CHAPTER -1
INTRODUCTION
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1.1 BACKGROUND
This chapter summarizes the research in this thesis and provides an overview of the adoption of Internet technology tools, E-commerce and challenges faced by the E-commerce industry in India. In present era internet has emerged as a vast public network which connects millions of people online and provides a new interactive marketplace for buying and selling. E-commerce simply means the capability to buy and sell goods, information and services online through public networks. The phenomenal growth of E-commerce can be attributed to the reduction of friction in business transactions over the network. This reduction has led to the improvements in the quality of customer services at low cost and faster execution of transactions including instantaneous delivery of goods in some cases. This chapter further provided a brief about the background of the country, role and uses of internet in developing countries, Types of E-commerce, M-Commerce and role of Mobile commerce in India.

1.2 INTRODUCTION
The term E-commerce has been used for describing a variety of market transitions enabled by information technology and conducted over an electronic network. In past a dominant firm in the value chain typically put up a network that deployed a proprietary application over this private network.

E-commerce is concerned with systems and business processes that support the creation of information sources and the movement of information over global networks. Effective and efficient interaction arises among producers, consumers, intermediaries and sellers. E-commerce utilizes electronic networks to implement daily economic activities such as pricing, contracting, payment and in some cases the shipment and delivery of goods and services. The understanding of E-commerce is widespread. Due to many inconsistent approaches it is very difficult to define E-commerce in a proper way, but as it is the main domain of this research so it is necessary to define a proper definition of E-commerce.
According to European Commission (1997) E-commerce is “Doing business electronically”. Whereas the definition from (Gartner Group, 1999) E-commerce is “a powerful set of technologies, application and business processes those link corporations, consumers and communities.”

Timers (1998) defined E-commerce as any form of business transaction in which the parties interact electronically rather than by physical exchange or direct physical contact.

Kalakota et al. (1997) explained that “E commerce is buying and selling over digital media where the buyer can be left out. If the buying process is electronic the selling process will also electronic. To be more precise goods can also be serviced and the selling process can be sold and distributed. So E-commerce is the trade (sales, commerce, distributions) of goods and services, i.e. product by electronic means. E-commerce is often associated with the buying and selling of consumer products over the Internet. While this narrow definition of E-commerce is correct, many other commercial and business activities also fall under the term “E-commerce.” The definition of E-commerce is still indeterminate. It includes commerce and business activities that are performed over electronic networks (both fixed and mobile networks) including upstream and downstream supply-chain activities and consumer purchases which are initiated through electronic means.

The followings are the definitions given by transnational corporations like Intel, IBM and HP respectively:

**Intel**: E-commerce = electronic market +electronic trade + electronic services,

**IBM**: E-commerce = information technology + web + business,

**HP**: E-commerce = to accomplish commercial business by electronic means.

E-commerce is a brand new service. It is not at all surprising that there are various definitions of it. E-commerce can be social and economic activities between principal social parties taking advantage of computers and networks.

### 1.3 INTERNET

The Internet is an international network of networks. It is a worldwide information highway. It also signifies information resources on innumerable servers on the network. It allows millions of computers to be linked together offering a global network that connects everyone in the universe and enabling the world to truly become an information society. Its origin can be traced to an experimental network
established through funding from the Advanced Research Project Agency (ARPA) of the US Department of Defense (DOD) to enable the scientists engaged on projects to communicate with one another. Starting in 1965 with four sites in the US it soon expanded into Europe. Electronic Mail over the ARPA net was the great success. The National Science Foundation (NSF) took over the academic community network project in the mid-1980s after defense traffic was moved away from ARPA net to MILNET. In 1987 the NSF created NSF net. NSF upgraded the lines to 56 Kilobytes per second (Kbps) to connect the five supercomputer centers. Regional and corporate networks were permitted to connect to the NSF net. Connecting networks to the nearest neighbors created geographically contiguous chains. Each chain was connected to a supercomputer center and any network permitted to communicate with all other network computers by using store and forward techniques. It is the NSF net which was later christened as the Internet (Zhang et. al.2002). The ITS Federal Government, which owns the NSF net forbids its commercial use. On the other hand the commercial Internet comprises several private backbones run by numerous Internet Service Providers (ISPs). Reliability of the Internet provided by the ISPs depends on the adequacy of phone lines, bandwidth and computers used by the end-user.

1.4 USES OF INTERNET

The Internet is a global network of interconnected computers, where one computer can be connected to any other computer (or computerized device) in any anywhere in the world. The Internet uses various Internet protocol technologies. The recent introduction of mobile Internet has been equally successful. Internet surfing is very easy. The Internet is available in all major villages, towns, cities even almost in every country. It is possible to surf the Internet with the help of Internet browsers such as Windows Internet Explorer, Google Chrome, Apple Safari, etc. The organizations that provide Internet service to end-users are known as Internet Services Providers (ISP). The major Internet companies of India are BSNL, Vodafone, Airtel, Idea and Aircel.

The key to success of the Internet is the availability of information. The better the quality, the more usage of the Internet receives.
1.4.1. **Collection of a Large Volume of Information**: The Internet can be used to collect information from around the world. This information can be related to education, medicine, literature, software, computers, business, entertainment, friendship, tourism and leisure, among several others. People can search for information by visiting the home page of various search engines like Google, Yahoo, Bing, etc.

1.4.2 **News and Journals**: Many of the newspapers, magazines and journals of the world are available on the Internet. With the introduction of broadband and advanced mobile telecommunication technologies such as 3G (third generation) and 4G (fourth generation), the speed of Internet service has increased tremendously. A person can get the latest news about the world in a matter of seconds.

1.4.3 **Electronic Mode of Communication**: The Internet has provided the most exciting mode of communication to all. It is possible to send an E-mail (the short form of Electronic Mailing System) to any corner of the world.

1.4.4 **Chat**: There are many chat software programs that can be used to send and receive real-time messages over the Internet. One can chat with friends and relatives using any one of the chat software like Skype, Messenger and WhatsApp.

1.4.5 **Social Networking**: People can connect with old friends on social networking sites. They can even chat with them whenever they are online. Social networking platforms also allow us to share pictures with others. One can share pictures with loved ones while on vacation and people have even concluded business deals over social networking sites like Facebook and Twitter.

1.4.6 **Online Banking (Net-Banking)**: The use of the Internet can also be seen in the field of banking transactions. Many banks such as HSBC, SBI, Axis Bank, HDFC Bank, etc. offer online banking facilities to their customers. They can transfer funds from one account to another using the net-banking facility.

1.4.7 **E-commerce**: The Internet is also used for carrying out business operations and that set of operations is known as Electronic Commerce (E-
commerce). Flipkart is the largest E-commerce company in India with Amazon becoming as the greatest rival, giving Flipkart a run for its money.

1.4.8 Mobile Commerce: Mobile commerce (also M-commerce) refers to the commercial transactions those executed over the mobile Internet. Using mobile Internet technology, many companies have introduced a mobile version of websites and mobile apps to promote and sell their products. Customers can simply browse through the products and buy them online using the mobile Internet.

1.4.9 Mobile Wallet: Many companies offer the service of a mobile wallet to its customers. Users must have a Smartphone and Internet connection to use these services. Users usually pay some amount into their mobile wallet, which they can then use to make online payments such as bill payments, recharges, etc.

1.4.10 Entertainment: Apart from a major source of knowledge and information, the utility of the Internet in the field of entertainment which cannot be underestimated. One can visit various video sites, watch movies and serials at a convenient time.

1.4.11 Technology of the Future: Internet is the technology of the future. Many offices in the future are likely to be operated virtually through the Internet. The Internet today is perceived as the superhighway of information and the costs are quite low thus making it available to everyone. In last few years the cost of computer hardware is gradually decline. Internet access is also made possible through the use of smart phones in case one does not have a computer system. This has been made possible due to the mobile browsing functionality of these phones. Indeed the Internet brings unlimited possibilities despite the fact that many people still waste their time by doing useless browsing. For the better mobile browsing a tendency needs to be evaluated so that the Internet can be used for development purposes rather than decay and destruction. As the world looks forward to ushering a new technological era, it is certain that the Internet is going to be the backbone of its functionality.
1.5 INTERNET IN DEVELOPING COUNTRIES

Developing countries continue to experience faster growth in the number of Internet users. At the end of 2002 developing countries had 32 percent of the world’s Internet users higher than 28 percent in 2001. If current trends will continue the developing countries could soon account for 50 percent of the world’s Internet users. However it is the concentration of Internet hosts for businesses relative to populations that highlight the dramatic difference between the developed and the developing world. While in 2002 the number of Internet users per 10,000 people was 53 times larger in North America than in Africa. In the same year the proportion between the numbers of Internet hosts per 10,000 people living in those two regions was 984 to 1. In other words the relatively few people who use the Internet in developing countries compete among themselves for access to a proportionally much smaller number of computers connected to the Internet and they have access to little locally-hosted Internet content (UNCTAD, 2003). One of the crucial issues related to the poor use of Internet in developing countries is “limitation of international bandwidth”. International bandwidth availability is especially important for developing countries because given the relative scarcity of locally-generated content, a large part of Internet traffic in developing countries (between 70 and 80 percent by most estimates) tends to be international (Kamel, 2006). From the last three years the average African Internet user still enjoys about 20 times less capacity than the average European user and 8.4 times less than a North American one. (UNCTAD, 2003)

A Business has to contend with government influence in three ways. Like it or not, governments in most countries are the largest buyers of goods and services. While the government may buy or contract from foreign vendors especially for industrial products and installations, it is more common for governments to dedicate some of their purchasing to Small-to-Medium Enterprises (SMEs). A second fact of life is that business must obtain a variety of services from government to legally remain in operation. These may include licenses, permits, authorizations, tax exemptions, property assessments, just to name a few. Typically obtaining these documents and services are time-consuming and not transparent, so the business making the request has no guarantee of a speedy reply. Inevitably this puts the SME at a disadvantage in international competition for sales. Governments can expedite the competitiveness of its domestic SMEs if it adopts transparent, rapid methods of responding to routine bureaucratic requests. According to the report released in 2003
by the United Nations Council on Trade and Development (UNCTAD) it argued that governments in both developed and emerging countries do more to encourage the growth of an information society. Because of the vast resources at its disposal (revenue and authority), a government can be in a good position to set a positive visionary leadership example to promote the dissemination of Information Technology.

