E-Commerce in India: Growth, Drivers, Challenges and Future Prospects

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Abstract:

India has emerged as a major player in the global commercial landscape, particularly after the economic reforms of 1991. With rapid internet penetration, rising smartphone adoption and evolving consumer behavior, e-commerce has become a disruptive force transforming traditional business models. This paper reviews key literature on e-commerce's impact, with a focus on India, examining influential publications, models of e-commerce, historical development, key drivers, growth prospects and challenges. The study highlights significant trends in online retail, mobile commerce and international platforms, while also addressing barriers such as infrastructure limitations and payment challenges. The paper concludes by emphasizing the need for innovation, policy support and language- and technology-driven inclusivity to ensure sustainable growth in the Indian e-commerce sector.

Keywords: E-commerce, India, Online Retail, Digital Commerce, Mobile Commerce, B2B, B2C, D2C, C2C, C2B, Internet Penetration, Online Payments

Introduction:

In the current global commercial environment, India has emerged as a key participant. Its inexorable economic development after the reforms of 1991 has caught the curiosity of worldwide administration and industry researchers. The goal of this article is to examine publications on the effect of e-commerce that have been published in major marketing and economics publications. In Indian commerce, with the goal of determining which papers are the most influential, which issues have gotten far more interest, what the main conclusions are and what additional research is required.

E-Commerce:

E-commerce represents a tidal change. It's a "disruptive" invention that's upending the traditional business model. Digital commerce is an emerging model or component of a broader business model that enables a firm or individual to make transactions over an electronic network, most often the internet. E-commerce is described as the buying and selling of goods and services, as well as the transfer of money or data, through an electronic network, most notably the Internet. "These encounters can be business-to-business, business-to-consumer, consumer-to-consumer, or consumer-to-business. The term e-tail refers to the online retail transactional operations. E-commerce applications include email, fax, online catalogues and shopping carts, Electronic Data Interchange (EDI), File Transfer Protocol and Web services. It may be thought of as a more
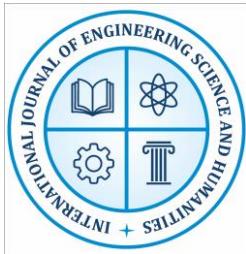
sophisticated kind of catalogue mail-order purchasing. E-commerce is the process of moving a company's operations on the World Wide Web. E-commerce is already being observed in every element of a business, from customer service to new product development. It allows for new types of information-based commercial activities, such as online advertising and marketing, to reach and engage with customers" (2). The number of firms embracing e-commerce has increased in recent years. Similarly, major Indian portal sites have shifted their revenue streams away from advertising and toward ecommerce. In addition to food, electrical equipment and computers, many websites also provide a diverse variety of goods and services, such as flowers, greeting cards and movie tickets.

Following are the most traditional types of e-commerce models:

1. **Business to Consumer (B2C):** Business-to-consumer e-commerce is the most frequent (B2C). A transaction between a corporation and a client, such as when you buy a rug from an online store, is referred to as business to consumer.

2. **Business to Business (B2B):** A firm selling a product or service to another company, such as a manufacturer and a wholesaler, or a wholesaler and a retailer, is referred to as B2B e-commerce. Business-to-business e-commerce is not intended for consumers and generally involves commodities such as raw materials, software, or integrated products. Manufacturers can also sell directly to retailers via B2B ecommerce.

3. **Direct to Consumer (D2C):** Consumer-to-consumer The most current kind of ecommerce is e-commerce and trends in this sector are continuously evolving. A direct-to-consumer (D2C) brand sells directly to the end user without the need of a retailer, distributor, or wholesaler. Subscriptions are a popular direct-to-consumer commodity and social selling via platforms such as Instagram, Pinterest, Facebook, SnapChat and others is popular for direct-to-consumer sales.

4. **Consumer to Consumer (C2C):** C2C e-commerce refers to the sale of an item or service to another consumer. Consumer-to-consumer transactions are facilitated through platforms such as eBay, Etsy, Fivver and others.

