development. The e-commerce industry acts as a potential platform for trade activities. The e-commerce channels prove to be a significant option for various businesses, wherein, lot of companies are investing in to expand their business segments and cater to the changing consumer needs and requirements. Hence, these platforms have revolutionised the manner, in which, companies are investing in their businesses.

E-commerce industry is anticipated to witness a considerable growth in terms of penetration rate, with the online share of the retail sector accounting for nearly 12% in 2017 and rising to approximately 14% by 2018.

One of the factors bolstering the growth of e-commerce industry includes the features such as ease and convenience for usage among the consumers. Consumers can easily access various information and description of products along with feedbacks, recommendations, and reviews posted online, which helps them to further make their purchase decisions. Nowadays, the consumers emphasise more on the ease of payments as well as safe and faster delivery of products. Hence, shifting preferences of the consumers from brick-and-mortar shopping to online, is significantly expected to favourably impact the overall e-commerce businesses. In 2019, the consumers across the world were engaged in spending nearly \$9.02 trillion through the online sales, which is expected to witness significant growth with a CAGR of nearly 14.42%. This has been illustrated in Fig. 1 below:



Source: Secondary Sources.

**Fig. 1: Global E-Commerce Market 2019-2025 (\$ trillion)**

In today's scenario, the retailers are significantly emphasising on the adoption of digital strategies thereby gaining benefits from the online platforms, which includes personalisation, wider reach, and few more. The companies are focusing on efforts to increase the penetration of mobile apps to attain significant growth. Few players in the market have nearly 50% of their revenue coming from the increasing number of mobile apps.

The latest technologies significantly expected to impact the online businesses include the incorporation of 3D printing, social commerce, and analytics. In today's scenario, in order to offer personalised user experiences, the consumers are focusing on investing in data analytics, thereby gaining real-time insights for the customer purchase patterns and behaviour. Hence, the businesses nowadays, are focusing on understanding the consumer needs and requirements, thereby also driving marketing strategies in a better way.

### Regional Segment Analysis

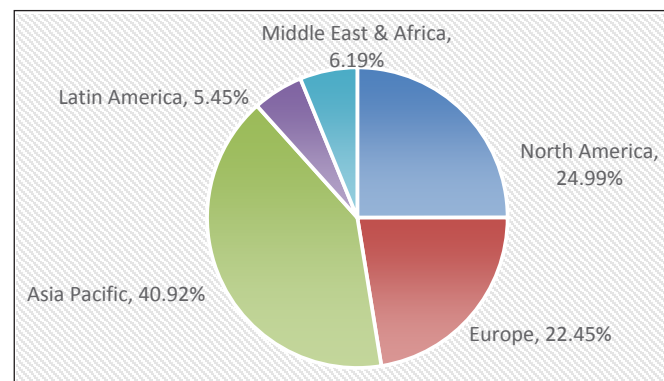
On the basis of geographies, the market is segmented into regions of North America, Europe, Asia Pacific, Latin America, and Middle East & Africa. Asia Pacific accounted for the market share of nearly 40.92% of the overall market (see Fig. 2). This is mainly attributed to the increasing preferences among the industries to carry their operations particularly via the B2B e-commerce platform.

North America accounted for nearly 24.99% of the total share in 2019, thereby witnessing a considerable growth along with the European regions as well. The US was valued at \$2.03 trillion in 2019 and is expected to reach \$4.58 trillion by 2025. The food & beverage industry, beauty & cosmetics, fashion, personal care, and pharmaceutical segments witnessed exponential growth particularly during the pandemic period. The consumers

in the region focus towards essential goods which offers click-and-collect fulfilment and reliable delivery of the products.

The e-commerce market in Asia Pacific valued at \$3.69 trillion in 2019, is growing at a CAGR of 14.63% over the forecast period. This can be attributed to the increasing number of Internet users and smartphone penetration in the different regions.

The Middle Eastern and Latin American regions are expected to witness considerable growth over the forecast period, owing to the increasing online shopping trends in the region. The Middle Eastern and Latin American region witnessed steady growth with CAGR of 13.86% and 13.18% respectively over the forthcoming years.



