CHAPTER II

INFORMATION TECHNOLOGY AND E-COMMERCE IN CYBERSPACE: AN OVERVIEW OF NATURE OF COMMERCE IN INFORMATION TECHNOLOGY ERA

2.1 Introduction

This chapter traces the footprints of development of Information and Communication Technology in the lap of cyberspace. In this context it elaborates the significance of e-Commerce in an online market of Indian economy. It highlights the emergence of new environment for Indian commerce that is ‘e-Commerce’ which has been absorbed by Indian economy in 21st century. It goes on to present the e-Commerce, its fundamental framework, its various types, classification, characteristics, its impact on Indian marketing and entrance of consumers in borderless market. The focus of this study is to reflect a clear and elaborative picture of new platform of online shopping in ‘e-Market’ and its impact on consumer behavior. The important issue here is to provide an overview of changing facets of Indian commerce from ‘physical commerce’ to ‘e-Commerce’.

In the era of third millennium the Information and Communication Technology (ICT) has touched entire spectrum of society. In the arena of Information and Communication Technology the world has entered in an unprecedented phase of an unparallel metamorphosis wherein the cosmos is administered by ‘Cyberspace’. Information Technology is one of the fast growing technologies all over the world. Information islands are now being connected by digital highways through the use of advanced communication technology. Information Technology is, thus, evolved out of the marriage between two versatile technologies namely, Computer and Communication technologies. Information Technology represents the fourth generation of human communication, after sight, oral and written communication and it has opened vistas for developing complete new business modules in order to facilitate and expedite modern day business transactions. The present universe is surrounded by the power of new mantra namely Information Technology. By chanting this mantra the whole world has

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become a global village. With the appearance of Information Technology (IT) most of the countries have switched over from paper based commerce to e-Commerce and from paper based governance to e-governance. The momentous development in the economy has been the geometric expansion of trade, commerce and marketing in the commercial world in the lap of cyber space. The cutting edge for business today is e-Commerce and certainly one of the officially proclaimed objectives of the Internet. e-Commerce is a commerce revolutionized by the Internet–era technology (Information Technology). The philosophy behind the Indian economy has transformed into a new concept that is digital economy. The digital economy is also sometimes called the Internet Economy or Web economy. In this new economy, digital networking and communication infrastructures provide a global platform over which people and organizations devise strategies, interact, communicate, collaborate and search for intensive information. The digital economy has helped to create an economic revolution, which is evident by unprecedented economic performance and it is proved as the longest period of uninterrupted economic expansion in history. With the invention of the web technology, economy has revolutionized from B-Commerce (Bania Commerce) to e-Commerce (Electronic Commerce).

When the Internet tsunami had hit the industry, it submerged everything like existing business model and left behind a plethora of the vowel ‘e’, just as a real tsunami would leave seaweed. Now-a-days, if a company name does not end with ‘.com’, it is considered as a part of the old economy. The ‘dot com’ and ‘e’ - version companies have deputized the old brick-and-mortar business industries. The Internet as a

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commercial entity has come a long way in a short time, though its technical developments stretch over four decades. Emergence of the Internet as a vast public network with millions of people connected online has given boost to a new interactive e-market for buying and selling. For marketers in the online world it is required to question the relevance of traditional models and embody new ones in this rapidly changing business and social environment. The shield of Internet technology lead to digital revolution and this digital overthrow- “Convergence of computer networks and communication technologies” has given birth to Cyberspace.

The last decade of 20th century has witnessed Information Technology emerge as the most prominent technology which has a revolutionary effect on the lives of the people across the world so much that the world has literally become a global village.

Information Technology is the combination of two words: Information and Technology. Information is considered as a nervous system for an organization. It is a valuable asset that must be planned, protected, preserved and controlled as other valuable assets such as people, money, material, machine and other facilities etc. Managing information involves professional approach to deal with the global dynamic interactive environment. Technology is a term which is originated from the Greek word “technologia” - It is a combination of two terms “techne”+ “logia”. If crystallize these terminology then “techne” means skill, art or craft and “logia” means understanding of something or as a branch of knowledge. In this sense, the term ‘technology’ has always referred to the process and practice of doing things, understanding things and developing knowledge. Technology refers to material objects for use to humanity, such as machines, hardware or utensils, as well as broader themes, including systems, methods of organization and techniques. The term states that in order to achieve

Information Technology has come-forth for managing the valuable information in the lap of computers. This new technology coupled with an inspiration to explore has generated an incessant exodus of creativity reducing time and distance on the globe.\footnote{K. Subramanian, “Globalisation of Information- Legal and Security Implications for India”, \textit{CBI Bulletin}, Vol. V, No. 1, June, 1996, pp. 17-20 at p. 17.}

2.2 Information Technology: Nature and Scope

The phrase ‘Information Technology’ (IT) has many varying connotations in the same way as it has a wide spread presence and utility. In a broad perspective, it is concerned with all the aspects of managing and processing information, especially within a large organization or company because computers are central to information management and computer departments within companies and universities are often called IT (Information Technology) departments. Some companies refer to this department as IS (Information Services) or MIS (Management Information Services). It includes computers software, hardware, programs, databases, semiconductor chips that put together process and produce the output. Output can be expressed in human readable form (printouts) or in machine readable form (series of electronic pulses) which are further used to control any other machine, tool or device.\footnote{Shakil Ahmed Syed and Rajiv Raheja, 2001, Preface.} Information technology is system of hardware and software that capture, process, exchange, store and present information using electrical, magnetic or electromagnetic energy.\footnote{S.V. Joga Rao, \textit{Computer Contracts and Information Technology Law}, Wadhwa and Company Nagpur, Delhi, 2003, pp. 1-3.} Information technology also includes networking of computers and databases exchanging and feeding information between one another. An Internet in essence is connecting computers all over the world. Internet is the heart of Information technological development. Internet runs like a golden thread which provides life to sustain the movement of information from one computer to other.\footnote{Pelin Aksoy and Laura DeNardis, \textit{Introduction to Information Technology}, Cengage Learning India Private Limited, New Delhi, 2006, p. 12.}

\footnote{Internet is a “public international network of networks” that consists of millions government networks of local to global scope that are linked by copper wires, fiberoptic cables, wireless connections and other technologies. Internet is a global resource inter-connecting millions of users based on a standard set of protocols a mutually agreed upon method of communication between parties. See: Debra L. Shinder, \textit{Computer Networking Essentials}, Cisco Press, USA, 2002, p. 37.}
combined with the computer has enabled the advent of the Internet, which is the latest breakthrough in the field of communication technology.

In today’s scenario, IT is all pervasive in every phase of our day to day life. Prominently in the service sector involving communications, railways, airlines, scientific establishments, banks, universities, schools, business establishments, in our homes and in industrial growth, it’s inescapable influence is apparent. In the modern world all spheres of human activities are being governed by cyberspace. The information technology has dawned a new era in today’s economy where the key drivers are the Digital Computer and the Internet.

2.2.1 The Digital Computers

Computer is the driving force behind the revolution in Information and Communication Technology. In the era of globalization, the present generation cannot imagine a life without computers. Computers get associated with a person before their birth when computerized scanners detect birth defect and remain associated for even after the death until insurance issues are settled. Historians has started the history of calculations with the Abacus and has traced its origin to the period as early as between 5000 and 2000 B.C. In the 19th century the working principle of today’s computer was provided by Charles Babbage. In 1822, Charles Babbage, a Professor of mathematics at Cambridge University, devised a machine called “Difference Engine”, which he built for the Royal society. His work did not directly influence the design of the first modern computer, but

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20 Abacus devised a wooden frame with bells or beads strung on parallel wires. It was the first device to introduce the concept of sharing data. In the 17th Century, John Napier, a Mathematician, did considerable amount of work on aids for calculation. The most notable one was the invention of logarithms called “Napier Bones” in 1614. In 1620, just after the invention of logarithms, William Oughtred, an English Mathematician, invented “Slide Rule”. This is a calculating device based on the principles of logarithms. In 1642, Blaise Pascal a French Mathematician invented the first mechanical calculating machine. Between 1802 and 1804, Joseph Marie Jacquard, a French textile manufacturer, invented a mechanical system to make use of potentials of the punched cards. See: Ashok Arora and Shefali Bansal, Comprehensive Computer & Languages, Laxmi Publications Pvt. Ltd., New Delhi, 2003, p. 9.
certain ideas were traced back from Mr. Jacquard Machine. The computers produced between 1945-1953 is called as first generation computers. Charles Babbage of England is considered as the father of modern computer technology who in 19th Century conceived an idea to develop computer by mechanical assignment of shafts (Vacuum Tube Computers). However, this idea did not materialize immediately and it took nearly a century to develop a digital computer with highly precision devices. George Stibitz of Bell Labs made first successful attempt by using teletype which contained information that can be read at approximately ten “digits” per second. From the late 1930s to the mid 1940s each device produced during this period showed improvement over the earlier one with main difference that earlier devices were mainly used for calculations of complex numbers, whereas the models produced afterwards introduced a logic unit using the operators. John Atanoroff of Iowa Stage College concentrated on the use of recharging capacitors for dynamic memory storage and vacuum tubes for calculating processing. He succeeded in developing the first “electronic” computer, the ENIAC (Electronic Numerical Integrator and Computer) composed of 18,000 vacuum tubes and 6000 flip flop switches that were either on or off. These vacuum tubes needed high voltage of power which was producing undesirable heat and also resulted into frequent tube failure. This heralded the introduction of the transistorized computer.

21 After Babbage’s work on computers (1871) little progress was made until 1937. George Boole, an English mathematician developed an algebraic system which is now called as “Boolean Algebra”. In the 19th Century, Herman Hollerith developed techniques and machines that had significant impact on the future design of computers. The machines invented by Hollerith were Census machines and tabulators. See: Linda Null and Julia Lobur, The Essentials of Computer Organization and Architecture, Jones & Bartlett Learning International, London, 2012, pp. 19-26.