5. **Consumer to Business (C2B):** Consumer to business is when a person offers their services or products to a business organisation. C2B comprises visible influencers, photographers, consultants, freelance writers and so on.

Historical Development of E-Commerce:

The ARPANET is used to organise a cannabis transaction between students at the Stanford Artificial Intelligence Laboratory and the Massachusetts Institute of Technology "in 1971 or 1972, which is later referred to as the first act of e-commerce in John Markoff's book What the Dormouse Said. Michael Aldrich showed the first online purchasing system in 1979" (1). "Thomson Holidays UK developed the first business-to-business internet purchase system in 1981, while France
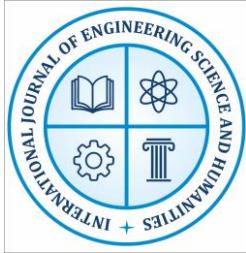
Télécom debuted Minitel, which was utilised for online purchasing, countrywide in France in 1982. In 1983, the California State Assembly conducted the first hearing on electronic commerce in Volcano, California. CPUC, MCI Mail, Prodigy, CompuServe, Volcano Telephone and Pacific Telesis are all there to witness. (Quantum Technology, which subsequently became AOL, is not permitted to testify.) In 1984, Mrs Snowball, 72, is the first online home shopper and Gateshead SIS/Tesco is the first B2C online shopping system. In April 1984, CompuServe launches the Electronic Mall in the United States and Canada. It is the first all-inclusive e-commerce solution" (3).

Tim Berners-Lee creates the first web browser, WorldWideWeb, on a NeXT computer in 1990. "Cleveland's Book Stacks Unlimited launches a commercial sales website (www.books.com) in 1992, selling books online and accepting credit cards. Paget Press publishes The Electronic AppWrapper, version No. 3 of the first app store, in 1993" (4).

In October 1994, Netscape launches the Navigator browser, codenamed Mozilla. Netscape 1.0 was released in late 1994 and it included SSL encryption, which assured transaction security. "In 1994, Ip switch IMail Server became the first application available for purchase and immediate download online, owing to a cooperation between Ipswitch, Inc. and OpenMarket. In 1994, Sting's Ten Summoner's Tales became the first safe online purchase. In 1995, the National Science Foundation of the United States lifts its previously tight restrictions on commercial activities on the Internet. On Thursday, April 27, 1995, Paul Stanfield, Product Manager for CompuServe UK, purchased a book from W H Smith's shop within CompuServe's UK Shopping Centre, marking the UK's first national online shopping service secure transaction. The shopping service was originally used by W H Smith, Tesco, Virgin Megastores/Our Price" (4).

In 1995, Jeff Bezos establishes Amazon.com and the first commercial-free 24-hour internet-only radio stations, Radio HK and NetRadio, go on the air: "A computer programmer named Pierre Omidyar founded eBay as AuctionWeb. IndiaMART, a B2B marketplace, was established in 1996. In 1996, ECPlaza B2B marketplace was established in Korea. Electronic postal stamps were launched in 1998 and they may now be bought and downloaded for printing through the Internet. Alibaba Group was formed in 1999 in China. After being purchased for $149,000 in 1997, Business.com was sold to eCompanies for $7.5 million. The application for peer-to-peer file sharing The debut of Napster. ATG Stores is establishing an online store to offer home décor items. In 2000, the dot-com bubble crashed. Alibaba.com became profitable in December 2001. In 2002, eBay paid $1.5 billion for PayPal" (5). Wayfair and NetShops are specialised retail firms that were created with the purpose of selling items across several domains rather than a single portal. Amazon.com makes its first yearly profit in 2003.