1.6 INTERNET IN INDIA

In late 1980s, the Internet has changed from being a simple medium for instant (messaging) communication to a complex infrastructure permitting collaborative research, entertainment and education. The principal drivers of this change have been the curiosity, wish-lists and expectations of existing and potential users. The demand for Internet content particularly in entertainment available through mobile devices – seemingly knows no bounds. Increasingly previously unimagined activities and uses have arisen and at times fundamentally modified the interpersonal relationships of large swaths of the population. Five years ago, only few major cities had limited Internet access all under the management of the government. VSNL the agency managing Internet activity in India and the DOT (Department of Telecommunication) provided glacially slow and undependable connectivity operating with restricted bandwidth and a dearth of telephone line. Connection rates were in single digits and dropped connections were the norm. Subscription rates for this service were unreasonably high. Since dozens of small-to-large Internet Service Providers (ISPs) have plunged into the digital world set up shop and largely displaced the government as a service provider. The proliferation of independent vendors has created a vigorous level of price competition, a broad spectrum of connection speeds and an explosion of consumer usage. Perhaps the original base of 5 million users will easily exceed to 50 million soles in the next five years. According to a NASSCOM survey, the government’s interest in promoting the market for E-commerce is likely to see the level of Internet and E-commerce penetration to skyrocket. Revenue flows into E-commerce will be driven more by transactions than by advertising. Internet-based advertising revenue would amount to about 8% of the total amount spent on advertising by the companies.
1.7 BACKGROUND OF INDIA

India is the seventh-largest country by area and the second-most populous country with 1.2 billion people and with most populous democracy in the world. Bounded by the Indian Ocean on the south and the Arabian Sea on the south-west and the Bay of Bengal on the south-east. It shares land borders with Pakistan to the west China, Nepal and Bhutan to the north-east and Myanmar (Burma) and Bangladesh to the east. In the Indian Ocean India is near Sri Lanka and the Maldives. In addition India's Andaman and Nicobar Islands share a maritime border with Thailand and Indonesia. However it continues to face various challenges like poverty, corruption, malnutrition and inadequate public healthcare. As a nuclear-weapons state and a regional power, it has the third-largest standing army in the world and ranks sixth in military expenditure among nations. India is a federal republic governed under a parliamentary system and consists of 29 states and 7 union territories. India is a pluralistic, multilingual and a multi-ethnic society. It is also home to a diversity of wildlife in a variety of protected habitats.

1.7.1 Geographical Location and Population

Currently India is the second most populous country in the world with approximately 1.3 billion people and only surpassed by China. What is more thrilling is the fact that the population comprises a sixth of the entire world’s population. With the population projected to rise to 1.6 billion by 2050 and India likely to become the most populous country in the world. This statistic should point out how crucial geographical location and population are influencing technology and the use of the Internet. India’s population growth rate is 1.2%, ranking 94th in the world in 2013. The Indian population had reached the billion marks by 1998. More than 50% of its population is below the age of 25 and more than 65% below the age of 35. It is expected that in 2020 the average age of an Indian will be 29 years compared to 37 for China and 48 for Japan; and by 2030 India's dependency ratio should be just over 0.4.

1.7.2 History of India

The history of India includes the prehistoric settlements and societies in the Indian subcontinent, advancement of civilization from the Indus Valley Civilization to the eventual blending of the Indo-Aryan culture to form the Vedic Civilization,
development of Hinduism as a synthesis of various Indian cultures and traditions, rise of the Śramaṇa movement, the decline of Śrauta sacrifices and the birth of the initiatory traditions of Jainism, Buddhism, Shaivism, Vaishnavism and Shaktism. The onset of a succession of powerful dynasties and empires for more than two millennia throughout various geographic areas of the subcontinent including the growth of nomadic Central Asian Muslim dominions during the medieval period intertwined with Hindu powers. The advent of European traders resulting in the establishment of British rule and the subsequent independence movement that led to the Partition of India and the creation of the Republic of India.

The most significant event between the 7th and 11th century was the tripartite struggle centered on Kannauj that lasted for more than two centuries between the Pala, Rashtrakuta and Gurjara Pratihara Empires. Southern India saw the rise of multiple imperial powers from the middle of the fifth century to the most notable after Chalukya, Chola, Pallava, Chera, Pandya and Western Chalukya Empires. The Chola dynasty conquered southern India and successfully invaded parts of Southeast Asia, Sri Lanka, Maldives and Bengal in the 11th century. In the early medieval period Indian mathematics influenced the development of mathematics and astronomy in the Arab world and Hindu numerals were introduced from the late 18th century to the mid-19th century, as large areas of India were annexed by the British East India Company of the British Empire. Dissatisfaction with Company rule led to the Indian Rebellion of 1857 (the Sepoy Mutiny) after which the British provinces of India were directly administered by the British Crown and witnessed a period of rapid developments of infrastructure and economic stagnation. During the first half of the 20th century a nationwide struggle for independence was launched with the leading party involved being the Indian National Congress which was later joined by other organizations. The subcontinent gained independence from the United Kingdom in 1947 after the British provinces were partitioned into the dominions of India and Pakistan the princely states all acceded to one of the new states.

1.8 E-COMMERCE

E-commerce constitutes a huge domain of conducting business through Internet and e-retailing is a part of it. Discussing digitally/Internet-enabled commercial transactions between organizations and individuals using the latest web technologies per the policies of an organization takes the form of E-business.
Electronic commerce also includes many other activities such as businesses trading with other businesses and internal processes that companies use to support their buying, selling, hiring, planning and other activities. Many types are introduced in E-commerce websites but most of the market is captured by business-to-customer (B2C) E-commerce websites. It means the company might sell its finished product to consumers on the web, which would be B2C electronic commerce.

1.8.1 How E-commerce Websites Work

Normally users learn about an online shopping website through a variety of ways. The most common are word-of-mouth (in person), referrals or references on social media (Facebook, Twitter, Pinterest), or the results of a search through any one of a number of search engines (Google, Firefox, Internet Explorer, Bing, Chrome, Safari, Opera, DuckDuckGo, etc.).

When they find the desired link they click on it to reach the site, register (if necessary upfront), search within the site for the desired products and then do product comparisons within the site or compare prices across sites. After that they decide on the site to use and product to buy. They move the chosen product into a shopping cart, complete the payment process by sign in (if required at this stage), verify the total amount, apply a promotion (discount) code, verify the shipping address, select the shipping method and payment method (credit/debit card, COD, PayPal, bank account, or any other newly developed digital payment method (Apple Pay, Google Checkout, Square, etc.). Once the payment is made the vendor will credit the amount, arrange to ship to the correct address and dispatch the product. During or after this process, the vendor may suggest warranty coverage or offer coupons and discounts for future repeat business, solicit feedback via a customer survey, or ask for a favorable review on a general social site (Facebook, Twitter, Yahoo, Google Play) or a more targeted site (Yelp for purchases; Trip Advisor for travel). A successful retailer in E-commerce positively needs both satisfied repeat customers and favorable word-of-mouth. This process can be summarized in the following manner:

1. The customer locates product online.
2. The customer selects a product and initiates check out.
3. The customer offers digital payment through credit/debit card or digital app.
4. The vendor authenticates received payment.
5. The vendor credits payment to the customer account.
6. Vendor notifies customers of a successful transaction, ships product and follows up with post-sale support or interactions. Normally these will include periodic notices of special sales opportunities.

1.9 TYPES OF E-COMMERCE

In general words E-commerce is an online commercial transaction between a supplier and a client. However E-commerce can be divided into eleven types along with different characteristics-

1.9.1 Business to Business (B2B)

Business-to-business (B2B) describes commercial transactions between businesses, such as between a manufacturer and a wholesaler or between a wholesaler and a retailer.

1.9.2 Business-to-Consumer (B2C)

Contrasting terms are business-to-consumer (B2C) and business-to-government (B2G). The volume of B2B (Business-to-Business) transactions are much higher than the volume of B2C transactions. The primary reason is that in a typical supply chain there will be many B2B transactions involve sub-components / raw materials and only one B2C transaction the specific sale of the finished product to the end customer. For instance an automobile manufacturer makes several B2B transactions such as buying tires, glass for windscreens and rubber pipes for its vehicles. The final transaction a finished vehicle sold to the consumer is a single (B2C) transaction. B2B is also used in the context of communication and collaboration. Many businesses are now using social media to connect with their consumers (B2C). However, they are now using similar tools within the business so that employees can easily connect with one another. When communication is taking place among employees, this can be referred to as "B2B" communication. The term "business-to-business" was originally coined to describe the electronic communications between businesses or enterprises to distinguish it from the non-digital communications between businesses.
1.9.3 Consumer to Consumer (C2C) (or citizen-to-citizen)

Electronic commerce involves the electronically-facilitated transactions between consumers through some third party. A common example is an online auction in which a consumer posts an item for sale and other consumers bid to purchase it. The third party charges a flat fee or commission. The sites are only intermediaries, just there to match consumers. They do not have to check the quality of the products being offered.

1.9.4 Government-to-Citizen (G2C)

It is the communication link between a government and private individuals or residents. Such G2C communication often refers to that which takes place through Information and Communication Technologies (ICTs), but can also include direct mail and media campaigns. G2C can take place at the federal, state and local levels. G2C stands in contrast to G2B or Government-to-Business networks.

1.9.5 Governments to Business (G2B)

Government-to-Business (abbreviated G2B) is the online non-commercial interaction between local and central government and the commercial business sector rather than private individuals (G2C) with the purpose of providing businesses information and advice on E-business 'best practices'.

1.9.6 Government to Government (G2G)

Government-to-Government (G2G) is the online non-commercial interaction between Government organizations, departments and authorities and other Government organizations, departments and authorities. Its use is common in the UK along with G2C the online non-commercial interaction between local and central Government and private individuals and Government-to-Business networks.

1.9.7 Business to Government (B2G)

Business-to-government (B2G) is a derivative of B2B marketing and often referred to as a market definition of "public sector marketing" which encompasses marketing products and services to various government levels - including federal, state and local through integrated marketing communications techniques such as strategic public relations, branding, advertising and web-based communications.
1.9.8 Consumer to Government

Consumer to Government normally means feedback to the government through individual or group of persons. C2G applications usually include tax payment, issuance of certificates or other documents etc., it can be seen that several C2G applications under the scope of transactions are done and handled more efficiently and effectively with E-commerce systems and technologies.

1.9.9 Consumers to Business

Consumer-to-business (C2B) could be thought of as a relationship where the customer also creates value and the vendor consumes the value. This may not be readily apparent. Ordinarily, the vendor ‘has’ the value in the product he is selling and the customer is the self-evident consumer of it. However consider the fact that the transaction is a two-way street. The customer also is a holder of value in several ways. First, he is capable of writing or disseminating a positive review which benefits the vendor. Second, he may propose to the vendor ‘new’ things such as suggestions for improved functionality on the vendor’s website, a new product line, a new way of marketing a product, a new way of using the product or a new way of bundling services. Any of these suggestions adopted by the vendor is a win for him.

C2B is also a reverse auction where customers reveal their desired offer price and the vendor through an intermediary such as eBay has the luxury of waiting for and accepting the highest bid, subject to a bid-closing time.