22 The chief characteristic of the tape tester was use of binary code instead of the decimal system that was still in use in other machines and for the use of electronic storage. This binary code was afterward used by George Stibitz in telephone U-type relays which saw a series of modifications at Bell Labs from the late 1930’s to the mid 1940’s. In 1937, George Stibitz, a Bell Labs mathematician, experimented with relays and his fundamental insight was that ones and zeros used in the binary numbering system correspond to the two-state quality-on and off-of the relay. For more details see: Alan Stone, How America Got On-Line: Politics, Markets, and the Revolution in Telecommunications, M.E. Sharpe Inc., New York, 1931 p. 158.

23 The transistor is similar to a pea containing three wires embedded in a drop of semi-conductor material. The developments in transistor circuits that culminated in the construction of the modern silicon wafer conductor or chip CPUs popularly known as integrated circuits or “ICs” marked a new beginning in the computer technology. These semiconductor chips which roughly match with mechanical caterpillars are basically transistor circuits that have been micro-miniaturized and photo-etched on to a wafer of silicon and embedded in protective plastic. For more details see: Scott Mueller, Upgrading and Repairing PCs, Que Publishing, USA, 2004, p. 16.
This has made a first significant development in the computer technology. After World War II, there was a need for increased calculations. Harvard H. Aiken of Harvard University, while working on his doctorate in Physics, in 1937, designed a machine that would automatically perform sequence of arithmetic operations ENIAC (Electronic Numerical Integrator and Computer) was the first electronic calculator in 1946. Between 1947 and 1950 the Moore School personnel and Ballistic Research Laboratory of U.S. Army built a computer named EDVAC (Electronic Discrete Variable Automatic Computer) which was based on John Von Neumann’s ideas. The second generation took place with the invention of transistors by a team of scientists namely Brattain and Shockley in 1947 at Bell Laboratories, U.S.A. The computers in which vacuum tubes were replaced by transistors were called second generation computers. The third generation of computers was announced in 1965 with germanium transistors being replaced by silicon transistors. Integrated circuits, circuits consisting of transistors, resistors and capacitors grown on a single chip of silicon eliminating wired interconnection between components emerged. The third generation ended by 1975. The fourth generation may be identified by the advent of the microprocessor chip. Medium scale integrated circuits yielded to large and very large scale integrated circuits (VLSI) packing about 50000 transistors in a chip. Examples are: IBM 3033, Burroghs B 7700, HP 3000, Mini Computers, HCL, DCM, IDM (Micros), Apple II. The first business computer appeared in 1960, since then Information Technology has changed the way business or commerce is conducted across the globe. In 21st century, India is in the fifth generation of computing technology. The advantages of the computer technology encouraged entrepreneurs to invest more money and consequently the trade

26 Neumann is referred to as the father of modern computers. He was the first to introduce the ‘Stored Program’ concept in a computer. Another program using internal storage called EDSAC (Electronic Delay Storage Automatic Computer) was completed in 1949 at the University of Manchester (England). EDSAC was the first computer to contain a changeable program of instructions within its own memory. See: Linda Null and Julia Lobur, 2012, p. 34.
on the specialized lines started.\textsuperscript{29} Thus, in brief the historical development of computers\textsuperscript{*} can be stated as: (1) Generation Zero: Mechanical Calculating Machines (1642-1945); (2) The First Generation: Vacuum Tube Computers (1945-1953); (3) The Second Generation: Transistorized Computers (1954-1965); (4) The Third Generation: Integrated Circuit Computers (1965-1980); and (5) The Fourth Generation: VLSI Computers (1980-Till Future).\textsuperscript{30}

\subsection*{2.2.2 The Internet}

\subsubsection*{2.2.2.1 Meaning of the Internet}

Internet has bestowed information revolution that is a driving force in the Information Technology. It has brought the globe in the “third wave” society which is bound to reshape fundamentals of our economy which in the beginning was primarily agrarian in nature, then industrial and now in the process of becoming information based. The Internet has become the most important infrastructure of this world. There is no such period in the history of mankind and no such innovation that has produced such incredible and significant changes in the world’s economy. The Internet is an ideal delivery vehicle for providing a plethora of information.\textsuperscript{31} No words can better describe the present scenario of digital technology than the following stated by cosmos the villain in the movie “Sneaker”.

\begin{quote}
The world is not run by weapons any more, or energy or money. It is run by ones and zeros little bits of data. It is all electrons. There is a war out a world war. It is not about who has the most bullets. It is about who controls the information. What we see and hear, how we work, what we think. It is all about information in the digital world.\textsuperscript{32}
\end{quote}

\begin{footnotesize}
\textsuperscript{30} Linda Null and Julia Lobur, 2012, pp. 16-27.
\textsuperscript{*} It is mentioned here to clear that there is no crystal clarity about the years of historical development of computers. These vary in different books of various authors. For example: The First Generation Computers (Approximately 1946-1957); The Second Generation Computers (Approximately 1958-1963); The Third Generation Computers (Approximately 1964-1970); The Fourth Generation Computers (Approximately 1971-Present); and Fifth Generation Computers (Future): This chronology is mentioned in the book of Deborah Morley and Charles S. Parker, \textit{Understanding Computers 2009: Today and Tomorrow}, Course Technology Cengage Learning, USA, 2010, pp. 14-16.
\textsuperscript{32} Farooq Ahmad, 2005, p. 4.
\end{footnotesize}
It is commercialization and popularization of the Internet that has put e-Commerce towards the top of public, political, economic and legal agenda.\textsuperscript{33} \textit{Alibaba} goes up to the impregnable hill and speaks the magic words and immediately, the cave throws open the bosom and reveals its colossal treasure to him. The Internet also provides treasure on the similar scale-\textit{The Treasure of Information}.\textsuperscript{34} Information is often described as the life-blood or oxygen for any market oriented organization. The Internet has begun to be recognized as a legitimate social survey tool as its user’s horizon rapidly expands to the general public.\textsuperscript{35}

\textit{2.2.2.2 Definitions of the Internet}

The Internet has been called a network of networks, local computer systems hooked to regional systems hooked to national or international high-capacity “back-bone system”. Each link or node, in this web is a computer or computer site, all connected together by a variety of connections: fiber optic cable, twisted-pair copper wire, microwave transmission or other communications media. Each computer in the network communicates with the others by employing machine-language conventions known as the IP or Internet Protocols. In fact, it is these protocols that define the network; those machines that talk to one another using Internet Protocols are the Internet.\textsuperscript{36}

Basically, the Internet is a vast and ever increasing network of computers across the globes that are interconnected over existing telecommunication networks. It is, a or the, network of networks. In brief, the Internet is the entire network of thousands of individual networks, all of which can interact with each other and are interconnected. The Internet grew out of ‘government university’ collaboration, entirely for non-commercial purposes.\textsuperscript{37}

\textsuperscript{36} S.V. Joga Rao, 2003, p. 8.
The *U.S. Federal Networking Council (FNC)* in 1995 defines “Internet” as it refers to the global information system that (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons and/or other IP compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.

A formal definition of e-Commerce has been given by the *Organizations for Economic Co-operation and Development (OCED)* in 1997, “Electronic commerce refers generally to all forms of transactions relating to commercial activities including both organizations and individuals that are based upon the processing and transmissions of digested data, including, text, sound and visual images”.

### 2.2.2.3 Evolution of the Internet

Somewhat like the telephone network, the Internet is a hierarchical structure, with local lines or network connecting to regional networks, which in turn connects to the Internet ‘backbone’. Internet owes its origin to ARPANET (Advanced Research Project Administration Network) which was set up in September, 1969 as a joint venture of the Massachusetts’s Institute of Technology and the American Department of Defense Advance Research Project Administration as a source to establish continued communication between remote computer resources in the event of war. The communication links of ARPANET were confined to military, defense contractors and

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40 Much of the actual infrastructure of wires and cables that carry Internet traffic is exactly the same lines that carry telephone conversations. We are familiar with this sharing at the household level, when we use a modern to dial up on Internet Service Provider (ISP) to access the Internet: the information comes to and goes from the home computer over the local phone company’s wires. In fact, much of the backbone, which typically consists of fiber-optic lines with huge capacities for carrying data, is around by the major long distances carries such as AT & T and world com (MCI) in the US and even globally and in developing countries for example in India by BSNL, VSNL and now Reliance, Bharti and other private Internet service providers. See: Alwyn Didar Singh, 2008, p. 6. For more details see: Brendan P. Kehoe, *Zen and the Art of the Internet: A Beginner’s Guide*, Engle-Wood Cliffs Prentice Hall, NJ, 1993, p.19.

university laboratories involved in defense related research.\textsuperscript{42} The network later on allowed the researches across the country to approach directly the powerful super computers located at a few key universities and laboratories. The technology has entered into a third new phase in the revolution of Information Technology (IT) into 20 years periods: (i) 1955-1974: The Electronic Data Processing Era (EDP); (ii) 1975-1994: The Management Information System Era (MIS); and (iii) 1995-2014: The Internet Era.\textsuperscript{43} From the moment of its inception, the Internet has been designed to serve both as a means of establishing a logical network and as a means of subsuming existing heterogeneous networks while allowing those networks to function independently, that is, both as a set of building blocks and as the glue holding the blocks together.\textsuperscript{44} Once the Internet was open for commercial and private use, its usage spread like a prairie fire. But what really gave a great impetus to its expansion is the creation of World Wide Web (www)-in short ‘Web’ by scientists of the European Laboratory for research in Particle Physics, in 1989. The Internet is like a vast ocean, and if one wants to find his/her way around in this ocean, one needs a proper guidance and steering system. This is provided by the web which is a network of servers connected to the Internet. One explores the web and reaches the desired site or destination with the help of a browser, which is software programme made available by several companies.\textsuperscript{45} This is the world wide web (www) which has made the Internet really user-friendly.\textsuperscript{46}

