DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Govt College of Engineering Kalahandi

Cyber Law & Ethics

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Prepared By
Dr. Soumya Das
Asst Prof Dept of CSE

Cyber Laws and Ethics

UNIT - 4

Electronic Business and legal issues

Outline....

- Evolution and development in E-commerce
- Paper vs Paper less contracts E-Commerce models
  - B2B
  - B2C
- E security
- Taxation
- Electronic Payments
- Supply Chain
- EDI
- E-markets
- Emerging Trends

Introduction of E-commerce

- Advances in communication technologies within the last decade of the twentieth century paved the way for innovations, promoting rapid globalization.
- Electronic commercial transactions over the Internet, known as "e-commerce," have grown rapidly over the last five years that many experts continue to underestimate its growth and development.
- Whether retail business-to-customer or business-to-business transactions, e-commerce is now a significant part of commercial transactions.
- In turn, policy makers in the world are likely to face increasingly complex issues of security, privacy, taxation, infrastructure development and other issues related.

Introduction of E-commerce

- Taking into account that business -is any activity, including a one-time nature, aimed at making profit, e-commerce should be viewed as a form of business, realizing a large extent through the introduction into the business processes of information and telecommunication technologies and systems.
- Commerce -a type of business activities related to trade and organizational operations, aimed at implementing the process of buying and selling goods and services for profit.
- Points of sale (merchant account) on the Internet are online shops and online auctions. Often the sale of goods and services the company arranges for a site without creating a separate store .Among the models of e-commerce there are the following:

Introduction of E-commerce

- 1)B2B(Business to Business), 2) B2C(Business to Consumer), 3) B2G (Business to Government), 4) B2A(Business to Administration), 5) C2C(Consumer to Consumer), 6) G2B(Government to Business)'7) A2B(Administration to Business), Model of e-commerce B2B and B2C is the fundamental, since they provide the bulk of transactions on theInternet.
- B2B (Business to Business) -as a seller and buyer services are commercial organizations. This group includes electronic markets and intra-organizational systems in which the Internet is used for interaction between departments of one enterprise. Most of all committed transactions now account for just this model.
- B2C (Business to Consumer) -the seller of goods or services is a commercial enterprise and the consumer -the individual.

Evolution in E-commerce

- The evolution of e-commerce can be attributed to a combination of developmental and technological innovation. Though Internet (which played an important role in the evolution) appeared in the late 1960s, e-commerce now took off with the arrival of the World Wide Web and browsers in the 1990s.
- E-Commerce was first developed in the early 1970s with innovations like: electronic funds transfer(EFT) -funds can be routed electronically from one organization to another.
- Electronic data interchange(EDI) –used to electronically transfer routine documents, which expanded electronic transfers from financial transactions to other types of transaction processing.

Evolution in E-commerce

- Inter-organizational system(IOS) –a system which allows the flow of information to be automated between organizations in order to reach a desired supply-chain management system, which enables the development of competitive organizations.
- Below are years of which important historical events in the evolution of e-commerce:
- 1984: EDI, or electronic data interchange, was standardized through ASC X12. This guaranteed that companies would be able to complete transactions with one another reliably.
- 1992: CompuServe offers online retail products to its customers. This gives people the first chance to buy things off their computer.

Evolution in E-commerce

- 1994: Netscape arrived. Providing users a simple browser to surf the Internet and a safe online transaction technology called Secure Sockets Layer.
- 1995: Two of the biggest names in e-commerce are launched: Amazon.com and eBay.com.
- 199: DSL, or Digital Subscriber Line, provides fast, always-on Internet service to subscribers across California. This prompts people to spend more time, and money, online.
- 1999: Retail spending over the Internet reaches $20 billion, according to Business.com.
- 2000: The U.S government extended the moratorium on Internet taxes until at least 2005

