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E-COMMERCE – AN OVERVIEW

E-Commerce is one of the most visible examples of the way in which information and communication technologies (ICT) can contribute to economic growth. It helps countries improve trade efficiency and facilitates the integration of developing countries into the global economy. It allows businesses and entrepreneurs to become more competitive. And it provides jobs, thereby creating wealth.

Kofi A. Annan, Former Secretary General of United Nations

INTRODUCTION

Trade and commerce between individuals is as old as the existence of mankind. There have been innumerable channels that have facilitated this exchange. The evolution of information technology has brought in many changes in the business activity all over the world. It changes the basic nature of business transaction by erasing the geographical boundaries of business in an essay and cost effective manner. The world has become a small and dynamic market place where one can transact business or receive information with little or no human interface.
It was never imagined that a seller's market would soon become a well--informed buyer's market.

Today Internet Technology is wrecking and reshaping business enterprises like a tornado. Companies irrespective of their sizes – large or small are using web to communicate with their partners, customers, to connect with their back-end systems to transact commerce\. It is globalization that has brought the economics together. E-commerce is all set to create a global market place. It is like a dream come true for a border less world. The credit for this goes to the Internet, the greatest innovation in the history of mankind.

E-commerce has a way of transforming our lives as nothing else has done. To illustrate, a housewife in Delhi can log on to the cyber space for placing an order for vegetables. ‘paans’ are made available in mumbai at a mouse click. The farmers in the rice belt off Thanjavur or poultry belt of Namakkal in Tamilnadu log on to the Internet to update themselves on the wholesale prices of vegetables or poultries in the region before deciding on the price for the day².

E – Commerce is the most exciting economic and technology trend of recent past. It provides a new market place, more opportunities to sell and market the product at greater competitive advantage. It is growing at an incredible pace; many organizations and individuals are looking to the web as the future, definitive source for information,
goods, services and communication. As the amount of business transacted over the web grows, the value of goods, services and information exchanged over the Internet seems to double or triple each year. Often organizations small and large, non-profit and for-profit, privately and publicly held – are being pushed to the web by both customers and competitors. In some cases, traditional brick-and-mortar businesses are entering into E-business. All indicates that e-commerce will continue to grow.

E-commerce has been around in various forms since late 1960s, but from 1993 onwards new and constantly evolving technologies have enabled companies to perform e-business functions better, faster and inexpensively than ever before. The result has been an explosion of E-business activity. The e-commerce is new in India and yet to gather momentum. But in the developed countries it is passing through a matured stage.

E-Commerce can best be described as buying and selling of goods and services over the Internet, this includes both businesses-to-business (called B2B) and business-to-consumer (B2C) transactions. The potential dimension of e-commerce today is the substantial cost savings that could occur if a company's business is done electronically. This term has evolved from its simple notion of electronic shopping which in turn means all aspects of business and market processes enabled by the Internet and the World Wide Web technologies. E-Commerce is a business conducted exclusively through an electronic format. It is derived from the phrase electronic commerce.
Figure No: 2.1

Elements of E – Commerce

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

- Covers the automation and improvement of business process e.g. networking two computers together so that they can share and transfer data rather than have a person to take date from one computer to another.

- Application of technology to improve the quality of service. E.g. Federal Express website. It permits customers to track shipments and the schedule picks up twenty four hours a day with a world wide network (without having to talk to a service representative). Customer service is greatly enhanced due to the site's capabilities.

- Provides the ability to buy/sell on the internet or some other online service e.g. Retail website of amazon.com and REI


Distances do not matter in carrying out trade; you can reach the world any time you want. This helps companies to have a cheap and effective way of communicating with suppliers on one side and with customers on the other (contact with suppliers via internet or via an EDI system). Unlike a brick and mortar store, an online store works 24 hours a day, 7 days a week, 365 days a year, round the clock. Compared
with a retail outlet or new office, the cost of setting up an e-commerce website is very low; can be integrated straight into your infrastructure with very little overheads or outlay.

More flexibility in a website to add and remove a product or products than in catalogues or brochures. Being online, it potentially gives exposure to previously untapped market segments. Error reduction because orders do not have to be re-keyed into order entry systems and increased efficiencies through the automation of the business processes. Wider choice and no wastage of time (people who buy have to go outdoors and find a shop with a product of their desire). Now they can turn on their computer and select one of the thousands of online stores. Customers can find products from all over the world; so the amount of offers is much more than in a local shopping centre.

Buying/selling of items from any place using one’s computer, if Internet connection is available. Can avail of services such as financial services, legal services, medical advice from appropriate portals. Large variety of goods (more so in books and music) accessible easily, without spending time and money by physical (personal) visits and searching in various shops. Availability of anonymous friendly advice on items one may like to buy/rent.\(^5\)
Electronic commerce provides a different way of doing business that comes with its own set of benefits. The market size increases greatly to encompass the whole globe. This provides business with more customers and customers more choice. More mass customization can also be achieved. It become easier through e-commerce for the customer to tell a business exactly what they require and individualize products or services. Also, electronic commerce allows the supply chain to be shortened; products can sometime be shipped directly from the manufacturer to the customer. Other areas where businesses may benefit occur because transactions are cheaper. This is the case where in a traditional business they would have to pay for labor to complete the transaction, but by making the transaction electronic there is minimal labor cost. These are a few examples of some general benefits of electronic commerce.

- E-commerce is the lifeline if any successful business in today's complex and competitive business environment. With the globalization of trade and commerce and growing interdependence in the world's economy, it has become evident that the lifeline of all successful corporations is due to switching over to e-commerce from conventional commerce. The power to establish business relationships, contact with customers, suppliers, dealers with speed and ease, the buying and trading have reached its destination with minimum time loss and cost, by electronic means, is an asset that every corporation ought to have a line of electronic commerce. An efficient electronic trade net is imperative if one wants to stay ahead in the business world that is driven by competition.
E-Commerce involves the various components, such as multimedia, advertising, product information, customer support on the World Wide Web, Internet.

The Picture depicts the interrelationship among the components of E-Commerce.

**Figure No: 2.2**

**Interrelationship among the E-Commerce components**

Figure No: 2.3

Scope of E-Commerce

Linking with Suppliers
- Product Sourcing
- Product Information Collection
- Purchases Process Management
- Account Payable Management

Linking with Distributors and Retailers
- Market Response
- Inventory Replenishment
- Product Information Distribution
- Order Fulfilment
- Accounts Receivable Management

Enterprise Management
- Product Development
- Logistics and Supply Chain Support
- HRM
- Training and Conferencing
- Manufacturing Management
- Accounting
- Financial Planning

Global e-Commerce Infrastructure
- Security
- Digital Payment
- E-Banking
- Legal Issues
- E-Market Formation
- Human/Computer Interface
- National/Global Information Infrastructure

Interface with Consumers
- Web Marketing
- E-Shopping
- Information and Online Services
- Entertainment on Demand
- Trading in E-Markets
- Customer Service and Sales Management
- Market Intelligence, Customer Information Gathering

Source: ER&DCI {Electronic Commerce: State of the art}
The cutting edge for business today is e-commerce. Most people think E-commerce means online shopping. But web shopping is only a small part of the picture. The term also refers to online stock, bond transactions, buying and downloading software without ever going to a store. In addition, e-commerce includes business-to-business connections that make purchasing easier for big corporations. E-commerce is generally described as a method of buying and selling products and services electronically. The main vehicle of e-commerce remains the Internet and the World Wide Web, but use of e-mail, fax and telephone orders are also prevalent.

Electronic commerce [e-commerce or EC] is electronic [i.e., on online and mainly internet] based methodology, to address the need of businesses and consumers for cutting costs while improving the quality of goods and services. Convenience of shopping on the internet, open for 24 hours a day seven days a week makes it further attractive. It allows people to transcend the barriers of time and distance and takes advantage of global markets and business opportunities not even imaginable today, opening up a new world and business opportunities not even imaginable today, opening up a new world of economic possibility and progress.

Electronic commerce is the application of communication and information sharing technology among trading partners to the pursuit of business objectives. E-commerce can be defined as modern business methodology that address the needs of the organization, merchants and consumers to cut costs while improving the quality of goods and services.
and speed of service delivery. E-commerce is associated with the buying and selling of information, products, services via computer networks. A key element of e-commerce is information processing.

The effects of e-commerce are already appearing in all areas of business, from customer service to new product design. It facilitates new types of information based business processes for reaching and interacting with customers - online advertising and marketing, online, order taking and online customer service. It can also reduce costs in managing orders and interacting with a wide range of suppliers and trading and trading partners, areas that typically add significant overheads to the cost of products and services.

E-fulfillment is the physical delivery of those real orders in the virtual world. E-retailing should be understood as a service that delivers different goods, ordered through the Internet (as well as fax or phone), to a place defined by the customer. In this context e-shopping is a form of virtual retailing as opposed to the usual stationary business. E-business presents one of the greatest opportunities and challenges in retail. Changes in technology, the rise of the Internet and the critical need to attract, train and retain talent, make the job one of the most challenging in retail today.
The new battleground is electronic retailing. New technology means that unified, online supply chains are becoming the norm, together with home shopping either on the Internet or Digital TV. To compete effectively retailers must invest aggressively, and at speed, to exploit the staggering growth potential of these new channels, yet the routes to profitability remain unclear.

To succeed in electronic retail requires an effective strategy for both B2C and B2B operations, seamlessly integrating existing channels to market with new complementary channels, and whatever the future holds. The cost effective and well managed integration of existing systems with new systems and new technologies is one of the major challenges that retailers face today in moving towards the future. Retailers have made e-retailing a strategic priority and are pursuing B2C initiatives like ever before. The retailers currently use their web sites to provide information to their customers and offer online retailing

Channel convergence is forcing retailers to implement integrated in store systems. System integration efforts are a priority for retailers in the next two years. Customers – shopping multiple channels-catalogue, kiosk, store, web site – expect consistent levels of services and a more uniform shopping experience. Retailers that are able to provide the highest level of integration and information access will be able to leverage their investments to enhance the customer shopping experience. They will become more valuable to customers in the long-term.
Many companies, especially those founded during the past decade, do all of their business via the Internet, while traditional companies have become e-commerce converts, hoping to ride the cyberspace waves to riches in the form of increased sales, as well as increased efficiencies. Many companies that have long used traditional methods to market and sell their products and services are discovering the power of e-commerce. The key to the success of the e-commerce operations in the company is the efficient e-service. The Internet is fast becoming an important new channel for businesses in many sectors, raising e-businesses the emergent new business paradigm in the industrialized world. As virtual communities emerge and more people join the cyberspace and communicate in ways and at speeds that were unimaginable in the past, new business opportunities and business models arise to capture the potential of this channel. This new paradigm in the business process warrants effective e-strategies to be developed to serve the cyber community effectively for competitive advantage\(^{10}\).

Business-to-consumer E-Commerce has been described as any business operations conducted directly between a company and their consumers. This type of E-Business involves disintermediation or removing the middlemen who have traditionally played such an integral role in business communications. Some benefits of removing these mediators are that business transactions become cheaper and more efficient; there is a reduction in inventory and a reduction in property costs and maintenance. E-Business encourages equal opportunity for all B2C companies, as there are fewer barriers to marketplace entry. Business-to-consumer applications have proved critical to the success of E-Business. There is great potential for future expansion in the B2C field and this area
will continue to grow for many years. E-Business means transformation of key business processes through the use of Internet technologies. The web is changing every aspect of our lives, but no area is undergoing as rapid and significant change, as the way businesses operate. As businesses incorporate Internet technology into their core business processes, they start to achieve real business value. Today, companies large and small are using the web to communicate with their partners, to connect with their back-end data systems, and to transact commerce. This is where the strength and reliability of traditional informational technology meet the Internet.

**3C Framework**

The impact of IT (Internet in specific) on business can also be understood from the following 3C framework. This framework depicts three competencies having direct impact on business performance, which Internet has revolutionized. Internet has helped reduce costs, significantly improved the manner and speed of communication between various business components (internal and external) and in doing so, it also has added convenience in the way businesses and the processes are performed
The new paradigm in the enterprises merges the standards, simplicity and connectivity of the internet with the core processes that are the foundation of business. The new web based applications are interactive, transaction-intensive, and let people do business in more meaningful ways.

Though any e-business solution is unique, it is generally possible to categorize them as either business-to-consumer (B2C) or a Business-to-business (B2B). B2B commerce is a model where transactions are between one company/business and another company/business. A B2C e-commerce is a model where transactions are between a company and consumers. B2C applies to any business or organization selling products/services to consumers over the Internet for their own use. It should be understood that these two categories are only a user’s view of e-commerce sites.
Business to Business E-Commerce

The B2B process starts with a requisition for an order. Purchasing organizations have internal approval process to prevent unauthorized orders. Though the exchanges do not directly offer these facilities, they do it with the help of software provided by companies such as Ariba and Oracle.

Second, before the orders are processed, the exchanges have to have the set of suppliers for each of the products for the industry which they are catering to. For example, ChemConnect have to compile the list of suppliers for each and every chemical for which they offer the facility of trading. In the third stage, the exchanges match the orders of the buyers with the suppliers.

The fourth stage is ensuring that the orders are fulfilled. This includes all post-order requirements, including arranging for shipping of the material ordered. The fifth stage would be to process the payment schedule. Though there are very few exchanges, which offer the entire gamut of the above services, there are many which go up to order matching.

B2B E-commerce helps to remove barriers raised by geographic fragmentation of the market. While buyers get to know about new sellers with better products, suppliers discover new buyers. B2B also helps in eliminating unnecessary inventory build-up for both buyers and sellers. Lack of proper information on production schedules of the buyers would lead to unnecessary inventory build-up for the sellers. At the same time, the
difficulty associated with finding alternative supply sources forces the buyers to build-up inventory\textsuperscript{11}. As B2B promotes information flow and enhances transparency, supply-chain management becomes possible. In addition, both the sellers and buyers enjoy reduced order processing costs and lower cost of interacting with each other.

\textbf{Mere} order matching, which earns commission, is just not enough for the third-party exchanges. They will have to strive to retain the buyers and sellers, that is, they have to provide other value-added services (providing specialized information, for instance) that help retain the existing sellers and buyers and attract fresh traders\textsuperscript{13}. Buyers and sellers, in turn, benefit through specialized information content. In effect, the market benefits from buyer and seller discovery and price and product transparency.

