E-Commerce in India: The Last Frontier

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Abstract

The push for e-commerce in India over the past several years has catapulted the country to become one of the fastest growing nations in the world for e-commerce. E-commerce in countries such as the U.S. and China, among many others, has been well entrenched for many years. However, India's foray into e-commerce has been slightly overdue. Due to daunting challenges related to infrastructure, disposable income, culture, etc., currently e-commerce in India is only a miniscule share of the retail market. At the same time, the opportunities associated with e-commerce are phenomenal and India is expected to continue with its journey, growing a robust e-commerce sector, at full steam. The vast size of the Indian market, with a population of 1.3 billion people, has already also attracted global e-commerce players to the market to ensure their competitive position in the Indian e-commerce sector.

Keywords: E-Commerce, India, Online, Amazon, Walmart, Reliance, Flipkart

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The retail market landscape in India is currently dominated by mom and pop stores. In fact, according to Bellman and Agarwal (2018), this market is significantly fragmented with more than 14 million such stores, with many smaller than 600 square feet. Furthermore, these type stores account for approximately 90% of the retail market in India. Bellman (2018) observes that most of these mom and pop retailers in India are generally the size of a closet, where the choices are limited and the products are expensive since the retailer has to go through many middlemen to get the products. A 2019 report concerning digital India, from the Mckinsey Global Institute, states that there are 231 million micro-, small, and medium-size trading enterprises in India which are mostly sole proprietorships or family-run shops. These stores are generally part of the cash-driven, informal, economy where there is no verifiable record keeping, limited ability to borrow and serve customers from outside their immediate vicinity. Even so, India's rural shoppers spent an estimated $400 billion on retail sales during 2017 and e-commerce companies want a bigger share of the pie.

Making the transition to an e-commerce dominate retail sector is going to take enormous resources in India. Purnell (2018) shows that in 2018, before Mr. Mukesh Ambani, Head of Reliance Industries, deployed a 4G network in India, India's internet infrastructure lacked the basic bells and whistles needed to develop a working e-commerce platform. Mishar and Rastogi (2020) note that since this 2018 investment in infrastructure, millions of Indians from all corners of the subcontinent have jumped on the internet bandwagon, opening new possibilities for e-commerce and Indian corporations to conduct their business. Specifically, as noted by Bellman (2018), e-commerce companies, such as Amazon, are focusing on an estimated 800 million rural Indians who do not have access to retailers. Such a shift to e-commerce has obvious costs and benefits to large retailers as well as the small mom and pop shops; however, this shift also allows customers, especially rural customers broader access to a wider variety of products.

As is well known, e-commerce is generally defined as any transaction between a buyer and a seller over the internet. There are, obviously, various detailed forms of e-commerce such as Business to Consumers (B2C), Business to Business (B2B), Consumer to Business (C2B), and Consumer to Consumer (C2C). This research will primarily spotlight the B2C aspects of e-commerce in India using secondary sources where businesses sell directly to the consumer. Specifically, the focus of this paper will be concerned with the growth of internet access and participation in India, and Amazon's current strategy to attract customers. First, global competitive dynamics related to e-commerce is examined. Next, the growth of e-commerce in India is discussed, looking specifically at challenges and opportunities. The third section details Amazon's strategy in India and the final section concludes.