Development in E-commerce

- (1993) Creating DavidChaum, head of the cryptography department CWI, electronic money. It was a system of eCash, the principle of which is incorporated in most existing electronic payment systems today.
- ECash idea was that it kept cash, in fact, on the hard disk of a personal computer, and for its management and transactions had to be special software and an Internet connection.
- (1994)The U.S. implemented the first purchase through the Internet using technology eCash (the operator is a company organized Chaumom DigiCash, which subsequently went bankrupt for various reasons).
- The emergence of the first Russian payment system "Golden Crown"

Development in E-commerce

- (1995) Creation of the first concurrency microprocessor cards for small purchases (Belgian company Proton) Mondex payment system developed world's first electronic wallet.
- (1996) Developed regulations and standards in the market of electronic payments, as well as information security.
- That's how they saw the light uniform requirements for the manufacturing technology of microprocessor cards (EMV) and a special protocol for electronic transactions, called SET.
- It is worth noting however that the latter, despite the promise, for several reasons, are not widespread, but nonetheless used in a number of solutions.

Development in E-commerce

- (1997) Creation of the first Russian electronic payment system CyberPlat.
- (1998) In March, the first transaction was carried out in the CyberPlat, and in August of the same year, the first payment was made via the Internet for the benefit of the operator of Beeline.

Paper vs Paper Less Contracts

Paper vs Paper Less Contracts

- With the increase in new avenues of digital transformation, the need for paperless processes has become even more significant. Instead of creating, printing, and sending paper documents across, many businesses are switching to its digital counterparts.
- **What's the Reason?**
- Paper-based processes bring major dropdown in the workflow that costs many businesses in terms of money and productivity. One such process that causes a delay in closing deals and turns out to be a hurdle in business growth is Contract Management carried out in a traditional way, i.e. based on paper.
- Those who are aware of the limitations in carrying out contract management processes in a traditional way have already switched to the alternative to traditional hard-copy contracts.

Paper vs Paper Less Contracts

- Those who are not, lie in the group of people who are still skeptical of deciding to go with electronic contracts. So, for those, we are here with some differences between electronic contracts and traditional contracts with the hope to give much clarity on this part. So, let's discuss them one by one.

Paper vs Paper Less Contracts

- **Traditional contracts are time consuming whereas Electronic contracts are not**
- In the business world, negotiation in contracts is a major step that requires countless modifications.
- The print sign scan routine takes up a lot of time to handle it. Having face to face meetings is another drawback as a lot of unmatched time is consumed by both parties.
- This is not the case with electronic documents; handling negotiations are much easier when you go digital.
- Contracting parties can receive, view, and sign the contracts anywhere and anytime.

Paper vs Paper Less Contracts

- **Electronic contracts involve fewer errors than traditional contracts**
- Carrying out contractual processes traditionally might leave either party with discrepancies as there are more chances of errors or manipulation.
- This leads to legal disputes and other situations in which one or both parties have no legal leverage.
- On the other hand, electronic contracts are completely automated, which means there are fewer chances of typographical errors, and one can easily track the manipulations if any.

Paper vs Paper Less Contracts

- **Electronic contracts save you on unnecessary operational costs**
- The implementation of the contractual process involves manual time and efforts along with the material such as paper, printing, etc.
- That adds to the transactional cost of a contract. This additional cost disappears instantly when you switch to electronic contracts.

Paper vs Paper Less Contracts

- **Electronic documents are more secure than traditional contracts**
- As discussed above, traditional contracts have more chances of manipulation and electronic documents are more secure.
- At MSB Docs, carrying out document transactions is completely secure as all data is saved in the platform's tamper-proof cloud storage.
- Any iterations can be easily figured out by referring to the Audit trail attached with each document.

Paper vs Paper Less Contracts

- **Electronic contracts are legally binding**
- This is the main reason why there are people who don't want to switch to electronic contracts.
- But the good news is that you don't have to worry about it anymore! Electronic contracts are legally binding documents between two contracting parties within the common law. Contracting parties can sign the documents without compromising their privacy.

