

Emerging Trend of E-Commerce in India: Some Crucial Issues, Prospects and Challenges

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Abstract:

Since 1991, after economic reforms explicitly took place in India as a result of opening-up of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular. With advancements in technology, there have been changes in the methodology for business transactions. India, being a rapid adaptor of technology is apace with the current scenario of electronic data exchanges and has taken to e-commerce. In view of this, this article tries to present a snapshot of the evolution of e-commerce business indicating the chronological order, category of e-commerce business, description of organizations involved in e-businesses in India, key characteristics of the firms engaged in e-commerce application, to examine the growth of e-commerce in both physical and financial terms, to evaluate the benefits obtained from e-business, to critically analyze the barriers and constraints involved in flourishing e-commerce businesses in India and finally to develop a framework for effective dissemination of e-commerce in India. The role of government should be to provide a legal framework for e-commerce so that while domestic and international trade are allowed to expand their horizons, basic rights such as privacy, intellectual property, prevention of fraud, consumer protection etc are all taken care of.

Key words: E-commerce, India, internet, online.

1. Introduction:

Electronic commerce is presently an indispensable ingredient of India's trade facilitation policy. Since 1991, after economic reforms explicitly took place in India as a result of opening of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. Resultantly, last few years have witnessed a technological revolution accompanied by the wide spread use of the Internet, web technologies and their applications. Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular. As a symbol of globalization, e-commerce represents the cutting edge of success in this digital age and it has changed and is still changing the way business is conducted around the world. The commercialization of the Internet has driven electronic commerce to become one of the most capable channels for inter-organizational business processes. Consequently, Internet growth has led to a host of new developments, such as decreased margins for companies as consumers turn more and more to the internet to buy goods and demand the best prices¹. The internet augments the traditional businesses to be transformed because 'incumbents (in markets) and large firms do not have the advantage 'just by virtue of being there first or by being of big'. The implication of perfectly competitive market as the world will observe is that market will produce an efficient allocation of resources. Internet has accurately been an effective instrument in changing the straightforward ways of doing business. In any market with no entry barriers – the 'Net' is biggest of them, the continuous arrival of competition will, routinely, drive down the prices. In

such a case, in long term all firms could only earn normal profits. Electronic commerce (or e-commerce) encompasses all business conducted by means of computer networks. Advances in telecommunications and computer technologies in recent years have made computer networks an integral part of the economic infrastructure. More and more companies are facilitating transactions over web. There has been tremendous competition to target each and every computer owner who is connected to the Web.

Although business-to-business transactions play an important part in e-commerce market, a share of e-commerce revenues in rapidly developing countries like India is generated from business to consumer transactions. E-commerce provides multiple benefits to the consumers in form of availability of goods at lower cost, wider choice and saves time. People can buy goods with a click of mouse button without moving out of their house or office. Similarly online services such as banking, ticketing (including airlines, bus, railways), bill payments, hotel booking etc. have been of tremendous benefit for the customers. Online businesses like financial services, travel, entertainment, and groceries are all likely to grow. E-commerce evolved in various means of relationship within the business processes. It can be in the form of electronic advertising, electronic payment system, electronic marketing, electronic customer support service and electronic order and delivery.

E-commerce stands for electronic commerce and pertains to trading in goods and services through the electronic medium, i.e. the Internet or phone. On the Internet, it pertains to a website, which sells products or services directly from the site using a shopping cart or shopping basket system and allows credit card payments. It involves conducting business with the help of the electronic media, making use of the information technology such as Electronic Data Interchange (EDI). In general connotation, ECommerce involves paperless transactions and usage of EDI (Electronic Data Interchange), electronic mail, bulletin boards, fax transmissions, and electronic fund transfers. It refers to the process of trading goods and services through an electronic medium such as the internet. With advancements in technology, there have been changes in the methodology for business transactions. India, being a rapid adaptor of technology is apace with the current scenario of electronic data exchanges and has taken to eCommerce. E-commerce is being used for purchase and sale of multiple products and there are multiple players using various portals and websites for this purpose. The information technology industry might observe it as an electronic business application aimed at commercial transactions. It can involve electronic funds transfer, supply chain management, e-marketing, online marketing, online transaction processing, electronic data interchange (EDI), automated inventory management systems, and automated data collection systems. It typically uses electronic communications technology such as the Internet, extranets, e-mail, e-books, databases, and mobile phones.

However, there exists no standard definition for the term and different organizations have defined it in different manner. E-commerce is understood to mean the *production, distribution, marketing, sale or delivery of goods and services by electronic means*². The Asia Pacific Economic Co-operation (“APEC”) has adopted a comprehensive definition of e-commerce to include *all business activity conducted using a combination of electronic communications and information processing technology*³. The United Nations Economic and Social Commission for Asia and the Pacific (“UNESCAP”) have also defined e-commerce as *‘the process of using electronic methods and procedures to conduct all forms of business activity*⁴.

The objectives of this article are to:

- a). To present a snapshot of the evolution of e-commerce business indicating the chronological order, category of e commerce business, description of organizations involved in e-businesses in India, key characteristics of the firms engaged in e-commerce application.
- b). To examine the growth of e-commerce in both physical and financial terms.
- c). To evaluate the benefits obtained from e-business.
- d). To critically analyse the barriers and constraints involved in flourishing e-commerce businesses in India and finally to develop a framework for effective dissemination of e-commerce in India.

2. Chronological order in the evolution of e-commerce:

E-commerce can be traced back to the first electronic computers, which were built in the 1950s (Smith, K.T. 2008). However, e-commerce did not gain extensive popularity until development of the World Wide Web in the 1990s. A chronological sequence of events concerning the Internet and e-commerce is provided below.

• *Chronological order of events in the evolution of Web and E-Commerce:*

1946 : The first electronic computer, ENIAC, is constructed at the University of Pennsylvania.

1957 : The Soviet Union launches Sputnik, the first artificial satellite.

1958 : To counter Soviet technological advances, the U.S. forms the Advanced Research Projects Agency (ARPA), with the Department of Defense, to develop U.S. leadership in science and technology applicable to the military.