Still another C2B variant is the situation where sellers (vendors) operate through an intermediary (like Amazon) offering their items for sale in a cooperative arrangement. Amazon provides a standardized forum for display handles pre-sale communications, transactions between vendors and customers and takes a percentage of each completed sale. In these scenarios the customer creates additional value for the vendor by writing published reviews on Amazon, which receives extreme attention of potential future customers.

1.9.10 M-commerce

M-commerce is any transaction involving the transfer of ownership or rights to use goods and services. This is initiated and completed by using mobile access to computer-mediated networks with the help of electronic devices like wireless handheld devices (cellular phones and laptops) to conduct commercial transactions
online. Mobile commerce transactions continue to grow and the term includes the purchase and sale of a wide range of goods and services like online banking, bill payment and information delivery etc. It is also known as Mobile-commerce.

1.9.11 T-commerce

In E-commerce terminology, tablet commerce is also called tablet E-commerce or T-commerce. It is a mobile commerce strategy that focuses on designing and developing E-commerce websites and related processes to improve the browsing and shopping experience on tablet devices.

1.10 E-COMMERCE IN INDIA

Among developed nations the Internet has become a necessity for modern social and commercial communication. The recognized uses of the Internet make it a compelling part of modern life. Its uses and applications continue to expand in previously unimagined ways. The widespread introduction of faster connection speeds through broadband has intensified the popular level of usage and this growth is a boon to businesses in E-commerce as well. In fact E-commerce is large enough to evolved in an economic specialty and economic development contingent on the Internet. It is a worthwhile object of study on its own (Meier and Rauch, 2005). The Internet will certainly impact and improve the lives and standards of living of the poor populations and less urbanized areas of Africa, Asia and Latin America (Todaro, 1999). Developing countries in these regions are conscious of the impact of technology and the need to adapt it vigorously (James, 1999; Todaro, 1999). Information and Communication Technologies (ICT) and E-commerce are the foundations of economic growth that are now transforming all countries (Ahmad, 2001; Hammond, 2001; Pilat, 2003). The Third World represents the largest untapped market on the planet and therefore the largest E-commerce potential. Part of this Third World has already reached a demographic profile in wealth and education comparable to the developed world (Mann, 2000). E-commerce is advantageous for developing economies because it overcomes existing limitations on commercial development. These limitations normally include low literacy, low income, remote location, primitive payment systems and cultural resistance to change (UNCTAD, 2003). These limitations are all manifested in the ways in which companies faced difficulties in expanding their markets: limited ability to disseminate information, customers
without disposable income, absence of transportation and banking infrastructure, remoteness from potential markets and high market-entry costs (April and Craddock, 2000; Cohen et al., 2000; Maitland, 2001). Build a telecommunication infrastructure is a costly proposition. Inflows of outside capital (Foreign Direct Investment) will predictably be necessary to create the infrastructure (Jenkins and Thomas, 2002; UNCTAD, 2003). Organizations and governments are expecting to implement an evolution in E-commerce. This will help to grips with macro- and micro-challenges (Aljifri et al., 2003). Adoption of E-commerce will almost certainly require widespread redesign and reimagination of how a business model should work. The changes will develop new management processes, modified business culture that cultivates good relations with consumers, revised expectations of employees, encrypted and secure payment systems (Well, 2004).

“E-commerce in India in 2000-2001” was the objective of the study of two reports released by Industry Associations. The Confederation of Indian Industry (CII) worked through the National Committee for E-commerce to prepare this. Another one commissioned by NASSCOM and prepared by the Boston Consulting Group. Both reports expressed optimism about the prospects for E-commerce in India. CII estimated the volume of E-commerce in India to grow to Rs 500 million (US$ 10.6 billion) by 2003. The NASSCOM-BCG report estimated much higher figures for the same target year i.e. Rs 195 billion (US$ 41.5 billion).

Companies are using E-commerce to build brand loyalty. Milk cooperative company Amul has got particular success in this area. Automobile companies have used E-commerce to improve their customer relations. Other companies have discovered that the use of digital portals make customers access easy, without requirement for large capital outlays or depending on venture capital. The growth of E-commerce has of course been strengthened by the declining cost of PCs and the increasing penetration of the wired and wireless Internet. The Indian E-commerce Report (from the Internet and Mobile Association of India [IAMAI]) and IMRB International stated that the total online transactions in India were Rs. 7080 cores (approximately US$ 1.75 billion) in 2006-2007 and expected to grow by 30% approx 9210 cores (approximately US$ 2.15 billion) by 20007-2008. A McKinsey-NASSCOM report forecasted E-commerce transactions in India to reach US $100 billion by 2008. India’s E-commerce development is still in its infancy as Compared to western countries.
1.11 E-GOVERNMENT IN DEVELOPING COUNTRIES

The government context for E-commerce affects businesses in two ways-

1. In most countries the government is one of the largest buyers of goods and services. Many governments also make sure that they buy a share of their goods and services from domestic Small-to-Medium Enterprises (SMEs).

2. Businesses turn to the government for a wide variety of services from custom clearances to business licenses. The lack of transparency in the process often slowdown SMEs’ efforts to compete internationally. It is only possible when the governments in developing countries can improve the efficiency and transparency than only its SMEs will be able to compete internationally. The UNCTAD report recommended that governments in both developed and developing countries play an important role in promoting and facilitating the development of the information society and economy.

Above all governments should also lead by adopting e-government practices. Experiences show that in many developed countries with fast growth in ICT the governments have been closely involved in promoting ICT developments. Governments play an important role as a leader by providing vision, raising awareness and making ICT development as a national priority (UNCTAD, 2003).

1.12 CYBER LAW IN INDIA (THE IT ACT 2000)

E-commerce is governed by the basic principles provided in the Indian Contract Act 1872 ("ICA") which mandates that a valid contract should be entered with a free consent and a lawful consideration between two adults. Section 10A of the Information Technology Act 2000 ("IT Act") provides validity to e-contracts. So both ICA and IT Act needs to be read in conjunction to understand and provide legal validity to e-contracts. Further, section 3 of the Evidence Act provides that the evidence may be in electronic form. The Supreme Court in Trimex International FZE Ltd. v/s Vedanta Aluminum Ltd held that e-mail exchanges between parties regarding mutual obligations constitute a contract. Stamping of contracts is yet another issue. An instrument that is not appropriately stamped may not be admissible as evidence unless the necessary stamp duty along with the penalty has been paid. But the payment of stamp duty is applicable in the case of physical documents and is not feasible in cases of e-contracts. However as the payment of stamp duty has goes online and e-stamp papers available, it becomes a possibility that stamp duty may be
asked on E-contracts. E-commerce websites should state purchasing and payment processes in sequence with absolute clarity and regular updating/monitoring of information provided. The terms and conditions should not be generic but specifically depends upon the nature of the goods/services offered and should be brought the sufficient attention of the consumers. It provides ample opportunity to be read before accepting. E-commerce players should ensure reasonable efforts to prevent unauthorized transactions. E-commerce business is in a nascent stage but the growth has been exemplary. It is crucial for E-commerce players to work towards capacity building by training employees and arming them against the risks. It is critical to Work more crucially and implement a risk management policy, strategy for overall risk mitigation of the company. Constant monitoring and evaluating the consumer behavior (by keeping track of their footprints on their websites, which can also serve as evidence at a later stage) for risk assessment and taking further initiatives for a strategic and a dynamic approach to the digital economy is crucial. E-commerce is more about strategy and business management than about technology. The online platform should not only provide innovative infrastructure but also innovative and proprietary information structures with sufficient protections and safeguards for its users. This will ensure the problems remain at bay or at least the companies would be prepared with a strategy to tackle them.

1.13 M-COMMERCE

Similar to E-commerce, M-commerce requires transparent and clear regulations. Since the contracting parties do not necessarily know each other and it is hard if any face-to-face contact while negotiating an agreement. This anonymity makes many potential customers suspicious about electronic transactions. The main issue is about the privacy and safety of personal data (e.g. credit card information) and its potential misuse. The contracting parties should therefore be able to count the law to enforce the provisions of contracts that were concluded using mobile electronic devices if required. The customer should also be able to trust the privacy of his sphere. Hence a defined regulatory framework is indispensable to boost consumer confidence and increase acceptance amongst broad sections of the society as well as to ensure smooth functioning of M-commerce. However it brings a relatively new phenomenon which has not yet attracted the attention of lawmakers as an independent business field in most of the countries. Its transactions are usually governed by the E-commerce
regulations supplemented by the Telecommunication laws that have their origins in multilateral treaties, such as those of the European Union (EU) or the United Nations Organization (UNO). Other international organizations such as the OECD, the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO) have also been involved in formulating regulatory frameworks. Therefore it may be reasonably assumed that the regulatory concepts in principal have an international character even if the degree of regulations might differ across nations.

1.14 MOBILE COMMERCE IN DEVELOPING COUNTRIES

M-commerce is ideal for developing countries because the technology allows anytime-anywhere communication, free of the limitations of ICT (Information & Communications Technology) and wired broadband (Chan et al., 2001). “Wi-Fi” the Wireless Fidelity technology that exploits Internet connections without wires has proliferated throughout public spaces in the United States and Western Europe. It is freely available in airports, railway stations, hotels, cafes, libraries and schools. It is incidentally available in residential neighborhoods where house owners have neglected to password-protect their routers. Wireless ‘tags’ on products and components allow for real-time monitoring of their locations or functioning in the industrial area (King et al., 2006).

It is self-evident that continued growth and improvement in Wi-Fi will be a boon to all the Internet users. Even if the shape and dimensions of future use can only be imagined. The very fact of its existence has permitted imagining almost every electrically- or battery-powered object to be included in its passive surveillance. Commercial implementation of Wi-Fi is taking its baby steps with no limitations on where the technology might lead. According to Alsabawy et. al. (2013)

“We need to think of ways to bring wireless fidelity applications to the Developing world, so as to make use of unlicensed radio spectrum to deliver cheap and fast Internet access.”

1.15 MOBILE COMMERCE IN INDIA

M-commerce is the part of E-commerce which is done through mobile phones. It gives an opportunity to shop from anywhere. It is a way by which companies and sellers come closer to the end-user. Though there are many similarities and differences between M-commerce and E-commerce. Such as-
Internet connectivity is always needed in E-commerce but M-commerce does not have such boundaries.

Video conferencing can also be done through M-commerce but it is not possible in E-commerce.

Electricity is also another necessity in E-commerce contrary to M-commerce.

M-commerce is costlier the E-commerce.

M-commerce is much easier than E-commerce.

M-commerce provides a wider reach

M-commerce reduces transaction costs

M-commerce streamlines business processes

M-commerce enhances competitive pricing

M-commerce reduces time to order

Some of the important facts and figures regarding the growth of M-commerce industry in India are as follows:-

It is predicted that by the year 2015, around 65% of the Indian population will be in the age group of 15-35 years. Since youth is an early adaptor of all the technology. This seems to be a positive factor for the Indian E-commerce market.