Paper vs Paper Less Contracts

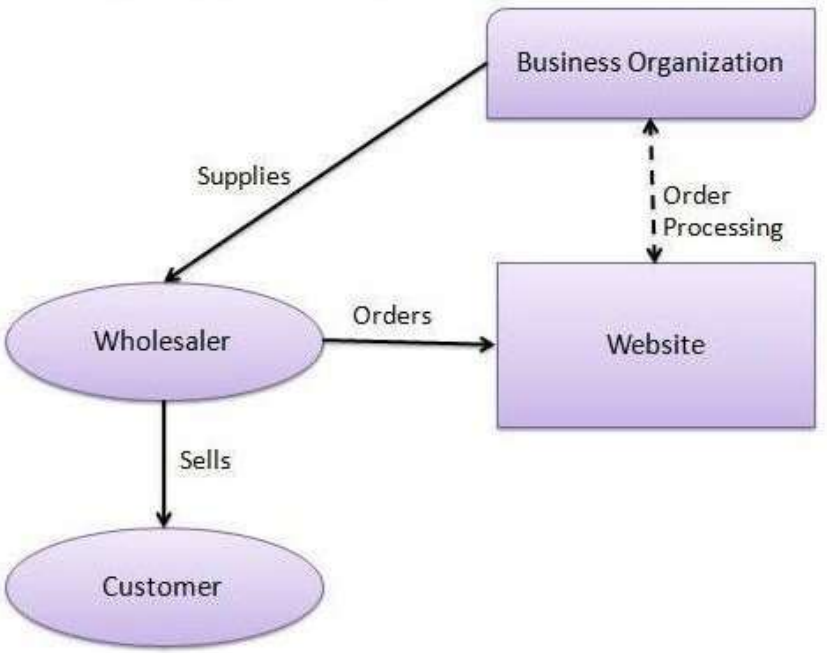
- **Electronic contracts let you easily track, and find data than traditional contracts**
- Since everything is stored on the cloud, there is no chance of losing data. MSB Docs also offers a smart categorization of documents so that one can track and find data easily.
- On the other hand, traditional contracts require physical storage, which is not as reliable as its digital alternative.

E-Commerce model

- E-commerce is also known as electronic commerce or internet commerce. Transaction of money, funds, and data are also considered as E-commerce.
- These business transactions can be done in four ways: Business to Business (B2B), Business to Customer (B2C), Customer to Customer (C2C), Customer to Business (C2B).
- E-Commerce or Electronic Commerce means buying and selling of goods, products, or services over the internet. E-commerce is also known as electronic commerce or internet commerce.
- These services provided online over the internet network. Transaction of money, funds, and data are also considered as E-commerce.
- The standard definition of E-commerce is a commercial transaction which is happened over the internet.
- Online stores like Amazon, Flipkart, Shopify, Myntra, Ebay, Quikr, Olx are examples of E-commerce websites. By 2020, global retail e-commerce can reach up to $27 Trillion.

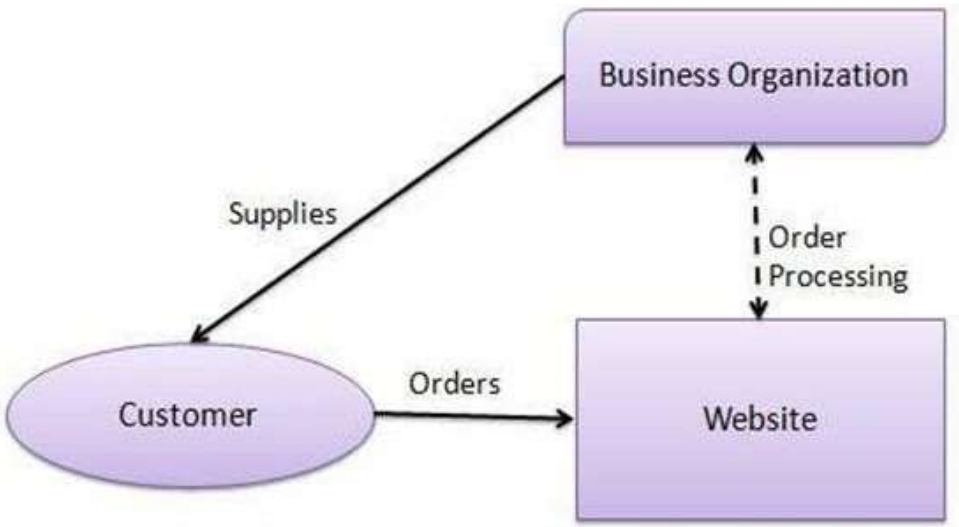
Business - to - Business (B2B)