1969 : ARPANET, the forerunner of the Internet, established with four nodes: UCLA, Stanford, UC-Santa Barbara, and University of Utah.

1970 : First applications of electronic data interchange (EDI).

1973: First international connection to ARPANET, University College of London. Initial work on a transmission protocol (later to be called TCP/IP) that allows diverse computer networks to interconnect and communicate with each other.

1974 :BBN opens Telnet, the first commercial version of ARPANET.

1982: Transmission Control Protocol (TCP) and Internet Protocol (IP) established by ARPA. This leads to a definition of an "internet" as a connected set of networks, specifically those using TCP/IP, and "Internet" as connected TCP/IP internets.

1983: Internet Activities Board (IAB) is created.

1984: Science fiction author William Gibson coins the term "cyberspace" in his novel, *Neuromancer*. Internet host computers (computers with registered IP address) exceed 1,000.

1987: Internet users exceed 10,000.

1988: Internet worm disables 6,000 of 60,000 Internet hosts. A Cornell University graduate student created the worm. Infected computers were connected through ARPAnet and other E-mail networks in the Internet loop. Some of the US's top science and research centers were affected.

1989:Internet users exceed 100,000.

1990 :The ARPANET is shut down.

1991: Sir Tim Berners-Lee, working at CERN in Geneva, develops a hypertext system to provide efficient information access. He posts the first computer code of the World Wide Web in a relatively innocuous newsgroup, "alt.hypertext." Later, people refer to the Internet itself as the Web.

1992: World Wide Web released by CERN.

1994: Pizza Hut sells pizza on its website. First Virtual, the first cyber bank, opens.

1997: Inception of business-to-business (B2B) e-commerce.

US Postal Service issues electronic postal stamps.

2000: Internet users exceed 360 million.

2011: Internet users tally almost 2 billion. Users in over 200 countries are connected. [Sources: Smith et al. (2010) and Internet World Stats (2011)].

[Insert Table -1 here]

3. Distinct categories of e-commerce: E-commerce, which primarily refers to buying, selling, marketing and servicing of products or services over internet is classified into B2B (Business to Business), B2C (Business to Consumer) and C2C (Consumer to Consumer) and C2B(Consumer to Business). Four distinct categories of electronic commerce can be identified as follows:

• *Business-to-business (B2B)*:

B2B transactions are largely between industrial manufacturers, partners, and retailers or between companies. Business-to-Business refers to the full spectrum of e-commerce that can occur between two organizations. Among other activities, B2B e-commerce includes purchasing and procurement, supplier management, inventory management, channel management, sales activities, payment management, and service and support. According to Outlook Business magazine (May 20, 2008), the total B2B transactions in India in the year 2008 are likely to be US\$100 billion and B2B marketplaces could account for \$15 to \$20 billion out of that. India's largest B2B portal Tradeindia, maintained by Infocom Network Ltd, also stated that e-commerce transactions in India show a growth rate of 30 percent to 40 percent and will soon reach the \$100 billion mark. In near future, e-commerce is going to play a major role in multimedia, entertainment and fashion industry. The foreign branded companies are eager to take full advantage of the growing Indian market and are trying to create market for their products over the net. Gucci Co. an Italian iconic fashion and leather goods label is eager to make its hold in India with Business to business transactions. Some of the key B2B exchanges in India are tradeindia.com, matexnet.com, Alibaba.com, AuctionIndia.com, Indiamart.com, TeaAuction.com, MetalJunction.com, Chemdex (www.chemdex.com), Fastparts (www.fastparts.com), and FreeMarkets (www.freemarkets.com)etc.

• *Business-to-Consumer (B2C)*:

B2C transactions take place directly between business establishments and consumers. Although business-to-business transactions play an important part in e-commerce market, a share of e-commerce revenues in developing countries like India is generated from business to consumer transactions. Business-to-Consumer e-commerce refers to exchanges between businesses and consumers, e.g., Amazon.com, Yahoo.com and Schwab.com. Similar transactions that occur in business-to business e-commerce also take place in the business-to-consumer context. For instance, as with smaller business-to-business, transactions that relate to the "back office" of the customer (i.e., inventory management at the home) are often not tracked electronically. However, all customer-facing, or "front office" activities are typically tracked. These include sales activities, consumer search, frequently asked questions and service and support. Railway and Airlines have played a vital role in e-commerce transactions in India. Travel portals are exploding in India. Recently, Make My Trip.com has shown Rs 1000 crores of turnover. Travel alone constituted 50% of Rs 4800 crore online market in 2007-08. In India, online services like ticketing, banking, tax payment, bill payment, hotel room booking, entertainment, online games, matrimonial sites, job sites, etc. are showing signs of development in business-to-customer transactions. There has been tremendous boost in the online business with the stock exchange coming online. Online valentine gifts and Diwali gifts are also becoming popular along with the birthday cakes. No doubt, the total value of the B2B transactions is much larger than that of the B2C transactions, because typically B2B transactions are of much greater value than B2C transactions. It seems that the B2C market in India will take time to grow as compared to the B2B market.

• *Consumer-to-Consumer (C2C)*:

C2C sites don't form a very high portion of web-based commerce. Most visible examples are the auction sites. Basically, if some one has something to sell, then he gets it listed at an auction sites and others can bid for it. Consumer-to-Consumer exchanges involve transactions between and among consumers. These exchanges may or may not include third-party involvement as in the case of the auction-exchange eBay. Other activities include: classified ads(e.g., www.numberoneclassifieds.com), games (www.heat.net), jobs (www.monster.com), Web-based communication (www.icq.com), and personal services (e.g., Yahoo! Personals, webpersonals.com).

• *Consumer-to-Business (C2B)*:

Consumers can band together to form and present themselves as a buyer group to businesses in a consumer-to-business relationship. These groups may be economically motivated as with the demand aggregator, Mercata.com, or socially oriented as with cause-related advocacy at voxcap.com.

4. Companies involved in E-commerce business in India:

E-commerce companies in India presents the most tangible and finest e-commerce solutions, provide high

end e-commerce solution taking utmost care of the privacy and security of the e-commerce website. E-Commerce service includes shopping carts, database programmers, graphic design services, graphics,e-business,Flash designs etc.