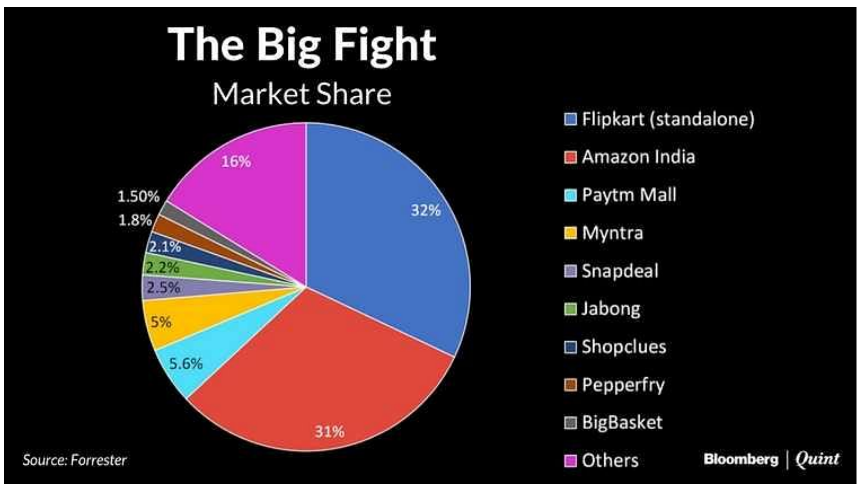
E-Commerce Global Competitive Dynamics

The 2019 Global E-commerce Market Ranking report indicates that, in terms of overall e-commerce revenues, China is the world's largest e-commerce market with $639.09 billion in 2018 while the U.S. takes the second spot with revenues of $504.5 billion. While both nations have a long history of embracing e-commerce, revenues in this sector continue to experience significant growth. In fact, e-commerce retail sales grew much faster than traditional retail sales in each nation. Specifically, Cheung (2019) illustrates that e-commerce sales grew much faster than total retail and projects that e-commerce sales will represent 63.9% of total retail sales by 2023. In the U.S. market, Lipsman (2019) forecasts retail sales growth of 2% while e-commerce is expected to increase by 12.8% in 2020. As developed as these markets are within China and the U.S., Chinese e-commerce leaders (Alibaba, Tencent, JD.com, and Pinduoduo) have found it difficult to infiltrate the U.S. market and U.S. e-commerce leaders are notably absent from the world's largest e-commerce market.

On the other hand, the potential of the Indian e-commerce market has attracted leading players in the global retail market. Alibaba, Tencent, Amazon, Walmart and Facebook have all made significant investments in this growing e-commerce sector. In fact, Bhandari and Agarwal (2019) note that Chinese companies have invested nearly $4 billion in venture investments in India's digital sector. Specifically, Sriram (2019) indicates that Alibaba has invested over $2 billion in various Indian companies, with a specific emphasis on the e-commerce sector, while Gooptu (2018) notes that Tencent has invested close to $1.5 billion in Indian startups. U.S. based e-commerce companies have currently invested more than $20 billion in India. According to ET Bureau (2020), Amazon considers the Indian e-commerce market to be of huge strategic importance and has thus invested more than $5 billion since 2013. Furthermore, Nassauer and Abrams (2018) remark that Walmart shelled out $16 billion to acquire a 77% share of India's largest e-commerce company.

With these, and other, significant investments in Indian e-commerce, companies are engaging in a significant struggle for market share. Figure 1, below, provides and illustration of the current market share distribution in India. According to Sharma (2018), Flipkart currently has the largest share of the Indian e-commerce market. Flipkart is shown as having 32% of the total market share in Figure 1; however, Flipkart also owns Myntra and Jabong (leaders in online fashion merchandise) which account for another 7.2% of market share. This brings Flipkart's total market share to 39.2%. Amazon India is a close second with 31% market share. After Amazon, market share drops precipitously to Paytm Mall's 5.6%. Srivastava (2019) describes Paytm Mall is an Indian digital payments company that has raised close to $3.5 billion from investors such as SoftBank, Alibaba, Ant Financial, EBay, Berkshire Hathaway and SAIF Parthers and was valued at $16 billion in November 2019. Snapdeal is the only other company with at least 2.5% of market share and is of note given its launch in 2010 makes it one of the earlier e-commerce companies in India. According to IBEF Snapdeal, the company currently offers more than 60 million products across 800 categories from 300,000 retailers in more than 6,000 cities and towns in India. Rai (2016) specifies that Alibaba, Softbank, and Foxconn have invested approximately $1.78 billion in Snapdeal.

Figure 1: Current Market Share Distribution



Source: Sharma (2018)

Jio Platform (JP) did not make the major market share list show in Figure 1; however, the company has experienced significant recent investment. JP is owned by Mr. Mukesh Ambani which is ranked 21st on Forbes' list of billions in 2020 (Forbes World's Billionaire List, 2020). As stated by McGregor (2020), JP has developed an e-grocery delivery platform – JioMart -- to collaborate with its traditional brick and mortar subsidiary, Reliance Retail. In making what Purnell (2020) refers to as its largest overseas investment, Facebook has invested $5.7 billion, acquiring a 9.99% share in JP. Purnell continues, following Facebook's announcement, Silver

Lake announced an investment of $750 million, while Vista Equity Partners invested $1.5 billion and General Atlantic, a private equity powerhouse, has invested $870 million. These investments, totaling approximately $8.8 billion, is an affirmation of the belief that Mr. Ambani is best positioned to deliver on enabling India to become a digital powerhouse. McGregor (2020) details additional investments in JP, bringing the total to more than $15 billion, with investors acquiring a 25% stake in JP. What is equally significant is that Mr. Ambani raised these funds while most of the world was under lockdown due to Covid-19.