India has an added advantage of lowest broadband prices by the organizations like BSNL. This enhances the potential of online transactions.

India has already started efforts to provide biometric identity with a unique identification number to all its citizens. Having this unique identity in place and guidelines given by RBI for online transactions, it would make online financial transactions safer as it can be easily tracked and subjected to the law. Technology advancements such as VOIP have bridged the gap between online buyers and sellers.

The emergence of blogs can be considered as an avenue for information dissemination and two-way communication for online retailers and E-commerce vendors. Internet penetration is only about 10% (or about 121 million users) as compared to about 81% in the US and 36% in China. However, this number continues to rise at a consistent pace because of falling prices for broadband connections. Innovation in E-commerce business models like no-questions-asked return policies ranging from 7 days to 30 days and free product deliveries show that the industry dynamics are changing. Cash-
on-delivery and product comparison models offer more benefits to customers than a traditional store.

- Some companies have begun to develop support mechanisms for the entire cash-on-delivery model and are trying to reach every corner of India including the interiors areas where traditional logistics companies are still not completely presented. The logistics companies are also shoring up their act and have started to build specific verticals and expertise to address the requirements of E-commerce companies. Experts say that over the next 12-18 months there would be a couple of multi-product generalists who would be successful along with a leader in the single product category. Secure online shopping models helped to increase the spread of E-commerce. Currently only about 10 million people do online transactions out of an approximate population of 200 million credit and debit card holders. However the latest industry report by First Data Corporation and ICICI Merchant Services indicates that there are about 150 million users that are ready for E-commerce. More prominently the report indicates that urban Indian consumers are now confident enough to make online purchases of up to US $500 as against US $40-100. According to CISCO report article in The Economics Times, India will have the highest traffic growth rate with 44% CAGR from 2012 to 2017 followed by Indonesia and South Africa. Monthly movement of fixed and mobile data is expected to reach about 121 Exabyte by 2017 from 44 Exabyte in 2012.

- Improved fraud prevention and detection technologies have offered a safe and secure business environment and helped in preventing credit card frauds, identity thefts and phishing. Consumers in cities fast realize the potential of the Internet as a medium of transactions. The young population finds online transactions much easier and safer.

Mobile devices are becoming a part of our lifestyle. People use the Internet for various purposes which include email, search for academic and financial information, music and video on the Internet, chat, online job search, gaming, booking tickets, hotel reservation, online news, Internet telephony/video chat/voice chat and online banking. E-commerce has touched every field of human life from information search to entertainment, job search & matrimony.
Currently M-commerce in India is offering exciting and renewed services to the existing mobile users like pocket finder of Aircel, SMS-based home appliances handling (ONIDA AC, FM) and Projector within the mobile device. Social networking sites like Facebook and Twitter are also available on mobile. But it has been limited primarily to basic banking transactions, purchase of travel tickets and payment of some utility bills. Finally banks, cellular operators and payment service providers are coming together to find solutions that comply with necessary regulatory guidelines. Security is a prime concern for banking regulators; it has been an obstacle to the growth of M-commerce services such as the so-called mobile wallet which helps to make payments at retail outlets through text messages or Internet-enabled phones. The Reserve Bank of India had issued guidelines for the creation of the mobile wallet, a derivative of a phone firm’s master bank account from which millions of subscribers can be served on their mobile phones. The Californian mobile payment service provider Obopay Inc. and Bangalore’s mChek India Payment Systems Pvt. Ltd is among the fast-expanding breed of mobile payment service providers which have planned offerings that work within the guidelines and bring about the convenience of mobile transactions. Banks in India like ICICI Bank Ltd, SBI and Standard Chartered Bank have already started Internet banking service on mobile phones. Bharti Telesoft Ltd provides software products and solutions to mobile operators. It provided solutions for microfinance operations especially in data collection work. Data shows that current products and services are emerging as a result of cheap processing and widespread networking and technologies are changing everything in our relationship to everyday objects. This has also changed the market trends and shopping decisions.

KPMG’s study shows that consumers in India and China are leading the drive for personal banking and retail transactions via their mobiles. While unveiling the findings of the report 3G, 4G and BWA (Broadband Wireless Association) will further fuel the growth of E-commerce in India as the multimedia data delivery & these technologies should be able to ensure constant broadband speeds and seamless connectivity. Many service providers in India like BSNL, Airtel, Reliance, Tata Docomo, Vodafone are offering wireless 3G. The KPMG study has also revealed that in spite of the related growth of mobile telephony in India more than half of mobile users did not wish to give up their landline. The reasons being users felt landlines are more reliable than mobiles and it was the primary source for Internet access. This
shows that in future E-commerce and M-commerce will occupy a major share in Indian market.

1.16 TRANSFORMATION OF E-COMMERCE INTO M-COMMERCE

Today E-commerce has become an integral part of daily life. People use the Internet for various purposes which include email, academic and financial information search, music and video on the Internet, chat, online job search, gaming, booking railway/airline tickets, hotel reservation online news, Internet telephony/video chat/voice chat and online banking. E-commerce has touched the every field of human life from information search to entertainment, job search to matrimonial sites. Online users and their usage behavior of E-commerce in India have witnessed an increase in the number of Internet users. In India School and college students along with young men contribute to 72% of Internet activity.

1.16.1 MOTIVES FOR TRANSFORMATION

Now a day’s M-commerce market is growing rapidly and the number of Smartphone users is increasing steadily. M-commerce helps people to manage daily life more easily. The benefits of M-commerce are as follows-

1.16.1.1 User-Friendly

Modern day websites are being designed to be user-friendly. It's predictive auto-fill capacity in search helps consumers easily and rapidly find any particular product they are looking for. Different classifications of product variety help consumers choose more carefully among products.

1.16.1.2 Portability of Mobile Device

The mobile device is easy to carry by the user. It helps users to avoid physically visit of any particular shop as well as relieving him of the need for a laptop or PC.

1.16.1.3 Low Internet Connectivity Area

M-commerce is also efficiently used where the Internet connectivity is low and websites take more time to connect or load. Through mobile devices less Internet data is used. It is more economical compared to the Internet via standard computers.
1.16.1.4 Secure Transactions

M-commerce also gives an assurance of secure transactions since transaction completions need a confirmation code that is sent by e-mail and mobile phone. After filling this code the transaction will be processed. So the chances of wrong transactions are minimized and insecure cases eliminated. This increases trust levels for websites and increases the number of customers. A slow digital revolution can be imagined in emerging countries like India.

Internet penetration in the country is quite low compared to developed countries. Even if the country is expected to attain a benchmark penetration in forthcoming years. In the last couple of years, the penetration in rural India has risen up from 2.6% to 4.6% in 2010. In other words, the rural sector of the country has thrown off a compound annual growth rate (CAGR) of 73% over last two years. Increasing number of the smart phones in the country has fueled adoption of the Internet. According to Alshehri et al. (2012) an effect of the Internet-enabled mobile handset is even more visible in rural India. In this report, there were 3.65 million mobile Internet users in the country, represented a 7.2x growth compared to the same quarter of 2010. Almost half of the web traffic in the country is being generated by Internet-enabled mobile handsets. According to a recent report from Kleiner Perkins Caufield Byers (KPCB) mobile Internet usage in the country surpassed desktop Internet usage for the first time in May this year.

1.16.2 Statistics for Transformation of E-commerce into M-commerce

The Internet and Mobile Association of India (IAMAI) reported that 71% of active Internet users (80 million) reside in the urban region of the country. On the other hand, rural areas accounted for just 31 million active Internet users. The research firm also predicted that Internet users in rural areas will surge by 7 million during June-December this year. In simple words active Internet users in rural India will reach 38 million by the end of this year. However, the growth of active users in cities is expected to rise by 4 million over the same period. Mobile devices have become a primary source for Internet access followed by desktops. In a recent report of the Federation of Indian Chamber Of Commerce and Industry (FICCI) and Klynveld Peat Marwick Goerdeler (KPMG) it was estimated that Internet-enabled smart phones in India will hit 24 million units by the end of this year and it will reach 264 million in 2016.
1.17 PAYMENT METHODS

The basic structure of a country’s economy and financial markets depends on the payment systems it uses (Djankov et al., 2003). The banking and financial services industries have been turned upside down because of the rapid introductions of new electronic and information technologies. The newest changes and their diffusion are certain to increase transactional speed and improve banking efficiency (Awad, 2004). The technology changes offered institution alternatives and better banking channels to deliver benefits to bank customers (Balaraman and Kosalram, 2012). The past 20 years have been witnessed a multitude of changes impacting the types and scope of banking which is now practiced by wholesale bankers, multinational banks, Euro-banks, international banks, swaps in currency options and interest rates, collateralized mortgages, multiple currency loans and financial futures. Fundamental changes over the last 50 years included automated teller machines, credit cards, debit cards, cash management accounts, electronic fund transfers and point of sale terminals. These changes owe much of their rise to miniaturization of computing power and more efficient computer storage in RAM and ROM. The proliferation of PCs for home use, as well as the widespread dispersion of smart phones has put financial and monetary computing power within the hands of Everyman. Increased computational power executed on smaller chips has made it possible to calculate financial parameters in microsecond’s i.e. any digital transaction is reflected instantly in the necessary computer file. The single most important aspect of these electronic changes is the simultaneous migration away from the use of papers for primary record-keeping and transactions information. The cost of communication has fallen as quickly as its speed has increased. Leading to speculation that new types of payment systems become detached from the banking system. (Chaffey, 2002).

Historically payment system transactions were exclusively provided by the banks. However the dominance of small payment systems by the banking industry is being challenged by a nascent industry reacting to consumer demands. Today many non-bank entities provide these services. In fact the competition for the provision of payment system mechanisms has turned monetary value transfer into a commodity. The banking industry has trailed other industries in developing and offering electronic money payment systems for small-value transactions (Sifers, 1997). The Internet opportunities have attracted a wide range of players from big and established organizations such as MasterCard, Visa, Microsoft and the major banks to newcomers.
such as Digi-Cash, Cyber-Cash and First Virtual (O’Mahony et al., 1997; Awad, 2004).

Electronic payment systems developed for transferring bank payments between the banks are becoming common in all industrialized countries. They speed up the transfer of payments and improve the quality of payment transmission. Compared with traditional methods of transmitting payments, the new systems involve significant economies of scale and rationalization gains. It would hardly be possible to increase the volume and value of payments at the present pace without corresponding advances in payment technology. At the same time the implementation of new payment systems help to enhance the planning and monitoring of bank liquidity. As the systems require large investments they also call for cooperation between banks and participation by the central bank (Llewellyn, 1999). In the case of payment systems the banking sector has succeeded well by coming up with expectations set by fast-developing market needs and other areas of society. Globalization and faster communication have caused some changes in payment methods. In previous years Credit cards and travel cheques as well as Internet payments have been some solutions from the banking side to secure its position in financial markets (Saarinen, 2000; Beales et al, 1981).