\textbf{Differentiating B2B and B2C}

Amazon.Com, which sells books over the Internet, is an example of a B2C E-commerce initiative where the company gets in touch with its consumers directly. This is equivalent to the direct selling concept popularized by companies such as Amway. The only difference is that the selling is done via the Net. On the other hand, ChemConnect.com and Chemdex.com (which deal with chemicals) are B2B E-commerce initiatives, which bring two firms together on the virtual market place.

A B2B initiative needs a large infrastructure and a company would need to restructure its systems and business processes. It involves many participants with complex rules, higher purchasing amounts and complex products. Unlike B2C, greater
certainty is required for order fulfillment. The Business-to-Business Category — an example would be a company that uses a network or the Internet for ordering from its suppliers, receiving invoices and making payments. This category of e-commerce has been well established for several years, though its true potential is now being exploited through the medium of the Internet. Theses companies never interact with the ultimate customer and so are never heard of although they make quite a fortune. E-Commerce presents a vast spectrum of possibilities to every visionary business throughout the world.

**E-COMMERCE — DRIVING FORCES**

The meta group’s kutnick thinks that competition from traditional and non-traditional players, the opportunity to lower costs, and the opportunity to reach new customers faster and easier than ever before are just some of the factors driving e-commerce. Traditional competitors may be driving some organization to e-commerce because they’re realizing up on big organizations, using e-commerce techniques that allow them to extend their business lines into areas where they would not normally be able to reach.

The following forces make the companies to think about E-commerce and driving them to do the business through online.
**Combinatorial innovation:** E-commerce enables multiple players to work together more easily, which allows large organisations to become assemblers rather than manufactures, creating "the virtual Enterprise". Combinatorial innovation means using the "best of the best" organizations to help you do what you do over all. By using the strengths of this multiple organisations, every one in the value chain wins. According to Davis, the available technology may have been driving the move to e-commerce, but business seems to have snapped up the technology and used it. People naturally want to do things faster, and this technology has allowed us to go faster, accomplish more, and spend money more effectively. Using the technology to link multiple organizations into a single virtual enterprise provides organizations with the ability to do what they do best.

**Customer forces:** E-commerce is being pushed along by many forces, including customer habit changes, online marketing and technology changes and in general the sheer economics of the Internet Marketing. To keep costs low and margins high, organizations need low – cost customer prospecting methods and the web is a reasonably easy to capture many potential customers quickly. Through personalization software, organizations can establish close relationships with customers and develop customer loyalty more easily than through traditional channels. Marketing professionals are using the web to create new ways of interacting with customers and delivering services.

**Economics Forces:** From an economic perspective, organizations are always under pressure to cut costs and stay competitive in their respective markets. E-commerce offers
the opportunity of lowering the cost per transactions with suppliers. E-commerce offers global information sharing and advertising at low cost per customer. Finally, e-commerce provides the capacity for small organizations to take advantage of economies of scale such as external integration with business partners through the automation of information transfer.

**Technologies Forces:** Technology has made it possible to manipulate pictures, sounds and movies, and to ship them painlessly to consumers. Communications, entertainment, publishing and other industries are being forced into a situation of competition and cooperation because consumers want easy “one – stop shopping” for web content. Technology also facilitates the integration of an organization’s business processes with those of other organizations. Easier delivery of data also means reduced cost and increased accessibility.

**Web marketing strategies**

The companies are increasingly using the web in their marketing strategies to advertise their products and services and promote their reputations. Companies are classifying customers into groups and creating targeted messages for each group. The sizes of these targeted groups can be smaller when companies are using the Web – in some cases, just one customer at a time can be targeted. New research into the behavior of web site visitors has even suggested ways in which web sites can respond to visitors who arrive at a site with different needs at different times.
Most companies use the term marketing mix to describe the combinations of elements that they use to achieve their goals for selling and promoting their products and services. When a company decides which elements it will use, it calls that particular marketing mix as its marketing strategy. Companies—even those in the same industry—try to create unique presences in their markets. A company’s marketing strategy is an important tool that works with its web presence to get the company’s message across to both its current and prospective customers.

Most marketing experts organize the essential issues of marketing into the four Ps of marketing: product, price, promotion, and place. Product is the physical item or service that a company is selling. The intrinsic characteristics of the product are service that a company is selling. The intrinsic characteristics of the product are important, but customers’ perceptions of the product, called the product’s brand, can be as important as the actual characteristics of the product.

The price element of the marketing mix is the amount the customer pays for the product. In recent years, marketing experts have argued that companies should think of price in a broader sense, that is, the total of all financial costs that the customers pays (including transaction costs) to obtain the product. This total cost is subtracted from the benefits that a customer derives from the product to yield an estimate of the customer value obtained in the transaction. The web has great potential to create new opportunities for creative pricing and price negotiations through online auctions, reverse auctions and
group buying strategies. The web – based opportunities are helping companies around the world to find new ways to create increased customer value.

Promotion includes any means of spreading the world about the product. On the Internet, new possibilities abound for communicating with existing and potential customers. The companies are using the Internet to engage in meaningful dialogues with their customers using e – mail and other means. There are even more communication techniques through the Internet that companies are using now a days to promote their products.

The benefit of web marketing for instant distribution of the products

For years, marketing managers dreamed of a world in which instant deliveries would give all customers exactly what they wanted when they wanted it. The issue of place (also called distribution) is the need to have products or services available in many different locations. The problem of getting the right products to the right places at the best time to sell them has plagued companies since commerce began. Although the Internet does not solve all of these logistics and distribution problems, it can certainly help. For example, digital products (such as software, music, and e-books) can be delivered almost instantly on demand through the Internet. Companies that sell products that must be shipped have found that the Internet gives them much better shipment tracking and control than did previous information technologies.
Product – based marketing strategies

The company’s web presence and how this presence must integrate with the brand or other established images of the company in its promotional activities are very important. Most companies offer a variety of product that appeal to different groups. When creating a marketing strategy, managers must consider both the nature of their products and the nature of their potential customers.

Managers at many companies think of their businesses in terms of the products and services they sell. This is a logical way to think of a business because companies spend a great deal of effort, time, and money to design and create those products and service. If you ask managers to describe what their companies are selling, they will usually provide you with a detailed list of the physical objects they sell or use to create a service. When customers are likely to buy items from particular product categories, or are likely to think of their needs in terms of product categories, this type of product – based organization makes sense. Most office supplies stores on the web believe their customers organize their needs into product categories. A company that sells to a different market, but that uses a similar product – based marketing strategy, is sears. Sears sold its products through catalogs and later in physical stores for many years before opening its web site. Most companies that used print catalogs in the past organized them by product category. Sears has carried over its product – focused marketing strategy to its web sites to sell its products.
Sears has organized their web sites from an internal viewpoint, that is, according to the way that they arranged their product design and manufacturing processes. If customers arrive at these web sites looking for a specific type of product, this approach works well. Alternatively, customers who are looking to fulfill a specific need, such as outfitting a new sales office or choosing a graduation gift, might not find these web sites as useful. Many marketing researchers and consultants advise companies to think as if they were their own customers and to design their web sites so that they become enabling experience that can help customers meet their individual needs.

**Customers – based marketing strategies**

The web creates an environment that allows buyers and sellers to engage in complex communications modes. The communication structures on the web can become much more complex than those in traditional mass media outlets such as broadcast and print advertising. When a company takes its business to the web, it can create a web site that is flexible enough to meet the needs of many different users. Instead of thinking of their web sites as collections of products, companies can build their sites to meet specific needs of various types of customers.

A good first step in building a customer – based marketing strategy is to identify groups of customers who share common characteristics. **Sabre** is a company that sells
marketing services and technology to support those services to the travel industry, its customers include travel agencies, airlines, large companies that have in house travel departments, and travel consolidators (companies that buy blocks of airline seats and hotel rooms, then resell them as vacation packages). Sabre also operates the travelocity online travel agent site. The sabre home page includes links for each of its major customer groups. These links lead to sections of the sabre site that office products and services targeted to each of these customer groups.

The use of customer – based marketing approaches is more common on B2B sites than on B2C sites today. B2B sellers are more aware of the need to customize product and service offerings to match their customer’s needs. Industry analysts expect that B2C sites will add more customers – based marketing elements in the near future. sabre’s approach of breaking customers into four main groups is a good step in the successful marketing of the products, Marketers can use their experience with selling in their industries to identify subgroups in every major group and then develop marketing strategies and tactics that will effectively reach customers in each subgroup.

E-Auctions

Electronic auctions offer an electronic implementation of the bidding mechanism also known from traditional auctions. This can be accompanied by multimedia presentation of the goods. Usually they are not restricted to this single function. They
may also offer integration of the bidding process with contracting, payments and delivery. The sources of income for the auction provider are in selling the technology platform, in transactions of a collection of e-shops, usually enhanced by a common umbrella, for example of a well-known brand. It might be enriched by a common guaranteed payment method.

Advantages of Internet auctions

**Convenience:** It gives the participants convenience as bidder can stay at his home or office and still participate in the bidding just as in traditional auctions. In addition, it is also more convenient for a bidder to find more about the goods being auctioned.

**Flexibility:** Traditional auctions allow only synchronous bidding requiring all bidders to participate at the same time. In contrast, Internet auctions allow asynchronous bidding lasting days or weeks, which offers more flexibility to the bidders.

**Increased reach:** The potential of reach of an Internet based auction site is global and thus the market for auctioned good is very large.

**Economical to operate:** These are cheaper to run as lot of costs relating to infrastructure required for a conventional auction system is not necessary for this.
Disadvantages of Internet auctions

Inspection of goods: In an Internet based auction, it is not possible to physically inspect the goods. The bidders have to rely on the information provided or sometimes, may have to rely on some electronic images of the goods on auction.

Potential for fraud: Internet bidder has to trust that the seller would actually send the good for which he paid. Also typically payments are made by providing credit card details through the Internet, which may also be always safe.

Online Stores

It refers to marketing of a company’s products through the web. It may be done either to promote the company and its products and services or to actually sell the products/services through this virtual store. One of the best examples of an e-store is Amazon.com, which started selling books online and gradually extended to other product categories.

Benefits for the company

a. Increased demand

b. Low-cost route to global reach

c. Cost-reduction of promotion and sales.

d. Reduced costs
Benefits for the customers

a. Lower prices
b. Wider choice
c. Better information,
d. Convenience

Shopping through the online stores is fast gaining popularity and acceptance. Although majority of the revenue is in the B2B sales, B2C sales are also expected to improve in the coming years. However, for this to occur, online stores need to deliver far more value to the customers and at the same time find new ways to generate revenues.

In order to develop more value to the customers, the following may be considered, the merchants have to try to find ways to gain competitive advantage factors other than just the price. Online shops need to provide a shopping-experience that addresses all of the customers' requirements. It should also try to provide an environment that is easy to explore. One of the key problems, which the online stores face is the lack of a good and effective revenue model. Online stores therefore have to explore new ways to generate revenues (e.g. collect membership fees from customers)20.

E-SERVICE

Global competition is ferocious. Companies must work harder than ever before to gain and keep customers, and to do so at a competitive cost. If wielded correctly, e-
service, using the Web for customer service, can be a powerful tool in today’s business world. Internet-based customer service, or e-service, enables smart businesses to improve service levels and increase loyalty, while saving money. Companies large and small are adopting innovative Internet-based technologies such as Web self-help, email response, live chat. But a question which arises is that why E-Service? This is because the goal of e-service is to give customers around-the-clock access to easy, cost-effective online self-service.

Moving routine interactions online saves lot with increased customer satisfaction. Thus, Loyal relationships based on responsive service may be the only sustainable competitive edge left\textsuperscript{21}.

**Role model for e-service:**

Southwest Airlines is the only U.S. airline that can serve as a role model for businesses that want to get into e-commerce and are willing to provide the e-service necessary to survive. Southwest Airlines realized early in the game that speed, price and convenience are important to consumers, and it designed a Web site that offers all three in a user-friendly system. Southwest Airlines is now reaping the rewards of its investment. If you’re looking for a company to emulate, this is the one.

They realize that ‘business as usual’ no longer exists, that the Internet and global competition have forever changed the face of business. They are turning to the Internet to
complement their bricks-and-mortar businesses, and they are realizing great success in so doing. Sure, you might be saying; that’s fine for big companies like Southwest Airlines and General Electric, but what about the little guys? Well, the little guys, small businesses, can be big winners on the Internet, too. In fact, mom-and-pop stores are now reaching customers throughout the world without increasing their overhead. They don’t have to build new stores to build their sales. They can use the Internet as a virtual sales force to pitch their products and services to customers in every corner of the world.

Set up a Web site, and you’re in business--big business. Add exceptional e-service to the mix--and you’re in even bigger business. According to the Boston Consulting Group (BCG), online purchasers have demanding expectations. They want to complete a transaction in less than 10 minutes; they don’t want to wait more than three minutes on hold for customer service; and they expect their merchandise to arrive in less than a week.

Small can be BIG on the Net by using E-Service

The Internet has leveled the playing field, allowing small businesses to compete with big businesses. In fact, in many cases small businesses have a greater shot at success in cyberspace than big businesses do. Why? Because this new selling environment really isn’t being driven by technology; it’s being driven by e-service. And small businesses can be much better than big businesses when it comes to establishing relationships with their
customers and treating them well. Many consumers who want specialized knowledge and personal treatment are more likely to turn to a small, niche-focused business than to a corporate behemoth. Small businesses also have an edge over large ones when it comes to acting quickly. They can make decisions fast. They don’t need to gather together a cumbersome group of people from their legal, marketing, and technical departments to draft, re-draft, and formalize ever little word and symbol they want to put on their websites. They can act - and react – quickly.

The Internet and bricks-and-mortar businesses can be a wonderful marriage. In fact, some businesses are even installing kiosks in their stores so shoppers can also access their online inventories, while e-commerce companies are adding bricks-and-mortar operations to capture those consumers who prefer to shop in person. eBay and Gateway Inc. are two such dot.com retailers. eBay will soon begin to stage live auctions in malls, while Gateway is building real-world stores to give its band what Business Week calls ‘three-dimensional reality.’