The Internet \textit{per se} can be considered as a major breakthrough in human civilization because (i) It has the potential to link the whole human kind in an interactive network,

\begin{itemize}
\item As a matter of fact the Internet is a strange phenomenon because nobody owns it. It was born as a U.S. military project ARPANET in 1969 and ultimately developed as an academic and research network. See: Mohammad Mahmoudi Maymand, \textit{e-Commerce}, Deep & Deep Publications Pvt. Ltd., New Delhi, 2005, p. 3.
\item Netscape Navigator and Microsoft MSN are the two well-known browsers. There are search engines like Yahoo, AOL, Google to make task simple. In this bottom up approach any one can type some keys words of our enquiry, press enter, and it opens up a list of web pages that contain the relevant information.
\item Joseph Ponnoly, “Policing the Internet”, \textit{CBI Bulletin}, Vol. V, No. 1, June 1996, pp. 45-49 at p. 45. The Internet and the web are generally used as synonyms. But these are not identical. The Internet means a ‘Network Infrastructure’ that is built on certain standards, which are used by all participants to connect to each other. The World Wide Web is just one of the numerous services offered on the Internet. To reach the web, one has to get registered with the Internet Service Provider (ISP) who connects computer to his server-which in turn is connected to the Internet.
\end{itemize}
that provides instantaneous, cost effective and quick communication to the user, (ii) It is based on neural communication which makes potentially possible the simultaneous involvement of millions in diffusion or exchange of message and information, (iii) It supersedes the passive role of a recipient of communication or the active role of a sender of communication, by making possible the active and interactive search for information and data bases through world wide web, (iv) It provides a new way of accessing information with its ability to draw complex data bases and information, to process these data bases and adopt them to the users’ specific needs and (v) The Internet has multiple functions for accessing and exchanging information in world wide web. One of these functions has to do with economic and financial transactions and trade grouped under generic name of ‘electronic commerce’ or e-Commerce.\textsuperscript{47} The Internet has become a central platform for assorted forms of information exchange. The dominant reason for Internet adoption among entrepreneur is information gathering. Almost infinite number and diversity of public, private and individual web sites offer valuable marketing research information in volumes and accessibility like never before.\textsuperscript{48} The Internet is now recognized as an international communication medium that facilitates any one from any part of the globe for an access to the world of information and to freely exchange information and share data.\textsuperscript{49}

### 2.3 Emergence of Cyber Space

The ‘e-Revolution’ has placed virtually the entire trading universe in the cyberspace. A space without frontiers is known as ‘Cyberspace’ that has emerged within little time with the invention of computers and their interconnectivity. The Cyberspace is the virtual space where innumerable computers are connected together for sharing data, information, knowledge and documents. Cyberspace, therefore, is the place where two people meet, not physically but virtually, and communicate with each other electronically. During the last three decades, this electronic space has seen tremendous transformation from one dimensional form to a multi dimensional one. It has grown and

matured into a wonderful electronic landscape, visited by millions of people, each day stretching it to new vistas. This ‘space’ has enabled people to interact with each other, exchange information, share valuable data and ideas. People have worked in this ‘space’ and enriched themselves with knowledge and money. The information processing speed has increased to the levels, which were unimaginable, a few decades ago.\textsuperscript{50}

![Diagram I: Overview of the conceptual framework of Cyber Space](image)

Cyberspace is a silent world. In this silent world all conversation is typed. To enter it one forsakes both body and place and becomes an identity of words alone.\textsuperscript{51} The term Cyberspace is coined by a scientific fiction novelist William Gibson in his story “Burning Chromes” in 1982 which was made popular in his book “Neuromancer” published in 1984. This term is a combination of two words: Cyber and Space. The word Cyber is derived from Greek word ‘Cybernetics’ which means “Art of Steering, Pilot, Leader, and Governor”. According to the Chambers Dictionary ‘Cybernetics’ is the comparative study of automatic communication and control in functions of living


\textsuperscript{51} Digital environment is different from real space. Interactions done in real space inherently carry the identity of the person originating the transaction. In the virtual space individuals are identified as ‘Digits’ and ‘Passwords’ and transactions are facilitated by digital data exchange. See: T. Gopinath, “Voyagers of Cyberspace: Banking on the Internet”, Information Systems Computerworld, November, 1995, pp. 16-30 at p. 16.
bodies and in mechanical electronic systems such as computers. The control functions take place in the brain of the human body, and the world “Cyber” has evolved to denote a virtual space or memory. Cyber is analogous to human memory, that is to say it denotes the medium in which certain activities take place, like the way thoughts work in human memory. Here activities take place in the back end of a computer and the results are displayed in the monitor. The term Cyberspace has its roots in the science of ‘Cybernetics’ and this pioneer work has done by Norbert Wiener in 1947-1948 in Electronic Communication Technology. The term ‘Cybernetics’ is about having a goal and taking action to achieve that goal. This term was in existence in society for a long time since the time of Plato. He used this term for ‘Government’. But in modern times, it became popular when Norbert Wiener in 1948 wrote a book named ‘Cybernetics’. Its sub-title is “Control and Communication in Animals and Machines”. In his work it is conveyed that for effective action and achievement of goals there is need of information, knowledge and communication. 

Cyberspace is the total interconnectedness of human beings through computers and telecommunication without regard to geographical location. It is also called virtual space as physical existence of cyberspace is not detectable at all. The term cyberspace is a global domain of electromagnetic. These electromagnetic are accessed with electronic technology. Electronic technology converts the energy of these electromagnetics and provides a wide range of information in the empire of network revolution. Due to electromagnetic nature, it has various capabilities i.e. sensors, signals, transmissions, connectivity and created a virtual world which allow independent existence of Information Technology infrastructure. Cyberspace is something that cannot be demarcated in geographical terms at all. It is a reality that can be localized ‘nowhere’

53 The activities taking place in computers cannot be felt by any of the human senses. That is to say, such activities/ data are not in a “Hard Form” (as in the case of paper documents). Hence, we call the data/ documents stored in the electronic form as “Soft copies” which could be retrieved at any point of time and visualized in the monitor. See: Peter F. Drucker, Technology, Management and Society, Harper Group Inc., New York, 1970, pp. 107-117 at p. 107.
54 T. K. Vishwanathan, “Cyberspace and Cyber Laws”, Corporate Law Adviser, Business Law Supplement (Mag.), Vol. 15, No. BI, January-June 2001, pp. 289-292 at p. 289. The concept of ‘Cybernetics’ is based on the assumption that in order to achieve our goal, we need information. Information is not a commodity to be kept in computer box but to share it all around world so that we can lead, govern and regulate the whole world.
and yet its presence is felt ‘everywhere’. Cyberspace is sometimes termed as virtual world. The word ‘virtual’ means to ‘appear real’. In other words, something that is apparently present despite missing measurable characteristics. The impression of a virtual object exceeds its own powers in a manner of speaking.\textsuperscript{55} Due to technological development and the use of Internet technology, the production of information has created a new virtual economy that cannot be touched, felt or held, however, it exists. Cyberspace is the realm behind the computer screen, the other side of the telephone receiver, just a centimeter beneath the surface of the keyboard, where words, sounds, images and all forms of codified phenomena exist. The golden thread in the cyberspace is Internet. The Internet is changing irreversibly the economic landscape and the fundamental assumptions on which the businesses are based. It has transformed the industrial economy into electronic economy where the concept of e-Commerce has taken birth.\textsuperscript{56}

Global Electronic Communications have created new spaces in cyberspace, therefore, need to evolve distinct rules has been realised in Indian legal scenario. Just as a country’s jurisprudence reflects its unique historical experience and culture, the law of cyberspace too reflects its special characteristics, which differs markedly from anything found in the physical world. While the cyber world is wonderful, useful and interesting, it is not altogether free from dangers. It has also become a soft target for criminal activities. As the society has become more and more dependent on information processing and communication, such risks are increasing at an exponential rate. The near total dependence of commercial, banking and even government activities on the networking is providing criminals and miscreants many opportunities to commit mischief and crime on the Internet wherein cyber crimes have become a very serious threat for humanity.


\textsuperscript{56} Cyberspace does not have definite definition. It does not have geographical location. The term is used to refer all objects and identities within its network. Cyberspace is an Internet Metaphor.
2.4 e-Commerce: A New Business Paradigm

Over the past two decades technologies diffuse rapidly in the modern global economy as a consequence of continuing electronic, technological and scientific advancements.\(^{57}\) The globalization of the market place, economy and the means of accessing the market through the national and global information superhighways have given a new dimension to the concept of business or commerce. Technologies that are associated with the electronic commerce have brought a revolution in the way business takes place.\(^{58}\) e-Commerce blueprint captures full spectrum of business processes that are being redefined and improved by leveraging the Internet and its associated technologies towards success. e-Commerce means using the Internet to connect people and processes. It can be anything from building a website to having an integrated value chain that allows trader, seller as well as customer to work simultaneously and automatically. In simple words, e-Commerce is web-enabling existing business processes to conduct transactions over the Internet. It opens new doors for customers around the world, improves efficiency, increases profits and delivers better customer services.\(^{59}\)

e-Commerce (electronic commerce) is the buying and selling of goods and services on the Internet. It helps in conducting traditional commerce through new ways of transferring and possessing of information since information is the life blood of any business. It is about taking advantage of revolutionary new technology to improve operating efficiencies, maintain or extend the lead over competition. e-Business (Electronic Business) is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners. e-Business encompasses the use of technologies, process and management practices that enhance organizational competitiveness through strategic use of electronic information. It goes beyond e-Commerce by integrating e-Commerce tightly with business operations to improve performance, create value and enable new relationships between


businessmen and customers.\textsuperscript{60} The term e-Business is the application of information technologies for internal business processes as well as activities in which a company engages during commercial activity like time cycle, speed, globalization, enhanced productivity, reaching new customers and sharing knowledge across institutions for competitive advantage. However, the term e-Commerce is a rather narrow constructed definition with its emphasis on the transaction process and it does not encompass full range of applications of a company.\textsuperscript{61}