(i).ASA Systel Communications Pvt Ltd:

It is a foremost E-commerce company in India which provides innovative and superb quality web services encompassing the building of e-commerce related websites and portals. The company also uses the latest payment modes and security. It has its offices in Chennai, Lucknow and will shortly set up offices in Delhi, Mumbai, Kathmandu, and Bhopal.

(ii).Candid Info:

This New Delhi -based e-commerce company is a renowned Offshore Outsource Web designing development e-commerce company which offers off shore web development ,designing, SEO solutions for large corporations and SME's. The company specializes in Web Hosting, E-commerce solutions, portfolio, SEO, Blog etc.

(iii).Chenab Information Technologies Private Limited :

This E-commerce company in India comprises of web enabled business and web bases services, airline and security systems by using the internet technologies and tools of the state of the art. The company has three Software Development centres in Mumbai and the overseas branch office in New York. It is the first software company across the globe to get the certification of ISO 9001:2000.

(iv).Eurolink Systems Limited:

This leading E-commerce company provides consulting and e-business solutions, FlexTCA Systems, Trillium Protocol services to the global community. In order to be compliant with specific customer requirements, the company combines customized and COTS HW/SW. The company has its offices in England, U.S, Switzerland, India with about 200 employee strength.

(v). HashPro Technologies:

It offers e-business and traditional analysis, development, implementation, design and strategic planning. It is a leader in the provider of integrated talent management software organization in India. It is key technology consulting provider. It renders services like the E-commerce Hosting, Internet Marketing, Human Resources. The e-Workforce initiative of the company will enable the company to become a 100 percent e-Corporation.

(vi).Compare Info Base:

The company is leading provider of e-commerce portals and IT solutions. The company manages about 1500 websites and portals with 4000 domain names. It has web presence in Maps, Software Development,GIS Travel,Education,Media, Greetings etc. The company is a significant name in developing and selling E business. It specializes in Content development services, Website development services,PHP Programming & Development etc.It has its office in Mumbai, Kolkata, Delhi.

(vii). Sanver E-solutions:

This company is based in Mumbai. They believe that Information Technology is a way to the business objectives. It is a IT consulting and Solutions Provider which offers personalized and personal business solutions using Information and Communication Technology. It renders other services like the CRM & SFA,Sugar CRM Hosting, Implementation etc.

(viii).Planet Asia:

This E-commerce company in India uses track record and deep experience in externalized applications to produce high quality B2SPEC(Business to Partner, Supplier, Customer) solutions to global enterprises.

(ix).Candid Web Technology:

This fast growing e-commerce Company in India is a provider of Complete Web Solutions for the design

and development of dynamic web sites .The clients of the e-commerce company spans from the small scale companies to corporate organizations.

(x). Module Soft:

It is a website designing company that is based in India but serve clients all over the World. Also it provides various E-Commerce solutions.

(xi). Trisoft Design:

Trisoft Systems is a software services company that offers solutions exclusively on the Microsoft Platform to customers worldwide. 10 years of experience on the Microsoft Platform puts the company at the forefront of Net Technology.

[Insert Table -2 here]

5. Growth and Prospects of E-Commerce in India:

E-commerce in India is still in budding stage but it offers extensive opportunity in developing countries like India. Highly intensed urban areas with very high literacy rates, an enormous rural population with fast increasing literacy rate, a rapidly growing internet user base, technology advancement and adoption and such other factors make India a dream destination for e-commerce players. Moreover, stumpy cost of personal computers, an emergent installed base for Internet use and a progressively more competitive Internet Service Provider (ISP) market has added fuel to the fire in augmenting e-commerce growth in Asia's second most populous nation. India's eCommerce industry is on the growth curve and experiencing a surge in growth. The Online Travel Industry is the biggest segment in eCommerce and is flourishing largely due to the Internet-savvy urban population. The other segments, categorized under online non-travel industry, include e-Tailing (online retail), online classifieds and Digital Downloads (still in a blossoming stage). The online travel industry has some private players such as *Makemytrip*, *Cleartrip* and *Yatra* as well as a strong government presence in terms of IRCTC, which is a successful Indian Railways initiative. The online classifieds segment is broadly divided into three sectors; Jobs, Matrimonial and Real Estate. Mobile Commerce is also growing rapidly and proving to be a stable and secure supplement to eCommerce due to the record growth in mobile user base in India, in recent years. Growth drivers and barriers are present in equal measures for new eCommerce ventures.

A description by the Internet and Mobile Association of India has exposed that India's e-commerce market is mounting at an average rate of 70 percent annually and has grown over 500 percent since 2007. The current estimate of US\$ 6.79 billion for year 2010 is way ahead of the market size in the year 2007 at \$1.75 billion. The following chart depicts the growth of E-commerce in India in the last couple of years.

[Insert Table -3 here]

Apparently, more online users in India are willing to make purchases through the Internet. Overall e-commerce industry is poised to experience a high growth in the next couple of years. The 70 percent year on year growth is expected to continue and India's e-commerce market is forecast to reach a whopping \$US 10 billion by the end of 2011. The e-commerce market in India was largely dominated by the online travel industry with 80% market share while electronic retail (E-Tailing) held second spot with 6.48% market share.

[Insert Table -4 here]

E-Tailing and digital downloads are expected to grow at a faster rate, while online travel will continue to rule the major proportion of market share. Due to increased e-commerce initiatives and awareness by brands, e-Tailing has experienced decent growth.

According to the Indian Ecommerce Report released by Internet and Mobile Association of India (IAMAI) and IMRB International, " The total online transactions in India was Rs. 7080 crores (approx \$1.75 billion) in the year 2006-2007 and it was grown by 30% to touch Rs. 9210 crores (approx \$2.15 billion) by the year 2007-2008. According to a McKinsey-Nasscom report the e-commerce transactions in India has

reached \$100 billion by the 2008. Although, as compared to the western countries, India is still in its initial stage of development.