CUSTOMER RELATIONSHIP MANAGEMENT

Today, many businesses such as banks, insurance companies, and other service providers realize the importance of Customer Relationship Management (CRM) and its potential to help them acquire new customers, retain existing ones and maximize their lifetime value. At this point, close relationship with customers will require a strong coordination between IT and marketing departments to provide a long-term retention of
selected customers. CRM is a sound business strategy to identify the most profitable customers and prospects, and devotes time and attention to expanding account relationships with those customers through individualized marketing, repricing, discretionary decision making, and customized service—all delivered through the various sales channels that the bank uses.

The essence of the information technology revolution and, in particular, the World Wide Web is the opportunity afforded companies to choose how they interact with their customers. If desired, the Web allows companies to build better relationships with customers than has been previously possible in the offline world. By combining the abilities to respond directly to customer requests and to provide the customer with a highly interactive, customized experience, companies have a greater ability today to establish, nurture, and sustain long-term customer relationships than ever before.

The online capabilities complement personal interactions provided through salespeople, customer service representatives, and call centers. At the same time, companies can choose to exploit the low cost of Web customer service to reduce their service costs and offer lower quality service by permitting only electronic contact. The flexibility of Web-based interactions thus permits firms to choose to whom they wish to offer services and the quality levels.
Indeed, this revolution in customer relationship management or CRM as it is called, has been referred to as the new "mantra" of marketing. Companies like Siebel, Epiphany, Oracle, Broad vision, Net Perceptions, Kana and others have filled this CRM space with products that do everything from track customer behavior on the Web to predicting their future moves to sending direct e-mail communications.

The need to better understand customer behavior and the interest of many managers to focus on those customers who can deliver long-term profits has changed how marketers view the world. Traditionally, marketers have been trained to acquire customers, either new ones who have not bought the product category before or those who are currently competitors' customers. This has required heavy doses of mass advertising and price-oriented promotions to customers and channel members.

Today, particularly for the company's "best" customers, the tone of the conversation has changed from customer acquisition to retention. This requires a different mindset and a different and new set of tools. A good thought experiment for an executive audience is to ask them how much they spend and/or focus on acquisition versus retention activities. While it is difficult to perfectly distinguish the two activities from each other, the answer is usually that acquisition dominates retention.
Customer Relationship Management Tools\textsuperscript{24}

CRM is an acronym for the term Customer Relationship Management. Organizations hoping to improve their sales and customer relationships often use customer relationship management tools to better manage these interactions. There are two common applications of customer relationship management products: 1) Sales Force Automation 2) Customer Service/Support.

Sales Force Automation (SFA) tools are designed to help sales organizations manage their sales processes. Most SFA products have very basic functionality and do little more than help a sales rep organize their sales contacts. However, there is an emerging class of SFA tools that have robust features, which help facilitate the entire sales process. These products empower both the front line sales representative as well as sales management. A true SFA tool will help simplify a sales rep's day by taking on the burden of many tedious tasks like gathering, categorizing and distributing sales leads. Sales management also benefits by using a full-featured SFA with the ability to view, forecast and report on the customer relationship management sales pipeline as well as measure the performance of each sales rep.

KNOWLEDGE MANAGEMENT

If questions asked, what is knowledge management, many answers we will get. One way of looking at e-commerce systems is that they are computers that make or save money. By this definition, knowledge management systems become the food that
supplies these systems. The focus of Knowledge Management is on 'doing the right thing' instead of 'doing things right'. It provides a framework within which the organization views all its processes as knowledge processes and all business processes involve creation, dissemination and application of knowledge towards organizational sustenance and survival.

Knowledge Management caters to the critical issues of organizational adaptation, survival, and competence in face of increasingly discontinuous environmental changes. Essentially, it embodies organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings. Clearly the goal of knowledge management is sustained individual and business performance through ongoing learning, unlearning, and adaptation. Technologies of computing have inherent limitations. They have difficulty in generating meaningful insights from data as they can’t question or re-interpret their programmed logic and assumptions. Given inherent limitations of the technologies of computing, human users of such 'systems' have at least an equally important role in knowledge management. In short, knowledge Management (to quote a Microsoft document) is the use of technology to make information relevant and accessible, wherever it may reside.

Knowledge management (KM) is somewhat difficult to define precisely. Basically, it is a practice that blends document management and content-management techniques – typically content search, categorization, and content retrieval – for
processing unstructured data (documents, internet files, news feeds, e-mail and other text-based information).

Knowledge Management has been given tremendous importance of late. Every organization is devising methods through which it can effectively manage knowledge. Releasing the cost, time and energy that goes into implementing it, organizations have shifted their importance to the personal management arena. It is being recognized that knowledge management works best if individuals realize its importance and take initiative and responsibility for managing what they know. Companies are designing plans for development of personal management tools to make-work easy for individuals. Tools managed effectively help in empowering knowledge workers whereby they can claim the ownership of their intellectual efforts. Knowledge is key because you are selling knowledge in your business networks and generating and sharing it in social networks. Knowledge management works best when workers take the initiative and responsibility for what they know, don’t know and need to know.

Firms have long known about the increasing role that knowledge plays in economic processes. Along with traditional resources of land, labor and capital, knowledge has always been important while determining a firm’s competitive edge. Firms have always been oriented towards accumulating and applying knowledge to create economic value and competitive advantage. An automatic increase in knowledge and an incentive to search for new knowledge are ‘built-in’ into the very nature of a firm’s
competitiveness. Recently, there is an upsurge of interest in the management of knowledge. More and more organizations are talking about building up strengths in knowledge management practices today.

The development and deployment of Information Technology has been the strongest immediate source responsible for such a shift. When one expands the coverage of knowledge to macro levels, a nation can be considered to be a large enterprise with broader interests in economic health, growth rate, global competitiveness and welfare of people, global competitiveness and exploitation of resources. Most of the concepts of knowledge management thus become applicable equally well at the enterprise level and national level. Education and advances in knowledge are as important as capital and natural resources in contributing to the economic growth of the nation.

The following four broad reasons that seem to be playing a significant role in this renewed interest in knowledge management:

(i) The globalization of the economy, which is putting terrific pressure on firms to have increased adaptability, innovation and process speed.

(ii) The awareness of the value of specialized knowledge that has embedded in organizational processes and routines in coping with the above pressure
(iii) The awareness that knowledge is a distinct factor of production and its role in the growing book to market rations within the knowledge-based industries.

(iv) Low cost network computing, which has become a powerful tool to work and learn together.

**Knowledge Management and Competitive Advantage**

Knowledge management has recently emerged as a powerful concept to provide a firm with sustained competitive advantage. Knowledge management deals with knowledge as a corporate resource and works around establishing the policies and practices for creating and developing the firm's intellectual assets. This in turn can improve the whole range of the organization's performance characteristics over a longer period.

Knowledge management systems and tools are used to capture, re-use and re-purpose the relevant information to the person that needs it, preferably at the time they need it. They can be as simple as a frequently asked questions (FAQ) applications, providing right information to the client on need of online customer support.
The figure bears a testimony to all this facts.

**Figure No: 2.5**

**Knowledge Management Systems and Tools**

![Diagram showing the relationship between Innovation and Responsiveness, Competency and Productivity, Degree of collaboration, and Organization scale.](image)

Source: The Hindu 30th July 1998

**SUPPLY CHAIN MANAGEMENT**

Fostering and maintaining a win – win relationship with suppliers and other supply chain partners is a challenging task. The supply chain management is useful concept to integrate all those involved in procuring, processing and delivering the product to the end user at the right place and right time. The strategic supply chain management focuses on the initiatives that foster superior relationship among the supply chain partners. The impact on the productivity due to introduction of the supply chain management is improving productivity and reducing wastages. The potential advantages of the supply chain management encouraged many companies to implement it for achieving
competitive advantage. In addition to the increased capability of attaining global coverage, this trend has reduced risk of locked into inappropriate technologies. Moreover, the suppliers have significant direct impact on cost, quality, technology, speed and responsiveness of buyer firms.

Supply chain is the entire process of accepting a customer order through to the delivery of the product to the customer inclusive of supply procurement and production of the product. A supply chain is collections of inter-dependent steps, when thoroughly followed gives rise to a certain objective as meeting customer requirements. SCM is a generic term, encompassing:

- The coordination of order generation and order taking
- Offer fulfillment/distribution of products, services or information

Numerous, independent firms and customers are involved in a supply chain such as manufacturers, component/part suppliers, parcel shippers, senders, receivers, wholesalers and retailers.

A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers. Supply chains exist in both service and manufacturing organizations, although the complexity of the chain may vary greatly from industry to industry and firm to firm.
Supply chain is simply the combination of tasks wherein any company would like to perform to move services or products from suppliers to customers. Though the definition appears to be simple, it is complex when the question of building a model of a generic supply chain that can be commonly used by all companies e.g. software-selling company with a tractor manufacture. The difficult in defining a generic supply chain model is that:

- There are many variations of supply chains almost equivalent to the number of companies.
- Each company's participation in the supply chain varies in degrees.
- We have different categories like physical supply chains and vertical supply chains where as in the former type physical product moves through an organization and in the latter case, no physical product moves (no inventory, but website connect, buyers and sellers).

Supply chain management are integrating management practices and information technology to optimize information and production flows among the processes and business partners within a supply chain. SCM is a management concept that integrates the management of supply chain process.

In the earlier years companies used to compete neck to neck with each other. Now in the net age, situations are changing and the company with the best supply chain is
going to win in the competition battle. In view of this most of the manufacturing firms
are going globally for outsourcing the best quality components. It is therefore evident,
that supply chain management focuses more on those tasks that add real value for the
product and at the same time results in maximum profits to firms by leaving everything
on the shoulders of the suppliers. For example, Maruti offers better seating system say
bucket seats – it is not from their company but such seats are procured from their
vendors, basically the vendors are the designers and creators of such seats.

Managing Supply Chain in the Organizations

Fast delivery is critical in most markets today. Many companies try to meet their
market demand by carrying higher inventories. Inventory is a hedge against lead-time.
Higher levels of inventory are often maintained because the company is unable to
produce the material within the time demanded by the market. Analyzing the processes in
supply chain can identify the causes and facilitate solutions to reduce overall throughput
time. Compressing time, the chain of events from the time a customer places an order
until the order is satisfied can provide a competitive edge without the burden of carrying
excessive inventory. A supply chain is the process of moving goods from customer order
through the raw materials stage, supply, production, and distribution of products to the
customer.
Supply chain in organizations vary depending upon the size of the organization and the type of product manufacturing. These networks obtain supplies and components, change these materials into finished products and then distribute them to the customer. Managing the chain of events in this process is what is known as supply chain management. Effective management must take into account co-ordinating all the different pieces of this chain as quickly as possible without losing any of the quality or customer satisfaction, while trying to keep costs down.

Traditionally, marketing, distribution, planning, manufacturing, and the purchasing organizations along the supply chain operated independently. These organizations have their own objectives and these are often conflicting. Marketing's objective of high customer service and maximum sales dollars conflict with manufacturing and distribution goals. Many manufacturing operations are designed to maximize throughput and lower costs with little consideration for the impact on inventory levels and distribution capabilities. Purchasing contracts are often negotiated with very little information beyond historical buying patterns. The result of these factors is that there is not a single, integrated plan for the organization---there were as many plans as businesses. Clearly, there is a need for a mechanism through which these different functions can be integrated together. Supply chain management is a strategy through which such integration can be achieved.

Supply chain management is typically viewed to lie between fully vertically integrated firms, where a single firm, and those own the entire material flow where each
channel member operates independently. Therefore coordination between the various players in the chain is key in its effective management. Cooper and Ellram [1993] compare supply chain management to a well-balanced and well-practiced relay team. Such a team is more competitive when each player knows how to be positioned for the hand-off. The relationships are the strongest between players who directly pass the baton, but the entire team needs to make a coordinated effort to win the race.

**Electronic commerce benefit over brick and mortar stores**

* The smaller players in the business get a chance to compete against bigger players in almost every field. Entrepreneurs are able to start-business more easily, with smaller up front investment requirements.

* According to one estimate, distribution expenses comprise between 50 and 80 per cent of the cost of consumer products. Shrinkage of existing distribution channels and using e-commerce can achieve substantial savings. Thus electronic commerce lowers down prices and provides new sales methodologies.

For instance, sending a 40 page document from New York to Tokyo costs an average of US $26, if sent through courier services, about US $30 if sent by Fax and a mere 10 cents if sent via the Internet. It was observed that a reputed business organisation by name Chrysler corporation reportedly saved more than US $1 billion for cost of materials in 1997, merely by linking its suppliers through a web based network, and by the year 2006, the annual average savings estimates are equal to US $15 billion.
Better product promotion: It provides very easy way to get in touch with the customer at global level. It provides high global instant visibility of the products through web technology and hence better product promotion.

According to a report by marketers, an Internet reporting and research firm, a new user who is considered to be a potential customer joins the ever-expanding community of online purchases every 1.67 seconds. The potential for better product promotion is unlimited. As also web advertising is relatively cheaper than other media.\textsuperscript{31}

Another advantage to promote the products on the web is that the advertisements on the Internet are available 24 hours a day, 365 days a year in a more attractive manner by using the multimedia delivery of information that includes graphics, pictures, sound, video, and animation.\textsuperscript{32}

Shorter time to Market: For highly perishable products like news as also for very short life span products care must be taken, such that they must be marketed immediately after release. This facility can be only availed on the web.

More customer satisfaction: Customer database helps the company to plan, implement and monitor customer contact, because of which precise targeting of clientele is possible. Consumer behavior and their preferences can be predicted due to interactivity through Internet. It is also easy to keep information up-to-date. Customer service helpdesk helps
in logging information about customer problems, queries, suggestions and so on. It also helps in directing these queries to appropriate employees with in the company. It maintains information regarding status of customer inquires and stores all support calls and related communications to final resolution, and for updating the database accordingly.\textsuperscript{33}

**Cheaper and easier money transaction:** Electronic commerce transactions are processed at faster speeds more easily and at competitive price than any conventional transactions. Here lower value transaction is feasible due to lowering of the transaction processing cost. Internet facilities provide a host of electronic payment systems resulting in cheaper operational costs. It costs about 5 cents per transaction for digital currency as against 45 cents per transaction for credit card payments; 75 cents for check payments and US $1 per transaction for paper currency payments\textsuperscript{34}.