Any form of business transaction in which the parties interact electronically rather than through physical exchanges or direct physical contact is termed as e-Commerce. In particular terms, e-Commerce covers the use of information technology, communication technology and information management skills in business. It is the application of new technologies particularly the Internet and the Web technologies to help individuals, business, companies and other organizations to conduct business better. e-Commerce involves advertising, marketing, stock exchange, payment mechanism, banking, taxation, supply chain mechanism, cyber law and the WTO relating to electronic dealings.\textsuperscript{62}

The term e-Business is the application of information technologies for internal business processes as well as activities in which a company engages during commercial activity. These activities include functional activities such as finance and operations.\textsuperscript{63} e-Commerce is the sub-set of the term e-Business. e-Commerce is a new way of conducting, managing and executing business transactions using modern information technology. The Internet has provided access 24 hours a day, seven days a week, anytime and anywhere. Theoretically, the Internet is the main technology whereby all elements of commercial transaction (advertising, production, purchase, payment and the delivery of services) can be conducted on an interactive basis with more than one person, unconstrained by time and space, in a multimedia (sound, image and text)

environment at a relatively low cost savings as well as increasing competitiveness and efficiency through the redesign of traditional business. e-Commerce is, thus, a business practice that involves use of computers, computer systems or computer networks.\(^{64}\)

### 2.4.1 Definitions of e-Commerce

e-Commerce is a ‘commerce based on bytes’. e-Commerce\(^{65}\) is simply a commercial transaction of services in an electronic format. In general terms, e-Commerce is a business methodology that addresses the needs of organizations, traders and consumers to reduce costs with improved quality of goods and services as well as with increased speed of service delivery. It may also be referred to the paperless exchange of business information using Electronic Data Interchange and Electronic Fund Transfer. e-Commerce is not only about simple transactions of data but also general commercial acts such as publicity, advertisements, negotiations, contracts and fund settlements. It refers to all forms of transactions relating to commercial activities, including both organizations and individuals that are based upon the processing and transmission of digitized data, including text sound and visual images.\(^{66}\) As the Internet makes way for new business transactions via its complex telecommunication network, a single definition for e-Commerce remains elusive. Therefore, e-Commerce can be better understood with the following definitions:

*Wigand* defines e-Commerce as, “The seamless application of information and communication technology from its point of origin to its endpoint along the entire value chain of business processes conducted electronically and designed to enable the accomplishment of a business goal. These processes may be partial or complete and may encompass business to business as well as business to consumer and consumer to business transactions.”\(^{67}\)

The *World Trade Organization* (WTO) Ministerial Declaration on e-Commerce defines e-Commerce as, “the production, distribution, marketing, sales or delivery of goods and


services by electronic means”. The six main instruments of e-Commerce that have been recognized by WTO are telephone, fax, TV, electronic payment and money transfer systems, EDI (electronic data interchange) and the Internet.  

The European Union defines, “Electronic Commerce is a general concept covering any form of business transaction or information exchange executed by using information and communication technology, between companies and their customers, or between companies and public administrations. Electronic commerce includes electronic trading of goods, services and electronic material”.

According to European Commission, e-Commerce encompasses more than the purchase of goods online. It includes a disparate set of loosely defined behaviors, such as shopping, browsing the Internet for goods and services, gathering information about items to purchase and completing the transaction. It also involves the fulfillment and delivery of those goods and services and inquiries about the status of orders. Like any other sustained business activity it also means conducting consumer satisfaction surveys, capturing information about consumers and maintaining consumer databases for marketing promotions and other related activities.

The Gartner Group defines e-Commerce as an evolving set of:

(a) Home-grown or packaged software applications that link multiple enterprises or individual consumers to enterprises for the purpose of conducting business;

(b) Business strategies aimed at optimizing relationships among enterprises and between individuals and enterprises through the use of information technologies;

(c) Business process (such as procurement or selling or orders status checking or payment) that cross boundaries; and

(d) Technologies and tools that enable these applications, strategies and processes to be implemented and realized.

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Thus, electronic commerce is all about commercial transactions, whether between private individuals or commercial entities, which take place in or over electronic networks. The only important factor is that the commercial transactions take place over an electronic medium.\(^\text{72}\) It can be conducted over telephones, fax machines, automatic teller machines (ATMs), electronic payment systems such as prepaid telephone cards, electronic data interchange (EDI), television and the Internet. In nutshell, it can be briefed out that e-Commerce has created new markets where prices are more transparent, markets are global and trading is highly efficient. e-Commerce and Information and Communication Technology have important social consequences that business leaders can ignore at their own peril.\(^\text{73}\)

2.4.2 *History of e-Commerce*

> “Progress isn’t built on the spires of successful technologies rather it’s built on the rubble of failed technologies that went before”.

*Paul Saffo*

Keeping in view Darwinian view of evolution, doing business electronically has certainly been an evolutionary process. In fact the origin of e-Commerce dates back some 30 years and lies in Electronic Data Interchange (EDI). EDI is a standard way of exchanging data between companies. Retailers often use it because it allows stores to link their supplies directly into their stuck databases. The “paperwork” including the order and the bill of sale takes place in this secure, safe and verifiable electronic environment. Electronic Data Interchange (EDI) is used by organizations for transactions that occur on a regular basis to a pre-determined format. EDI is the inter-company computer-to-computer communication of standard business transactions in a standard format that permits the receiver to perform the intended transactions. EDI, in execution of a simple trade exchange, the customer’s order can be sent by EDI and the delivery notification from the supplier can use EDI to send invoices and the customer can finish the trade cycle with an electronic fund transfer via bank and with EDI

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notification to the supplier. EDI provides a standardized system for coding trade transactions so that they can be communicated directly from one computer system to another without the need for printed orders and invoices in paper handling. EDI is used by organizations that make a large number of regular transactions. In EDI, there is no human involvement in the processing of information, as the interface has software-to-software orientation. The interchange is composed by one software for interpretation by another software. If a reply is involved, it is composed by a software to be interpreted by another software. One sector where EDI is extensively used is the large supermarket. In e-Commerce, the emphasis has been on digital transactions facilitated at every stage (e.g. inventory, ordering and payment processing, etc.) by technologies such as electronic data interchange (EDI). Standardization of electronic data formats enable computers to speak to each other, exchange information quickly and reduce transaction. However, EDI has some serious shortcomings as it usually requires an expensive or dedicated network connection between two trading partners. It is not interactive. There is no opportunity for discussion or negotiation.

After 30 years EDI is out of synch with the business environment of the present time because speed is the order of the day. Companies need safe, faster, reliable access partners and suppliers so that they can find customers and deliver the goods quickly. The arrival of the Internet promises a solution. Now EDI is being integrated into some Internet technologies. Thus, e-Commerce is a term popularized by the advent of commercial services on the Internet. Before the invention of the Internet, e-Commerce was largely a hidden business-to-business affair.

Commerce is generally acknowledged as the interchange of merchandise on large scale between nations or individuals. e-Commerce is technology mediating exchanges between parties (individuals or organizations) as well as the electronically based intra or

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74 Mohammad Mahmoudi Maymand, 2005, pp. 22-23.
77 Mohammad Mahmoudi Maymand, 2005, p. 23.
78 David Whiteley, 2000, p. 4.
inters organizational activities that facilitate such exchanges.\textsuperscript{79} e-Commerce is a new gateway of technological success for Indian business scenario in the era of information explosion. It has played a vital role in economic development of India. e-Commerce has emerged as a new device on the horizon of trade, commerce and industry. It enables companies to overcome geographical barriers and expand globally to reach markets that were beyond their reach earlier.\textsuperscript{80}

It is only in the new millennium that the dot com (.com) gold rush has come into the public limelight. e-Commerce has, thus, become a hot new option which has saved companies from a considerable amount of expenses by eliminating human intervention in order processing.\textsuperscript{81} Commercial use of the Internet is perhaps typified once-off sales to the consumers. The three evolutionary process of e-Commerce reveals this fact. The dot com (.com) and ‘e’ version companies have substituted the old brick-and-mortar business industries. This research work is concentrated generally on the concept of e-Commerce and particularly on the frauds related to Internet e-Commerce from civil perspective (victimized consumers in online commerce) and compensation mechanism for victimized online shoppers.

\textbf{2.4.3 Nature and Scope of e-Commerce: An Overview of New Online Market Space}

e-Business, in broader terms, is a mass market capability that is enabled by a combination of the Internet’s global reach and the vast resources of traditional Information Technology (IT).\textsuperscript{82} It is a multi-headed monster. There are several commonly used names for e-Business, the most popular being e-Commerce and e-Trade. Some of the academicians attempt to distinguish these terms. IBM defines e-Business as “a secure, flexible and integrated approach to deliver differentiated business value by combining the systems and processes that run core business operations with

the simplicity and made possible by Internet technology.\textsuperscript{83} e-Business is all about time cycle, speed, globalization, enhanced, productivity, reaching new customers and sharing knowledge across institutions for competitive advantage. e-Business is defined as by A. Harrison and R.I. Van Hoek as “Trading with an organization’s suppliers and business customers, by electronic means”.\textsuperscript{84} e-Commerce is just one aspect of e-Business. The term ‘e-Commerce’ is a rather narrow constricted definition with its emphasis on the transactional process.\textsuperscript{85} e-Commerce is referred to the buying and selling of goods and electronic flow of associated information and monetary transactions. e-Trade can be viewed as covering only supplier to supplier transactions.\textsuperscript{86} Whichever term is used e-Business, e-Commerce or e-Trade, there is a clear differentiation between the ‘e’ and the ‘business’, ‘commerce’ or ‘trading’. The ‘e’ is a question of technical capability; the latter is the way in which that capability is applied. Put them together and it end up with something more than the sum of their combined parts.\textsuperscript{87} e-Commerce is a term popularized by the advent of commercial services on the Internet. Internet e-Commerce is, however, only one part of the overall sphere of e-Commerce. To get a grasp on the overall scope and nature of the e-Business, it is required to have a look at the constituent parts of trading over a network.\textsuperscript{88} New online market space includes following:

2.4.3.1 Electronic Markets

The first constituent in the e-Commerce is the e-Market- the Marketplace. Before anyone thinks about business, the first idea comes about the market where that business is conducted. e-Market is described as the use of Internet and related digital information and communication technologies to achieve marketing objectives. Electronic marketing is the process of building and maintaining customer relationship through online

\begin{thebibliography}{99}
\bibitem{86} In this research such terms as synonyms and take them as referring to the same thing.
\end{thebibliography}
activities to facilitate the exchange of ideas, products and services that satisfy the goals of both parties. In other words, e-Market is being popularized by the advent of Internet and web technologies. However, the very inception of electronic market has taken place a very long time back when the commercial transactions were taken place through EDI (Electronic Data Interchange).\(^{89}\)

Online shopping is conducted in the lap of e-Market. Electronic market can be viewed as a direct parallel to the familiar shop, store or emporium. It is in essence, a virtual trading area where deals are struck over a network. In electronic markets Information and Communication technology is used to present a wide range of offerings available in a market segment so that the purchasers can compare the prices, other attributes of the offerings and make a decision.\(^{90}\) An electronic market is an inter-organizational information system that provides facilities for buyers and sellers to exchange information about price and product offerings. The electronic market is most effective in assisting the buyer as it reduces the search costs for the buyer and makes it more likely that the buyer searches for the ‘best product’.\(^{91}\) e-Marketing or online marketing develops market potential and business relations by effectively utilizing information and communication.\(^{92}\) Due to technological changes and economic developments, the information factor has become more significant than the production factor. Many companies and organizations have moved their business processes onto the web and realized customer relationship with the help of electronic means of information and communication, leading to the term electronic business. Every organization does not use their website for online transactions; it may not be appropriate or part of their strategy. Some organizations may use their site to attract customers to a physical showroom or perhaps for brand building.\(^{93}\)


\(^{90}\) Mark Norris and Steve West, 2001, pp. 4-7.

\(^{91}\) David Whitely, 2000, p. 7.


\(^{93}\) ibid., p. 12.
In e-Market, ‘shop-front’\textsuperscript{94} is usually a set of web-pages, the shelves equates to the catalogue where products are stored and displayed and the warehouse is the server. In fact, there is an electronic analogue of all the items one would find in a conventional market-the perils of fraud and shoddy goods go hand-in-hand with all the glitz glamour.\textsuperscript{95} An electronic market uses Internet to provide geographically dispersed traders with the information necessary for the fair operation of the market. The electronic market brings together product, price and service information from many or most suppliers of a particular class of goods or in a specific trade sector with perfect comparison of prices, brand value and quality.\textsuperscript{96}

e-Business that looks like a cogent entity to the consumer may in reality be a host of co-operating suppliers. One supplier might provide the online content and another application hosting. The delivery vans might be constructed from the post office or press and they might deliver a set of products branded by someone completely different. In this respect, the electronic market is a more complex than the traditional one of manufacturer; retailer and wholesaler.\textsuperscript{97} In seller-driven markets, it is the large, dominant vendor (B2C) who sets the price, not really for negotiation; in a buyer-driven market (C2C) or e-Bay, there are many people selling into the market and a smaller number of dominant buyers who take best bids. There are also open markets in which the buyer and seller negotiate or a free market, where the behavior of the market itself sets prices. Insurance brokering is an example of this, as are the optimization packages used for pricing and selling airline seat capacity. e-Marketing, also often referred to as online marketing wherein market potentials are developed and existing business relations are strengthened with e-Marketing by using the Internet as a communication channel. Electronic markets are exampled by the airline booking, railway ticket booking. Electronic markets are also used in the financial and commodity markets and dealing is done via an intermediary; to buy stocks and shares a member of the public

\textsuperscript{94} The ‘shop-front’ is the computer and the server is the warehouse. To be an effective business player as well as techno-friendly to enter the market-one needs a brand, some content, service support and a means fulfillment i.e. delivering the goods. See: Mark Norris and Steve West, 2001, p. 5.

\textsuperscript{95} Mark Norris and Steve West, 2001, pp. 18-19.

\textsuperscript{96} David Whitely, 2000, p. 72.

\textsuperscript{97} Mark Norris and Steve West, 2001, pp. 4-7.
uses the services of stockbroker.\textsuperscript{98} The well known AIDA (Attention, Interest, Desire, Action) formula or modified forms of it are still valid.\textsuperscript{99}

e-Marketing covers a wide range of IT related applications with three main aims: (1) Transforming marketing strategies to create more customer value through more effective segmentation targeting, differentiation and positioning strategies; (2) More efficiently planning and executing the conception, distribution, promotion, pricing of goods, services and ideas; (3) Creating exchanges that satisfy individual consumer and organizational customers objectives.\textsuperscript{100} Thus Internet has been responsible for many organizations refocusing their marketing strategies. It is also recognized that one of the benefits of e-Marketing is the increased efficiency that it can create for both parties in the exchange process.\textsuperscript{101} The new digital marketplace has exacerbated the fluid environment. It brings a new set of rules and conditions, which marketers have to take into consideration when constructing their marketing place. These plans evolve from the higher level corporate objectives and strategy. A new promotional planning and control framework designed for the Internet age, incorporating four elements namely: (1) Positioning–building brands online and using organic search to drive traffic, (2) Permission–opening a dialogue with potential new customers and incorporating customer relationship management (CRM), (3) Partnership–including official marketing, e-promotions and joint ventures and (4) Performance–including the measurement of website success and online marketing strategies using web analytics.\textsuperscript{102}

2.4.3.2 Electronic–Shops (e-Shops)

The electronic shop (e-shop) can be thought of as “look and feel” of the screen that fronts the customer. Just as the high street store, the object of e-shop is to provide space to the customers to browse and ultimately to buy. Although unlikely to supplant real-world shops, the online shops provide a variety of features that are likely to promote their growth. As well as being readily available and easy to search, they can provide

\textsuperscript{98} David Whitely, 2000, p. 73.
\textsuperscript{99} Andreas Meier and Henrik Stormer, 2009, p. 70.
\textsuperscript{102} id.
some measures of mass customization. The fundamental pre-requisite for presenting products and services online in the e-Business world is the catalogue. An e-Shop is also referred to as an “e-store” or an “e-tailor”. These are central and are the electronic equivalent of a shop’s shelves, goods, special offers, presentations, display and unique departments. The catalogue is the online representation of what is “for sale” or what is “available for trading”. There are different scales of catalogue. They range from a set of web pages and a simple script that access orders to be taken, through mid-range catalogue products that are characterized by a pre-defined product categories and sub-categories, up to large scale corporate catalogue that are customizable. In this last case, there is usually back end integration with inventory, stock control and ordering systems. Another important point about catalogue is that they are different for buyers and for sellers. The former is a virtual directory that allows the buyer to look at and judge a range of competing products from a number of different suppliers. The latter is a structured set of information that represents what a particular supplier has to sell. The technology used to represent these different types of catalogue has to match that is, it either has to be optimized for one seller and multiple buyers or vice versa. The consumer oriented catalogues tend to be stronger on presentation, as they usually have to sell on the basis of eye appeal. The business catalogues are more focused on quick access to another business needs, and these business catalogues tend to be high volume and fairly routine. e-Shops are easily available on such shopping web sites like: www.snapdeal.com, www.ebay.in, www.indiafreestuff.in, www.fashionara.com, www.siliconindia.com, www.montecarlosnapdeal.in, www.futurebazaar.com, www.indiavarta.com, www.yebhi.com, www.shoppersstop.com, www.shopstyle.com, www.polyvore.com and www.homeshop.com are great web sites designed specifically for online shopping.

2.4.3.3 Electronic Presentation (e-Presentation)

As with catalogues, the ways in which online products and services are presented depend upon the market. For the electronic shop, the art of window dressing is really
one that has transformed window shopping into online window shopping. One of the interesting element in presenting what a seller has to offer online is that it is possible to find out exactly what each customer has looked at, what they purchased and when. Information about individual customers, their browsing and buying patterns, is an important piece of feedback on how to go about presenting goods. Advertising is an attempt to disseminate information in order to effect a buyer-seller transaction. Telemarketing and direct e-mails are attempts to personalize advertising in order to make it more effective. The Internet has redefined the meaning of advertising. The Internet has enabled customers to interact directly with advertisers and manufacturers. The Internet has provided the sponsors with two-way communications and e-mail capabilities, as well as allowing the sponsors to target specific groups on which they want to spend their advertising money.105 There are several reasons for popularity of advertisement via Internet that is Web-Advertisement. The prominent reasons are: (1) Web-advertisement can be updated any time with a minimal cost; (2) Web-Ads can reach very large numbers of potential buyers globally; (3) Online Ads are cheaper in comparison to television, newspaper, or radio; (4) It can efficiently use the convergence of text, audio, graphics and animation, and (5) Web-Ads can be targeted to specific interest groups and/or individuals.106 This e-presentation either through advertisements or through web pages constitutes the source of attraction of consumers.

2.4.3.4 Electronic Payment (e-Payment)

The core of any business or e-Commerce is profit. Trade, commerce and business exist to satisfy the needs and desires of the participants. This means one party getting something they want in exchange for something the other party wants. Usually it is money that fuels the desire to trade. It is very well taking a ‘virtual’ payment for goods or services offered over the Internet. The need of electronic payment has given birth to e-Banking and online monetary transactions.107 Hence, the gateway between the virtual

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world and the real world is a payment gateway. This can be affected with e-Banking. Electronic wallets and smart cards such as Mondex provide another alternative. Some of these types of electronic cash are fully portable, whereas others retain their wallet or PC on a server.