Source: Secondary Sources.

**Fig. 2. E-Commerce Market by Regional Outlook, 2019 (Market Shares)**

### Market Drivers

**Increasing Internet Penetration:** The digital landscape is witnessing continuous evolution. Broadband and Internet connectivity has witnessed an increase over the past few years. Various countries with the aim to push digital economies are working hard towards increasing the Internet penetration as well as the deployment of LTE (Long Term Evolution) networks. Technological advancements in the consumer appliances or goods industry have pushed end-users to adopt fast broadband connections or mobile internet across the globe.

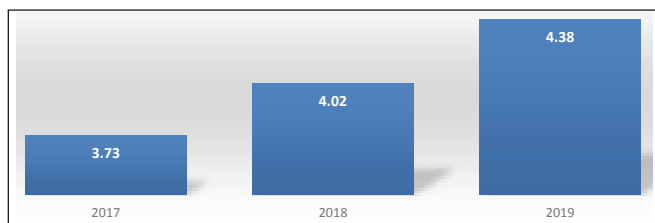
The number of individuals using Internet have witnessed surging rise in demand over the past year.

Few Statistics Related to Internet Penetration: 2019

- There are nearly 5.11 billion unique mobile users across the different regions of the world.
- As per the statistics, there were approximately 4.39 billion Internet users in 2019.
- Social media users comprised nearly 3.48 billion in 2019, wherein, the total across the world were approximately 288 million since the last year.

In 2017, developing countries accounted for the majority of Internet users with about 2.6 billion users compared to 1.19 billion users in the developed countries. However, in terms of penetration, the developing countries only had 43% penetration while developed countries enjoyed a staggering 84% Internet penetration in 2017. Advanced mobile networks such as LTE have reached about 58% of the global population.

Fig. 3 illustrates the total number of Internet users over the period 2017-2019.



Source: Kemp, 2019.

**Fig. 3: Total Number of Internet Users Globally (in Billions)**

### Impact of COVID-19 on E-Commerce Businesses

Before the pandemic crisis, factors expected to boost the growth of e-commerce market included growing awareness in terms of online shopping, increasing internet penetration, rising online launch of products, and lesser price due to bulk purchase. In addition to these, growing number of selective products in the market along with lesser prices of goods due to the economies of scale and direct distribution channels significantly contribute to the growth of the overall e-commerce market in the world.

However, ongoing COVID-19 situation, led to the adoption of stringent measures such as staying at home requirements, and social distancing norms in all the regions, thereby fuelling the demand for online shopping among the consumers. During pandemic, the entire world

was forced to witness the lockdown situation, impacting several businesses across the different industries in the world. However, e-commerce industry has witnessed a surging rise during this ongoing crisis, wherein, it has helped millions of people stay at home and at the same time make their purchases with much ease and convenience.

The ongoing crisis highlighted the trend towards adoption of social media, which thereby impacted the overall growth in sales via different e-commerce websites. The consumers have increasingly shifted their purchase preferences towards online mode rather than the brick-and-mortar mode. The crisis has led to a change in the overall sales structures of the businesses by nearly 65% (United Nations, 2020). B2C and B2B sales of goods witnessed a boost in demand for certain products owing to the ongoing crisis (Organization, 2020). Non-perishable foodstuffs, household essentials, as well as medical supplies (such as disinfectants, surgical masks, and hand sanitisers) were considerably stockpiled during the pandemic. The homebound consumers were forced to entertain themselves and communicate remotely, and the businesses were challenged with teleworking processes. These led to the surge in online purchase of goods, thereby propelling the demand for varied range of digital services as well. Increasing number of customers for the adoption of digital services has further boosted the suppliers of telecommunication and services operators to expand their network capacity and hence, accordingly offer free service and data packages in the market. Owing to the fact that this ongoing crisis has made the online shopping trends gain an enormous rise, businesses can thereby gain significant advantage over their competitors by offering products which are not otherwise available at the stores.