1.18 PAYMENT METHODS IN DEVELOPING COUNTRIES

Only the upper classes in developing countries use credit and debit cards to pay for their shopping as a way of showing their class (UNCTAD, 2003). Similarly some other parts of the world especially in Asia and Latin America credit cards are not a widespread common feature in society. Therefore a Western company accustomed to doing a tremendous business on credit in the West would be extremely disappointed attempting to operate in a foreign country that does not use a credit card as a payment method. (Pons et al., 2003).

According to Humphrey et al. (2003) in developing countries the underdeveloped electronic payment system is a serious impediment to the growth of E-commerce. In these countries, entrepreneurs are not able to accept credit card payments over the Internet due to legal and business concerns. The primary issue is transaction security. The absence/ inadequacy of legal infrastructures governing the operation of e-payments is also a concern. Hence banks with e-banking operations employ service agreements between themselves and their clients (Humphrey et al.,
Innovations affect consumers including credit and debit cards, automated teller machines (ATMs), stored value cards and e-banking. Innovations enabling online commerce are e-cash, e-checks, smart cards and encrypted credit cards. These payment methods are not popular in developing countries.

They are employed by a few large companies in specific secured channels on a transaction basis. Innovations are affecting companies as pertains to payment mechanisms that banks provide for their clients including inter-bank transfers through automated clearing houses allowing payment by direct deposit (Andam, 2003). The payment schemes available for online transactions in developing countries are cash-on-delivery. Many online transactions involved online purchase orders submissions. After ordering goods online payment is made by depositing cash into the bank account of the company from which the goods were ordered (Andam, 2003; Awad, 2004).

1.19 PAYMENT METHODS IN INDIA

The term E-commerce is widely used today. It is an upcoming and fast-spreading way of doing business and extending to a larger audience base than traditional retailers. E-commerce is the exchange of goods and services enabled by an electronic method. E-commerce comprises of various categories such as Business to Business, Business to Consumer, Consumer to Business and Consumer to Consumer. From advertising to paying everything except delivery of physical products can technically be done through electronic means. Consumers may choose different ways to pay for their E-commerce transactions based on their preference. This may be driven by convenience, availability, security or for other reasons. There are various ways of making payments through electronic modes such as electronic wallets, smart cards, software wallets, credit cards, debit cards, net banking and more. Online stores that collect money from consumers in any other way than cash need to rely on a service provider typically known as a Payment Gateway provider.

A payment gateway is an E-commerce application service provider that processes credit card payments for e-businesses and online retailers. It acts as the go-between the consumer who is making purchases and the bank that is authorizing the bank-issued payment instrument such as a credit card to be used for the payment. It is equivalent to making a payment over the counter when one is physically purchase something. These payment gateways are like the middlemen between the purchaser
and the company which provides the product. Payment gateways get their revenues from the merchants to whom they provide these services. In turn the Payment Gateway has to share some of its merchant fees with the banks and payment system companies. Sometimes, such as in Cash-on-Delivery transactions, the payments are made directly from the consumer (Buyer) to the Merchant (Seller) that a product or service is being provided. Direct transactions between the buyers and sellers do not involve the payment gateway and as such the payment gateway is not a party to the transaction nor does it get revenues from such transactions. Amongst the several payment gateways in India, some well-known widely-used payment gateways include CCAvenue & Tech Process. Pay by Amazon has also recently launched its services. Payment Gateways that act between the bank and the merchant can provide efficient services and for that reason the transaction cost is loaded with the additional costs of the Payment Gateway. However Payment gateways provide a safer platform for the money exchange to take place as there are fewer chances of being harmed by fraudsters as the Payment Gateway would usually have a fraud protection system that protects merchants from such liability. The various forms of payment for E-commerce are given in the following paragraphs:

1.19.1 Credit cards

This is the easiest form of electronic money that is available and most widely used today. There are several credit cards being used to make online payments in India. Many international sites and mobile commerce sites allow customers to pre-store your credit card number securely so that you don’t have to key in the number each time. Currently the largest user base in E-commerce uses credit cards for payments.

1.19.2 Debit Cards

The second largest E-commerce payment medium in India is the use of debit cards and net banking. Very often customers who want to stay within their spending capacity, paying for things online use a debit card. Since it proves to be a preferred choice. With the debit card one can only pay for purchased goods with the money that already exists in the current or savings accounts. As opposed to the credit card where the spent amount accumulates and have to be paid at the end of the billing period.
1.19.3 Cash-on-delivery
COD has emerged as one of the most sought after services for E-commerce entities. It is reported that in most of the cases 50 per cent of orders are placed with various online retailers with this payment option while the remaining opt for a credit card or bank payments. In India many customers tend to prefer COD since other the online payment modes have yet to catch up in many parts of the country.

1.19.4 Net banking
Net banking is another easy way to make payments for online transactions. It uses a method similar to the debit card of paying from money that exists in the users current or savings account but net banking does not require the user to have a card for the payment process. While completing the purchase the consumer needs to enter their net banking ID and PIN.

1.19.5 Mobile Money
Out of India’s 1.2 billion people only a small percentage has bank accounts. Amongst that massive unbanked population many hundreds of millions have mobile phones and mobile money is likely to be hugely beneficial for them. Even for smaller transactions where credit cards are not accepted, it might be simpler to just hand over cash. But if you don’t have sufficient cash then mobile money becomes useful. However mobile money would be convenient to buy a movie ticket or pay your utility bills on your phone where otherwise you might have to key in your entire credit card number, CCV number, etc. every time you make a payment. It’s meant for transactions between Rs 50 – Rs 500 to buy things like games, music, eBooks and virtual goods in games and where people may not want to use credit or debit cards. In India this is a developing payment option and still evolving in terms of regulations and guidelines. Today the main method to pay for products using mobile is still linked to bank account. Payments using mobile carrier billing i.e. where payments are deducted from your mobile prepaid balance or billed to your postpaid account are still restricted to services provided through the mobile operator e.g. for value-added services. Mobile carrier billing has not yet started for E-commerce transactions.
1.19.6 Mobile Wallet

The mobile wallet which is also called M-Wallet, digital wallet, or E-Wallet, refers to a mobile technology that is used similarly to a real wallet. The Mobile Wallet provides a convenient solution for any business looking to allow customers to purchase their products online with greater ease.

1.19.7 Reward Points

Some other more indirect ways of online payments are rewards points. On certain things that are purchased by a person a number of rewards points are awarded which will be accumulated in the buyer’s account. In the next transaction the buyer can choose to pay for their next purchase using the accumulated rewards points which will replace what they would otherwise be paying as money.

1.19.8 Prepaid Cards

This is a relatively new and fast-growing payment method. Typically a consumer may buy or be gifted a prepaid card that can be used online. Usually this would be for a particular brand or for a retailer. Some online retailers have their own gift cards which are sold to their customers who in turn may use it for themselves or as give them as gifts. Gift cards have their own authentication system and this may vary from issuer to issuer.

In summary if a new online retail store or a brand planning to set up an online store one should contact to a reliable payment gateway partner to assist with getting online store to accept various forms of payment. For Cash-on-Delivery and Bank Cheques, one would need to have a separate process and this would have to be reflected in their web store software as an option for consumers to choose. Select a good Payment Gateway provider which gives you the maximum options and is also constantly adding new options based on the evolving marketplace and methods of payment.

1.20 FACTORS INFLUENCING E-COMMERCE ADOPTION IN INDIA

Abbasi et. al (2014) introduced factors of E-commerce adoption decisions in a case of developing countries as shown in Table 1.1 below. They argue that there are critical factors affecting the adoption of E-commerce by firms which are classified
into two main categories; internal and external factors. Internal factors are the firm and external factors are environmental in nature.

**TABLE 1.1 FACTORS INFLUENCING E-COMMERCE ADOPTION IN INDIA**

<table>
<thead>
<tr>
<th>Internal Factors</th>
<th>External Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Readiness</td>
<td>Global completion</td>
</tr>
<tr>
<td>Financial Readiness</td>
<td>Local completion</td>
</tr>
<tr>
<td>Staff Readiness</td>
<td>Trust &amp; Culture</td>
</tr>
<tr>
<td>Management Support</td>
<td>Law &amp; Regulations</td>
</tr>
<tr>
<td>Firm Strategy</td>
<td>IT infrastructure</td>
</tr>
<tr>
<td>Firm Size</td>
<td>Customer pressure</td>
</tr>
<tr>
<td>Firm Culture</td>
<td>Industry Nature</td>
</tr>
<tr>
<td>Anticipated Benefits</td>
<td>Government Nature</td>
</tr>
</tbody>
</table>

**Source:** (Abbasi et. al., 2014)

Internal factors are IT readiness which refers to the level of IT usage within the firm. This category includes information and networking security, system interrelation, data conversion, hardware and software compatibility, adequacy of the firm’s IT infrastructure and migration from the legacy system. The second internal factor category refers to the firm’s financial readiness. Financial readiness is reflected by the top management’s willingness to fund E-commerce adoption projects. The major cost of E-commerce adoption is the cost of educating and training management and employees to use E-commerce.

Another concern of the top management is the losses of productivity due to abuse by IT staff. The readiness factor category refers to the IT and E-commerce literacy level inside the firm. Management support is another important internal factor category. This category represents the extent to which the top management recognizes the importance of E-commerce adoption. The recognition is reflected in the support and leadership of top management executives in the E-commerce adoption process (Grover, 1993; Thong, 1999; Godenhielm, 1999; Tabor, 2003). The firm’s internal culture refers to the collaboration level and style of the different management levels and team spirit and dedication to the business processes. Firm size is one of the main
reasons for not adopting E-commerce. Large firms have more resources and infrastructure to facilitate implementation of E-commerce adoption projects.

A variety of external factors may affect the decisions to adopt E-commerce. One obvious factor is competitive pressure from a comparable firm. (Tabor, 2003) The author argued that any firm had to embrace E-commerce rapidly in the face of such pressure. The very fact of pressure increases the uncertainty experienced by the targeted firm and drives it to adoption more quickly. (Allen, 2000) stressed the importance of trust in a successful E-commerce enterprise. Along with trust a responsible culture is also integral to a successful venture ((Ranganathan, 2003).

In addition to pressure from competitive firms the targeted enterprise may belong to an industry which itself is ripe for technological change with all members prepared to make the transition. The perceived and de facto role of government may affect the rapicidity of the transition. ‘Ranganathan’ claims that government is crucial to establishing operational standards. These standards may require implementation at the national, regional or local level. (Chang et al. 2003) listed the principal factors to consider in E-commerce adoption in emerging markets, but failed to develop a usable protocol. One complication evident in these attempts at imagining the future is that they tend to treat internal and external factors as separate entities without recognizing their interrelationship. For example IT readiness is compromised if organizations rely solely on internal and external factors considered independently.