Competition in banking and retailing has become so intense that only those organisations which can provide superior customer service and goods, help on-line transaction management at low cost. Internet offers online bank transactions costing five paisa per transaction as against Rs. 1.50 through a teller\textsuperscript{35}.

Customers (Retailers and Banks) to a greater exchange are benefited by these process for instance:
- A bank benefits from reduced cash handling charges and from a new attractive services, which can provide better services to their customers.
- Retailers also benefit from reduced cash handling charges and they do not have to store large amounts of money at their business place.

This reduces the chance of frequent robberies.

The following table gives an idea about savings if some of the traditional services are allowed to be carried out in the e-commerce way.

<table>
<thead>
<tr>
<th>Services</th>
<th>Cost involved for each transaction</th>
<th>Savings (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Line Ticketing</td>
<td>Traditional way: $8.00</td>
<td>E-commerce way: $1.00</td>
</tr>
<tr>
<td>Banking</td>
<td>Traditional way: $1.08</td>
<td>E-commerce way: $0.13</td>
</tr>
<tr>
<td>Bill Payment</td>
<td>Traditional way: $2.22 to $3.32</td>
<td>E-commerce way: $0.65 to $1.10</td>
</tr>
<tr>
<td>Term life insurance</td>
<td>Traditional way: $400 to $700</td>
<td>E-commerce way: $200 to $350</td>
</tr>
<tr>
<td>Software</td>
<td>Traditional way: $15</td>
<td>E-commerce way: $0.20 to $0.50</td>
</tr>
</tbody>
</table>


Based on above facts and figures, it can be concluded that Ecommerce has a wide variety of advantages over Brick and Mortar stores can be summarised as below:
To the Business Organisations, it provides:

* Faster movement of inventory
* Paperless transactions
* Fewer middlemen in business
* Fast realisation of money
* Lower manpower costs

* Quicker order execution
* Vast information

To consumers, it provides:

* Ease of purchase
* Wide choice
* Lower price
* Flexibility of time and place

Organizations are showing importance to E-Commerce compared to the traditional Commerce due to some specific benefits, which are listed below:

**Economizing Transaction Cost:**

It would be obvious to many consumers that e-commerce economises on transaction costs. In a study carried out by a research agency in USA and as reported by
NASSCOM, Internet transactions cost only one third when compared to a telephonic transaction and the profit margins as provided by online commerce is higher by around 4 per cent than telephonic transactions. Transaction costs could also include cost of real estate, inventory, maintenance cost of the physical store. The on-line bookstore, amazon.com is a good illustration of considerable economies of transaction costs apart from the global reach. The web site www.amazon.com is reputed to offer close to 30 per cent discount over normal retail prices. It has close to 4.5 million customers and $540 million in sale in the year 1998. In India, www.indiabookshop.com India’s first virtual bookstore is supposed to be making offers of books at a 10 per cent discount with free delivery facility in Mumbai.\(^3\)

**Market efficiency:**

By using the Internet, companies can quickly and easily get price quotes from numerous suppliers. By increasing the number of sellers, buyers are more likely to get a better price and vice versa. This way B2B creates an efficient market for everything. For instance, Chrysler Corporation by linking to its suppliers through a web based network, has reported annual savings of $2 billion.\(^3\)

E-Commerce potentially gives exposure to previously untapped market segments with ease and low cost. It reduces errors, time and overhead costs in processing information by eliminating requirements for re-entering data. By using the computers to automate processes done in the past by people using a phone or fax, and removing much of the
paper work from routine functions like filling out. requisitions, companies are saving thousands of hours and millions of dollars. They are cutting down on customer support staff, providing more up-to-date information than paper catalogues could ever offer, and filling orders more quickly.

For instance, US based IT giant, CISCO, which takes in more than $1 bn orders on-line each month, estimates that it saves as much as $70 million a year by processing orders on the net. Cisco has been able to reduce staffing in its order-entry center to about 300 people, from the 1,000 it would need without the web. Cisco has also slashed the amount of time it takes to ship a product from one to three weeks instead of six to eight weeks after an order is placed\textsuperscript{39}.

**Inventory levels:**

By using B2B technologies, companies can better utilise their inventory and raw materials. It allows companies to use less working capital to do the same amount of work, freeing these funds to be invested elsewhere.

A Federal Reserve study says that in general, the B2B boom could lead to lower prices, higher productivity and reduced labor costs. Boston consulting Group Inc. figures that, in manufacturing alone, B2B will boost productivity by 9 per cent with in the next 5 years. A recent Goldman Sachs study concludes that B2B e-commerce could slash processing costs.
The following table gives information about the reduction of costs of doing business via Internet, industry wise.

**TABLE 2.2**

Reduction of cost of doing business via Internet

<table>
<thead>
<tr>
<th>Industry</th>
<th>Estimated cost savings from B2B in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace machine</td>
<td>11</td>
</tr>
<tr>
<td>Chemicals</td>
<td>10</td>
</tr>
<tr>
<td>Coal</td>
<td>2</td>
</tr>
<tr>
<td>Communications</td>
<td>5-15</td>
</tr>
<tr>
<td>Computing</td>
<td>5-20</td>
</tr>
<tr>
<td>Electronic components</td>
<td>29 - 39</td>
</tr>
<tr>
<td>Food ingredients</td>
<td>3-5</td>
</tr>
<tr>
<td>Forest products</td>
<td>15 - 25</td>
</tr>
<tr>
<td>Freight transport</td>
<td>15 - 20</td>
</tr>
<tr>
<td>Health care</td>
<td>5</td>
</tr>
<tr>
<td>Life science</td>
<td>12 - 19</td>
</tr>
<tr>
<td>Machining (Metals)</td>
<td>22</td>
</tr>
<tr>
<td>Media &amp; Advertising</td>
<td>10 - 15</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>5 - 15</td>
</tr>
<tr>
<td>Paper</td>
<td>10</td>
</tr>
<tr>
<td>Steel</td>
<td>11</td>
</tr>
</tbody>
</table>


The B2B revolution is helping companies to lower costs dramatically across their supply and demand chains, take their customer service into a different league, enter new
markets, create additional revenue streams and redefine their business relationships.

**Interactivity**: One of the widespread benefits of the Internet and on-line commerce is its ability to establish interactivity. Interactivity refers to the ability to reach consumers on an individualised basis and to react appropriately to responses of individual consumers to a marketing offer. The E-commerce enable the companies to develop customer insight through customer database, electronic point of sale, sales force automation, customer service helpdesk, systems integration and personalization and achieving superior customer experience.

As per a research study by Forrester Research inc (USA), purchase of E-shoppers in 1998 focussed on PC hardware and software (33.5 per cent); travel (31.5 per cent), entertainment (12 per cent), books and music (6 per cent), gifts, flowers and greetings (5.5 per cent) in that order. Customisation was possibly a major 'factor in such shopping on the net.

For instance, combination of intranets and extra nets enables Asea Brown Boveri (ABB) to integrate over 60,000 users in a worldwide. Corporate network spans over more than 80 countries, and connects over 100 external companies, customers and business partners. The benefits have translated into improved project management.

**Wide Customer Choice**: In all sorts of markets, customers will soon be able to describe exactly what they want, and suppliers will be able to deliver the desired product or
service without compromise or delay. This innovation that catalyzes this shift is called "Choice board" according to Adrian J. Slywotzky\textsuperscript{41}.

Choice boards are interactive, on-line systems that allow individual customers to design their own products by choosing from a menu of attributes, components, prices and delivery options. The customers' selections send signals to the supplier's manufacturing system that sets in motion the wheels of procurement, assembly, and delivery. The role of the customer in this system shifts from passive recipient to active designer.

For instance, customers today can design their own computers with Dell's on-line configurator, create their own dolls with Mattel's My Design Barbie, assemble their own investment portfolios with Schwab's mutual fund evaluator and even design their own golf clubs with Chipshot.com's Perfect Fit system. But the choiceboard model is still in its infancy. Despite its enormous benefits, it is involved in less than one per cent of the $30 trillion world economy.

**Improved market analysis:** The large and increasing base of Internet users can be targeted for the distribution of surveys for an analysis of the marketability of a new product or service idea. Surveys can reach many people with minimal effort on the part of the surveyors. Once a product is already marketed, businesses can examine the level of customer satisfaction\textsuperscript{42}. 


For instance, software that enables physicians to submit information directly through the web from their clinics to the drug companies has already been developed. Indeed, one company was able to access early information and data on the trials of its new drug by using this software and thus save costs effort and time. It was able to suspend further development of the drug in time because of its high probability of failure. This would not have been possible at such an early stage had the company adopted the conventional process of collecting data and information through enormous paper work.

E-Commerce – Issue and Challenges

Even though the e-commerce is a heart breaking technology it is not perfect by itself. It still has some corners, which have to be engraved. The various issues that hinder the success of E-business are as follows:

Security: The biggest problem being faced is the absence of secure online payment gateways in the country. Unauthorised access to databases, fraudulent payment transfers, whether through banking or credit card channels, false or malicious order confirmations, lack of a tracking system like a social security number and the vast unorganised industrial sector could throw Internet based business out of gear unless they are brought alive to the pitfalls.

Forrester Research estimates that for every $1000 of transactions that occur on the Internet, one dollar is lost to fraud as a result of security violations. Still, some consumers
have not overcome their feelings of insecurity about on-line shopping, with the fear of releasing credit card information, being the number one inhibiting factor. In fact, 52 per cent of on-line house holds do not yet shop online over concern that, their credit card information may be stolen and their Personal information randomly distributed⁴⁴.

**Absence of cyber - laws:** The big issue facing e-business is the absence of a clear-cut regulatory framework worldwide. No wonder, businessmen and consumers are found to lack confidence in digital transactions. Building a true global economy requires harmonisation of many laws and regulations around the world a both national and international levels such as standardization of interoperability, security mechanisms, authentication, electronic contracting, domain name assignments (DNS) electronic billing, transaction processing mechanism, settlement of payments made with electronic money, Intellectual property protection on the Internet, international and national tax and tariff issues, licensing requirements and universal trade mark⁴⁵. India, with its complex regulatory framework, needs to define transparent rules for e-commerce to keep in pace with global growth. Even developed nations are also grappling with cyber laws.

**Lack of Internet infrastructure:** The other limiting factor for virtual trading is poor rate of telephone penetration, making virtual trading a remote possibility. In a country where there is a population of one billion spreading over 5000 towns and cities and six lakh villages and where the population grows by 2 million every year⁴⁶, internet
connects only about 100 towns and cities and less than 4 lakh users. The largest private ISP reaches only 25 cities. Worldwide there are 200 million Internet subscribers against India's 0.65 million. In terms of penetration of PCs, India has 2 per 1000 as against China, which has an average of about 10 per 1000, and Singapore having 20 per 1000. The Internet access is still low and is very expensive and the access devise is primarily a PC, which most Indians cannot afford. Lack of infrastructure (like availability and costs of telecommunications and information technology) and lack of awareness about technological developments is some of the drawbacks, which impede the development of e-commerce.

**Logistics:** For success of e-business in Internet, logistics is the most important factor. An effective logistics system directly translates itself into customer satisfaction and retention in the long run. Forrester Research says supply chains are not robust enough to handle the future demands of global e-commerce. It predicts that global e-commerce will reach an amazing $6.8 tm by 2004 that will "crush today's brittle supply chains". Inefficient global logistic systems will need more sophisticated, real time communications based on the Internet to keep up with demand. As international trade revenues up, today's structures will leave shippers with increasing challenges like more customer returns, increasing legal risks and greater liability.

**Reliability:** Another potential issue in E-commerce is that what is the guarantee that the customer receives the same product with the same specification that he has ordered.
The condition of the product at the time of delivery assumes importance, especially for high-end technical products like sensors, microprocessors and computer spares.

**Credit card issues:** What is the reach of credit cards in India? Is the penetration sufficient enough to support e-commerce in a big way, if not what is being done to improve credit card penetration?

**Authenticity of website:** Certain questions like the authenticity of the website, especially when they require some one to submit his credit card numbers for purchases have to be analysed critically. The site content, appeal, design might be good, but in reality they are being just hacked for want of credit card information.

**Buyer Skepticism:** Indian consumers have the tendency and preference to "feel" the product before any purchase. The failure of tele shopping can be attributed to this phenomenon. Inspite of the extensive advertisement campaign, large dealer network and speedy delivery, tele-shopping network failed in the Indian market. Can the same phenomena be extended to on-line purchases also? This factor should be considered when choosing a product to be offered on-line.

**Non-free international trade:** Availability of free international trade is one of the most fundamental requirements of E-commerce. Especially in the countries not having open economy, Barriers exist in the way of development of international trade, and hence must be removed.
Customs and taxation: In e-commerce it is possible to transport and deliver both goods and service so long the same can be digitised, both within and across the frontier. If the products and services were such, which can be delivered online, it would be difficult to administer the custom and taxation law of any country, applicable to the goods and services.

As online commerce expands, tax collection will indeed face some serious problems. It becomes difficult to identify the buyer and seller in a given transaction-as well as the value of the transaction and its "location" then, some of the chief problems of a tax system are threatened. The problem complicates further if the payment details are encrypted.

Ethical Challenges in E-Commerce

We are all living currently in a transitional economy and given the implications of globalisation and information technologies for business and commerce. The Internet poses fundamental challenges to issues central to society, namely free speech and privacy. With the advent of e-commerce, it brings with it a host of ethical issues surrounding customer privacy. The topic of protecting individual and corporate privacy as a major ethical issue, has triggered a wave of governmental legislation and has created an entire segment of Internet industry firms whose mission is to help consumers protect sensitive and personal data on the web.
Privacy violations, pornography, transaction security breaches, unsolicited e-mail and other questionable or illegal activities being conducted on-line have become serious issues. Some see regulation as the only answer to protection from unwelcome intrusion. However, due to the universal nature of the Internet, regulation will be extremely difficult, if not impossible.52

Security and Ethical issues in E-Commerce

The tremendous growth of the Internet has triggered concerns about security and ethical issues. The popularity of electronic commerce plays an important role in existence of the following issues.