Various campaigns and advertisements for using e-commerce services during the crisis situation have significantly improved the consumer awareness about the different e-commerce opportunities. The businesses thereby have better incentives to exploit on these growth trends via increased presence or online marketing or onboarding on third-party marketplaces. Few businesses are also focusing on expanding their global online presence by acquiring new skills for online marketing. In addition to these, at the same time, in few cases, reduced liquidity has also augmented uncertainty about the future, thereby forcing the businesses to considerably remain afloat with enhanced efficiency. This includes controlling expenses, reviewing of internal operations, as well as

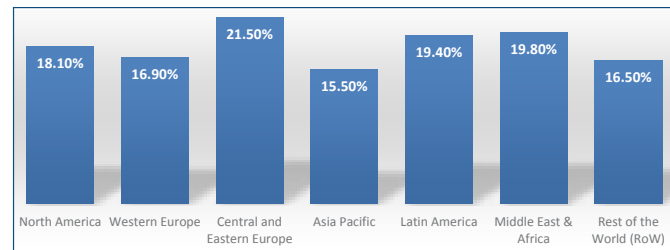
reducing redundant transactions. In today's scenario, the businesses relying on different physical distribution networks are emphasising on the adoption of digital distribution plans (using online marketplaces), thereby reducing the supply costs for various suppliers.

However, supply chain issues and uncertain consumer demand are expected to impact the e-commerce industry. The COVID-19 pandemic has significantly impacted the markets for various products. This health crisis is posing serious threats to the global finance, trade, and economy. The global supply chain has also been facing disruptions owing to the surge in market demand. The manufacturers depend on a complex global supply chain which is mostly centred around. The impact of coronavirus is anticipated to disrupt the supply chain of the manufacturing and industrial sectors, thereby causing the weakening of imports and the export of goods and services across different regions in the world. In addition to this, risk aversions are also witnessing a significant rise in the financial markets.

### Future of E-Commerce

In today's scenario, business models are increasingly having a significant impact across the e-commerce market and retail value chains. Over the past few years, the consumer expectation and behaviours had witnessed evolution. However, the COVID-19 pandemic has left significant and lasting mark on the consumer landscape. The technology which otherwise would have taken years to be incorporated, happened within weeks. The businesses shifted from offline or brick-and-mortar stores to online platforms. The crisis altered the importance and role of digital experiences in the customers lives. In today's scenario, the consumers are emphasising on the ease of usage, speed, immediacy along with intuitive digital experiences across different devices and channels. Hence, the businesses or the brands catering to such expectations are witnessing maximum profits.

Due to the lockdown situations across different regions, several and retailers were forced to shut down their businesses. However, at the same time, the e-commerce market experienced an all-time exponential rise within few weeks. This record acceleration in the market was powered by the global retail giants, and wholesalers, thereby boosting the overall consumer acquisition costs. The retail e-commerce sales growth across different regions in 2020 is illustrated in Fig. 4.



Source: eMarketer.

**Fig. 4. Retail E-Commerce Sales Growth (Region-Wise)**

The retail sector is expected to undergo an unparalleled wave of revolution. E-commerce as a percentage of retail sales across the world is expected to witness a surge over the forecast period. With the upsurge in COVID-19 cases since last year, the consumers have shifted towards the online shopping mode. The cross-border e-commerce sales witnessed an increase of nearly 21% from Jan-June 2020, with sales of luxury products goods rising by approximately 39% (Evans, 2020). For instance, in the United States, the consumers bought more from the e-retailers outside of their country. The cross-border web sales witnessed a growth rate of nearly 7% year-on-year (YOY) in April, and approximately 42% in May, thereby contributing to an increase in the total of cross-border e-commerce growth from January to mid of June in 2020 in the US. Similarly, the regions of Western Europe, witnessed a growth rate of nearly 23% and 30% YOY in the cross-border e-commerce sales respectively in the months of April and May, thereby leading to approximately 9.5% increase by mid of June.