Home Internet usage in India grew 19% from April 2006 to April 2007. In April 2007 it became 30.32 million and the e-Marketer accepts that there will be 71 million total Internet users in India by 2011. India is showing tremendous growth in the e-commerce. Rival *tradeindia.com* has 700,000 registered buyers and it has the growth rate of 35% every year which is doubled in the year 2008. *Indiamart.com* claims revenues of Rs. 38 crores and has a growing rate of 50 every year. It receives around 500,000 enquiries per month. Undoubtedly, with the middle class of 288 million people, online shopping shows unlimited potential in India. The real estate costs are touching the sky. The travel portals' share in the online business contributed to 50% of Rs 4800 crore online market in 2007-08. The travel portal *MakeMyTrip.com* has attained Rs 1000 crores of turn-over which is around 20% of total e-commerce market in India. Further an annual growth of 65% has been anticipated annually in the travel portals alone.

[Insert Table -5 here]

According to a McKinsey-Nasscom report, the e-commerce transactions in India are expected to reach \$100 billion by the 2008. Although, as compared to the western countries, India is still in its initial stage of development. E-Marketer forecasts that online sales will more than double by reaching \$168.7 billion in 2011. Market share is moving toward Australia, India and especially China. China's share of regional B2C e-commerce will grow more than threefold from 4.1% in 2006 to 14.3% by 2011. At the low end, South Korea's B2C e-commerce sales will grow by 13.3% over the same period. Between 2006 and 2011, the aggregate CAGR for the five countries will be 23.3%. Sales of selected countries in Asia Pacific Online travel is the largest e-commerce sales category in most major countries. For the same group of five countries, plus New Zealand, online leisure and unmanaged business travel sales totaled about \$17.7 billion in 2007 and are forecast to rise to \$41.7 billion by 2011. E-Marketer forecasts that from 2006 to 2011 online travel sales will grow at a 24.8% annual rate, higher than the 23.3% rate for B2C e-commerce. This indicates that travel is one of the key drivers of e-commerce sales in the APAC region. In China and India, online-travel spending drives B2C e-commerce sales, and it accounts for a majority of total sales. Consumers are less wary of buying services like train or airline tickets online, and sellers can avoid the logistics and delivery problems associated with physical goods. Jeffrey Grau, senior analyst at e-Marketer, said that such preferences underscore how e-commerce in the region has a vast amount of growth ahead. E-commerce in these markets will have come of age when consumers start buying more expensive, high-touch categories such as apparel, home furnishings and jewellery.

According to the eBay Census Guide, 2009 for Indian e-commerce scenario, it has been observed that India has over 2,471 eCommerce Hubs consisting of the cities, towns, villages and smaller towns which cover the entire length and breadth of the country.

Technology or technology related products dominate India's domestic e-commerce. Whereas, lifestyle product category dominates in the global trade. Technology, being India's favourite traded vertical category contributes 44% of totals eCommerce transactions according to the latest eBay Census. Lifestyle category at 35% comes second in popularity for online Indians. For Global Trade, lifestyle is the clear winner at 64% of all transactions followed by Media & Collectibles at 15% each.

Elaborating India's domestic online shopping scenario, South India has the most active buyers at 41% of all transactions, followed by West India at 27%. However, West India has the most active sellers at 46%, followed by North India at 28%. Delhi entrepreneurs sold the most technology gadgets at 46% of all transactions to buyers in India. Lifestyle scored on the Exports front at 67% of all transactions.

Delhi sells the most musical instruments – percussion, brass, synthesizers, and guitars - in the country. In addition to this, Delhi buyers bought the most sunglasses in the country according to the eBay census. Delhi buyers have also bought the most number of high end digital cameras in the country.

India is showing tremendous growth in the e-commerce. Rival *tradeindia.com* has 700,000 registered buyers and it has the growth rate of 35% every year which is likely to double in the year 2010. *Indiamart.com* claims revenues of Rs. 38 crores and has a growing rate of 50 every year.

It receives around 500,000 enquiries per month. Undoubtedly, with the middle class of 288 million

people, online shopping shows unlimited potential in India. The real estate costs are touching the sky. The travel portals' share in the online business contributed to 50% of Rs 4800 crores online market in 2007-08. The travel portal MakeMyTrip.com has attained Rs 1000 crores of turnovers which are around 20% of total e-commerce market in India. Further an annual growth of 65% has been anticipated annually in the travel portals alone.

To make a successful e-commerce transaction both the payment and delivery services must be made efficient. There has been a rise in the number of companies' taking up e-commerce in the recent past. Major Indian portal sites have also shifted towards e-commerce instead of depending on advertising revenue. Many sites are now selling a diverse range of products and services from flowers, greeting cards, and movie tickets to groceries, electronic gadgets, and computers. With stock exchanges coming online the time for true e-commerce in India has finally arrived. On the negative side, there are many challenges faced by e-commerce sites in India. The relatively small credit card population and lack of uniform credit agencies create a variety of payment challenges unknown in India. Delivery of goods to consumer by couriers and postal services is not very reliable in smaller cities, towns and rural areas. However, many Indian Banks have put the Internet banking facilities. The speed post and courier system has also improved tremendously in recent years. Modern computer technology like secured socket layer (SSL) helps to protect against payment fraud, and to share information with suppliers and business partners. With further improvement in payment and delivery system it is expected that India will soon become a major player in the e-commerce market.

While many companies, organizations, and communities in India are beginning to take advantage of the potential of e-commerce, critical challenges remain to be overcome before e-commerce would become an asset for common people. India's e-commerce industry is on the growth curve and experiencing a spurt in growth. The Online Travel Industry is the biggest segment in e-commerce and is booming due largely to the Internet-savvy urban population. The other segments, categorized under online non-travel industry, include e-Tailing (online retail), online classifieds and Digital Downloads (still in a nascent stage). The online travel industry has some private players such as Makemytrip, Cleartrip and Yatra as well as a strong government presence in terms of IRCTC, which is a successful Indian Railways initiative. The online classifieds segment is broadly divided into three sectors; Jobs, Matrimonial and Real Estate. Mobile Commerce is also growing rapidly and proving to be a stable and secure supplement to e-commerce due to the record growth in mobile user base in India, in recent years. Growth drivers and barriers are present in equal measures for new e-commerce ventures.