**Privacy:** It is defined as "the condition of not having undocumented personal knowledge about one possessed by others". In other words, it deals with the collection of information without one's knowledge and consent.

Consumers seem to be becoming more and more educated on issues, such as online security. In a recent poll conducted by Louis Harris & Associates dealing with e-commerce and privacy showed 79 per cent of online consumers are worried about online invasion of privacy. This highlights the lack of confidence consumers have in e-commerce. Two basic questions that many online consumers still seem unaware of is how businesses are collecting information and how are they using the collected data. The reason for this lack of knowledge is that the privacy policies established by
companies are littered with legal jargon that the average online consumer does not have
the expertise to understand.

Many individuals have perceived a lack of regulation as an opportunity to engage
in conduct that raises serious ethical questions. It is this concept of self-regulation that
affords the greatest opportunity for ethical growth. It forces Internet companies to think
about their attitudes regarding consumer privacy, to decide whether or not they will
disclose their policies, and to determine what sort of protections they put into place.
More and more web sites have risen to the challenge and have been posting privacy
policies

The alternative being a government commission that would regulate what companies
must do to protect their customers. The current method of regulation has proved less
than effective, with relatively few companies really making an effort to establish solid
privacy policies and keep consumers aware of how their information is used. Several
other companies, with privacy policies have somewhat deceptively changed them,
selling customer information to other companies. Spamming:

Spamming: It occurs when "e-mails users are flooded with unsolicited information
about products and services". Electronic junk mail or junk newsgroup postings and e-
mail advertising for some products and services are said to be the Spam.
In addition to wasting people's time with unwanted e-mail, spam also eats up a lot of network bandwidth. Consequently, there are many organizations, as well as individuals, who have taken it upon themselves to fight Spam with a variety of techniques. But because the Internet is public, there is really little that can be done to prevent Spam, just as it is impossible to prevent junk mail. However, some online services have instituted policies to prevent spammers from spamming their subscribers.

**Cybersquatters:** Occurs when a non-legitimate business entity registers familiar name of organization or celebrities as his or own domain names. Then that particular company has to pay a fee for using the Internet address. Cyberquating is the practice of registering a domain name that is the trademark of another person or company in the hopes that the owner will pay huge amounts of money to acquire the URL. In addition, successful Cyberquaters can attract many site visitors and, consequently, charge high advertising rates.

A related problem, called name changing occurs when someone registers purposely-misspelled variations of well-known domain names. Theses variants sometimes lure consumers who make typographical errors when entering URL. Name stealing occurs when someone posing as a site's administrator changes the ownership of the site's assigned domain name to another site and owner.

Registering a generic name such as wine.com is very different from registering a trademarked name in bad faith – Cyberquatting. Registering a generic name is legal
speculation that the name might one day become valuable. Disputes that arise when one person has registered a domain name that is an existing trademark or company name are settled by the World Intellectual Property Association (WIPO). The WIPO began settling domain name disputes in 1999 under its uniform domain name dispute resolution (UDNR) policy.

One common type of dispute arise when a business has trademark that is a common term, if a person obtains the domain name containing that common term, the owner of the trademark must seek resolution at the WIPO. Gordon summer, who has performed music for more than 20 years as sting, filed a complaint with the WIPO because a Georgia man obtained the domain name www.sting.com and had reportedly offered to sell it to sting for $25,000. In more than 80 per cent of its cases, the WIPO has held for the trademark name owner; however, in this case, the WIPO noted that the word “sting” was in common and general use and refused to award the domain to the performer. After the WIPO decision, the two parties came to undisclosed terms and the musician’s official site is now at www.sting.com54.

E-Commerce: Security Challenge

The advent of the electronic commerce ushered in a new period pervaded by a sense of boundless excitement and opportunities. Although it took some time, most organizations either utilize the Internet for business purposes already or intend doing so
in the very near future. Electronic commerce, also referred to as "e-commerce", has revolutionized the modern-day business world. Thanks to its concomitant technologies, new business opportunities have been created that could mean the survival or downfall of many organizations on the global economic playing-field, depending on whether they chose to seize or fail to avail themselves of these opportunities. Finally, not sheer size, but the ability rapidly to adapt itself to new circumstances will decide the fate of a business. The said new opportunities, however, come with their own set of problems. The major concern cited by most decision-makers when it comes to e-commerce is security, or rather the lack thereof. For this reason, many Internet subscribers still feel uncomfortable about the idea of trading over the Internet. To them, the possible risks to be incurred do not justify the potential rewards. Unfortunately, their fears are not completely unfounded.

Computer Security

In the early days of the Internet, electronic mail was one of its most popular uses. Despite e-mail's popularity, people have often worried that a business rival might intercept e-mail messages for competitive gain. Another fear was that their supervisors, with negative repercussions, might read employees' nonbusiness correspondence. These were significant and realistic concerns.

Today, the stakes are much higher. The consequences of a competitor having unauthorized access to messages and digital intelligence are now far more serious than
in the past. Electronic commerce, in particular, makes security a concern for all users. A typical worry of web shoppers is that their credit card numbers will be exposed to millions of people as the information travels across the Internet. A 2001 survey found that more than 90 per cent of all Internet users have at least “some concern” about the security of their credit card numbers in electronic commerce transactions. This echoes the fear shoppers have expressed for many years about credit card purchases over the phone.

Consumers are now more comfortable giving their credit card numbers and other information over the phone, but many of those same people fear providing that same information on a web site. People are concerned about personal information they provide to companies over the Internet. Increasingly, people doubt that these companies have the willingness and the ability to keep customers’ personal information confidential. This examines the board topic of computer security in the context of electronic commerce, presenting an overview of important security issues and current solutions.

Computer security is the protection of assets from unauthorized access, use alteration, or destruction. There are two general types of security: physical and logical. Physical security includes tangible protection devices, such as alarms, guards, fireproof doors, security fences, safes or vaults, and bombproof buildings. Protection of assets
using nonphysical means is called logical security. Any act or object that poses a danger to computer assets is known as a threat.

RISKS ASSOCIATED WITH E-COMMERCE

Trading over the Internet could incur both business and technology risks. Many of these risks overlap, however, with the result that they cannot be categorized as either business or purely technology risks. The figure below represents the e-commerce environment of the Internet and its concomitant business, technology and business/technology risks.

Figure No : 2.6

E-Commerce Environment of the Internet
Business risks

The business world is becoming evermore reliant on technology. Most organizations are already heavily dependent on information systems for the smooth performance of their business functions. In many cases, these systems are either isolated from the outside world or limited as to their interaction with outsiders. Each system is, however, still under the control of its organization. By opening up their doors in order to get connected and by using the Internet for business purposes, organizations become even more dependent on technology, while at the same time exerting less and less control over it.

The dizzying pace at which changes are worked in the business and technology environments, in future, organizations will not be judged by their size, but rather by how quickly they could adapt and meet new scenarios and demands. Changes need to be wrought quickly at both an organizational and a technical level for organizations to seize each opportunity. For many organizations, time-to-market will be the only measure of success.

Change, however, invariably brings with it vulnerabilities that could easily be exploited by opportunists. It is important, therefore, to minimize such vulnerabilities when a change is being brought, so that the anticipated outcome could not be affected. Information technology-related crimes are on the increase across the globe.
The statistics on Information technology-related crime clearly show a sharp increase in the number as well as in the size of these crimes. The popular media are teeming with articles and reports on cases where organizations have been defrauded through the means of technology. Even organized-crime syndicates seem to be excited about the vast potential of the Internet.

As soon as a new business opportunity has been created for organizations, criminals seem to uncover a new opportunity, too. By using information technology, criminals' risk of being caught is significantly reduced, as no physical presence is required and evidence is hard to collect. In addition to the lack of legislation in this realm and the removal of physical borders between countries, information technology-related crimes seem to have special appeal, as their perpetrators incur very little risk.

There is a serious shortage of information-security professionals in all the countries.

Most organizations acknowledge that security, be it physical or logical, is of the utmost importance. Most physical security devices, such as locks and burglar bars, have, for example, been around for many years. Physical security, however, constitutes a relatively simple discipline, as most forms of attack launched in this realm are known.

The Internet, on the other hand, presents a relatively new and unknown domain, for which security is still in its infancy. Although good progress has been made with the design and development of secure technologies, there still is a need for a
knowledgeable person to implement and maintain these technologies. At present, however, there is a serious shortage of such expert information-security professionals who could assist in securing the Internet.

Responsibility/liability for risks incurred on the Internet cannot be fixed easily on any individual/organization. No one could, therefore, lay claim to for any security related issue, which is the status quo preferred by most people anyway. This "non-ownership", however, poses a problem in that no one is assuming the responsibility of meeting the long-felt needs of the Internet community. In addition, no one is accountable for any problems that may arise on the Internet. For all practical purposes, the Internet comes with a "use at your own risk" label.

This lack of ownership means that organizations that do make use of the Internet must be prepared to take full responsibility for the consequences in doing so. When looking at the four conventional risk-management actions, namely accept, avoid, transfer, and manage, it is evident, however, that the risk is too high merely to accept, especially since billions of dollars are already being traded over the Internet. Avoiding the risks associated with such a booming business would invariably bring about lost opportunities. In most cases, it would also not be possible to transfer the risk, as there are but a few Internet commerce-insurance underwriters. The only way effectively to address these risks, therefore, is to manage them.
Technology risks

Business risks, however, are not the only risks to be considered. Internet subscribers could incur a host of technology risks. The Internet comprises a global technology used to link millions of computers and even more people. It would be impossible to try and map out the Internet in terms of hardware being used, however, as it is an ever-changing technology. The Internet, therefore, constitutes a very dynamic environment. This dynamic nature of the Internet is the very salient feature that makes it so difficult to secure. Any attempt to secure the Internet could be compared to sailing across any of our seven oceans. The sheer magnitude of an ocean makes it virtually impossible to guarantee the safe passage of any ship. In addition, many other factors influence the ocean, which are, for the most, not controllable by man. The same applies to the Internet, as organizations have no control over what happens on the Internet outside their perimeters.

The principal aim of the Internet was to assist people in sharing and disseminating information. Unfortunately, not all the information thus shared and disseminated is for the good or in the public interest. The Internet gives ready access to information and tools that could be used to attack or cause damage to other people's information. The ready access to and availability of such information and tools have led to many an Internet user being seduced by the lure of power. This also accounts for the large hacker and cracker community assembled on the Internet. Given this large base of potential attackers, the probability of being attacked is, naturally, increased manifold. Coupled
with the lure of possible rewards to be gained through such activities, the Internet has become the ideal playing field for unscrupulous individuals or groups to exploit other Internet subscribers.

The technology on which the Internet is based is rather complex in itself. It stands to reason, then, that the technology used to secure it had to be equally complex, if not more so. As ordinary subscribers often fail to grasp the finer points of the Internet and the measures to secure it, they choose either to ignore the aspect of security or incorrectly to effect these security measures. Exacerbating the problem is the fact that Internet security is, for the most part, intangible, which also precludes many subscribers from understanding it. Implementing secure technologies requires a fair amount of knowledge, skill and expertise and the incorrect implementation thereof could create even more vulnerabilities.

It is even more difficult to try and predict the kinds of attacks that an organization might be exposed to on the Internet. As the Internet technology still is a relatively new technology, not only new uses for it but also new vulnerabilities and weaknesses in it are being discovered on a daily basis. Usually, the hacker and cracker community exploits such new vulnerabilities and weaknesses very quickly. It is, therefore, impossible to think that the Internet activities of any one organization are secure at any point in time.
From the list of risks above, it becomes manifest that the Internet security concerns of most decision-makers are not unfounded.

**E-Commerce: Social Challenges**

E-Commerce systems are part of the human communication and social system. E-commerce systems enable us to send, manipulate and interpret information across global networks. Business is about getting things done through information, and through information our meanings and intentions can be brought across to the recipient to alter the state of our social world. An e-commerce system cannot be treated as a trading tool isolated from business norms. The general conception is that once the technical issues are resolved (e.g. network infrastructure, security and encryption strategy) a successful implementation of e-commerce will automatically be brought into existence. This is not the case. We need to draw together both business and the technical considerations when designing an e-commerce system.

**Social issues in E-Commerce**

Like any other information technology systems, e-commerce systems have a social role in our society and have the ability to make a social impact in our lives. For example, through the use of information technology, this article has a means of reaching you, the readers, and in some cases, causing a change in the state of your social world.
As well, e-commerce plays a part increasing use and improving computer technology that can be used by society. Electronic commerce can help the expansion of computer technology to more people. As more people begin to use e-commerce more companies will begin to take part. This will lead to better infrastructure and easier access to the Internet in order to encourage an even larger market. By expanding like this it will not only help companies make more profit, but it should make the resources of the Internet easier to more people in society. Again, as companies look better methods to expand their online-businesses new technologies may be developed. These new technologies may not only help e-commerce, but may be useful in other parts of society as well.

Emergence of specialized courses on e-commerce

As electronic commerce expands it has a greater social impact. In order for the expansion of e-commerce to occur there will be a need to improve education about the business side of e-commerce and the technical side. As rapidly as e-commerce is growing changes are inevitable and in order to deal with these changes people will have to have education available. Traditional educational institutes will have to adapt to try and provide experience for the e-commerce market and information technology in general. Also, there already been expansion of learning about e-commerce into other forms of education rather then through traditional institutes. Institutes solely based on learning information technology, including e-commerce, have been opened and in addition to this online training can also be found.
Reduction of the health care cost

The health sector of society can also be affected by the development of e-commerce. Electronic commerce applications can be developed for use by the health care systems. In some cases the use of these e-commerce sites can be help the system work more efficiently in turn be more cost effective. By reducing costs, using these methods more money can be made available to other areas of the health sector.

Creation of global community

Another aspect of society that is affected by electronic commerce is the sense of community. Consumers can now belong to a more global community by being able to buy goods from around the world, however this has its own societal effects. There is a loss of direct physical interaction between individuals. Also the sense of loyalty that can occur during traditional business can be harder to develop due to the global aspect and the lack of physical interaction of e-commerce. Companies have to deal with an entire global market and can face difficulties in maintaining a focus on specific customers to gain loyalty. There are also concerns that traditional businesses may begin to suffer significantly is electronic commerce continues to grow.