Today different forms of electronic payments have been in e-Economy which has the potential to replace physical cash, coins and paper currency with – virtual cash in the form of electronic impulses. This is the unique promise of digital cash, which consists of funds stored on microchips and other computer devices. People can keep digital cash on diskettes, compact disks and hard drives. They can send digital cash payment along telephone lines, between cell phones or over fiber-optic cables. The use of e-money or digital cash or e-wallet or ATMs has changed the nature of money and the world of banking.¹⁰⁸

2.4.3.5 Electronic-Security (e-Security)

In the real world customer can go into a shop about which he can make some judgment from its location, size, type of premises, how long it has been there and so on and customer can hand over cash in return for goods which he/she carries. The risks of losing the identity of that shop are very small and even if things do go wrong, he/she can usually exchange the faulty goods. A customer knows where to go back to (bricks and mortar rarely move overnight) and whom to talk to. If one doesn’t get satisfaction, one can go to consumer court. When trading over the Internet, things are not so simple. The dream of the virtual traders can suddenly become a nightmare. Some major doubts are: (1) How do consumers know that the company they are dealing with is well-established and reputable before handing over their credit card details? (2) Furthermore, how do both parties ensure that their transactions takes place privately without someone else snooping on it or, even worse, tinkering with the transactions details while they are in transit across the network? (3) And when things go wrong what sort of mechanism is there to ensure that both parties fulfill their obligations? In order to overcome these hurdles, there is need of perfect techno-legal mechanism for online shoppers. In order to remove these doubts ‘asymmetric code system’ came into existence. Basically, for two

people to be able to communicate using a code they must ‘share a secret code’ and this secret code must be denied to everyone else. Another type of coding is called ‘asymmetric code’. This is one in which the message is encoded using one key and decodes using a different key. Even if the make of it is exactly the same to whom one wants to transact because there are a number of types of certificates that are issued by such trusted third parties, each with its own level of trustworthiness and area of application.\(^{109}\)

2.4.4 Internet e-Commerce: A New Revolutionary Phase in e-Commerce

The telephone took four decades to reach 50 million people. The Internet has managed this within four years as digital technologies provide efficient channels for business and consumer interactions transactions. The Internet has come a long way in a very short time as a mainstream business tool. Once Internet became popular, the computer engineers and business community of computer industry saw a great opportunity and a method to revolutionize the entire business method and modus operandi. *Although before Internet, e-Commerce has been in existence in commerce world but Internet serves as seven steps in the marriage between Computer Engineering and Business Community. Internet e-Commerce is child (issue) of this wed-lock. Thus Internet e-Commerce has taken birth in the marriage between two fields.*\(^{110}\) The Internet has become a central platform for assorted forms of information exchange. The dominant reason for Internet adoption among enterprises is information gathering. The infinite number and diversity of public, private and individual websites offer valuable marketing research information in volumes and accessibility like never before.\(^{111}\) It is widely acknowledged that the Internet has revolutionized and restructured many sectors of industry and provided a new focus for their activities. The Internet has generated opportunities and challenges for existing business and new entrants dealing in new direct relationships with customers.\(^{112}\)

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\(^{109}\) ibid., p. 233.


\(^{112}\) ibid., p. 38.
The basic elements of Internet e-Commerce are: (1) The user of the system with a computer hooked up to the Internet and (2) The content provider who has set up an Internet application and installed it on the Internet linked computer. Consumer trade transactions are open to anyone with an Internet connection. e-Shopping can be done anywhere in the world and it is open 24 hours a day.\textsuperscript{113} e-Markets and EDI are appropriate to specific trade sectors, trade cycle and parts of the trade cycle. Internet commerce has, however, the potential for a wide applicability. The basic elements of Internet e-Commerce are an e-Shop on a server, a user with a web browser and an Internet connection between the two.\textsuperscript{114} In e-Shop selling tangible goods, the customer is invited to browse round the shop, select goods and put them in their basket or shopping cart. Once satisfied, the customer proceeds to the online payment through Credit Card/Debit Card/e-Cash/PayPal/Ccavenue etc. In Internet e-Commerce, Information and communications technologies can also be used to advertise and make once off sales of a wide range of goods and services. This type of e-Commerce is typified by the commercial use of the Internet.\textsuperscript{115}

\begin{quote}
"The Internet is a tidal wave. It will wash over nearly all industries drowning those who don’t learn to swim in its waves"
\end{quote}

\textit{Bill Gates CEO Microsoft}

This is not untypical of the many quotes that emerged during the Internet frenzy of the late nineties warning organizations of their impending demise if they ignored this new interactive medium. The new industrial order has radically changed the interrelationships between buyers and sellers of products and services in ways that one could not envisage. At the root of the changes in the business world is drive towards consumer power; and ‘consumer’ rather than products are the focus of today’s organizations.\textsuperscript{116} However, it is also a fact that some sectors and some business have remained largely unaffected by the new economy.\textsuperscript{117}


\textsuperscript{114} ibid., p. 191.

\textsuperscript{115} ibid., p. 4.


\textsuperscript{117} ibid., p. 2.
There was a time when horses with its rider, sailing vessels, coach and steamboat, railroads, etc., were treated as different instrumentalities of commerce in different eras. But these instrumentalities also have been outdated in this modern “High-tech-era”. When Constitutions of different countries were being drafted, the Constitution makers could not have visualized this type of instrumentality of commerce. The impact of the present era of globalization has been to demolish the trade barriers so that the trade activities are not only restricted to geographical boundaries but cater the markets anywhere in the world. The Internet has created a new set of rules in many ways with greater transparency, cost efficiencies, more consumer power and choice, changing strategic alliances and new partnerships. Technology is undoubtedly redesigning the marketing practices for organizations seeking to engage effectively with past, present and potential customers. The ‘e’ in e-Marketing, e-Commerce and e-Business represents the applications of digital technologies across all internal and external business functions and processes. Business often constrained by their remote locations could now reach out to other parts of the domestic markets, however, many consumers remain untouched by the impact of the Internet. Perhaps they have no need to use it at work or at home or perhaps actually going out to shop remains an important social activity. It could now be accepted as just another marketing channel for consumers in an ever increasing multi-channel marketing world.

Over the last few years, the Internet has matured to provide a global infrastructure accessible to a vast number of people. It makes global markets a reality, even for individuals and small businesses more significantly. The Internet makes it possible to transform electronic trading from an expensive and specialized process into a cheap and realistic proposition for the masses. In Internet marketing, marketers often use the net or web for Information publishing (i.e., Advertising Model), Increasing subscription (Subscription Model), Web Retiling (Retaining Model), Transaction System and Mass customization. Physical commerce to e-Commerce on the Internet is an area of rapid

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121 ibid., p. 4.
development. Consumer e-Commerce (C2B) has gained a new dynamics by the popularization and commercialization of the Internet.  

2.4.5 Types of e-Commerce

Particular from the perspective of buyer and seller relationship, e-Commerce application can be divided formally into these categories: (1) Business-to-Business (Termed as ‘e-hub’, the Second Industrial Revolution. It includes: Electronic Data Interchange (EDI), Electronic Resource Management (ERP); (2) Business-to-Consumer (Includes: e-tailing, e-brooking, e-news, e-learning, e-service etc. etc.); (3) Consumer-to-Business (On-line shopping, e-contracts, e-banking); (4) Consumer-to-Consumer (e-Bay); (5) M-Commerce. The Business-to-Government category and Government-to-Consumer categories have been added in the 21st Century only.  

Earlier there were prominent four categories of e-Commerce. For the purpose of online payments in e-Commerce, it has become necessary to involve the Government sector also along with private companies in e-Commerce for many purposes. The focus of this present research is only on two categories namely B-C (e-tailing) and C-B (e-shopping) and violation of rights of consumers in e-Commerce.

2.4.5.1 Business to Business (B2B)

The term B2B stands for Business to Business. It consists of one of the largest form of e-Commerce. This model defines that buyer and seller are two different entities. It is the largest form of e-Commerce involving business of trillions of dollars/Rupees. In this form, the buyers and sellers are both business entities and do not involve an individual consumer. It is like the manufacturer supplying goods to the retailer or wholesaler. It is one of the cost effective way to sell out products throughout the world. B2B is the selling between companies, wholesaler and the retailer. Efficient use of capital demands small inventories, which entails anticipating demand, and so maintaining detailed information that flows between all parties involved in today’s complex manufacturing processes. B2B e-Commerce is an important part of any online business. Leaving aside the simple transfer of funds, many businesses need some combination of: Creditworthiness assessment, Guarantee of quality and delivery of goods (escrow services), Safeguards against fraud, Fast collection of funds with ability to vary the

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collection period, Reporting: approval of sale, invoicing, delivery, payment, Procedures to handle disputes and information of all types-corporate, technical, identity-building—has to be interchanged across the scattered divisions of large companies and as a result new ideas fostered, assessed and disseminated.\textsuperscript{125}

Little of it is off-the-shelf, but is devised as systems to be extended and built round individual company requirements. For an example Dell sells computers and other related accessories online but it does not manufacture all those products. So, in order to sell those products, it first purchases them from different businesses i.e. the manufacturers of those products. It is similar to manufacturer issuing goods to the retailer or wholesaler. Benefits of B-B commerce are (1.) It encourage businesses online; (2) It facilitates import and export of products; (3) It determines the market behavior of buyers and suppliers; and (4) it helps to anticipate the market trends on the products.\textsuperscript{126} Business-to-Business e-Commerce facilitates inter-organizational interaction and transaction. This type of e-Commerce requires two or more business entities interacting with each other directly, or through an intermediary. The intermediaries in Business-to-Business e-Commerce may be markets and direct service providers, who assist in matching buyers and sellers and striking a deal. The business application of B2B electronic commerce can be utilized to facilitate almost all facets of interactions among organizations, such as inventory management, channel management, distribution management, order fulfillment and delivery and payment management. The B2B electronic commerce can be a supplier-centric\textsuperscript{127}, buyer-centric\textsuperscript{128} or an

\textsuperscript{125} Hanson Ward, \textit{Principles of Internet Marketing}, South Western College Publishing, Singapore, 2000, p. 110.