1.21 THEORETICAL FRAMEWORK FOR E-COMMERCE BENEFITS AND CHALLENGES

The spreading use of Internet-based E-commerce throughout the world’s developed countries has transformed the global business landscape. This research has identified the basis of trust in E-commerce. This study provides a conceptual model for developing a framework for making business decisions. Also it suggests that trust is developed through the expansion of the business. This study defines the barriers such as likely economic conditions, infrastructures, language barriers, industrial backgrounds and government rules and regulations for developing E-commerce in developing nations.

Studies explain that the dollar value of electronic commerce (EC) transactions is increases at an astounding rate. In consumer-to-business applications every year the amount of money spent by online shoppers are nearly double and are expected to
approach US$ 100 billion by 2004. While business-to-business sales are expected to reach US$ 1.3 trillion by 2003. In this study researchers explained that the occurrence of E-commerce is a fundamental change in business and industry. It is much easier for the prospective consumers to know the fair price of the product. This study shows that E-commerce is a fully market-oriented concept.

There are dozens of definitions of E-commerce trust. If a vendor posts a privacy policy or uses a third-party seal indicating that a privacy policy exists on the site, the consumer should believe that this vendor is ethical about capturing personal information (trusting belief = integrity). Thus the consumer is more likely to be willing to share personal information with this vendor. If a vendor interacts online with his customers he should be able to convey them that it is benevolent, competent, honest and predictable. The interaction provides the customer with evidence that the vendor has various positive attributes thereby strengthening trusting beliefs. The vendor may advertise its good reputation for inducing purchasing behaviors. But improving his reputation will also improve trusting beliefs because reputation is a second-hand pathway to other reputable sites which may provide further assurance, guarantees or third-party seals related to the reliability of the site.

An online shopping behavior refers to the process of purchasing products or services via the Internet. The process consists of five steps similar to those associated with traditional shopping behavior. The investigator found that customers who shop Internet stores more frequently are more convenience-oriented and less experience-oriented. These consumers regard convenience during shopping as the most important factor in purchase decisions because they are time-constrained and do not mind buying products without touching or feeling them. If they can save time in this way their needs are met.

One widely-reported prediction is that the availability of low-cost information on price will prevent a retailer from charging a higher price than the lowest available. Many observers predicted that prices would be extremely competitive on the Internet. Forcing all Internet retailers to set the same low price for mass produced physical goods, Price competition was also expected to drive down prices in the Internet channel related to the physical channel.

Availability of price information was an important determinant as to whether a user would purchase from the website. The work also has implications for Web
designers or managers who seek to enhance market attraction and retention on online websites.

There are various reasons for e-retail. Such as increases in the number of buyers and sellers and changes in customer attitude. People nowadays find it easier to do shopping online to obtain home delivery and be able to access products at the best on a 24-hour basis.

The study identifies the major drawbacks of E-commerce in developing countries and also examines the bottlenecks of E-commerce in developing countries. These drawbacks are concerned with information deficiencies, security issues, infrastructure issues and governmental rules and regulations.

Nowadays reducing costs has become a more important target. To achieve and stay competitive organizations will try to use various Internet business models. Now E-commerce has much lower costs than the older means of signaling prices. Electronic commerce (EC) is a popular topic in the mass media and informatics circles as well. Perhaps its impact is most visible in the areas of financial services and retailing.

1.22 CHALLENGES FOR E-COMMERCE INDUSTRY IN DEVELOPING COUNTRIES

The Internet is not only deals with money but also with larger databases full of vital and sometimes top secret information that companies, organizations and governments have within their control. Also the Internet can easily be characterized as an FDI (Foreign Direct Investment) tool. Companies apply different strategies of how to enter a foreign market, expand their operations and become multinationals. Companies do that to create a competitive advantage over other companies. Such firms gain a competitive advantage by exploiting a new resource; low labor-costs, cheap raw materials, the country’s infrastructure, communication channels, legislation, etc.

The revolution of E-commerce has brought some challenges for the firms and governments as well. These challenges can influence at a micro economic and macro economic environment level. E-commerce and e-business require a complete change of the business structure. Firms need to implement new management processes, changes in their business culture and follow different procedures for managing their employees. They also need to create a new structure for information systems,
networked processing functions and most importantly they need to change their entire business strategy (Chaffey, 2002; Laudon and Traver, 2003).

To coordinate with online transactions and business activities as well as the potential linkage with other firms within industry all E-businesses need to build a very strong IT infrastructure. (Gunasekaran and Yusuf, 2002). IT infrastructure has the power to connect the firm with the infrastructures of other organizations while bringing down barriers and creating a new ‘business global village’ (Chaffey, 2002). However digital firms have to select the most suitable Internet technology that is compatible with their business processes and data structures. Different kinds of hardware and software tools can be used for different business applications. Therefore the firm must choose the right set of technologies for its IT infrastructure (Laudon and Laudon, 2002). Moreover technology is constantly upgrading and introduces new systems, applications and hardware. A company has to keep up with the technology pace to create well-functioning business processes among customers and suppliers via the Internet. This requires the reconstruction of information architectures and IT infrastructures. According to Mitchell et al. (2004) there are five basic problems that stand in the way of implementing these new changes.

1) **Loss of Management Control:** The end-users are becoming more independent, capable of collecting, storing and handle the software. This occurs due to the lack of a single, central point where the needs of management can be implemented.

2) **Connectivity and Application Integration:** A company needs to upgrade its IT infrastructure to have compatible networks and standards and eliminate connectivity problems.

3) **Organizational Change Requirements:** The old organization structure has to be changed according to the new IT infrastructure which needs to be more effective and uniform.

4) **Hidden Costs of Enterprise Computing:** Some unexpected costs and expected savings are generating problems. These costs are generated from hardware and software installations, maintenance costs, labor costs, etc.

5) **Scalability, Reliability and Security:** A tsunami of digital events has forced technology administrators to come up with strategies to manage and organize them. These include the rising numbers of data transactions, need for storage as well as the flood of new apps and streaming audio and video presentations. Administrators are finding ways to take advantage of declining labor and raw
material costs applied to technology (Brinson et. al., 2001). It is up to
governments to limit the impacts on E-commerce caused by taxation, excessive
regulation and censorship. Ideally governments should favor E-commerce with an
environment dedicated to free markets. Governments should also assure that there
is a clear legal framework in which E-commerce can thrive (United States
Government, 2004). E-commerce will create a new world where skilled workers
find a good employment marketplace. The demand for workers will rise and
reshape labor markets. The cohort of educated and skilled workers residing in
countries that underutilize them will rapidly take steps to migrate to countries
capable of making good use of them (United States Government, 2004).

➢ **Advantages and Disadvantages of E-commerce**

E-commerce is a new industry in India. Many things are favorable and unfavorable
for the growth of E-commerce industry in India. The advantages and disadvantages
of E-commerce in India can easily be described from two points of view: The
Trader’s and the Buyer’s.

➢ **Advantages for Traders:**

With the help of E-commerce a small-scale company can get a major advantage
comparative to large-scale companies. Small companies are confronted with one
less barrier in penetrating the markets already dominated by the large companies.
The small-scale company can compete with the large scale companies due to small
expenses incurred by a virtual shop.

➢ **Permanent Contact with Customers for 24 Hours and 7 Days:**

Traders always keep in touch with the customers. This brings an advantage too in
case of the expansion on the foreign markets. It also improves the communication
with the customers that do not have to observe a strict timetable. Thus being able to
obtain information and place orders at any time.

➢ **International Markets Penetration Facilities:**

The world network is not limited by borders. It does not belong to anyone. The
communication with a customer positioned to the opposite pole of the world is as
easy as the communication with someone in the next room. Any producer now can
sell his products in any country by the means of the web site and no contacts with
local companies or large investments are necessary anymore.

➢ **The Decrease of Operational Costs:**
These costs may be drastically diminished by the automatic procedures of the order
process. There is also the possibility of total automation by the integration with the
administration system thus leading to the increase of the general productivity of the
company.

➢ **New Possibilities for Performing A Direct Marketing (one-to-one):**
As compare with human being a computer may retain not only the name and
personal data of all customers, their preferences but also adapt the offer and
product presentation to conform each customer's profile. The study of customers
on Internet may be achieved using all available data such as location, type of
browser and operating system.

➢ **Disadvantages for Traders:**
E-commerce is a novel industry in India. Many things are favorable and
unfavorable for the growth of E-commerce industry in India. Some disadvantages
were found during the research. These are as follows:

➢ **The Fraud:**
As in any other activity field the technology of Internet created new fraudulent
possibilities. In the lack of a direct contact a client may cheat the trader regarding
his identity or his real payment possibilities. Most of the Western virtual shops
hesitate to send commodities to Eastern Europe because of many successful
embezzlement schemes initiated by Eastern Europeans with false credit cards.

➢ **The Security:**
Another important problem is related with the security of the data. A company that
has no access to the Internet does not have too many worries regarding the integrity
of their information systems. The connection to a public network that can be
accessed by anyone more or less authorized and the access to the confidential data
of the local network is raising serious problems.
Launch and Integration Costs:
Although the launch costs of a virtual shop are much lower in comparison with those of a real one they may be incorrectly estimated. A company that has not yet implemented a system administration program the employees who do not have minimum technical knowledge may be confronted with an unexpected increase of the launch costs due to the necessity to acquire training systems for the employees.

The Advantage For Buyers:
Availability for 24*7 for the entire week represents a major advantage for clients who can purchase during the night too when they are not busy with other urgent problems.

Facilities:
Due to E-commerce, there is no need to go to the commercial places or the shop next to the corner. Everyone may place orders from home sitting in front of the PC and thoroughly analyzing and comparing different products. Now it is possible that customers can access the information and different products without any restrictions. The apparition of the E-commerce gives a new meaning to the term “globalization”. For example in order to buy handcrafted items from Madagascar it is not necessary to travel to that destination but only to open the browser at the address of a shop that is trading such items (an address that can be easily found using any search engine). Before buying the product the potential future buyer has more free and cheap access to the offers of the producers or competing companies.

Disadvantages for Buyers:
E-commerce is a novel industry in India. Many things are favorable and unfavorable for the growth of E-commerce industry in India. Some disadvantages were found during the research. These are as follows:

Security:
The most important reason for which some persons hesitate to use the Internet for purchases – as revealed by opinion polls – is that of being afraid to supply credit card information. But the same persons are giving the same information every day to persons they do not even know when they buy from catalogs or TV advertisements.
➢ **Intimacy:**
Another important problem is the attempt to take advantage of personal intimacy. The potential buyers are afraid that by the Internet the traders or a person with the wrong intention can collect information easily.