Indian e-commerce space percentage is getting higher as more and more online retailers enter the market. Although this level of entry in the e-commerce market is good from a long term perspective, the challenge is that most entrepreneurs don't have the resources or capital to wait for years before they can get profits. Major Indian portal sites have also shifted towards e-commerce instead of depending on advertising revenue. The web communities built around these portal sites with content have been effectively targeted to sell everything from event and movie tickets the grocery and computers. This is not to say that the e-commerce scenario has been bad in India as highly successful e-business like *baba bazaar* and *India mart* have proved. Indian Banks too have been very successful in adapting EC and EDI Technologies to provide customers with real time account status, transfer of funds between current and checking accounts, stop payment facilities. ICICI Bank, Global Trust Bank and UTI-Bank also have put their electronic banking over the internet facilities in place for the upcoming e-commerce market speed post also plan to clone the federal express story with online package status at any moment in time. The future looks very prospective for e-commerce in India with even the stock exchanges coming online providing a online stock portfolio and status with a fifteen minute delay in prices.

6. Advantages of E-Commerce to Businesses in India:

There is a rising awareness among the business community in India about the opportunities offered by

e-commerce. Ease of Internet access and navigation are the critical factors that will result in rapid adoption of Net commerce. Safe and secure payment modes are crucial also along with the need to invent and popularize innovations such as Mobile Commerce. India Reports provides accurate and easy to understand India specific reports that capture trends, map business landscapes and custom-made reports for specific needs. The other reports available on India Reports are on retail, outsourcing, tourism, food and other emerging sectors in India. E-commerce provides a new venue for connecting with consumers and conducting transactions. Virtual stores operate 24 hours a day, 7 days a week. Many virtual retailers represent a single company while others, such as Top Online Shopping (toponlineshopping.com), represent a consortium of companies.

Global Trade :

E-commerce is one of the major factors in the globalization of business. Other factors include decreases in trade barriers, globalization of capital markets, the movement toward International Financial Reporting Standards (IFRS), and Internet financial reporting. Internet financial reporting has been particularly helpful to e-commerce companies (Hunter and Smith 2008). IFRS is a global standard for accounting and financial reporting (Smith 2008).

The annual growth rate of e-commerce globally has been estimated as high as 28 percent, while some individual countries have much higher growth rates. For example, in India, which has a younger than average market, the e-commerce growth rate has been projected as high as 51 percent.

Virtual Businesses:

As a result of e-commerce, business firms now have the ability to become virtual businesses. A virtual business is a modular structure of multiple individual business firms connected via online computer technology. The individual firms making up the virtual business are networked, which enables sharing of skills, costs, and access to markets. An individual business firm contributes only its core competencies. The value of a virtual business is that they have the flexibility required to seize new opportunities and be competitive in a complex market.

Lower search costs:

The Internet is likely to bring about low search costs and high price transparency. When competitors simply publish their prices on the Internet, it is possible to design search engines that will monitor prices across different websites, and this will be further facilitated by the growth of protocols such as XML. Such price transparency may facilitate collusion. Internet technology could potentially offer an ideal micro-climate for collusion, due to increased communication and transparency in the market, as well as the potential for more frequent market interactions. In particular, collusion concerns may arise with respect to market design and ownership within both online marketplaces and joint Internet sales ventures.

Increased power of downstream players

The growth of e-commerce may further strengthen the market position of downstream buyers relative to suppliers. Firstly, lower search and switching costs will increase the credibility of buyers' threats to switch supplier, and thus increase their bargaining power. Secondly, buying clubs and careful market design may also improve their buying power. Thirdly, the widening of geographic retail markets may facilitate the development of global retailers. These will tend to have far greater bargaining power with suppliers than traditional local or national retailers.

Other benefits of e commerce are as follows:

Easy reach to a fast growing online community.

Unlimited shelf place for products and services.

Fuse the global geographical and time zone boundaries.

Helps reach national and global markets at low operating costs.

Aimed at the delivery of information and/or documents to facilitate business transactions.e.g. E-mail.

Covers the automation & improvements of business processes e.g. Networking two computers together.

Application of technology to improve the quality of service. e.g. Federal Express website- to track shipments & schedule.

Provides the ability to buy/sell on the Internet or some other online services e.g. Amazon.com.

Expanded Geographical Reach

Expanded Customer Base

Increase Visibility through Search Engine Marketing

Provide Customers valuable information about your business

Available 24/7/365 - Never Close

Build Customer Loyalty

Reduction of Marketing and Advertising Costs

Collection of Customer Data

Research studies have indicated several factors responsible for the sudden spurt in growth of E-commerce in India such as:

Rapidly increasing Internet user base.

Technology advancements such as VOIP (Voiceover-IP) have bridged the gap between buyers and sellers online.

The emergence of blogs as an avenue for information dissemination and two-way communication for online retailers and e-commerce vendors.

Improved fraud prevention technologies that offer a safe and secure business environment and help prevent credit card frauds, identity thefts and phishing.

Bigger web presence of SME's and Corporate because of lower marketing and infrastructure costs.

The young population finds online transactions much easier.

7. Facilitators of e-commerce in India:

A. Information directories:

The products and services are listed with appropriate sub-headings to make it easy for a serious information-seeker to find what he wants. Allied services provided by them: Message boards, chat rooms, forums, etc.

B. Banks:

1) *Net banking/phone banking:* This is an online banking facility available for savings account holders as well as current account holders. Some of the special Net banking services are: Demat accounts for sale/purchase of stocks and shares, Foreign Exchange services, Direct/Instant payment of bills on the account-holder's behalf, Financial Planning & advice, Electronic Funds Transfer, Loans to account-holders.

2) *Credit/Debit Cards-* Banks facilitate E-commerce by providing the most vital trade instrument, namely the Credit or Debit Card, without which E-commerce would be impossible.