Growth of E-Commerce in India

India's e-commerce market is very small compared to the Chinese and U.S. markets, totaling only $32.7 billion during 2018 according to eMarketer Editors (2018). Considering India's population, investment in internet infrastructure beginning in 2018, and other factors, eMarketer Editors (2018) predicts Indian e-commerce to more than double to $71.94 billion by 2022. This annual growth rate, just under 32%, places India's e-commerce growth at more than one and one-half times the world average and second fastest in the world. See Table 1 below for the top ten countries ranked by e-commerce growth in 2019.

Current growth notwithstanding, India with its e-commerce retail sales of $32.7 billion is very small compared to the Chinese and the American e-commerce markets. Even more than doubling current e-commerce revenue in India by 2022, as discussed above, will still leave e-commerce revenue in India well behind these global leaders. This is especially true as e-commerce markets in these nations are continuing to grow as well. For example, Young (2020) notes that the U.S. e-commerce sector grew by approximately 14.9% during 2019. This continued growth is significant given the long history of e-commerce markets in the U.S. The size and continued growth in the U.S. market provides insight into potential continued long-term growth for e-commerce in India.

Table 1:Top 10 Countries Ranked by Retail E-commerce Sales Growth 2019		
#	Country	Growth Rate %
1	Mexico	35
2	India	31.9
3	Philippines	31
4	China	27.3
5	Malaysia	22.4
6	Canada	21.1
7	Indonesia	20.6
8	Argentina	18.8
9	Russia	18.7
10	South Korea	18.1
Worldwide		20.7
Source: Lipsman: Global E-commerce Report 2019		

The attractiveness and long-term potential of the Indian e-commerce market is highlighted by the fact that currently, India only had 360 million online shoppers during 2019, (Global E-commerce Market Ranking 2019). Thus, approximately 75% of India's population is yet to embrace online shopping, whereas China already has most (1 billion out of 1.4 billion) of its population shopping online. In the US, there are about 259 million online shoppers. Both the US and China markets are well developed with entrenched competitors, whereas India is wide open for multinational companies to establish a presence in the e-commerce sector. India could very well be the last frontier as far as a nation-state is concerned with the possibility of bringing another 500 - 700 million customers online. Undoubtably, transition from the traditional shopping experiences, described above, will take time; however, India is poised to make such a transition.

According to Das & Affreen (2015), drivers of internet growth in India can be attributed to rising standards of living, interest of multinational companies in this virtually untapped market, decrease in the cost of internet access, and the increased use of digital devices such as the smartphone. Misra and Rastogi (2020) discuss the availability of wider variety of product range as compared to what is available at brick and mortar retailers as a tremendous incentive for customers to jump on the e-commerce bandwagon. McCarthy (2019) notes that the cost of mobile internet in India is one of the cheapest prices in the world: in the US, the cost of 1gig of Internet data is $12.37 whereas the same amount of data would cost only 26 cents in India. According to an Internet World Stats Report (2020), there were approximately 5 million internet users in 2000 (Q4) and that number has grown to 560 million in 2020 (Q1).

Challenges to the Growth of E-commerce

Mitra (2013) suggests, for all of the potential, growth of the e-commerce sector is disruptive to Indian businesses, both large and small, and will force businesses to change the way they traditionally operate in order to accommodate this surge of Internet users. This shift toward e-commerce will also necessitate a change in how customers customarily make purchases in India. These problems encompass items like available purchasing power, population demographics, literacy, store size and product availability, etc. This section details some the myriad challenges faced by businesses and consumers in this process.

Disposable income is obviously necessary to make any purchase, traditional or online. When contemplating the income that Indians have available to spend on e-commerce, GDP Per Capita is a good indicator of the market potential. Table 2, below, compares the GDP Per Capita on a purchasing power parity (PPP) basis of the US, China, and India (CIA World Factbook). As shown in the table, GDP per capita in China is more than two- and one-half times larger than

India while the U.S. is more than eight times larger, indicating that the average Indian consumer has a lot less to spend. Such vast differences could be a tremendous challenge to e-commerce as the value proposition must be reconsidered. Purnell and Mickle (2018) provide an example of such an obstacle when major e-commerce companies are attempting to compete in the Indian market. They review how Apple, with its $1,000 phones, has only about 1% of the smartphone market in India, despite the fact that smartphone ownership is growing faster than any other country (Purnell and Mickle, 2018).