➢ **Absence of Human Contacts**
This is the obvious inconvenience generated by E-commerce. The low launching and maintenance costs of a virtual shop derive from the advantages of the automatics of the processes and there is no need to supply additional personal information. On the other hand the absence of the seller – the human presence to which the buyer may appeal to in case he has doubts – represents an obstacle in spreading this form of commerce. In this respect some companies created programs that permit an audio or visual contact between the customer and one employee of the company during his visit to the web site.

➢ **Access to Technology**
Thoroughly the access to technology refers to both the Internet penetration degree and the spread of the computers and specialized knowledge. As long as a site of E-commerce will be accessible only for those people who at least know to launch the browser and type the web address. Most of the potential customers will prefer the corner store.
1.23 CHALLENGES FOR E-COMMERCE INDUSTRY IN INDIA

The E-commerce industry is an up-and-coming market in India. So many factors affect an Indian E-commerce market. Admittedly, the E-commerce sector plays a noteworthy role in the development of an Indian economy (Bhatia & Dahiya 2013). However, there are many challenges ahead in the E-commerce industry. Some of them are as follows:-

1.23.1. Legal Complexities

E-commerce websites are facing many legal complexities in India. The Indian IT Act of 2000 governs E-commerce websites business. Building an E-commerce website is not an easy task in India. The Indian IT Act of 2000 has significant features comprised of legal recognition of electronic records and communications (Stephens, 2001).

1.23.2. Language Problem

Many different languages are used by residents of India such as Hindi, Gujarati, Tamil and Marathi etc. Significantly few people understand the English language well enough and the literacy rate among buyers is also a major downside in the E-commerce industry in India (Gibbs et al., 2003)

1.23.3. Infrastructures Issues

In India the Internet is not accessible to the entire nation. Especially in rural areas the connectivity level of the Internet is very low. Also in urban areas high-speed network access is still too expensive for common people. India is said to be the most important place of E-commerce in the world due to its position as the 3\textsuperscript{rd} largest place in potential Internet penetration (Lam and Walker, 2003).

1.23.4. Lack of Adoption

Lots of people in India are not willing to take chances when it comes to the adoption of new technologies and purchasing techniques. There are still countless numbers of people who are resisting the changes from offline to online.
1.23.5. Lack of Human Interactions
In E-commerce transactions there are generally no human interactions. This will continue to be doubt in the minds of some users (Mcknight and Chervany, 2001)

1.23.6. Lack of Internet Banking Users
Many consumers in India are still unaware of the existence of Internet banking. When doing E-commerce transactions, Internet banking is very supportive of the buyers as well as the E-commerce websites (Muthitacharoen, 1999; Schmitt, 2001).

1.23.7. Postal addresses are not standardized
If you place an order online in India you are likely to receive a call from the logistics company asking you about the accuracy of your location. The simple statement of your address is not sufficient.

1.23.8. Lack of Computer Literacy and Internet Users
In comparison to the United States and China computer literacy among the Indian population is significantly lower, as is reflected in the chart below (Frieden & Roche, 2006).
<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Internet Users</th>
<th>Total Country Population</th>
<th>Penetration( % of Pop. with Internet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>641,601,070</td>
<td>1,393,783,836</td>
<td>46.03%</td>
</tr>
<tr>
<td>2</td>
<td>United States</td>
<td>279,834,232</td>
<td>322,583,006</td>
<td>86.75%</td>
</tr>
<tr>
<td>3</td>
<td>India</td>
<td>243,198,922</td>
<td>1,267,401,849</td>
<td>19.19%</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>109,252,912</td>
<td>126,999,808</td>
<td>86.03%</td>
</tr>
<tr>
<td>5</td>
<td>Brazil</td>
<td>107,822,831</td>
<td>202,033,670</td>
<td>53.37%</td>
</tr>
<tr>
<td>6</td>
<td>Russia</td>
<td>84,437,793</td>
<td>142,467,651</td>
<td>59.27%</td>
</tr>
<tr>
<td>7</td>
<td>Germany</td>
<td>71,727,551</td>
<td>82,652,256</td>
<td>86.78%</td>
</tr>
<tr>
<td>8</td>
<td>Nigeria</td>
<td>67,101,452</td>
<td>178,516,904</td>
<td>37.59%</td>
</tr>
<tr>
<td>9</td>
<td>United Kingdom</td>
<td>57,075,826</td>
<td>63,489,234</td>
<td>89.90%</td>
</tr>
<tr>
<td>10</td>
<td>France</td>
<td>55,429,382</td>
<td>64,641,279</td>
<td>85.75%</td>
</tr>
</tbody>
</table>


1.23.9. Cost Issues

Building E-commerce website always includes some form of startup costs. E-commerce websites also have additional operating expenses such as maintenance fees, firewall security issues etc. (Gunasekarana et al. 2002).

1.23.10. Delivery Issues

E-commerce websites are still unable to deliver products to the entire nation. Online products are exceptionally remote from inaccessible areas. Not to mention the fact that many buyers do not want to wait for a couple of weeks (or longer) for their products to be delivered (Dharmakumar, 2012).

1.23.11. Payment Mechanism:

Many payment methods are widely accepted for products over the Internet such as credit cards, debit cards, Internet banking and Cash-on-Delivery (COD) etc. When conducting online purchases many consumers worry as to whether they will receive their product or will be scammed out of their money after the transaction has been completed (Dutta & Bhat, 2014).
1.23.12. Security and Privacy Issues

Sometimes consumers have basic doubts about their E-commerce transactions. Firewalls do not prevent hackers; they simply decrease the likelihood of a break-in. All firewalls provide some capability for logging these attacks. This allows administrators to watch for attacks that are out-of-the-ordinary. (Sengupta et. al., 2005).

1.23.13. Local Market Competition

The E-commerce industry faces extensive competition in local regional markets. In India more people feel safe purchasing their products via local retailers versus purchasing over the Internet (Mishra et. al., 1996).

1.24 BENEFITS FOR E-COMMERCE INDUSTRY IN DEVELOPING COUNTRIES

E-commerce enriches its ability to reach millions of people globally at low cost interactively offering a variety of possibilities. The resourcefulness and rapid growth of the supporting infrastructures (especially the web) result in many potential benefits to organizations, individuals and society. According to the United Nations' Conference on Trade and Development Report (2001) The benefits of E-commerce' such as cheaper procurement, faster knowledge accumulation, dissemination and application, more effective management of the relationship with the customer etc. can translate into significant savings. These benefits are starting to materialize but they will increase significantly as EC expands. United National ICT task force report (Clinton, 1997) indicated that "it is not surprising that the EC revolution is just as problematic as the change that came with the industrial revolution." With online shopping, consumers can browse the entire product assortment with minimal effort and time. Further consumers can efficiently obtain critical knowledge about firms, products and brands and thereby increase their competency in making sound decisions while shopping (Oxley and Yeung, 2001). Consumers can also easily compare product features, availability and prices more efficiently and effectively than with brick-and-mortar shopping. Internet shopping provides a level of anonymity when shopping for certain sensitive products. EC can address both demand and supply issues. The buyer benefits arise primarily to fulfill the structural characteristics of the medium and include the availability of information. The provision of search
mechanisms and online product trials can lead to reduced uncertainty in the purchase decision. (Vulkan, 2003)

- **Benefits to Consumers**

  An important consumer benefit associated with EC is the access to greater amounts of dynamic information to support queries for the consumer’s decision-making process. Obtaining purchase-related information has been the most preferred Web activity. The interactive nature of the Web and the hypertext environment allows for deep nonlinear searches initiated and controlled by customers. In addition to the above, the advantages for industrial consumers have reduced costs to buyers from increased competition in procurement as increased supply is able to compete in an electronically open marketplace. This increase in competition leads to better quality and variety of goods through expanded markets and the ability to produce customized goods.

- **Benefits to the firm**

  Organization benefits arise partly from the use of the Web as a distribution First the Web potentially offers certain classes of provider participation in a market in which distribution costs or cost-of-sales shrink to zero. This is most likely for firms in publishing information services or digital product categories. For example, digital products can be delivered immediately hence such businesses may encounter massive disintermediation or even the eventual elimination of the middleman. Moreover, buyers and sellers can access and contact each other directly, potentially eliminating some of the marketing cost and constraints imposed by such interactions in the physical world.

- **Marketing Communications**

  Currently most of the firms use the Web primarily to deliver information about them and their learning in addition to internal and external communication with other firms and consumers. The interactive nature of the medium offers the insight into developing customer relationships especially to hold the attention of the consumer by engaging them and allowing individual consumers to request as much information as desired. Further, it allows the marketers to obtain relevant information from customers for the purpose of serving them more effectively in the future. The objective of such continuous relationship-building is double-pronged to give consumers information about the firm and its offerings to receive information from consumers about their needs with respect to such offerings. Hence, effective customized advertising,
promotion and customer services are another benefit that the commercial Web offers to the firm.

Most importantly the Web offers an opportunity for competition on the "specialty" axis instead of the price axis. From a marketing perspective it is rarely desirable to compete solely on the basis of price. Instead marketers attempt to satisfy needs on the basis of benefits sought which mean pricing is dependent upon value to the consumer. Such opportunity arises when the offering is differentiated by elements of the marketing mix other than price. This results in value-added benefits included convenience through the direct electronic distribution of software and enjoyment through a visually-appealing and unusual Web site. Consumers indicate that price was the least important product attribute considered lien making online purchases. The ability to compete on dimensions other than price will become especially critical in categories where brands are perceived as substitutes since it allows for more opportunities to differentiate along other dimensions.

1.25 BENEFITS FOR E-COMMERCE INDUSTRY IN INDIA

The electronic marketplace participants are not limited only to digital product company’s e.g. publishing, software and information industries. The most important significance of E-commerce is as follows:

- The firm uses technology to their lower operating costs/increase revenue.
- Electronic commerce has the potential to increase revenue by creating new markets for old products, creating new information based products and establishing new service delivery channels to better serve and interact with customers.

The transaction management aspect of electronic commerce can also enable firms to reduce operating costs by enabling better coordination in the sales, production and distribution processes and to consolidate operations arid reduce overhead. (Panagariya and Joshi, 2016). It leads to more effective performance i.e. better quality, greater customer satisfaction and better corporate decision making.