8. Category of e-commerce and its trendy uses in India:

Today, E-commerce is an essence in Indian society and it has become an integral part of our daily life. There are websites providing any number of goods and services. There are those, which provide a specific product along with its allied services Multi-product e-commerce. These Indian E-commerce portals provide goods and services in a variety of categories. To name a few: Apparel and accessories for men and women, Health and beauty products, Books and magazines, Computers and peripherals, Vehicles, Software, Consumer electronics, Household appliances, Jewelry, Audio/video, entertainment, goods, Gift articles, Real estate and services

Single-product e-commerce Some Indian portals/websites deal in a specialized field, for example:

i) *Automobiles and e-commerce:* On these sites, we can buy and sell four wheelers and two-wheelers, new

as well as used vehicles, online. Some of the services they provide are: Car research and reviews, Online evaluation, Technical specifications, Vehicle Insurance, Vehicle Finance.

ii) Online Trading in Stocks & Shares and e-commerce- Online stock trading activity is gaining momentum in India. Services offered by the online stock trading companies include online buying and selling of stocks and shares, market analysis and research, details of companies, comparison of companies, and research on equity and mutual funds, customer services through email and chat. Online trading also has an added advantage of real time stock trading without calling or visiting the broker's office. Major online stock trading websites in India include: ICICIDirect.com, Sherkhan.com, Indiabulls.com, 5Paisa.com, Motilal Oswal Securities, HDFC Securities, Reliance Money, IDBIPaisaBuilder, Religare, and Kotak Securities.

iii) Real estate and e-commerce- There are a number of real estate portals and sites that provide information to users regarding the property they wish to buy/sell. This information includes properties available for sale/purchase, the cost, location, etc.

They provide information on new properties as well as properties for resale. One can deal directly with developer through consultant. Allied services: Housing Finance, Insurance companies, Architects & Interior Designers, NRI services, Packers & Movers. Some of the popular real estate portals include: Indiaproerty.com, 99acres.com, Magicbricks.com, and Makaan.com.

iv) Travel & tourism and e-commerce- Use of e-commerce in India is increasing in the travel segment. India has a rich history and heritage and e-commerce is instrumental, to a large extent, in selling India as a product, encouraging Indians as well as foreigners to see its multifaceted culture and beauty. The tourist destination sites are categorized according to themes like: Adventure - trekking, mountain climbing etc, Eco-Themes pertains to jungles, flora and fauna. Online travel industry is expected to be worth US \$6 billion in 2010. IRCTC is the most successful eCommerce initiative in India. It has contributed Rs 340 Million to the total eCommerce business of Rs 900 Million. The Indian Travel Ministry has introduced a travel portal called Incredible India. This portal is a big success as tourists can easily contact travel agents, tour operators and hoteliers easily. This portal has also caused a surge in medical tourism to India. By the year 2010, the medical tourism market in India is expected to be around US\$ 2 million. Other travel portals include *Makemytrip*, *Yatra*, *Cleartrip*, and *Travelguru*. *Makemytrip* has targeted revenue of Rs 230 Million for the financial year ending March 2010.

v) Gifts and e-commerce- In the bygone days, one had to plan what to gift a loved one, trudge across to your favorite shop, and browse for hours before purchasing a gift. The gifts are categorized as: Collectibles like paintings and sculptures, Luxury items like leather goods, perfumes, jewelry boxes, etc, household curios and carpets, etc, Toys & games, Chocolates, Flowers, Woodcraft & metal-craft.

vi) Hobbies and e-commerce- The most popular hobbies from time immemorial are reading, music and films. The books cover a wide range of topics like Business, Art, Cookery, Engineering, Children's Stories, Health, Medicine, Biographies, Horror, Home & Garden, etc.

vii) Matrimony and e-commerce- Matrimony eCommerce portals provide the seekers appropriate information regarding the prospective matches, region of their residence, their religion, caste, etc. Allied services are also provided to the listed members. It is said that marriages are made in heaven, but in the world of E-commerce they are made on marriage portals. One can search for a suitable match on their websites by region of residence (India or abroad), religion or caste. Allied services for registered members: Astrological services, Information on Customs and Rituals, Legal issues, Health & Beauty, Fashion & Style, Wedding Planners. These services include: astrology, information on customs and rituals, legal issues, health and beauty, fashion, wedding planners, etc. Some of the leading matrimony portals in India include: Shaadi.com, Jeevansathi, com, Bharatmatrimony.com, Indiamatrimony.com, and Simplymarry.com, and LifepartnerIndia.com.

viii) Employment and e-commerce- Another area where eCommerce is widely used is that of employment. Internet has simplified the process of search for 'right people on the right job'. There are a number of web portals and sites that match a prospective employer's requirements with that of candidates applying for that job. Two major portals like www.Monsterindia.com and www.naukri.com (meaning job.com in Hindi) are instrumental in providing job seekers with suitable employment at the click of a mouse. The service for job

seekers is free and for Employers they charge a nominal fee. Jobs are available online in fields ranging from secretarial to software development, and from real estate to education.

ix). E-Tailing or Online Retailing and e-commerce-

Due to improved broadband connections and increased penetration of credit card facilities to a wider population, e-Tailing or online retailing is witnessing a substantial growth. Internet retailers provide a wide range of facilities to the consumers, including discounted prices, comparison of product features offered by various vendors, areas where the products can be procured, etc.

Currently, the online retail industry in India is estimated to be worth Rs 110 Million. By 2013, India is expected to have the third largest internet user base, which improves the prospects of online purchases. Some of the retail stores offering online retail facilities include: Reliance's Rmoneymall, Pantaloon's FutureBazaar.com, Videocon's eDigiworld.com, Vishalmart's Vishalmegamart.com, and the Tata Group's Westside. Some of the popular job sites in India include: Naukri, Monster India, Times Jobs, Careerjet, Naukri Hub, Career India, Bixee, ClickJobs, CareerAge, and Freshersworld.

x). Online Advertisements and e-commerce-

The Indian population accesses the internet from home, office, and cybercafes. There is a large segment of population that is fast adapting to internet. Advertisers have identified the internet as a medium for enhancing the awareness for their business activities. Online advertising in India is expected to cover all organizations and their products. The online advertisement industry grew to Rs 3250 million in India, accounting for 38% growth rate in 2008-2009. The growth rate for the year 2009-2010 is expected to be 32% which amounts to Rs 4300 million.