In order to capitalise the e-commerce businesses and to overcome competition, it is thereby essential to optimise trade across different channels such as retail, social media, and online marketplaces. Retail closures, travel bans, and lockdowns, hence, propelled the retailers to shift their businesses towards online mode, hence competing on the changing scenario and the consumer experiences.

### Market Challenges

The e-commerce industry is significantly being driven by the shifting consumer preferences in terms of convenience, payment, and delivery options of products. However, there are several challenges also being faced by the e-commerce industry.

*Poor Digital Marketing Skills:* Unlike the conventional media (advertisement space or purchased airtime), the social media platforms such as Twitter, Facebook are free. However, lack of marketing skills in relation to social media platforms are expected to impact the organisation's brand sales, equity, consumer retention, and acquisition.

*Security Concerns:* In today's scenario, with the advancement in technology, the online fraud attacks are significantly expected to be higher. The sophistication and complexity of these attacks are on rise, but these also weigh heavily on the customers who do not make online transactions. The security in the e-commerce market poses to be similar to that of the cyber security. The e-commerce security strategies are engaged in dealing with only two key issues (Ladan, 2014):

- Achieving secured transactions between the sellers and consumers.
- Protecting the business network integrity.

Few of the dimensions related to the same are mentioned below:

- *Authentication:* It is very essential to make sure that only authorised people are allowed to log on to the organisations.
- *Confidentiality:* Confidentiality poses to be an essential dimension in the online-shopping mode. The sensitive information and data given by the consumers' needs to be encrypted so that these are not easily broken.
- *Integrity:* Integrity plays a crucial role in understanding that the information or data are not tampered or modified by any unauthorised persons and are also not used without the users' consent.

*Compliance with Health and Safety Regulations:* Growing number of small packages ordered directly to the consumers poses to be a challenge. This can be with respect to the compliance of safety and health regulations in the importing countries, as well as with respect to offering protection for the worker's health who are inspecting and handling the goods. In some instances, the regulatory authorities and agencies engaged in assessing the product conformity with such regulations are not prepared to inspect larger volumes of packages, via courier or postal services. In addition to these, the disruptions in the logistics chain have also been significantly altered due to the ongoing pandemic situation. All of these

factors together have posed as a challenge for the border authorities at the international level to determine the risks involved in every transaction in terms of regulatory barriers, and Technical Barriers to Trade (TBT), for the different goods.

## Conclusion

In today's scenario, the e-commerce market is witnessing exponential growth in different regions of the world, wherein the tech savvy retailers need to constantly stay updated with the latest trends and innovativeness in the market. It is very essential for the retailers to invest in the customer experience in order to gain profitability in their businesses. The rising growth of the overall e-commerce market can mainly be attributed to the changing consumer shopping preference scenario, which includes delivery speed, discounted shipping, along with the easy availability of products and their wider ranges as well. Intense usage of social media and number of smartphone users is also expected to propel the demand for online purchasing among the users. The companies and individuals towards selling and purchasing the products via B2B e-commerce platform is gaining traction across the world. In addition to these, the B2B e-commerce companies are witnessing surge in the market owing to the fact that these platforms offer new possibilities to the sellers and buyers along with the reduction in their inventory and operational costs as well.

The leading market vendors focus on incorporating strategies, such as merger & acquisition strategy, strong focus on the R&D sector, along with the expansion of their business segments via acquisitions as well. The retailers nowadays are focusing on implementing unique strategies in their businesses, to cater to the changing competitiveness in the market.

Key takeaway statements from this paper are:

- E-commerce businesses are efficient, reachable as well as profitable.
- In 2019, Asia Pacific accounted for the largest market share which was nearly 40% of the overall e-commerce market. This is mainly attributed to the expansion of products and several start-ups in the regions such as India, and China which significantly emphasises on the innovative techniques of research techniques, marketing, and advertising their products.

- Europe and North America are expected to show significant growth in the overall e-commerce market.
- The e-commerce market is highly fragmented and is expected to witness fierce competition over the forecast period. The companies are engaged in incorporating various strategies in order to sustain their presence and cater to the changing competitive scenario.

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