Bossgoo, a B2B marketplace, was founded in China in 2003. In 2004, DHgate.com, China's first online business-to-business transaction platform, is founded, forcing other b2b sites to abandon
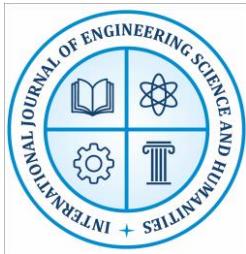
the "yellow pages" paradigm. R.H. Donnelley paid $345 million for Business.com in 2007. Amazon.com paid $928 million for Zappos.com in 2009. Retail Convergence, the owner of the private sale website RueLaLa.com, was purchased for $180 million by GSI Commerce, with up to $170 million in earn-out payments contingent on performance through 2012. "In 2010, Groupon purportedly turned down a $6 billion offer from Google. Instead, the group buying websites went public on November 4, 2011. It was the biggest IPO (initial public offering) since Google. Quidsi.com, the parent company of Diapers.com, was purchased by Amazon.com in 2011 for $500 million in cash plus $45 million in debt and other liabilities. eBay paid $2.4 billion for GSI Commerce, a company that builds, develops and operates online shopping sites for brick-and-mortar stores" (6). Overstock.com processed more than $1 million in Bitcoin sales in 2014. The Indian e-commerce sector is expected to expand by more than 30% to $12.6 billion between 2012 and 2013. eCommerce and online retail sales in the United States are expected to exceed $294 billion in 2014, a 12% increase over 2013 and accounting for 9% of total retail sales.

In Indian E-Commerce, The Key Drivers Are

A large majority of the population has broadband Internet access, there are a growing number of 3G internet users and 4G and 5G has recently been introduced across the country. Smartphone users are rapidly increasing and the country is on its way to become the world's second largest Smartphone user base. Rising living standards as a result of the rapid reduction in the poverty rate. When compared to what is accessible at brick and mortar stores, the availability of a considerably broader product variety (including long tail and Direct Imports) is available. Prices that are competitive with brick-and-mortar retail due to disintermediation and lower inventory and real estate expenses. Increased use of online classified sites, with more people buying and selling used items. Million-Dollar Startups Like Jabong.com, Saavn, Makemytrip, Bookmyshow, Zomato and Others.

The retail market in India was valued at $470 billion in 2011 and is anticipated to rise to $675 billion by 2016 and $850 billion by, representing a 10% CAGR. According to Forrester, India's e-commerce sector would expand at the highest rate in the Asia-Pacific area between 2012 and 2016, with a CAGR of more than 57 percent. As of June 2015, India has around 354 million internet users. "Despite having the world's second biggest user base (second only to China) (650 million, or 48 percent of the population). In compared to markets such as the United States (266 million, or 84 percent), or France (54 million, or 81 percent), e-commerce penetration is modest, but it is expanding at an unparalleled rate, with around 6 million new entrants added each month. According to the industry consensus, growth has reached a tipping point. In India, cash on delivery is the most common payment method, accounting for 75% of all e-commerce transactions. International consumer goods demand (including long-tail items) is increasing far faster than
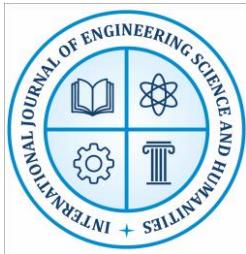
supply from authorised distributors and in-country e-commerce choices. Flipkart, Snapdeal, Amazon India and Paytm are some of India's largest e-commerce firms" (7).

E-commerce has had a huge influence on daily life as well as the way businesses and governments operate. Commerce takes place on the Internet-Web in electronic marketplaces supply chains. "Alibaba and other companies have constructed enormous business-to-business marketplaces. The so-called sharing economy promotes more efficient use of resources, as demonstrated by Airbnb's internet rentals of private homes. On-demand platforms allow near-instant access to services such as transportation (for example, Uber), computer and storage resources supplied by cloud service providers and medical and legal support. Clothing and vehicles are two examples of online-sold products that may be mass-customized" (6). Handle the majority of manufacturing activities and transport the goods. "Social networking services, such as Facebook, facilitate a wide range of individual interactions and serve as a platform for so-called social commerce, which is fuelled by users' thoughts and reviews as electronic word-of-mouth. Online communities bring individuals together who wish to share their knowledge, make long-lasting friendships, or express themselves in public. Individuals who, for example, create open-source software together and over long periods of time, or continually replenish an online encyclopaedia, become a major source of value cocreation in those communities" (4).