\textsuperscript{127} In the supplier-centric model, a supplier sets up the e-Commerce market place. Various customer/buyer businesses interact with the supplier at its e-Commerce market place. Typically, it is done by a dominant supplier in the domain of products it supplies. The supplier may provide customized solutions and pricing to fit the needs of buyers businesses. The supplier may also institute different pricing schemes for buyers. Usually, different price structure is dependent upon the volume and loyalty discount. See: Vasu Deva, 2003, pp. 14-17.

\textsuperscript{128} In buyer-centric e-Commerce, major businesses with high volume purchase capacity create an e-commerce market place for purchase and acquisition by starting a site on their own. The online e-commerce marketplace is used by buyer for placing Requests for Quotations (RFQs) and carrying out the entire purchase process. This kind of facility may be utilized by high volume and well recognized buyers, as they may have adequate capacity and business volumes to lure suppliers to bid at the sites. The United States Government and the General Electric’s Trading Process Network are examples of buyer-centric e-Commerce. See: Vasu Deva, 2003, pp. 14-17.
Intermediary-centric.\textsuperscript{129}

2.4.5.2 Business to Consumer (B2C)

This is the most common e-Commerce segment involving businessmen and consumers. In this model, online businessmen sell products to individual consumers. B2C stands for Business to Consumer as the name suggests, it is the model taking businesses and consumers interaction. B2C (Business to Consumer) refers to a businessmen communicating with or selling to an individual rather than a company. When B2C started, it had a small share in the market but after 1995 its growth was exponential. The basic concept behind this type is that the online retailers and marketers can sell their products to the online consumer directly by using crystal clear data which is made available via various online marketing tools.\textsuperscript{131} Direct interaction with the customers is the main feature of this business model that is different from other business models.\textsuperscript{132}

Doing business online no longer requires a huge investment by retailers, thanks to developments in template-based online stores which are based on packaged applications that are delivered over the Internet. As nearly all online stores require the same functions namely: catalogues, order baskets, payment processing, content management and member management. It makes sense for those components to be created once and shared by all stores, with each store effectively ‘renting’ its own copy of the applications. The one area where it’s important for online stores to differentiate is their look and feel, and naturally retailers feel very strongly about their business branding. So

\textsuperscript{129} In Intermediary-centric e-Commerce, in the B2B context, a third party sets up the e-Commerce marketplace and attracts both the buyer and seller businesses to interact with each other. The buyers and sellers, both benefit from the increase options in terms of pricing, quality, availability and delivery of goods. The third party e-Commerce marketplace acts as a hub for both suppliers and buyers, where buyers place their request for the quotations and seller’s respond by bidding electronically, leading to a match and ultimately to a final transaction. The role of the intermediary company is that of an electronic market maker. It is essential that the intermediary company represent a large number of members in that specific market segment, i.e., both the buyers and the sellers. The intermediary reduces the need for buyers and sellers to contact a large number of potential partners on their own. The intermediary is electronically connected with many different buyers and sellers through its database of potential suppliers and buyers. See: Vasu Deva, 2003, pp. 14-17.


the ability to create a unique ‘skin’ for each site is an important part of a template-based e-store offering.\textsuperscript{133}

Business-to-Consumer e-Commerce offers consumers the capability to browse, select and buy merchandise online from a wider variety of sellers at better prices. The two or more entities that interact with each other in this type of transaction involve one selling business and one consumer. The selling businessmen offer a set of merchandise at given price, discounts, shipping and delivery options. In this type of e-Commerce the sellers and consumers both get benefit through the round the clock shopping accessibility from any part of the world, with increased opportunity for effective direct marketing, customizations and online customer service. The applications of e-Commerce in the retailing segment has seen it evolve from an online version of catalog selling to accepting orders and payments online and translating zero inventories into huge discounts on the prices of items. The B2C model of e-Commerce transaction is ideally suited for the following types of merchandise:\textsuperscript{134}

(1) Goods that can be easily transformed into digital format such as books, music clips and videos and software packages.

(2) Items that follow standard specifications like printer ribbons, ink cartridges etc.

(3) Highly rated branded items or items with return security such as Dell and Compaq Computers, electronic gadgets from Sony etc., etc.

(4) Items sold in packets that cannot be opened even in physical stores, e.g., Kodak film rolls etc.

(5) Relatively cheap items where saving-outweigh risks.

\textsuperscript{133} Using the latest Internet application technology, web sites can be created within minutes of the retailer selecting a template and supplying graphics such as logos. Typically, retailers pay only a modest monthly rental charge and retailers require no specialist hardware or software, other than Internet access. These days, a web site offering products is considered as a standard part of the promotional and advertising mix for every business, along with other tools such as Yellow Pages, newspaper advertising and signage. E.g. An online pharmacy giving free medical consultation and selling medicines to patients is following B2C model. Retrieved from <http://www.creativewebstore.com/portfolio/b2c_business_to_consumer/673/675> visited on 27 January, 2011.

Items that can be experienced online such as music, videos, games etc. There are several advantages of B2C e-Commerce namely (a) Shopping can be faster and more convenient; (b) Offerings and prices can change instantaneously; (c) Call centers can be integrated with the website; (d) Broadband telecommunications enhance the buying experience. However, some challenges are also faced by B2C e-Commerce. The two main challenges faced by B2C e-Commerce are (a) building traffic and (b) sustaining customer loyalty. Due to the winner-take-all nature of the B2C structure, many smaller firms find it difficult to enter a market and remain competitive. In addition, online shoppers are very price sensitive and are easily lured away, so acquiring and keeping new customers is difficult.

2.4.5.3 Consumer to Business (C2B) 

It represents a consumer-business platform, where one consumer acts as a resource person selling goods in an online medium to other consumers at a price. This is an improvement over traditional selling or auction processes, where the relationship is in the form of ‘Business to Consumers’. Consumer-to-Business (C2B) can be described as a form of e-Commerce where, the transaction, originated by the customer has a set of required specifications and specific price for a commodity, service or item. It is the responsibility of the e-Commerce business entity to match the requirements of customers to the best possible extent. C2B enables a consumer to determine the price of product or service offered by a company. In this type of e-Commerce customers get a choice of wide variety of commodities and services, along with the opportunity to specify the range of process. As a result, it reduces the bargaining time, increases the

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135 The B2C electronic commerce opportunity has been utilized by three types of businesses-(1) channel enhancement, (ii) the online Internet based stores, and (iii) small businesses trying to surpass entry barriers. Existing businesses may use it for expanding the market space and revenues by utilizing the Internet as a new channel to do business with customers. Mail-orders catalogue business players who took advantage of the web and Internet as they set-up their websites where customers could place orders for goods and services online. Also, existing consumer merchandisers with established store channels adopt B2C electronic commerce to augment sales through a new channel as well as to make it easier to reach out to global customers.


flexibility and creates ease at the point of sale for both the merchant and the consumer. The C2B business model is in many ways a hybrid of B2C and C2C e-Commerce.\textsuperscript{139}

A consumer posts his project with a set budget online and within hours companies review the consumer’s requirements and bid on the project. The consumer reviews the bids and selects the company that will complete the project. It empowers consumers around the world by providing the meeting ground and platform for such transactions. Another example of C2B e-Commerce could be the following. A student wants to fly from London to New York, but only has ₹200 in the bank to pay for this round trip. He puts up an advertisement on the Internet C2B site, seeking airlines that are willing to offer the transatlantic round trip for ₹200 or less. The beauty of the Internet is that it brings together a large number of customers to create a marketplace like a number of airlines (that will have to otherwise fly with empty seats) would be interested in. The dot com that best describes this model is www.priceline.com and www.mailkar.com. In the Priceline model, the customers quote the price they are willing to pay for a product or service. The quotes are provided by Priceline for participating sellers and in case there is a willing seller, the transaction is concluded. The www.mailkar.com business model contains typical auction sites where sellers present themselves and can place their products for the sale and the buyer coming to the sites can bid for them. Some of the typical e-auction sites are: www.ebay.com, www.auctionindia.com, www.baazee.com, napster.com and www.olx.com etc., etc.\textsuperscript{140}

There are other types of e-Commerce business models too like Business to Employee (B2E), Government to Business (G2B) and Government to Citizen (G2C) but in essence they are similar to the above mentioned types. Moreover, it is not necessary that these models are dedicatedly followed in all the online business types. It may be the case that a business is using all the models or only one of them or some of them as per its needs. These types are out of the ambit of this research.

\textsuperscript{139} Alan R. Simon and Steven L. Shaffer, \textit{Data Warehousing and Business Intelligence for e-Commerce}, Academia Press, USA, 2001, pp. 66.

2.4.5.4 Consumer to Consumer (C2C) or e-Bay

C2C stands for Consumer to Consumer. The introduction of this new economy has helped to create a very individualistic and independent society. Consumers are no longer totally reliant on corporations and are increasingly looking to conduct their own business transactions. This is evident in Western Australia where the numbers of small businesses has doubled from 1983 to 1999 (Australian Bureau of Statistics, 2001).\(^{141}\) At the forefront of this movement are Consumer-to-Consumer (C2C) applications within e-Business. C2C applications are any transaction between and amongst consumers. When e-Commerce was first introduced, it redefined the traditional structure of business by giving small firms and individuals the same opportunity as multi-national corporations. As a result, many individuals have established online organizations that has encouraged and assisted commerce between consumers. It helps the online dealing of goods or services among people. It facilitates the online transaction of goods or services between two people. Though there is no visible intermediary involved but the parties cannot carry out the transactions without the platform which is provided by the online market maker such as eBay.\(^{142}\) In India most of the popular web-sites are: www.quikr.com, www.myntra.com and www.jabong.com etc.