- A website following the B2B business model sells its products to an intermediate buyer who then sells the product to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, sells the end product to the final customer who comes to buy the product at one of its retail outlets.



Business - to - Consumer (B2C)

- A website following the B2C business model sells its products directly to a customer. A customer can view the products shown on the website. The customer can choose a product and order the same. The website will then send a notification to the business organization via email and the organization will dispatch the product/goods to the customer.



E-security

- eCommerce security is the guidelines that ensure safe transaction through the internet. It consists of protocols that safeguard people who engage in online selling and buying of goods and services. You need to gain your customers' trust by putting in place eCommerce security basics. Such basics include:

- Privacy
- Integrity
- Authentication
- Non-repudiation

E-security (Privacy)

- Privacy includes preventing any activity that will lead to the sharing of customers' data with unauthorized third parties.
- Apart from the online seller that a customer has chosen, no one else should access their personal information and account details.
- A breach of confidentiality occurs when sellers let others have access to such information.
- An online business should put in place at least a necessary minimum of anti-virus, firewall, encryption, and other data protection. It will go a long way in protecting credit card and bank details of clients.

E-security (Integrity)

- Integrity is another crucial concept of eCommerce Security.
- It means ensuring that any information that customers have shared online remains unaltered.
- The principle states that the online business is utilizing the customers' information as given, without changing anything.
- Altering any part of the data causes the buyer to lose confidence in the security and integrity of the online enterprise.

E-security (Authentication)

- The principle of authentication in eCommerce security requires that both the seller and the buyer should be real. They should be who they say they are.
- The business should prove that it is real, deals with genuine items or services, and delivers what it promises.
- The clients should also give their proof of identity to make the seller feel secure about the online transactions. It is possible to ensure authentication and identification.
- If you are unable to do so, hiring an expert will help a lot. Among the standard solutions include client logins information and credit card PINs.

E-security (Non-repudiation)

- Repudiation means denial. Therefore, Non-repudiation is a legal principle that instructs players not to deny their actions in a transaction.
- The business and the buyer should follow through on the transaction part that they initiated.
- eCommerce can feel less safe since it occurs in cyberspace with no live video. Non-repudiation gives eCommerce security another layer.
- It confirms that the communication that occurred between the two players indeed reached the recipients.
- Therefore, a party in that particular transaction cannot deny a signature, email, or a purchase.

Taxation

- Taxation is the means by which a government or the taxing authority imposes or levies a tax on its citizens and business entities. From income tax to goods and services tax (GST), taxation applies to all levels.
- The Central and State government plays a significant role in determining the taxes in India. To streamline the process of taxation and ensure transparency in the country, the state and central governments have undertaken various policy reforms over the last few years. One such change was the Goods and Services Tax (GST) which eased the tax regime on the sale and deliverance of goods and services in the country.

Taxation

- E-taxation in cyberspace is one of the major issues in cyber law. As a result of increased globalization and integration among different countries, consumers of different classes of products ranging from books to apparel, are spreading beyond the boundaries of the countries where the service is being provided.
- There is lack of clarity on e-taxation and a number of issues exist which need to be clarified. The solution to the lack of clarity on e-taxation is not to limit or prohibit e-commerce transactions, as it would portray the government which isn't open to new forms of business.
- Spreading of business through the e-commerce route is inevitable, and the only solution is to bring out a set of standards so that there is clarity on e-taxation.