The Internet is also a kind of dynamic human interaction that enhances and, in some cases, replaces conventional media. "The hypermedia aspect of the Web, with the interlinking of multimedia material available on globally spread sites, enables the creation of new types of media commodities, which are frequently given away for free. New media includes blogs, video aggregators (such as YouTube), social media (created, for example, with wiki technology) and customised electronic newspapers. This characteristic of the Web, like that of traditional media, leads to its use in marketing. Web advertising may range from display adverts on websites to keyword ads presented to information searchers via search engines such as Google. Mobile advertising is rapidly expanding as a result of the widespread use of smartphones" (2). Marketers may obtain detailed information about individuals owing to the computerised collection of multidimensional profiles when people browse the Internet.

India's E-Commerce Growth and Prospects:

According to the study, rising internet and smartphone penetration, acceptance of online payments and favourable demographics have created a once-in-a-lifetime opportunity for businesses to interact with their consumers in the Indian e-commerce market. E-commerce income will more than five to seven times that of the previous year. "It is expected that purchasing habits in 2016 would witness a significant upward movement as a result of competitive online discounts, rising gasoline costs and a larger and more plentiful assortment that will hit the e-commerce industry in 2016. Mobile commerce (m-commerce) has been discovered to be a dependable and secure

complement to the e-commerce business. Shopping online via smart phones is a game changer, with industry leaders anticipating that m-commerce may account for up to 70% of total sales. In India, mobile devices and tablets account for around 60-65 percent of all e-commerce transactions, representing a 50 percent increase over 2015 and anticipated to continue. With browsing trends changing from desktop to mobile devices in India, online purchasing is expected to follow suit, with one out of every three customers already transacting via mobile in tier-1 and tier-2 cities" (4). "In 2015, mobile devices accounted for 78% of all retail queries, up from 46% in 2013. Clothing grew the most in 2015, growing by about 69.5 percent over the previous year, followed by technology items at 62 percent, infant care products at 53 percent, beauty and personal care products at 52 percent and home furnishings at 49 percent. Mumbai was found to be the most popular destination for online shopping, followed by Delhi, Ahmedabad, Bangalore and Kolkata. In terms of payment, it indicates that more than 45 percent of internet customers chose cash on delivery over credit cards (16%) and debit cards (16%). (21 per cent). According to the study, just 10% chose online banking, while 7% preferred cash cards, mobile wallets and other related payment options. Among the aforementioned age groups, the 18-25 age group has been the fastest growing online, with both male and female sectors contributing to user growth. According to the poll, 38% of regular customers are between the ages of 18 and 25, 52% are between the ages of 26 and 35, 8% are between the ages of 36 and 45 and 2% are between the ages of 45 and 60" (6).

India's E-commerce Challenges:

India has a lower credit card base and rural India suffers from a lack of timely postal services. Slow transmission speeds, frequent disconnects, the expense of wireless connections and the wireless communication technologies utilised to transfer data are all impeding Internet access today. "The bulk of the country's people cannot afford high-speed Internet access. The majority of people in India are either unfamiliar with or inadequately skilled in the English language. As a result, language has become one of the most essential factors in acquiring, employing and selling a product or service via online transactions via technological devices" (3).

Conclusion:

E-commerce has transformed India's commercial environment, reshaping how businesses operate and consumers interact. From its modest beginnings to a multi-billion-dollar industry, Indian e-commerce reflects innovation and adaptability, supported by rising internet penetration, affordable smartphones and supportive demographics. However, challenges such as limited rural connectivity, payment infrastructure gaps and language barriers persist. Addressing these issues through policy reforms, localized technology solutions and improved logistics will be crucial for sustained growth. The future of Indian e-commerce lies in integrating mobile commerce, social commerce and AI-driven personalization to meet the needs of a diverse consumer base.

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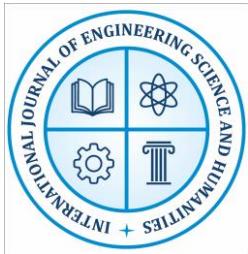
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