Consumer-to-Consumer (C2C) is the e-Commerce activity that provides the opportunity for trading of products and services amongst consumers who are connected through the Internet. In this category electronic tools and Internet infrastructure are employed to support transactions between individuals. Traditional economic activities corresponding to classified advertisement and actions of personal passions form the basis for the category. Much of the transactions in this category correspond to small gift items, craft merchandise, and similar items that are normally sold through flea markets or bazaars, where individuals sell their goods to other individuals at a market determined prices. The most famous and successful example of a Consumer-to-Consumer application is e-

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Bay. Ebay.com is an online auctioning site that facilitates the trade of privately owned items between individuals.\textsuperscript{143}

C2C e-Commerce is also populated by Peer-to-Peer (P2P)\textsuperscript{144} applications. Although in current legal system of India, there are ample of laws on consumer protection in the business-to-consumer areas, however, Consumer-to-Consumer e-Commerce is new. There are many web sites offering free classifieds, auctions and forums where individuals can buy and sell. Thanks to online payment systems like PayPal and CCavenue where people can send and receive money online with ease. e-Bay’s auction service is a great example of where person-to-person transactions take place every day. Other examples of Consumer-to-Consumer applications are service and employment websites such as www.naukri.com, www.monster.com, www.sarkarinaukari.com and many other web sites. These websites provide valuable service to consumers looking for jobs. Employers can advertise on these websites and potential employees can contact their organization for an interview. Web-based communication organizations are one final example of C2C operation. Web-sites such as www.sastashopping.com, www.icq.com and www.msn.com act as a communication medium for peer-to-peer deliberations. Thus, Consumer-to-Consumer applications are emerging in e-Commerce.\textsuperscript{145}

2.4.5.5 M-Commerce

An interesting scenario that has occurred in e-Business is ‘Mobile marketing ‘or ‘M-Commerce’. M-Commerce refers to the use of mobile devices for conducting the transactions. The mobile device holders can contact each other and can conduct the business. Even the web design and other companies optimize the websites to be viewed correctly on mobile devices. M-Commerce is defined as ‘the buying and selling of


\textsuperscript{144} P2P is a technology in itself which helps people to directly share computer files and computer resources without going through a central web server. To use this, both sides need to install the required software so that they can communicate on the common platform. This type of e-commerce has quite low revenue generation as from the beginning it has been inclined to the free usage. It assists people to instantly share related computer files and computer sources without any interaction with central web server.

goods and services through wireless handheld devices such as mobile phones and personal digital assistants. M-Commerce enables users to access the Internet without any need to find a place to plug in providing anytime and anywhere communications. The convergence of the two fastest growing communications technologies of all time mobile phones and the Internet make possible all kinds of new services and create a new vast market. The emerging technology underpinning M-Commerce based on Wireless Application Protocol and Third Generation (3G) bandwidth technology has led many to believe that M-Commerce with its flexibility does have greater potential than the Internet connected to personal computers. Smart phones provide faster, personal and secure handheld communications content and payment abilities for a progressively mobile workforce.¹⁴⁶

This research is concentrated, generally on all the categories of e-Commerce and particularly on Business-to-Consumer and Consumer-to-Business; wherein the consumers are day to day victim of online frauds.

2.5 Advantages of Electronic Commerce

The applications of electronic commerce have expanded rapidly because of the rapid expansion of the technology as well as the development of networks, protocols, software and specifications. Electronic commerce can be attributed as multi-disciplinary nature. It absorbs in its lap various disciplines like marketing, computer science, consumer behavior, consumer psychology, finance, economy, management information systems, accounting, auditing, management, banking business law and many other issues.¹⁴⁷

2.5.1 Role of Electronic Commerce towards Organizations¹⁴⁸

1. Electronic commerce expands the market place to national as well as international markets. With the assistance of Internet, a company can easily and quickly locate more customers, the best suppliers and the perfect business partners worldwide.

¹⁴⁸ Efraim Turban, Dorothy Leidner, Ephraim Mclean and James Wetherbe, 2006, p. 15.
2. Electronic commerce decreases the cost of creating, processing, distributing, starting and retrieving paper-based information.

3. Electronic commerce has increased ability for creating highly specialized businesses. It reduces the time between the outlay of capital and the receipt of products and services.

4. Electronic commerce provides improved customer service, simplified processes, increased productivity, eliminating paper, expediting access to information, reduced transportation costs and increased flexibility.

2.5.2 Benefits to Consumers

1. Electronic commerce is highly economical. Unlike the brick– and –mortar environment, in e-Commerce there is no need of physical store space, insurance or infrastructure investment. All that is required is an idea, a unique product and a well designed web store front to reach cyber customers.

2. Electronic commerce enables customers to shop or do other transactions 24 hours a day, all year round, from almost every location.

3. Electronic commerce provides customers with more choices; they can select variety of products from many vendors at reasonable prices.

4. Electronic commerce frequently provides customers with less expensive products and services by allowing them to shop from far places with quick comparison.

5. e-Commerce emphasizes better and quicker customer services. It digitalized products and allows quick delivery.

6. It has become possible for customers to interact with other customers in electronic communities and exchange ideas as well as compare experiences.

7. Digital products are highly customizable. They are easy to recognize, revise and edit. With requirement of customers’ preferences, products can be customized and matched to their needs.

8. Electronic commerce has enhanced competition which results in substantial discounts.

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2.5.3 **Benefits to Society**

1. Electronic Commerce facilitates delivery of public services such as health care, education, distribution of government social services at a reduced cost and with improved quality.

2. Electronic Commerce enables people to enjoy products and services that otherwise are not available to them. This includes opportunities to learn professions and earn academic degrees also.

3. Electronic Commerce allows merchandise to be sold at lower prices. With this middle class people can buy more and increase their standard of living.

4. Electronic commerce enables more individuals to work at home and to do less traveling for shopping, resulting in less traffic on the roads and lower air pollution.

2.5.4 **The Limitations of Electronic Commerce**

1. In most of the countries telecommunication bandwidth is insufficient that is a greatest hindrance in the development of e-Commerce.

2. There is lack of system security, reliability, standards and some communication protocols.

3. Consumers have entered into new market place—from physical market to Virtual cyber market.

4. Vendors need special web servers and other infrastructures, in addition to the network servers. Most of the software development tools are still evolving.

5. The cost of developing electronic commerce in-house can be very high in the cities where Internet connections are weak.

6. Not many businesses realize that even an e-Business cannot survive over the long time without loyal customers. In e-Commerce customer loyalty is big issue.

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150 Efraim Turban, Dorothy Leidner, Ephraim Mclean and James Wetherbe, 2006, p.16.

7. Data protection and Integrity of the system that handles the data are serious issues. Computer viruses are rampant. The danger of hackers accessing sensitive files and passwords adds more stress to online shopping.

8. On the surface, the electronic market appears to be a perfect market, where worldwide sellers and buyers share information and trade without intermediaries. However, a closer look indicates that new type of intermediaries are present in e-Commerce namely electronic malls that guarantee product quality, Internet service providers, certification authorities to ensure legitimacy of domain names. All these intermediaries add to transaction cost.¹⁵²

9. There is security and privacy threat in the B2C (Business to Consumer) area. The electronic commerce industry has a very long and difficult task of convincing customers to the point that online transactions and privacy are very secure.

10. It is not easy for customers to trust on unknown faceless seller, paperless transactions and electronic money transactions.

11. Many legal issues like privacy, fake websites, fraudulent e-mails, theft of personal information and e-Banking frauds are some issues which are yet unresolved and government regulations are not refined enough.

2.6 Consumers in New Paradigm of e-Commerce: Shoppers in Borderless Market

Just as today’s economy is a mixture of old and new; most established companies are a hybrid of the old and the new. In just the same way consumers can now be viewed as liking this hybrid market. They take advantage of online shopping conveniences but still visit the stairs for human interaction and the ‘shopping experience’. However, it is a reality that in the global world, e-shopping has been well adopted by consumers wherein consumer is a not a King. In physical market, consumer uses his five sense organs like: Eyes, Ears, Skin (Feel), Nose and Tongue to examine a product. Internet is now capable of satisfying only two senses: Eyes, Hearing (reading comments and reviews posted by users). Due to lack of privacy, trust and security, this type of e-Commerce has chances to die a premature death. The foundation of e-Commerce has

been strengthened by service-oriented products like: hotel booking, travel tickets, online advertisement of matrimonial and Sale and Purchase of goods. In the real world, a consumer goes into shop, selects commodity and hands over cash in return for the goods which he carries away. The risks are very small, and even if things go wrong, consumer can usually exchange the faulty goods. Consumers know where to go back to shop because bricks and mortar rarely move overnight. However, when trading over the Internet, things are not simple: The dream of virtual trader can suddenly become a nightmare. On one hand, where Information Technology runs like a golden thread in e-Commerce, on the other hand, it is misused to exploit the rights of e-consumers through fraudulent advertisements, tempting offers, false price quotations and malicious information, jurisdiction conflicts at the time of e-contracts across countries and lack of global e-Commerce regulations etc.

2.7 Conclusion

This chapter is focused on the nature of commerce in an entirely novice cyber market. It is observed that Information Technology is, thus, evolved out of the marriage between two versatile technologies namely, Computer and Communication technologies. Development of e-Commerce in the new millennium is supported by the growth of the Internet. Internet runs through commercial activities like a golden-thread. e-Commerce has created new markets where prices are more transparent, markets are global, and trading is highly efficient. e-Commerce and Information and Communication Technology have important social consequences that business leaders can ignore at their own peril. This chapter has revealed that in the new digital economy there appears to be a direct relationship between ‘development of e-Commerce’ and ‘Consumer Protection’ in an online market for the general growth of Indian economy. In order to ensure sustainable growth of Indian economy government needs to actively address the issue of protection of rights of consumers in e-Commerce in their policy agenda. Unfortunately along with the growth of the digital economy, there appears to be an increasing ‘digital divide’ between the profit and consumer rights in an online shopping. For the purpose of this research, however, the focus is not just on a general preparedness of e-Commerce development but specific on consumer protection. As the consumers have stepped into a new e-Market hence the chances of their exploitation have also been
increased as well as transformed. As the facets of market have been transformed from physical to digital economy similarly the modes of shopping have also been transformed wherein consumers face new challenges.