Taxation

- There exist certain issues in regard to e-taxation such as finding out the point of commencement and end of a transaction, the entire transaction being completed without being confined to boundaries or limits, identification of a permanent establishment for taxation of the product or service supplier.
- The overall aim of e-taxation is to replace cumbersome manual, bureaucratic, service systems with collaborative, efficient, process driven, secure online delivery.
- The fundamental principle in taxation is that when a resident of one country earns income from economic transactions in another country, both countries have a right to tax the same income.

Taxation

- The home country has the right to tax the income on the basis of residence rule and the host country has the right to tax the income on the basis of source rule of taxation.
- Because of lack of tangibility to the conduct of the business and lack of confinement of the entire transaction within a limited territory, there is difficulty in applying traditional principles of taxation based on residence and the source of income.
- Important determinants of taxation such as location of business, place of delivery of goods and services of the business, are some of the important issues which need to be determined in cases of e-taxation.

Taxation

- In e-taxation, the main problem which arises is that it is difficult to determine the location of production of goods and services, the area where the sale of such product or service is provided and therefore concepts of permanent residence, product classification, etc are difficult to apply.
- **Issues with respect to e-taxation**
- Taxation of e-commerce transactions
- The Goods v Services distinction
- Business connection
- Characterization of income
- Identification of value of e-commerce transaction
- Identification of parties
- Validity of contract

Electronic Payments

- An e-payment system is a way of making transactions or paying for goods and services through an electronic medium, without the use of checks or cash. It's also called an electronic payment system or online payment system.
- The electronic payment system has grown increasingly over the last decades due to the growing spread of internet-based banking and shopping. As the world advances more with technology development, we can see the rise of electronic payment systems and payment processing devices.
- As these increase, improve, and provide ever more secure online payment transactions the percentage of check and cash transactions will decrease.

Electronic Payment Methods

- One of the most popular payment forms online are credit and debit cards. Besides them, there are also alternative payment methods, such as bank transfers, electronic wallets, smart cards or bitcoin wallet (bitcoin is the most popular cryptocurrency).
- E-payment methods could be classified into two areas, credit payment systems and cash payment systems.
- Credit Payment System
- Credit Card — A form of the e-payment system which requires the use of the card issued by a financial institute to the cardholder for making payments online or through an electronic device, without the use of cash.

Electronic Payment Methods

- E-wallet — A form of prepaid account that stores user's financial data, like debit and credit card information to make an online transaction easier.
- Smart card — A plastic card with a microprocessor that can be loaded with funds to make transactions; also known as a chip card.
- Cash Payment System
- Direct debit — A financial transaction in which the account holder instructs the bank to collect a specific amount of money from his account electronically to pay for goods or services.
- E-check — A digital version of an old paper check. It's an electronic transfer of money from a bank account, usually checking account, without the use of the paper check.

Electronic Payment Methods

- E-cash is a form of an electronic payment system, where a certain amount of money is stored on a client's device and made accessible for online transactions.
- Stored-value card — A card with a certain amount of money that can be used to perform the transaction in the issuer store. A typical example of stored-value cards are gift cards.

Supply Chain

- Supply Chain Management (SCM) is a range of activities needed to plan, coordinate, schedule and control the procurement, production, and deliveries of products to customers.
- SCM is the backbone of eCommerce and is a very crucial component in its growth. Supply Chain Efficiency ensures the right product reaches the right place at the right time. It ensures cost reduction and enhancement of cash utilization.
- It is an expansive and complex undertaking which ensures that each partner i.e. from suppliers to manufacturers and beyond perform well.