Table 2: GDP Per Capita (2017 PPP Estimates)	
Countries	Amount
US	$59, 800
China	$18, 200
India	$7, 200
Source: CIA World Factbook	

Given that the GDP Per Capita is much lower when compared to US and China, other metrics such as Average Revenue Per User (ARPU) in the e-commerce market and User Penetration (UP) could also play an important role in the development of the Indian e-commerce sector. Currently, at only $79, India's e-commerce ARPU is almost twenty times smaller than in the U.S. and more than fourteen times smaller than China. Thus, e-commerce growth in India is dependent upon industry players finding creative ways to entice Indian consumers to spend more of their limited income in this market segment as opposed to the traditional market. One , all be it less creative, way to improve Indian ARPU is to focus on UP which is currently at 39%. This low level could perhaps be explained by the fact that the average mobile connection speed is slow, inhibiting users from embracing the internet. Purnell, Kim & Acosta (2018) place current internet speed in India at a paltry 0.07 megabits per second while the U.S and China are much faster at 27.39 and 33.96 megabits per second, respectively. This is obviously an infrastructure issue; however, it provides a basic method for expanding e-commerce in India. Table 3, below, summarizes differences between these metrics in India and e-commerce leaders, China, and U.S.

Table 3: 2020 Average Revenue Per User/ User Penetration		
Countries	Average Revenue Per User	User Penetration
US	$1,521	77%
China	$1,141	64%
India	$79	39%
Source: Statista Country Reports (2020)		

Omidyar Network (2018) and Purnell, Kim & Acosta (2018) both note language as another barrier to increasing the number of online shoppers in India. Additionally, Kshetri (2007) finds that local language websites, lack of English knowledge skills to maneuver websites and, skills especially to complete a purchase, are also important factors to consider. For example, something as ubiquitous as a “shopping cart” gets lost in the cultural context, especially in rural areas of India where numerous local languages are prevalent.

According to the 2001 Census conducted by the Government of India (Office of the Registrar General & Census Commissioner), the overall literacy rate for India is 64.8 %. However, a further breakdown of gender literacy rate reveals that there is a gap of 21.6 % between males and females: the male literacy rate is 75.3%, and the female literacy rate is 53.7%. This difference is more pronounced at the rural level. Purnell, Kim, and Acosta (2018) observe that Facebook users in India also reflect a similar pattern, where 77% of the users are male. Furthermore, Sachitanand (2019) reports that only about 20% of customers on e-commerce are women. This wide disparity in the gender usage of internet may impede the growth of e-commerce.

Still another challenge related to the growth of e-commerce is the current makeup of the retail sector in India. As mentioned in the introduction, India's retail sector largely consists of very small mom and pop style stores and shifting to an e-commerce-based retail sector will undoubtedly result in serious disruptions of these establishments. As evidence of such disruptions, Rai (2020) details how a January 2020 visit to India by Jeff Bezos was greeted with protests from small business owners because of the predatory tactics utilized by e-commerce leaders Amazon and Flipkart. Specifically, the protestors charge the e-commerce giants with flouting existing rules by promoting sales and discounts through their favored sellers.

Lawrence and Tar (2010) began investigating these potential disruptions much earlier, identifying additional items such as: clear norms related to e-commerce, a sufficient legal environment to address a plethora of new legal issues, and government institutional readiness. One such legal change began in 2016, when norms regarding Foreign Direct Investment (FDI) were stated. Anand & Chakravarthy (2019) outline the FDI rules as unallowed for inventory-based e-commerce to consumers, but allowable in marketplaces where independent sellers can list and sell goods. These rules were enforced beginning on February 1, 2019 and had an immediate impact. PeerMohamed (2019) notes that Amazon has equity ownership in both Cloudtail and Appario, which happen to be the largest sellers on Amazon. Amazon responded to FDI rule enforcement by reducing its equity from 49% to 24% in Cloudtail in 2019, with a similar divestment in Appario.

The optics of these divestments clearly hurts Amazon and feeds into the narrative that multinational companies with deeper pockets will decimate small business owners. Pietsche (2020) shows the continued distrust of Amazon, detailing that Amazon finds itself the subject of anti-trust investigations in both India and Europe given the company's double role as the largest retailer and largest marketplace. Amazon is not alone, retailers such as Walmart and Flipcart are accused by smaller retailers of engaging in predatory practices when offering deep discounts and giving preferential treatment to preferred retailers. In fact, as pointed out by Kalra (2020 and Pietsche (2020), trade groups representing more than 70 million brick and mortar retailers accuse Amazon and Walmart of anti-competitive behavior which results in creating high entry barriers and high capital costs for any new entrant in the market.