9. Barriers to e-commerce in India:

Some of the infrastructural barriers responsible for slow growth of eCommerce in India are as follows. Some of these even present new business opportunities.

i). Payment Collection: When get paid by net banking, one has to end up giving a significant share of revenue (4% or more) even with a business of thin margin. This effectively means one parting away with almost half of profits. Fraudulent charges, charge backs etc. all become merchant's responsibility and hence to be accounted for in the business model.

ii). Logistics: Businesses have to deliver the product, safe and secure, in the hands of the right guy in right time frame. Regular post doesn't offer an acceptable service level; couriers have high charges and limited reach. Initially, one might had to take insurance for high value shipped articles increasing the cost.

iii). Vendor Management: However advanced system may be, vendor will have to come down and deal in an inefficient system for inventory management. This will slow down drastically. Most of them won't carry any digital data for their products. No nice looking photographs, no digital data sheet, no mechanism to check for daily prices, availability to keep your site updated.

iv). Taxation: Octroi, entry tax, VAT and lots of state specific forms which accompany them. This can be confusing at times with lots of exceptions and special rules.

v). Excessive pricing in e-commerce markets: Over the short term, excessive pricing is unlikely to be a major issue for e-commerce companies. Few e-commerce operations are currently making any profits, let alone excessive profits. Over the longer term, however, excessive pricing may become a serious concern for those e-commerce companies that develop dominant positions in their relevant markets.

vi). Collusion: One of the most widely held competition concerns relating to e-commerce is that it may facilitate such collusive behaviour. Much of the recent discussion of this issue has focussed on the development of B2B online marketplaces that are co-owned by a number of significant market participants. More generally, there are a number of characteristics of e-commerce that might be expected to facilitate collusion, even in the absence of joint ventures and online marketplaces.

vii). Cyber crime in E-Commerce:

Cyber crime is a key alarm that consumers have regarding e-commerce. No one wants to become a victim of cyber crime, which is a real hazard to e-commerce. Cyber crime is an e-crime. Cyber crime is a criminal act

that involves computers and networks. Cyber crime includes criminal acts such as computer viruses, phishing, and denial of service attacks that cause e-commerce websites to lose revenues. Understanding and defending against cyber crime is critical for companies involved in e-commerce.

E-commerce companies lose billions of dollars in lost business, stolen assets, and damaged reputations as a result of cyber crime (Smith et al. 2010). Cash is stolen, literally with the push of a button. When an e-commerce website crashes, business activity stops. The usual outcome is that a company loses business to a competitor who has a working website. In addition to losing sales, companies that become victims of cyber crime also experience damaged reputation. Vulnerability to cyber crime may cause some customers to lose confidence in a company's ability to accurately process sales transactions and effectively protect confidential customer information.

Throughout the world, cyber crime has become a major concern (Council of Europe 2011). Stopping cyber crime is more than a business concern. Stopping cyber crime is a law enforcement challenge facing national governments. Preventing cyber crime is important for a nation's economic progress, as e-commerce is a substantial component of economic activity. US President Barak Obama has been called upon to formulate a comprehensive and nationwide strategy (Albanesius 2008). Some common cyber crimes are shown in Table 6 below.

[Insert Table -6 here]

Many consumers are uncomfortable using the Internet for transacting business because of cyber crime and security concerns regarding their transactions. Pathak (2004) evaluates risks associated with e-commerce. He concludes that e-commerce requires auditors to identify risks and show their impact on the information system. However, auditors do not provide security against e-risk. Auditors provide independent and professional opinions that information provided on a website is accurate. To inspire consumer trust in a website, it is beneficial for a company to make use of Web assurance services.

Moreover, limited Internet access among customers and SMEs, poor telecom and infrastructure for reliable connectivity, multiple gaps in the current legal and regulatory framework, multiple issues of trust and lack of payment gateways, privacy of personal and business data connected over the Internet not assured; security and confidentiality of data not in place are significant barriers standing on the way of effective implementation of e-commerce in India.

10. Techniques to improve e-commerce business in India:

In the recent past, the India Government has significantly liberalized foreign direct investment ("FDI") in India. As per the regulations formed under the Foreign Exchange Management Act, 1999, ("FEMA") FDI is allowed on an automatic basis, (i.e. without any prior approval of the Ministry of Commerce and Industry) upto a certain limit or fully, in most sectors. In July 2000, vide Press Note No. 7 (2000 Series), the Government has also allowed 100% FDI in e-commerce activities. However, this investment is subject to the following conditions:

- i). FDI is allowed only in companies engaged in B2B e-commerce activities and not in retail trading; and
- ii). 26% of the FDI has to be divested in favour of the Indian public within a period of five years, if the companies are listed in other parts of the world.

Therefore, companies engaged in B2C e-commerce activities cannot obtain FDI on an automatic basis. They would have to seek prior approvals from the Foreign Investment Promotion Board under the Ministry of Commerce and Industry, which would consider such applications on a case-to-case basis.

The government of India has passed the Information and Technology Act to keep a check on the transactions carried on via the electronic media and to make the process of Ecommerce safe and reliable. The Act imposes heavy penalties and punishment on those who try to misuse this channel for personal benefit or to defraud others. The law has also established the authentication of the electronic records. Increase in the Cyber crimes in e-commerce is causing concern among the credit card users in India. Now, the government has opened Cyber Crime Police Station. Online complaints can be filed for both cyber and Non Cyber crimes, through an online form which is available at <http://www.bcp.gov.in/english/complaints/newcomplaint.asp> to

accept complaints filed with digital signatures. The Government of India has decided to impose service tax on e-commerce transaction and that will result in making the net shopping expensive.

The following are some pathways to enhance “Online Customers” in India:

- Goods should have value for the customer along with quality.
- Security is promised.
- Selling Brand articles.
- Establishing trust and winning confidence.
- Providing easy guidance.
- Clear information regarding delivery time.
- Articles ordered and the article delivered should not vary.
- Giving discount offer and other gift items.
- Limited personal information.
- Providing value added service at lower prices.
- Full information regarding the product is simple words.
- Innovative products.
- Social shopping phenomenon.
- Providing price comparison.
- Transparent information regarding the product.
- Indian customers want to buy things that do not cost them much.