Internet security, major barrier for E-Commerce

Even though there are benefits to both consumers and businesses there are still issues limiting electronic commerce effectiveness. These issues have to deal with the
problems related to privacy. There is a general lack of trust in what is happening to customer’s information and the security of their data. Increasing consumer confidence in e-commerce is one of the biggest challenges facing this form of business. Companies have to prove they can be loyal and trustworthy to their customers. We can see the importance of these qualities by seeing that some of the most profitable e-commerce companies are those that also have traditional stores. These companies already have a strong customer base that is confident in them and helps make it easier for consumers to trust their online stores.

**Impact of e-commerce on culture and information sector**

As with other forms of business, e-commerce has impacted some industries more than others, such as the culture and information sector. Other industries, like banking, have the potential for large future growth via electronic commerce. As this growth continues this type of business has to face social, economic and privacy issues. In each of these aspects of society we can see areas that e-commerce is being successful, but there are also areas for improvement. A major area of concern is the issue of privacy. Consumers are hesitant to use online business because they often have limited guarantees about the privacy of their information. If concerns like these can be reduced, electronic commerce can play a positive role in helping improve the world of business.

Every human communication and social system has a culture, which embodies social norms. E-commerce simply employs information technology to conduct business
according to socially established business norms. These business norms were in place long before the invention of the Internet. Information technology enables these business norms to be more efficiently carried out. While the medium of conducting business changes (from paper-based to advanced computer-based, networked systems), these socially agreed to business norms do not (a failure to deliver goods at the agreed date constitutes a penalty, for example). Apart from mediating coordination and communication between companies and consumers, business norms also define the authorities and responsibilities of each participating role in the trading process.

The development of e-commerce offers a promising and innovative way for companies to trade in the ever-changing market. With the advent of advanced Information Technology (IT), companies can reach out to consumers in any part of the world. However, a mistake that most system analysts make is to perceive e-commerce systems from a purely technical point of view.

**Social aspects neglected in E-Commerce**

Any e-commerce system can be studied from two main viewpoints: the technical and the human/social. While research and work based on the technical viewpoint are advancing at an incredible rate, the human/social viewpoint has been neglected in e-commerce system design. Since a key barrier to the spread of e-commerce is security, in practice, focus is given to the technical aspects and using schemes such as password protection, secret-key encryption, fingerprinting, smart cards and firewalls. Just take a
look at the current literature on e-commerce, and you will find that most attention is technically oriented. While these technical approaches are important and provide the means for us to deal with the secure physical transmission of bits of data, they do not help us in establishing the social and business norms that companies and consumers abide to. We need to do more on the social issues if we want to obtain a truly functional e-commerce system that supports business activity.

A purely technical solution alone is not sufficient for a successful implementation of e-commerce. Business is about getting things done by manipulating information in the most effective way, not simply the most efficient way. Current practices do not tell us what and how business norms are conducted. The thorny and difficult social issues need to be understood by analysts before e-commerce systems can yield their full economic and social returns.

One of the critical steps on the path to developing a high quality e-commerce system is to understand the business norms that govern how humans work together, and to develop methods in which the meanings and intentions of the human users can be captured. After all, e-commerce systems are used for communicating our meanings and intentions to alter the state of our social world.

Without a clear definition of the business norms involved, there is no basis against which an effective e-commerce system that supports the business activities can be
developed. We now have the opportunity to shape one of the most exciting and important issues of e-commerce for this century.

E-Commerce: Managerial Issues

Electronic commerce (e-commerce) involves the automation of commercial transactions using computer and communications technologies such as the Internet and World Wide Web. It has brought about a fundamental change in the way individuals and businesses access data, information, and services without the limitations of time or distance. The numerous advantages that accompany e-commerce such as lower product promotion costs, lower transaction costs, and an expanded customer base, have prompted even the smallest businesses to deploy e-commerce web sites. However, after implementing an e-commerce site, many companies often discover that, although their business was intended to remain purely domestic, they soon receive international recognition and may even get orders for their products or services from abroad. Domestic companies frequently find that they are incapable or ill prepared for handling these global orders.

The issues involved in adapting an e-commerce site to suit an international audience are complex. The infrastructure, logistics, security, legal are the major issues to be managed by the executives apart from handling global orders in the implementation of the e-commerce. This paper highlights the issues and also attempts to offer practical solutions to manage the problems arising out of the e-commerce operations in the organizations.
Managing Domestic and Global Consumers

Consumers can now belong to a more global community by being able to buy goods from around the world, however this has its own societal effects. There is a loss of direct physical interaction between individuals. Also the sense of loyalty that can occur during traditional business can be harder to develop due to the global aspect and the lack of physical interaction of e-commerce. Companies have to deal with an entire global market and can face difficulties in maintaining a focus on specific customers to gain loyalty. There are also concerns that traditional businesses may begin to suffer significantly is electronic commerce continues to grow.

The global orders generating by the e-commerce will bring issues such as:
1) internationalization issues, the standardization of content and appearance, 2) financial issues, the acceptance of foreign payments, exchange rates, and common financial transfer schemes, 3) transportation issues, the logistics of moving products abroad together with customs, tariffs, import/export restrictions, and documentation, and 4) legal issues, national and regional laws businesses should be aware of when engaging in global e-commerce. These issues are relevant to the companies selling goods outside the country.
Managing Security

E-commerce will never be risk-free, but few companies take all the steps they should to reduce their exposure. Many are starting to protect confidential data by monitoring transactions and also writing contracts with online trading partners, which cover security.

Another safety measure is reviewing security audits that the exchange has purchased from independent accounting firms. Audits must be done by an organization independent of the organization responsible for the day-to-day implementation of security processes.

Another action taking place is by the American Express credit card. Their main goal is to ease consumer fears of online purchasing and to save consumers, large sums of money, by avoiding unauthorized sales. Their success to this goal is by having disposable credit cards. With the free Private Payments system, customers can get unique credit card numbers linked to their standing account each time they make a purchase online. They avoid transmitting their "real" numbers and can be worry free of others accessing their account. (Enos)

Here are some other measures, which are taking place:

- Electronic Data Interchange (EDI): EDI comprises the standards and services that allow companies' computers to perform electronic transactions such as purchase orders without human intervention.
• Encryption: The encoding of data such that only the desired recipients can decode it. It provides protection when transmitting sensitive data such as credit card numbers over public wires like the Internet.

• SET (secure electronic transactions): A standard for safe e-commerce developed by Visa, MasterCard and others.

• Cryptography: Cryptography has become one of the main tools for privacy, trust, access control, electronic payments, corporate security, and countless other fields. This is to prevent the decoding of certain keys, which have been entered by an individual to disclose personal information. It once upon time was only privileged to the government and highly skilled professionals, but now it is becoming available for everyone to make use of it. (Key Cryptography)

• SSL (Secure sockets layer): An early and now prevalent security and privacy mechanism for the Web.\textsuperscript{58}

Managing Infrastructure

In order to lift restrictions on access to and use of infrastructure, governments and businesses have an important role to play. Governments could encourage private sector investments through direct support, and promote research and development for the next Internet generation. Governments could also ensure the safety and reliability of information infrastructures - especially as a means of reducing transaction costs for users and suppliers. In this context, the integration of an electronic authentication system in information infrastructures is important. Ways to promote research and development
include stimulating international interconnection of electronic commerce test-beds, and expanding interoperability. Promoting equal opportunities for access should entail access to all countries, regions and all citizens and a rising of the level of computer literacy for the latter.

The private sector, on the other hand, could undertake more demonstrations of electronic commerce capabilities. Jim Tobin, Chief Executive Officer of Bell Emergis of Canada, argues that 'the time has come for the private sector to do less talking about their leader role for e-Commerce and more demonstrating'. Technology is at the point where, even with current regulatory frameworks, many e-Commerce services could be offered.

Recognizing that e-Commerce depends on liberalized communications markets, governments have a role to stimulate competition to ensure that there are no constraints on private sector investment, and that there are equal opportunities for access. Governments should experiment with policies and should work towards global uniformity.

**Managing Trust and Reliability**

The new business challenges raised by the Internet require a new approach for the development of e-Commerce. A great deal of innovation and new management rules will be fundamental for the future of electronic business. Thomas Falk, Vice-President of the Federation of Swedish Industries, clearly expressed this, saying that 'one of the major obstacles to electronic commerce is neither legal nor technical. Traditional business and
user behavior need developments for new ways of engaging in business. This is to do with the lack of trust and reliability.

Trust implies authentication, encryption, secure and reliable payment systems and protection of privacy. Initiatives like the AOL closed network are one of the possibilities to build up consumer trust. AOL guarantees their members a thirty-day money back guarantee for goods and services purchased from a supplier present on their network. A trusted third party acting as an authenticator that guarantees that the supplier you are dealing with is trustworthy could increase overall trust with users/consumers.

Secure and reliable payment systems are issues related to trust. The Secure Electronic Transaction (SET) initiative from VISA and MasterCard is a specification designed to use technology for authentication the parties involved in payment card purchases on any type of online network. SET focuses on maintaining confidentiality of information, ensuring message integrity and authentication through the use of sophisticated encryption techniques. This presents an opportunity for governments to act by legislating on digital signatures.

Logistics is another issue. Users and consumers need trustworthy logistical schemes in order to fully engage in e-Commerce. Here, too, governments and the private sector have an important role to play. Governments should ease custom clearance procedures and the private sector should think about ways to reduce delivery times.
E. - Commerce - favourable factors in India:

E-commerce is one of the most exciting economic and technology trends of recent past. It provides a new market place, more opportunities to sell and market the product with a great competitive advantage. In fact Internet has taken only 5 years to achieve a critical mass of 50 million users, which radio took 38 years to achieve, television 13 years and cable 10 years. This suggests the rapid acceptance of the Internet as a medium of connectivity and commerce.

The following are the favorable situational factors for e tailing in India\textsuperscript{60}.

\textbf{Consumer related favorable situational factors:} A higher proportion of women are entering the work force, as a result double income groups are increasing in India who do not have time to shop. The desire for increased leisure time to further self-development and creative expression requires reduced shopping time to go from store to store.

Acceptance of technically complex items such as video tape recorders, home computers, and debit cards, and Automated Teller Machines (ATM) are rapidly increasing. A large number of computers teaching institutions have come up in most of the towns and cities of India. In a shorter span of time people will become more experienced in handling them.
The popularity and curiosity among consumers of such recent nonstore innovations as pay-by-phone, special interest mail-order categories, and televised direct marketing are increasing. It will make the people psychologically prepared for new forms of shopping. The higher class and upper middle class constitute substantial market size to make nonstore retailing viable. Companies using nonstore retailing are selling the products at reduced price in comparison to store-based selling.

**Technological factor:** According to Manufacturers Association of Information Technology (MAIT) the Indian computer hardware sector has a total turnover of Rs.10,100 crores in 1999-2000. With the increased thrust in recent years, telecom network is the 15th largest in the world but its penetration is as low as 1.3 per cent as against world average of 10. If the current growth rate of 20 per cent continues for the next five years, it would mean additional 30 lakhs DoT lines alone. In addition, in case all phone licenses materialise, there will be another 200 lakh lines over 10 years. On the basis of the statistical figures relating to growth rate of PCs. Internet, telecommunication network and cable network, the future of e tailing seems to be very good.

**Governmental factor:** India is preparing feverishly to ride the information super highway. The Government of India has set before the nation its IT vision to make India a global IT super power by the year 2008. World Trade organisation has recommended for zero duty on all computer products.
**E-Commerce brand:** With an appreciation of e-commerce market dynamics and the benefits of online commerce, it is reasonable to infer that online commerce is all set to penetrate the retail commerce business in a significant manner. The projection that 24 per cent of the e-commerce market will be contributed by consumer electronic commerce by 2002 seems well on track. Electronic shopping is also known as Interactive Home Shopping (IHS) and projections of this market vary widely from $5 billion to $300 billion.

Faith in technology and brand images is the major reason attributed to the success of e tailing in the world. The success stories of e tailer like FAB MART, SUBHIKSHA have motivated many companies to setup their web sites with out any hesitation.

**Ease, Availability and Speed:** The e-store is generally designed on the "find what. you need fast" policy. Ideally a web site consists of the following divisions in e tailing.

i. Food world shop

ii. Music and Book world shop

iii. Consumer Electrical Durable Appliances (CEDA)

Food world is basically a super market. It deals with various ranges of products classified under food items and non-food items. Music and book world shop will take care of all ranges of musical needs and reading habits from East to West. Health and glow shop is a beauty shop. It offers the latest beauty care international products domestically.
Consumer electrical durable appliances offer a wide range of consumer non-durable products. Horizontal portals of many companies offer all things to all people. They offer width without depth.

**E-Commerce – Indian Scenario**

India is currently in the midst of e-commerce revolution. The arrival of the Internet followed by growth of Web based businesses is leading to E-Commerce both on B2B and B2C segments. The e-commerce trend is India is in perfect accordance with the sweeping changes taking place in the global market. There are more people connected today (around 40 million users in 2006) than the year past owing to improving PC penetration, availability of bandwidth.

Recent Internet and Mobile Association of India (IAMAI)figure clearly shows that e-commerce has come of age in this country. A study conducted by IAMAI estimates that the size of the Indian e-commerce market will touch Rs.2300 crores (around 10 per cent of the organized retail market) by 2006-2007. 95 per cent rise over the last year’s figure of Rs1, 200 crores.

**E-Commerce growth**

In 2004-2005, e-commerce was said to be at 570 crores, out of irtc.com alone accounted for 370 crores (67 per cent). The e-commerce transactions were around 1200 crores in 2005-2006. Capt.Gopinath of Deccan Airways says that their website is now the biggest e-commerce site in India. If what he claimed is true, this means that online ticketing site put together are accounting
for almost 75 per cent to 80 per cent of the market share. This obviously good for e-commerce in India but still leaves a lot more to be desired in terms of all around internet penetration.

It is possible that a significant part of the growth of the e-commerce is coming from more first time users booking tickets on the Internet. Thus once people overcome their inhibitions about purchasing tickets online, and then are likely to start using other e-commerce sites as well.