While the challenges already discussed are significant, there are many additional difficulties confronting e-commerce in India. Almousa (2013) notes additional challenges on the consumer side. Consumer disruptions include various uncertainties related to product verification prior to purchase, credit card security, shipping costs, returns and exchanges, etc. As discussed by Chitura et. al. (2008), Jana (2018) and Kuneva (2009), small businesses also face a host of complicated issues, such as obtaining an online connection, establishing an online presence, who will pay for the product, how will customers pay, what happens if the goods do not arrive, etc.

Two examples, payment for goods and transportation, provide definitive examples of problems related to e-commerce in India. Regarding payment, Bellman (2018) describes credit card usage in many rural areas as very limited, and one must be ready for a “cash on delivery” option. Transportation and delivery are key functions in the world of e-commerce, and both currently lack appropriate infrastructure in India. The typical “last mile” delivery poses enormous challenges where even addresses are archaic and someone without knowledge of the local layout of alleyways will be completely lost. These issues and many others, especially in rural India, are causes for significant concern as consumers and businesses alike, lack the basic knowledge and/or infrastructure related to e-commerce processes.

Opportunities with E-commerce

Despite the daunting challenges discussed above, digitization in the retail sector creates opportunities for both businesses and consumers. In fact, e-commerce, including an online marketplace has opened a world of trading that was previously unimaginable to both consumers and mom and pop store owners alike. On the consumer side, just a few years ago, many customers, especially in rural India, had very limited options in terms of what they could purchase because the small stores in their area offered few choices. Bellman (2018) specifies that customers did not know where to go to purchase the items they have seen on TV or read about. For producers, digitization has opened an avenue for exporting wares outside the country, which was previously beyond the realm of possibilities.

Recognizing the vast potential of the e-commerce market and the infrastructure deficiencies, India's government has undertaken numerous initiatives aimed at increasing the digitization rate. A 2020 report from the Indian Brand Equity Foundation (IBEF) lists Digital India, Make in India, Start-up India and Skill India and Innovation Fund as prominent programs which have shown positive results. Specifically, as noted by Keelery (2020), consumers have responded overwhelmingly to digitization efforts thus far, as India's digital population has soared to 687.6 million. Mishra and Rastogi (2020) expects the government to accelerate this digital push toward what Keelery (2020) indicates as a potential trillion-dollar digital economy by 2025. However, Kumar et. al. (2018) notes a necessity of improving telecom infrasturcure to sustain this phenomenal growth.

With digitization, traditional business methods are beginning to change as small and large businesses have an opportunity to expand. As noted previously, in the mom and pop sector, it is mostly an informal economy, and everything is cash based. As such, these businesses suffered from a lack of "verifiable" data yielding a very limited ability to expand. As digitization improves, these businesses do have "data" which can be mined for competitive purposes and presented to commercial lenders when seeking loans for business expansion. Likewise, McKinsey Global Institute Report (2019) remarks that internet access also affords businesses easier methods for managing their accounts and inventory, paying suppliers, and billing customers. This new technology enables even the small mom and pop stores in rural areas to create "virtual" stores and customers can have purchased delivered directly to their homes.

Entry of multinational companies, such as Amazon, have also worked to transition the more traditional market. While obviously working for themselves, Suneja (2020) indicates that these companies are also working at the behest of the Indian government to boost exports from small and medium scale industries. For example, as detailed by ET Bureau (2019), Amazon India's vendors, more than 50,000 strong, sold more than $1 billion in international markets with a goal of exceeding $5 billion by 2025. This level and type of activity was previously beyond the realm of possibilities. Amazon is also leveraging the mom and pop stores, enlisting them as package depots along its distribution network. They also are used as learning centers for new shoppers who are still hesitant to purchase something from someone who they have never seen or met. Complementing "virtual stores" with learning centers opens possibilities for businesses of all sizes to connect with their customers.