11. Conclusion:

The bursting of the dotcom bubble has made several companies apprehend that doing business on the Internet is not as easy as it sounds. Undoubtedly, the power of the Internet to reach any part of the world holds terrific potential for enhancing international trade and boosting global economy. However, just as every coin has a flip side; it has been observed that doing business on the Internet also has risks and legal issues associated with it. The rapid pace of e-commerce development has generally left the legal system struggling to keep up and gasping for breath. In much the same way as companies doing ecommerce must invent new business procedures and rules, the legal system is trying to adapt existing laws to fit new settings where it is simply unclear how these laws will apply. In the midst of this legal turmoil, India is one of the few countries across the globe that has enacted an e-commerce legislation. However, much more is needed to effectively regulate the tangled web. Effective risk management strategies coupled with adequate legal documentation will go a long way in protecting e-commerce companies. Although the Internet is a goldmine, without adequate legal protection, it could become a landmine. Nevertheless, with the rapid expansion of internet, e-commerce is set to play a very important role in the 21st century, the new opportunities that will be thrown open, will be accessible to both large corporations and small companies. The role of government should be to provide a legal framework for e-commerce so that while domestic and international trade are allowed to expand their horizons, basic rights such as privacy, intellectual property, prevention of fraud, consumer protection etc are all taken care of.

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Table 1: Different categories of electronic commerce applications

Different Applications of E commerce	Description	Researchers
Electronic Advertising	<ul style="list-style-type: none"> • Provide product information to customers • Displaying company information on website • Online electronic brochures or buying guides • Display only a range a products which are relevant to the particular customer 	Block et al. (1996) Ainin, and Jaffar, (2003) Soh et al. (1997)
Electronic Customer Support Service	<ul style="list-style-type: none"> • Online help- Frequently Asked Question • Online products update • Handling customers feedback/queries online • Online application/registration • Personalized email communication 	Turban et al. (2000) Ainin, (2000) Fatimah, et al. (2000)
Electronic Marketing	<ul style="list-style-type: none"> • Allowing a customer to contact a sales office • Share information with competitors, customers and suppliers • Using internet to find out customers' needs and wants • Using internet for anticipating customer needs • Achieving customer satisfaction through the 	Arie et al (1995) Block et al (1996) Johnson, (2003) Smith & Chaffey (2005)

	electronic channel	
Electronic Payment System	<ul style="list-style-type: none"> •Electronic Fund Transfer(EFT) •Online credit card processing <ul style="list-style-type: none"> • Electronic money • Smart and prepaid card 	Lawal, (2010) Block et al. (1996) Zwass, (1998) Fatimah, et al. (2000)
Electronic Order and Delivery	<ul style="list-style-type: none"> •Coordinating procurement with suppliers online • On-line ordering of software products • Lower costs per business transaction • Tracking incoming and outgoing goods delivery • Online order entry and delivery • Electronic Data Interchange(EDI) 	Johnson, (2003) Oakes (2002) Turban et al. (2000) Fahri and Omar (2001)

Source: Compiled from several research papers.

Table:2:Top Companies Categories

<u>Accounting</u>	<u>Advertising</u>	<u>Airlines</u>
<u>Auto Mobile</u>	<u>Banks</u>	<u>BPO</u>
<u>Consultants</u>	<u>E Commerce</u>	<u>Entertainment</u>
<u>Export Import</u>	<u>Fashion Houses</u>	<u>Finance</u>
<u>Health</u>	<u>Hotels</u>	<u>Insurance</u>
<u>Logistics</u>	<u>Marketing</u>	<u>Manufacturing</u>
<u>Real Estate</u>	<u>Web Designing</u>	

Table: 3: Growth of e-commerce in India

Year	Total E-Commerce Transactions (in Million \$)
1998-99	31.38
1999-00	103.84
2007-08	1750.00
2008-09	3015.00
2009-10	4230.00
2010-11	6790.00
2011-12*	10000.00

* Projections (Ref: A report of Internet and Mobile Association of India)

Table: 4: Market Share of Ecommerce in India, 2010

E-commerce sectors	Market share (%)
On line travel	80%
E-Tailing	6.48%
Financial Services	6.31%
Other on line services	5.09%
Digital download	2.12%

Source: A report of Internet and Mobile Association of India.

Table: 5:B2C E-commerce sales in selected countries in Asia Pacific Region, 2006-11(billions USD)

Year/Country	2006	2007	2008	2009	2010	2011
Australia	9.5	13.6	20.4	26.4	28.7	31.1
China	2.4	3.8	6.4	11.1	16.9	24.1
India***	0.8	1.2	1.9	2.8	4.1	5.6
Japan	36.8	43.7	56.6	69.9	80.0	90.0
South Korea	9.6	10.9	12.4	14.0	15.9	17.9
Asia-Pacific	59.9	73.3	97.7	124.1	145.5	168.7

Source: e-Marketer, January, 2008.

Table: 6: Statement showing Common Cyber Crimes

Cyber Crime	Description
Computer virus	Computer virus is a program that piggybacks or attaches itself to application programs or other executable system software; causing damage to computer systems or files.
Phishing	Phishing occurs when the perpetrator sends fictitious emails to individuals with links to fraudulent websites that cause the victim to release personal information.
Botnet	A Botnet infection occurs when a hacker transmits instructions to other computers for the purpose of controlling them.
Spoofing	Spoofing is use of email to trick an individual into providing personal information that is later used for unauthorized purposes.
E-bank theft	E-bank theft occurs when a perpetrator hacks into a banking system and diverts funds to accounts accessible to the criminal.
Net spionage	Net spionage occurs when perpetrators hack into online systems or individual PCs to obtain confidential information.
Online credit card fraud	Online credit card fraud is illegal online acquisition of a credit card number and use of it for unauthorized purposes.
Online denial of service	Online denial of service is use of email barrages, computer viruses, or other techniques to damage or shut down online computer systems.
Software piracy	Software piracy is the theft of intellectual assets associated with computer programs.
Spam	Spam refers to unsolicited email; spam is illegal if it violates the Can-Spam Act of 2003, such as by not giving recipients an opt-out method.

Source: Kratchman et al. 2008.

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