Electronic commerce endeavors to improve the execution of business transaction over various networks. Electronic commerce is also impacting business to business interactions. It facilitates the network form of organization where small flexible firms rely on other partners, companies for component supplies and product
distribution to meet changing customer demands more effectively. Hence an end to end relationship management solution is a desirable goal that is needed to manage the chain of networks linking customers, workers, suppliers, distributors and even competitors. The management of “Online transactions” in the supply chain assumes a central role. Greater economic efficiency (Lower cost) and a more rapid exchange (high speed, accelerated or real time interaction) can be achieved with the help of electronic commerce. Electronic commerce also incorporates transaction management, which organizes, routes, processes and tracks transactions. It also includes consumers making electronic payments and funds transfers. Basically electronic commerce emphasizes the generation and exploitation of new business opportunities and to use popular phrases: “generate business value” or “do more with less.” (Panagariya, 2000; Turban et al., 2002; Sheth, 2013)

The digital age and the digital revolution affect all by their process innovations. Web TV and digital television are going to affect TV news and entertainment programs. Phone, fax machines, copiers, PCs and printers have become essential ingredients in doing business, so are E-mail, websites and integrated digital communication and computing. Changes in telecommunication will affect the way the information is received, product announcements, orders etc. Today’s office business machines are not integrated. (e.g. faxed orders have to be typed in on computers) the much talked-about convergence will drive all this equipment into one digital platform whether it is Internet and intranet. (Srikanth and Dhanapal, 2011).

* **Increases Sales:** Secure real-time processing increases sales on the website by providing a means for immediate payment that provides closure for sale. E-commerce increases sales by making it easy for customers to do comparison shopping based on their specific situations and to choose an insurance carrier. Sales are enhanced by making it much faster and simpler for customers to evaluate their levels of need.

* **Easy to Use:** For the Internet business the ease of use means more than simplicity. The Internet payment services including security features make the management of E-business easier. By using the services of website providers one can set up in little as 15 to 20 minutes nearly and transact thousands of online business throughout the world. It drastically reduces time-taking decisions, lengthy procedures, thus streamlining the order process entirely, this service is easy to use and operate.
* **Improved Customer Service:** With the emergence of electronic commerce the supply chain is shortened. It improves services given to customers; increases productivity, efficiency, access to international markets and cost reduction, doing commerce over the Internet. It also helps companies to render improved services to their customer.

* **Cost Effective:** As a new medium of business the net affords the lowest transaction costs among all other methods of doing, the world wide web (www) helps to promote services and ideas for a fraction of the cost of traditional advertising and marketing. There is no printing cost and no postage cost. It’s cost effective because there is no maintenance cost, stationery and other costs.

* **Direct Contact:** It establishes a business to customer (B2C) contact but not business to business (B2B). This eliminates the intermediaries between various businesses and customers. The competitive advantage of E-commerce from this point of view is significant. Online business through the Internet puts the business in direct contact with a multitude of competitive suppliers and services and millions of customers. The survival of the business will depend on how to set up shop along the information super highways i.e. Internet.

* **Saving Money:** The entire process of E-commerce routine saves a lot of money. The average cost of a mail order phone call is higher. The cost of setting up of shop online compared to the cost of setting up of the shop on land is cheaper. The land store is higher several times than online. As such, online stores can be set up or just a few thousand and hosted for the financial security of Net users.

* **Security and Privacy:** -Today secure encryption technology is available for following episodes of cyber crime. For instance the Secure Socket Layer (SSL) and Secure Electronic Transaction offer security. The public key and private key mechanisms protect sensitive payment information. Protocol securities are now available and customers are assured that their personal sensitive financial data is protected by most sophisticated systems.

* **Simplicity:** - The advancement in sophisticated communication technology has revolutionized the designing of Internet technology. It is easy to use and the credit order can be processed on the spot. It is easy for customers to buy and sell products online with fast applications web pages can easily be updated. The process of E-commerce is simplified by adding products or services, product information, viewing orders, downloading orders and other administrative tasks are made easy.
* **Serving Customers Better:** - Another reason why enterprises’ are moving towards E-commerce is to offer better service levels to their customers. E-commerce can support this business through different ways. Starting with an online catalogue for ordering goods or a simple ordering system that allows the customer to fill an online order form for services. Businesses can bring in more reliability in their operations. Since errors can be weeded out at the point of data captured itself. After an error-free order has been logged and in the process of being executed the Customer might want to constantly be aware of the status of the order.

* **Integration into Business Cycle:** - A website that is well integrated into the business cycle can offer customers more information than was previously available. For example if Dell tracks each computer through the manufacturing and shipping processes, customers can see exactly where their order is at any time. E-commerce offers the same Luxury as traditional mail order companies who introduced the concept of multiple vendors easily and search large catalogues of various businesses.

* **Creating New Business Models:** - With E-commerce one can creates completely new business models. In mail order companies there is a high cost of printing and mailing catalogues that often end up in the trash. There is also a high cost of staffing including the order taking department that answers that phone in E-commerce. Both the catalogue cost and office costs are nil that means it may be possible to offer products at a lower price or products that could not be offered before the change in cost dynamics.

* **Online Purchasing:** - By organizing their products or services offering into the interactive catalogue e-stores allow customers to shop at a time. They compare different brands and pricing outside the high pressure sales environment and by direct dealing from the home or office.

* **Larger Purchases per Transaction:** - Amazon.com offers a feature that no other bookstore does. When customer read the description of the book on the site, he can see the other Books on related subjects. Even who have ordered and purchased the book. Because of these features people ended up buying more books.

* **Serving Customers Better:** - Another reason why enterprises are moving towards E-commerce is to offer better service level to their customers. E-commerce can support this business need through different ways. Starting with an online catalogue for ordering goods or a simple ordering system that allows the customer to fill an online order form for services. Businesses can bring more reliability in their
operations since errors can be weeded out as the point of data captured itself. After an error-free order has been logged and in the process of being Executed the customer might want to constantly be aware of the status of the order.

* **Improved Customer Interactions:** - With automated tools it is possible to interact with a customer in many ways. A happy customer is more likely to purchase something again from the company.

* **Improves Net worth:** - Putting Business on the Internet can improve its net worth. It is evidenced as a phenomenal savings to gain and the equally phenomenal profits the company stands to make because of complete lack of physical barriers and collapsing of time frames. It permits to make tons and tons of profit.

* **Reaching New Customers:** - Online stores offer capability to researcher wider sections of customers by offering a product or service worldwide. When a shop is opened online the store is opened 24 hours a day, 7 days a week and 365 days in a year permitting to do business from anywhere and at anytime. The website hosted will be visited by several people and a presence on the web promotes a company’s image and product, improves customer service, encourages new customers, service acquisition and provides a new vehicle for sales and information. Business people are more concerned about E-commerce with accessing new markets particularly international markets. It is closely associated with the web business environment and new methods to acquire customers.

* **Instant Payment:** - In recent years, market do not like to accept cash or cheques. The problem with a cheque is that sometimes it is bounced. The merchants have to wait before goods are shipping in case cheques are used. In a credit card (Smart Card) and Automatic Teller Machine (ATM) the merchants can get nearly instant approval and goods can be sent out immediately. In the instant payment technology in this new media of business, both the merchant and the customers are benefited.

* **Increase Market Size:** Internet is everywhere. It is changing the business environment in a great manner. Small businesses are using it to reach wider sections of consumers. Retailers on the Internet are doing potential businesses on groceries, books, toys, music, electronic goods and sending e-greetings to the customers. Customers are accessing websites over the world, all at the click of a button. So Internet is also changing and widening the way globally. It increases market size and has become electronically enabled.
1.26 STRUCTURE OF THE THESIS

This thesis consists of seven chapters. The first (introductory) chapter describes the problem to be investigated and provides relevant historical information about India and its cultural history.

The second chapter summarizes the recent literature on E-commerce, analyses theories of E-commerce and the historical effect on the economies of emerging countries. It analyses the impact of technology on economic activity and evaluates the value of technology as a tool for developing an economy. It reviews existing literature pertaining to E-commerce and the Internet’s role in it. It examines events that have facilitated the growth of E-commerce. It briefly reviews recent technologies and how other countries managed to profit from the appearance of such technologies.

The second chapter also discusses about the factors which promote and hinder the E-commerce. Present study examines the internet in more detail based on previous studies carried out by other researchers.

The third chapter discusses the research methodology applied in the present study and describes the research techniques employed to generate the necessary data and information. It demonstrates the links between the theoretical framework and survey instrument used to collect data and provides an explanation of how the interviews structured.

The fourth chapter explains the analyses and interpretation of data. The study utilized primary data (in-person questionnaires and interviews) and secondary data (published analyses of factors affecting E-commerce).

The fifth chapter discusses the results of the primary data generated from research interviews and the questionnaire. It also modifies the theoretical framework developed in the third chapter. The revised framework developed in this chapter confirms the relevance of the issues identified in the review of published literature in Indian context. It also identifies two new issues previously unreported, i.e. knowledge and security.

It proposes a plan of action and a new model and strategy for India to implement regarding the adoption of E-commerce. The proposed model is generated from reviewing the literature of E-commerce, economic development and the findings of the research chapter.

The sixth chapter summarizes conclusions of the entire research study based on the results drawn from the available data generated through analysis.
The seventh chapter provides useful insight about the research work. In addition it specifies the limitations of the research, recommends specific strategies for government and companies to adopt for E-commerce and provides suggestions for future research.

1.27 SUMMARY

E-commerce forms a broader process of social change. It can be characterized by the shift towards information and knowledge-based economy, the growing dominance of technology and the globalization of markets. Investments are required in both social infrastructure and skills to allow the use of technology in a way compatible with local circumstances, cultures and abilities of users in developing countries. With the ideal conditions individuals and organizations are hopeful for the smooth transition of E-commerce. It provides producers in developing countries with opportunities to access new international markets with low cost and minimal capital investment. They also expect to improved competitiveness, customer services, reduction in transaction costs and overhead. It also enables producers to overcome from traditional limitations associated with restricted access to information, high market-entry costs and isolation from potential markets.

To participate in global E-commerce processes it requires knowledge of many complex issues that lie outside the experience of organizations accustomed to dealing with customers on a personalized or regional basis. These include online promotion, international payments and shipping that are beyond the current limited capacity of most businesses. An increasing number of developing countries have followed the example of developed countries and launched some form of national Information & Communications Technologies (ICT) programs and strategies. These cover a broad range of policy areas such as raising awareness, building infrastructure, deregulation of telecommunications, enhanced education, training for students and workers, changes in legislation and initiatives in e-government. Some have tried and failed at implementation. Developing countries need to understand that building a telecommunications infrastructure is costly. Payment systems and regulations for E-commerce are important issues in developing countries. Only economically literate and prosperous people use credit and debit cards to conduct their shopping; it is a sign of their class and status. The payment schemes available for online transactions in developing countries are primitive by the standards of the developed world. Payments
are based in some way on direct cash transfers, either by cash-on-delivery or a purchase-order system where accounts would be settled with person by cash upon delivery for the physical goods and bank transfer payments. At present there is no fundamental control on what may be sold or how it may be sold; a nearly complete lack of regulation and oversight virtually guarantees the appearance of illegal activity (for example, piracy of entertainment products and counterfeiting of luxury goods). Security issues also remain unaddressed in this freewheeling environment.