Amazon's Strategy in India

Given the ubiquitous presence of mom and pop stores across India, Amazon realized that it was imperative for them to leverage these mom-and-pop stores as partners. According to Mishra (2019), proximity, trust, knowledge of local customers, availability of credit, handling of returns/exchange are some advantages these mom and pop stores have that large new-comers such as Amazon will find it hard to duplicate overnight. To attract customers, any new shopping experience has to offer much more than these mom and pop stores can provide. Rather than leaping into an unknown world with little customer trust, it is better to enlist these mom and pop stores as virtual storefronts, providing a window to the world of e-commerce where a customer in a remote corner of India can explore what the entire world has to offer from the comfort of their traditional storefront.

Govindrajan and Warren (2016) detail Amazon's educational program for small vendors, a new concept called, Amazon Chai Cart. This program utilizes mobile tea carts which navigate city streets, serving refreshments to small business owners while teaching them the virtues of e-commerce. Within about 4 months of the program's launch, these mobile tea carts travelled 9,500 miles across 31 cities, served 37,200 cups of tea and engaged with over 10,000 sellers. Another initiative included Amazon Tatkal, a self-described "studio on wheels", is essentially a van with a studio and internet access, that provides a suite of launch services, such as registration, imaging, cataloging, and sales training. Within 60 minutes a seller could be brought online and sell their wares to anyone in the world.

Amazon also offers programs in addition to bringing the smaller retailers online. One such program, Fulfillment by Amazon (FBA), is another attempt by Amazon to take away some of some of the additional pain-points experienced when these small retailers move online, i.e., storing, picking, packing, and shipping. This is accomplished by encouraging sellers to send their goods to Amazon's fulfillment center and then for a small fee Amazon makes all these pain-points disappear. "Easy Ship" and "Seller Flex" are two additional programs developed by Amazon to reach retailers who may not want or need all services available through FBA. "Easy Ship", focuses on delivery and Amazon couriers pick up packaged goods from a seller's place of business and deliver them to consumers. "Seller Flex" allows warehouse owners to designate a section of their own warehouses for products to be sold on Amazon.in, and Amazon coordinates all the logistics associated with the delivery of the product. Yet another program, Amazon Transportation Services Private Limited, focuses on augmenting delivery and utilizes bicycle and motorbike couriers for last-mile deliveries in both urban and rural communities.

Amazon has enlisted mom and pop stores as partners in their quest to be the e-commerce leaders of the world. Singh (2020) discusses Amazon's "I have Space" program, which has partnered with more than 20,000 such small retailers. Under this program items ordered are delivered to these partner stores and customers are notified that their packages are ready to be picked up at their neighborhood store. If packages are to be delivered to the homes of customers, then these neighborhood partners are in a much better situation to get these delivered because of their knowledge about the lay of the land.

As they attempt to attract the next 100 million new customers, Amazon's comprehensive e-commerce program also addresses the gender gap and trust barriers previously discussed. Sachitanand (2019) provides explanation of Amazon's attempt to address the gender gap issue via the "Saheli" program. The goal of this program is to assist more than 100,000 women entrepreneurs in joining the e-commerce marketplace. Specifically, this program is designed to assist these entrepreneurs in familiarizing themselves with the Internet and to help them sell their products on a digital platform. Concerning building trust with retailers and customers who are new to the internet, Thakur (2018) explains that Amazon India unveiled a Hindi version of its Android app and mobile website in a bid to reach a larger audience and overshadow competitors like Flipkart and Paytm Mall, which do not yet offer these services. This move is vastly important as Hindi users are expected to reach 536 million users by 2021, especially as the English language population is growing at only 5%.

Conclusion

In the two largest e-commerce markets, China and the US, the major players in this sector seem to be well ensconced in their home turfs. The next big market that is up for grabs is India with a 31% growth rate and the possibility of bringing in another 500-700 million consumers online. This is a very lucrative proposition that will continue to have a huge impact on how global e-commerce players will compete. However, there are some challenges that will continue to hamper the growth of the e-commerce sector. Government regulation is also a cause for concern due to the uncertainties associated with changes in policy. Despite these challenges, continued interest in the Indian e-commerce will continue with global players investing billions of dollars to ensure their competitive position in the Indian e-commerce sector. The allure of e-commerce which democratizes the retailing process is powerful enough that it will continue to grow irrespective of the governmental forces. When to buy, what to buy, where to buy, and how much to pay is a phenomenon that is here to stay. The competition for the Indian e-commerce market will continue to be intense where the Amazon has already developed a comprehensive strategy to attract customers and Walmart along with other formidable competitors (Alibaba, Tencent, etc.) are investing heavily and will continue to fight for the hearts and the minds of millions of potential customers who are poised to embrace e-commerce.

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