One segment, which is booming in India, is e-trading i.e. buying and selling stocks on Net. Current stock market boom has also helped in increasing penetration of net trading in India. There is going to be a phenomenal growth in this segment of the e-commerce as all stock exchanges coming online for e-trading. The day cannot be far when with RBI regulations we will be able to see stock transfer and sale over the Net.

**Successes in E-Commerce**

Major Indian sites have shifted towards e-commerce instead of depending on the advertising revenues. The web communities built around these portal sites with content have been effectively targeted to sell everything from event and movie tickets, the grocery to computers. The major in this services being rediff on the net and India plaza which started a shopping section after their highly successful content site generated WEB visitors.
The successful e-business ventures like Baba bazaar and India mart have proved that e-commerce scenario are not bad in India. The Indian banks have been very successful in adapting e-commerce and EDI technologies to provide customers with real time account status, transfer of funds between current and checking accounts, stop payment facilities. The ICICI Bank, Global Trust Bank and UTI Bank have also put their electronic banking over the Internet in place for upcoming e-commerce market.

The future of E-Commerce

What does the future hold for e-commerce? Many would say it is difficult to predict. The forces that determine the Web’s winners or losers are just taking shape and technological advances could add even more uncertainty. Experts in this field believe that the online trade India will increase exponentially in the coming years. Business to business transactions will represent the largest revenue. Online retailing will also enjoy a drastic growth. Areas expected to grow include financial services, travel, entertainment and groceries.

Those considering opening a virtual storefront, forthcoming technology and standard agreements will make it easier to create a site, to protect it against payment frauds, and to share information with the suppliers and customers. The shopping basket is continuing to diversify, and coupled with more offline players now value adding with an e-commerce offering, this will only further boost the growth of e-commerce in India.
The arrival of global players such as eBay, MSN and Yahoo, and consolidation in the Indian B2C space, has also boosted buyer confidence. Prominent Indian portals such as Rediff and Indiatimes are aggressively pushing their online shopping business, even as they focus on content. Soon, existing brick-and-mortar shopping malls too could come up with their online presence, just like their counterparts in the US did.

Table No 2.3

Products and services consumers buy through Online

<table>
<thead>
<tr>
<th>Per cent Share people buy</th>
<th>2004 – 05</th>
<th>2005 - 06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airline Tickets</td>
<td>33.15</td>
<td>33.65</td>
</tr>
<tr>
<td>Railway Tickets</td>
<td>29.10</td>
<td>24.00</td>
</tr>
<tr>
<td>Hotel Booking</td>
<td>00.5</td>
<td>0.20</td>
</tr>
<tr>
<td>Books</td>
<td>1.70</td>
<td>0.80</td>
</tr>
<tr>
<td>Magazines</td>
<td>1.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Music</td>
<td>0.40</td>
<td>1.80</td>
</tr>
<tr>
<td>Movies</td>
<td>3.10</td>
<td>3.80</td>
</tr>
<tr>
<td>Movie Tickets</td>
<td>0.05</td>
<td>0.35</td>
</tr>
<tr>
<td>Electronic Gadgets</td>
<td>8.50</td>
<td>10.10</td>
</tr>
<tr>
<td>Home Appliances</td>
<td>3.30</td>
<td>5.10</td>
</tr>
<tr>
<td>Computer &amp; Peripherals</td>
<td>1.40</td>
<td>1.90</td>
</tr>
<tr>
<td>Apparel Accessories</td>
<td>1.10</td>
<td>0.75</td>
</tr>
<tr>
<td>Apparel</td>
<td>4.40</td>
<td>3.80</td>
</tr>
<tr>
<td>Apparel Gift Certificates</td>
<td>0.20</td>
<td>0.35</td>
</tr>
<tr>
<td>Gifts</td>
<td>1.10</td>
<td>1.80</td>
</tr>
<tr>
<td>Toys</td>
<td>1.10</td>
<td>1.80</td>
</tr>
<tr>
<td>Jewellery</td>
<td>3.10</td>
<td>3.60</td>
</tr>
<tr>
<td>Beauty Products</td>
<td>0.50</td>
<td>0.80</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Health &amp; Fitness Products</td>
<td>0.65</td>
<td>0.90</td>
</tr>
<tr>
<td>Home Tools &amp; Products</td>
<td>2.80</td>
<td>1.20</td>
</tr>
<tr>
<td>Sporting Goods</td>
<td>0.15</td>
<td>0.40</td>
</tr>
</tbody>
</table>

**Source:** IAMAI Newsletter

Interestingly, a lot of Indians are spending time on the Net before they embark upon their journeys. IAMAI statistics reveal that airline and railway tickets constitute a bulky 57 per cent of the total value of online shopping revenues during 2005-06. Electronic gadgets (10.10 per cent) and home appliances (5.10) are the other two major items we buy online. Gifts, movies, apparels and jewelry are the other prominent items in the shopping list.

The most popular items on Fabmall are books, electronics and jewellery, Apparels are now picking up. Although the patterns of online shopping in India are quite similar to that in the US, a major difference is the rate of use of credit card. Credit card purchase is very high in the US, but here it is not so. We still use cheques and other modes of payment.
Table – 2.4

Growth of E-Commerce in India in the B2C segment

<table>
<thead>
<tr>
<th>Figures at a glance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2C – Rs crore</td>
</tr>
<tr>
<td>Percentage Growth</td>
</tr>
</tbody>
</table>

Source: IAMAI Newsletter

And all those purchases are not happening in the metros alone. Nor are those buying online yuppies. True to the spirit of the Internet, online shopping is happening everywhere in India.

E-Commerce in smaller towns

During 1999-2001, online sales happened more in metros and to high-income people. But now, more sales are happening to smaller cities. So if the top six cities accounted for 60-70 per cent of Fabmall’s business in 2001, today their share has shrunk to just 20 per cent. Smaller towns contribute the rest of Fabmall's sales, which is expected to be about Rs 20 crore in the current fiscal, up from Rs 11-12 crore in the previous year.

IAMAI surveys reveal that cities such as Surat, Vadodara, Coimbatore, Nasik, Varanasi, Ludhiana, Patna, Jamshedpur, Agra, Bikaner, Srinagar, Jalandhar, Ludhiana, Faridabad, Belgaum, Kottur, Kochi, Kottayam, Hosur, Pondicherry, Kharagpur,
Ankleshwar, Bharuch, Vapi, Jalgaon, Sholapur, and Bhopal are witnessing an increase in online shopping activities.

As for business volumes, Mumbai is the hot spot for e-business with a 24 per cent share in India's e-commerce. Delhi-National Capital Region (NCR) with a 19 per cent share comes second. Chennai (7 per cent), Bangalore (6 per cent) and Hyderabad (4 per cent) are the other cities where significant amounts of online buying are happening.

India is expected to be one among the top three Internet markets in the world in five years. But in order to make it to that league, a great deal of work needs to be done. Today we are at a stage where the US was 10 years ago.

### Table – 2.5

<table>
<thead>
<tr>
<th>Year</th>
<th>E-commerce transactions (In Rs. Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-1999</td>
<td>131</td>
</tr>
<tr>
<td>1999-2000</td>
<td>157</td>
</tr>
<tr>
<td>2000-2001</td>
<td>215</td>
</tr>
<tr>
<td>2001-2002</td>
<td>362</td>
</tr>
<tr>
<td>2002-2003</td>
<td>425</td>
</tr>
<tr>
<td>2003-2004</td>
<td>570</td>
</tr>
</tbody>
</table>

Source: [www.nasscom.org](http://www.nasscom.org).

According to KPMG India Pvt. Ltd\textsuperscript{62}, survey of Indian companies, the corporate mindset is getting ready for E-commerce. Only 17 per cent of the respondents felt that e-
commerce was crucial to their corporate strategy and another 41 per cent said that it formed a substantial part of their businesses. Still many companies are saying "No" to E-transactions. About 31 per cent reported transactions between 10,000 to 10 lakh numbers a year. The same percentage traded E-deals valued between Rs.1 lakh and Rs.100 lakhs; 14.5 per cent talked about transactions worth more than Rs.1 crore.

Internet advertisement is also a major potential area and it is growing rapidly. According to a Goldman Sachs investment research report that the online advertisement revenue was Rs. 6 crores in 1999 in India. It is expected that this figure would cross Rs. 15 crores in 2000. Forrester research predicts the worldwide market for online advertisements is expected to touch the Rs.50000 crores mark by the year 2005. The following Industries provide opportunity for E-business in India.
TABLE No 2.6
Industries provide opportunity for E-business in India

<table>
<thead>
<tr>
<th>High E-Commerce potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer hardware</td>
</tr>
<tr>
<td>Computer components</td>
</tr>
<tr>
<td>Computer software</td>
</tr>
<tr>
<td>Auto parts</td>
</tr>
<tr>
<td>Apparel (with brand authority)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium E-commerce potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sporting goods</td>
</tr>
<tr>
<td>Toys</td>
</tr>
<tr>
<td>Specialty stores</td>
</tr>
<tr>
<td>High cost furniture</td>
</tr>
<tr>
<td>Jewelry</td>
</tr>
<tr>
<td>White goods</td>
</tr>
<tr>
<td>Auctions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limited E-commerce potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department stores</td>
</tr>
<tr>
<td>Low cost furniture</td>
</tr>
<tr>
<td>Discount apparel</td>
</tr>
<tr>
<td>Perishable foods</td>
</tr>
<tr>
<td>Perfumeries</td>
</tr>
</tbody>
</table>

The world of E-Commerce applications:

The Internet seems to be everywhere. The explosive growth of the Internet phenomenon is arguably the single most revolutionary technology of the 1990s. It has become the largest and most important network of networks today and is fast growing into the information superhighway of the future. Unlike any other technology, it is constantly growing and expanding as more and more users, consumers and networks, join its global web. Already, there is a bewildering list of applications in use but what is remarkable is that the. Application of today may well become obsolete tomorrow or may be superseded by a far more powerful one. According to John Barr of Needham & Co "The Internet is changing other industries. It will change ours. Ultimately, the Internet will address the entire electronics design and supply chain".

The net-based operations are beginning to have an impact on our day-to-day life and it can be appreciated from the extent to which applications have multiplied. Long distance travel, both intra-country and inter-country, ticket bookings and, indeed, even seat selection in the aircraft can all be done by sitting in one’s home, thanks to local-area and wide-area networks.

Now let us see the areas where network applications are being used which would widen considering the speed at which chip-making and other semi-conductor companies are developing new products. It is only a matter of time before more and more activities are networked. For instance, not so long ago, a capacity of one gigabyte was considered quite high but now capacities of 10 Giga Bytes are common.
Networked information systems in automobiles: Automobile companies are constantly researching the possibility of installing more information systems inside the car to be of assistance to the driver. By enabling connections to the web through the cellular network and other devices the Information available on the control panel inside the vehicle is proposed to be increased manifold. Systems will equip the vehicle not only to provide information about its location, road-map of the area it is proceeding to, and traffic and weather reports, but also facilities such as net browsing, accessing and sending of e-mails and quotations of company stocks on the stock exchange are being transmitted live.

In the next couple of years, cars in the US are expected to roll out of assembly lines with all these features, and companies will even be vying with each other in providing consumers with maximum on-line facilities, all through gadgets of the size of a car radio.

E-healthcare I E-hospital: This concept is fast catching up. It not only does provide immediate access to relevant information to all concerned but also reduces paper work drastically. A network of a patient diagnostic information will be provided to all members of the network instantly for an easy physician to-specialist consultations so that diagnostic and treatment. Plan for the. Patients can start immediately, within a few hours, unlike as in the past when it used to take a very long time.
This network creates a virtual hospital environment where physicians concentrate on diagnosis and treatment. It provides even remote-control stethoscopes for patients at home so that the device can remotely read out normal diagnostic measures such as blood pressure, sugar levels, pulse rate and temperature of the patients. Some remote control stethoscopes even relay high-quality heart and lung sounds through the telephone lines enabling a real time examination of the patient by the physician. Another facility offered by the net is the medical transcription service, which is already being accessed by physicians to ensure quick, cost effective diagnosis and for monitoring their patients.

**E. Pharmaceuticals:** Before long, pharmaceutical companies may use the Internet as a common communication platform for collecting data on results of trials of their new drugs or devices. One of the major, time-consuming processes in the research and development of new drugs is the need to test the drugs on volunteers for safety and efficacy. This process, in addition to the huge cost, involves years of effort involving thousands of patients and doctors and a great deal of paperwork.

Software that enables physicians to submit information directly through the web from their clinics to the drug companies has already been developed. Indeed, one company was able to access early information and data on the trials of its new drug by using this software and thus save cost, effort and time. It was able to suspend further development of the drug in time because of its high probability of failure. This would not have been possible at such an early stage had the company adopted the conventional
process of collecting data and information through enormous paper work.

**Network factories:** The Internet links factories of a company with all its customers and its other offices and branches around the world so that up-to date information is available for any of these almost immediately. With the facility of networking the entire enterprise, companies can connect multiple systems and give management users immediate access to. Accurate and up to-date information for quick decisions. The Internet-networked enterprise is more flexible which solves the problems such as delays in manufacturing defects and enabling even the customisation. The corporate giants such as IBM and oracle have been reinventing themselves by going the e-way.

**E.Mart Network:** Scores of Internet marts have sprung up [in the US] affording an opportunity to the consumer to browse, view and order any product from a vast multitude of products of various manufacturers displayed in one place on the web site. These are similar to the physical bazaars, super markets or malls and the customer has the facility of sitting in his own home and deciding which product suits his requirements after an evaluation of alternatives available from competitive sources. This is still at a nascent stage. Besides the integrated supermarkets, there are also dedicated web sites of individual companies displaying their wares with details such as prices, ordering quantities, delivery schedules, payment terms and so on. Amul, US is doing their business through the web.
**E.advertisements:** While surfing the net, myriad product advertisements keep blinking on the screen; this is a useful way of advertising one's products as it catches the attention of consumers directly by visual contest with the screen. Internet advertising (or NETVERTISING) is another rapidly growing area of E-commerce. As against print media, here the consumer goes to the advertiser. The web advertising and marketing are generally showed towards educated, middle and high-income groups. Many newspapers, newsletters, and ad agencies are already advertising on the net. The ad revenues for web sites during April-June 1998 was US $ 422.7 million which is almost double when compared to the revenues for the same period in 1997. According to Active Media, netvertisements will be earning US $ 19 million by the year 2001.

**E-distance learning:** Companies are now increasingly resorting to web based learning to train their employees on new products, new management techniques and business skills. E Learning is the facility of learning from a remote location through the medium of the Internet, computers and multimedia technologies.

Education material-traditionally provided through the print medium-are now available in the form of video, simulations, interactions through chat sessions and slide-displays through power point which make greater impact on the trainees than the traditional media such as audio cassettes and lecture sessions.
E-encyclopedia: People often find themselves at their wit's end because of the non-availability of reference materials and other related information which they might require for special programs such as seminars and conferences, often at short notice.

There is a vast storehouse of published materials on almost any topic conceivable in various web sites, which could be located through the medium of search engines. The web sites are becoming the vehicles for a tremendous knowledge. Many of the published materials have a facility of being down loaded or printed, thus affording the flexibility of reading them through later off-line.

E.banking: Banks are increasingly marketing their services that could be used through the net. As this area is fought with risks of fraud and manipulation, adequate safe guards will have to be built in the software, operating the systems network to gain customer confidence, acceptance and popularity. While banks in the US are already touting these services to attract business, it will be quite a while before these can be carried on any meaningful scale in India.

Payment systems for E-Commerce

An important function of electronic commerce sites is the handling of payments over the Internet. Most electronic commerce involves the exchange of some form of money of goods or services.
Implementation of payment systems for electronic commerce is still evolving. Thus, a number of proposals and implementations of payment systems currently compete for dominance. Regardless of format, electronic payments are far cheaper than the mailing of paper checks. Electronic payments can be convenient for customers and can save companies money.

Today, four basic ways to pay for purchases dominate both traditional and electronic business-to-consumer commerce. Cash, checks, credit cards, and debit cards account for more than 90 per cent of all consumer payments in the United States. A small but growing percentage of consumer payments are made by electronic transfer\textsuperscript{55}. Credit cards are by far the most popular form of consumer electronic payments online. Recent surveys have found that more than 80 per cent of worldwide consumer Internet purchases are paid for with credit cards. In the United States, the proportion is about 94 per cent.

Merchants should offer their customers payment options that are safe, convenient, and widely accepted. The key is to determine which choices work the best for the company and its customers. The information in this chapter will help you make those decisions. Companies such as Payment Online, sell packages of payment processing services to Web merchants that allow those merchants to accept several different types of payments.
Payment Cards

Businesspeople often use the term payment card as a general term to describe all types of plastic cards that consumers (and some business) use to make purchase. The main categories of payment cards are credit cards, debit cards, and charge cards.

Credit cards are by far the most popular form of online payments for consumers. A credit card, such as a Visa or a MasterCard, has spending limit based on the user’s credit history; a user can pay off the entire credit card balance or pay a minimum amount each billing period. Credit card issuers charge interest on any unpaid balance.

Many consumers already have credit cards, or are at least familiar with how they work. Credit cards are widely accepted by merchants around the world and provide assurances for both the consumer and the merchant. A consumer is protected by an automatic 30-day period in which he or she can dispute an online credit card purchase. Paying for online purchases with a credit card is just as easy as in a brick-and-mortar store. Merchants that already accept credit cards in an offline store can accept them immediately for online payment because they already have a merchant credit card account. Online purchase require an extra degree of security not required in offline purchases, because a card holder is not present and cannot provide proof of identity as easily as he or she can when standing at the cash register.
A debit card looks very much like a credit card, but it works quite differently. Instead of charging purchases against a credit line, a debit card removes the amount of the sale from the cardholder’s bank account and transfers it to the seller’s bank account. Debit cards are issued by the cardholder’s bank and usually carry the name of a major credit card issuer, such as Visa or MasterCard, by agreement between the issuing bank and the credit card issuer.

A charge card, such as one from American Express or Diner’s Club, carries no spending limit, and the entire amount charged to the card is due at the end of the billing period. Charge cards do not involve lines of credit and do not accumulate interest charges. In the United States, many retailers, such as department stores and the oil companies that own gas stations, issue their own charge cards. In the rest of this chapter, the term payment card will refer to credit cards, debit cards, and charge cards.

**Merchant Accounts**

A merchant bank or acquiring bank is a bank that does business with sellers (both Internet and non–Internet) that want to accept payment cards. In other words, to process payment cards for Internet transactions, an online merchant must set up a merchant account. When the merchant’s bank collects credit cards receipts on behalf of the merchant from the payment card issuer, it credits their value to the merchant’s account.
A merchant must provide business information before the bank will provide an account through which the merchant can process payment card transactions. Typically, a new merchant must supply a business plan, details about existing bank accounts, and a business and personal credit history. The merchant bank wants to have confidence that the merchant has a good prospect of staying in business and wants to minimize its risk. An online merchant that appears disorganized is less attractive to a merchant bank than a well-organized online merchant.\footnote{67}

**Electronic Cash**

Although credit cards dominate online payments today, electronic cash shows promise for the future. Gartner Research estimates that electronic cash will be used in more than 60 per cent of all online transactions by 2009. electronic cash (also called e-cash or digital cash) is a general term that describes any value storage and exchange system created by a private(non – governmental) entity that does not use paper documents or coins and that can serve as a substitute for governmental-issued physical currency.

A significant difference between electronic cash and scrip is that electronic cash can be readily exchanged for physical can on demand. Since electronic cash is issued by private entities, there is a need for common standards among all electronic cash issuers so that another issuer can accept one issuer’s electronic cash. This need has not yet been
met. Each issuer has its own standards and electronic cash is not universally accepted, as government-issued physical currency is.

**Holding Electronic Cash: Online and Offline Cash**

Two widely accepted approaches to holding cash exist today: online storage and offline storage. Online cash storage means that the consumer does not personally possess electronic cash. Instead, a trusted third party—an online bank—is involved in all transfers of electronic cash and holds the consumer’s cash accounts. Online systems work by requiring merchants to contact the consumer’s bank to receive payment for a consumer purchase, which helps prevent fraud by confirming that the consumer’s cash is valid.

**How Electronic Cash Works**

To establish electronic cash, a consumer opens an account with an electronic cash issuer (such as a bank that issues electronic cash or a private vendor of electronic cash, such as PayPal) and presents proof of identity. The consumer can then withdraw electronic cash by accessing the issuer’s Web site and presenting proof of identity, such as a digital certificate issued by a certification authority, or a combination of a credit card number and a verifiable bank account number. After the issuer verifies the consumer’s identity, it gives the consumer a specific amount of electronic cash and deducts the same amount from the consumer’s account. In addition, the issuer might charge a small processing fee. The consumer can store the electronic cash in an electronic wallet.
(described later in this chapter) on his her computer, or on a stored-value card (also described later in this chapter). In addition, the consumer can authorize the issuer to make payments to third parties from the electronic cash account. 

**Electronics Wallets**

As consumers are becoming more enthusiastic about online shopping, they have begun to tire of repeatedly entering detailed shipping and payment information each time that they make online purchases. Research repeatedly has shown that filling out forms ranks high on online customers' lists of gripes about online shopping. That is one problem that electronic wallet technology intends to solve. The other problem electronic wallets solve is providing a secure storage place for credit card data and electronic cash. Thus, an electronic wallet (sometimes called an e-wallet), serving a function similar to a physical wallet, holds credit card numbers, electronic cash, owner identification, and owner contact information and provides that information at an electronic commerce site's checkout counter. Some electronic wallets contain an address book too.

**Electronic Cash Systems**

Electronic cash has not been nearly as successful in the United States as it has been in Europe and Japan. In the United States, most consumers have credit cards, debit cards, charge cards, and checking accounts. Theses payment alternatives work well for U.S. consumers in both online and offline transactions. In most other countries of the world, consumers overwhelmingly prefer to use cash. Since cash does not work well for
online transactions, electronic cash fills an important need in those countries as they begin conducting B2C electronic commerce. This type of need does not exist in the United States because consumers there already use payment cards for traditional commerce, and these payment cards work well for electronic commerce.

**CheckFree**

CheckFree, the largest online bill processor in the world, provides online payment processing services to both large corporations and individual Internet users.

CheckFree provides infrastructure and software that permits users to pay all their bills with online electronic checks. Demonstration of a facsimile check in the process of being constructed and paid by an online consumer. To view the demonstration, click the CheckFree link in the Online Companion and then click the "Demo" link to see a page of checkFree product demonstrations. One of the demonstrations walks you through the process of paying a bill online. CheckFree provides part of the technology that Web portal Yahoo! Uses to provide its Yahoo Bill Pay service.

**Internet Cash**

Merchants that want to provide their online customers with the option of using cash rather than credit cards to pay for purchases will want to consider Internet Cash. It provides electronic currency that is very similar to traditional cash. Customers must first purchase an Internet Cash card from a store, such as Circle K, Sunglass Hut, or any of almost 10,000 brick-and-mortar locations. Similar to prepaid phone cards, the Internet
Cash cards come in denominations of $10, $20, $50, and $100. After purchasing a card, customers go online and active their cards by entering a 20-digit activation code found on the back of the card and creating a personal identification number. A personal identification number, or PIN, is a random series of digits chosen by the customer that serves as a password. Internet Cash activation display.

**PayPal**

PayPal is the popular electronic cash payment system that you read about in the opening case of this chapter. PayPal provides payment processing services to businesses and to individuals. PayPal earns a profit on the float, which is money that is deposited in PayPal accounts and not used immediately. After two years in business PayPal began charging a transaction fee to businesses that use the service to collect payments. Individuals who use PayPal to send money to other individuals do not pay a transaction fee. The free payment clearing service that PayPal provides to individuals is called a peer-to-peer (P2P) payments system because the payments are from one type of entity to another of the same type.

**Smart Cards**

A smart card is a stored-value card that is a plastic card with an embedded microchip that can store information. Credit, debit, and charge cards currently store limited information on a magnetic strip. A smart card can store about 100 times the amount of information that a magnetic strip plastic card can store. A smart can hold
private user data, such as financial facts, encryption keys, account information, credit card numbers, health insurance information, medical records, and so on.

Smart cards are safer than conventional credit cards because the information stored on a smart card is encrypted. For example, conventional credit cards show your account number on the face of the card and your signature on the back. The card number and a forged signature are all that a thief needs to purchase items and charge them against your card. With a smart card, credit theft is much more difficult because the key to unlock the encrypted information is a PIN; there is no visible number on the card that a thief can identify, nor is there a physical signature on the card that a thief can see and use as an example for a forgery.

Mondex is a smart card that holds and dispenses electronic cash. As it gains acceptance on the Internet and in the general marketplace, the Mondex smart card will allow other applications to reside on its microchip. The Mondex card was introduced in 1990 and is now a part of MasterCard International. Mondex's Hong Kong pilot program took place in 1996 and was the main force behind the general acceptance of smart cards in Hong Kong. The Mondex card gave people in Hong Kong, who traditionally have used cash, a new and appealing way to make payments on the Internet and in the physical world. Trails of the Mondex card have not been successful in the United States and Canada.
because consumers there already have payment methods that work for them, such as credit cards, debit cards, and Payment systems for E-Commerce

An important function of electronic commerce sites is the handling of payments over the Internet. Most electronic commerce involves the exchange of some form of money of goods or services.

Implementation of payment systems for electronic commerce is still evolving. Thus, a number of proposals and implementations of payment systems currently compete for dominance. Regardless of format, electronic payments are far cheaper than the mailing of paper checks. Electronic payments can be convenient for customers and can save companies money.

Today, four basic ways to pay for purchases dominate both traditional and electronic business- to-consumer commerce. Cash, checks, credit cards, and debit cards account for more than 90 per cent of all consumer payments in the United States. A small but growing percentage of consumer payments are made by electronic transfer. Credit cards are by far the most popular form of consumer electronic payments online. Recent surveys have found that more than 80 per cent of worldwide consumer Internet purchases are paid for with credit cards. In the United States, the proportion is about 94 per cent.
Merchants should offer their customers payment options that are safe, convenient, and widely accepted. The key is to determine which choices work the best for the company and its customers. The information in this chapter will help you make those decisions. Companies such as Payment Online, sell packages of payment processing services to Web merchants that allow those merchants to accept several different types of payments.

PAYMENT CARDS

Businesspeople often use the term payment card as a general term to describe all types of plastic cards that consumers (and some business) use to make purchase. The main categories of payment cards are credit cards, debit cards, and charge cards.

Credit cards are by far the most popular form of online payments for consumers. A credit card, such as a Visa or a MasterCard, has spending limit based on the user's credit history; a user can pay off the entire credit card balance or pay a minimum amount each billing period. Credit card issuers charge interest on any unpaid balance. Many consumers already have credit cards, or are at least familiar with how they work. Credit cards are widely accepted by merchants around the world and provide assurances for both the consumer and the merchant. A consumer is protected by an automatic 30-day period in which he or she can dispute an online credit card purchase. Paying for online purchases with a credit card is just as easy as in a brick-and-mortar store. Merchants that already accept credit cards in an offline store can accept them immediately for online payment
because they already have a merchant credit card account. Online purchase require an extra degree of security not required in offline purchases, because a card holder is not present and cannot provide proof of identity as easily as he or she can when standing at the cash register.

A debit card looks very much like a credit card, but it works quite differently. Instead of charging purchases against a credit line, a debit card removes the amount of the sale from the cardholder’s bank account and transfers it to the seller’s bank account. Debit cards are issued by the cardholder’s bank and usually carry the name of a major credit card issuer, such as Visa or MasterCard, by agreement between the issuing bank and the credit card issuer. A charge card, such as one from American Express or Diner’s Club, carries no spending limit, and the entire amount charged to the card is due at the end of the billing period. Charge cards do not involve lines of credit and do not accumulate interest charges. In the United States, many retailers, such as department stores and the oil companies that own gas stations, issue their own charge cards. In the rest of this chapter, the term payment card will refer to credit cards, debit cards, and charge cards.
FOOT NOTES


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