Supply Chain

- Why you need an effective ecommerce supply chain strategy?
- There are three key reasons why you need an effective ecommerce supply chain strategy:
- To ensure stock availability & high service levels
- To encourage positive customer reviews and brand reputation
- To deliver cost efficiencies which support profitability

Supply Chain

Supply Chain Strategies

1. Make the inbound Supply Chain more efficient
2. Lower shipping cost and delivery time
3. Increase capacity of the existing warehouse
4. Increase paperwork accuracy and decrease processing time
5. Manage labor more effectively
6. Increase the number of picked orders per day
7. Use current warehouse space more efficiently
8. Reduce outbound shipping costs
9. Use of third party logistics versus internal fulfillment
10. Select and implement a new information systems

EDI

- EDI, or Electronic Data Interchange, is a technology that helps trading partners and organizations get more done, speed up logistics timelines and eliminate manual errors by automating business-to-business (B2B) communications.
- EDI helps many organizations that produce, ship, purchase and sell goods or provide care, from retailers and manufacturers to logistics firms, airlines, healthcare providers, insurers and more.
- Though it's been in use since the 1960s, EDI is finding new use today, enabling supply chain automation, digital transformation and even as a key part of workflow and business process automation.

EDI

- What is EDI?
- Electronic Data Interchange (EDI) is the automated, computer-to-computer exchange of standard electronic business documents between business partners over a secure, standardized connection.
- Let's break down this EDI definition, piece by piece, to give you a full sense of what EDI is and means.
- Computer-to-Computer
- EDI replaces manual B2B communications, such as postal mail, fax and email.
- Documents flow directly from the sender's computer application (e.g. a logistics system) to the receiver's computer application (e.g., an order management system).

EDI

- **Traditional Manual Process**

- **Automated EDI Process**

EDI

- Business Documents
- 1000s of standard business transaction documents can be sent automatically using EDI.
- Some common examples include: purchase orders, invoices, shipping statuses, customs information, inventory documents and payment confirmations.

EDI PO

PURCHASING SYSTEM PO

EDI

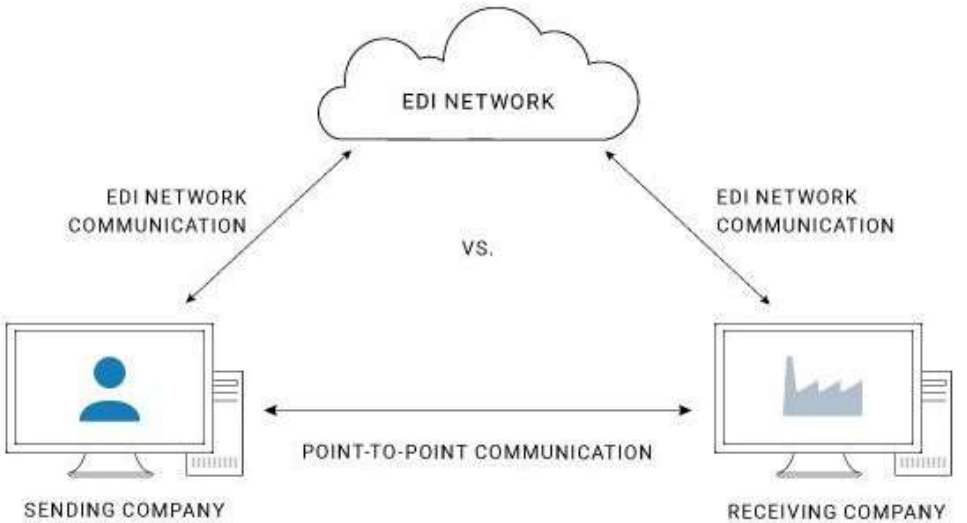
- Automation
- EDI messages can be sent automatically using pre-configured workflows.
- Businesses typically use EDI translators - either as software or via an EDI service provider - to translate EDI documents for use in internal applications, enabling automated processing.
- Processes can be extended to work with data integration and workflows within an organization.
- Example: once a company receives an EDI Purchase Order, the logistics system generates a task for warehouse staff to move goods from inventory to shipping.

EDI

- EDI process:
- The buyer's procurement system, which uses EDI, auto-generates and sends an EDI-formatted PO when inventory reaches a pre-specified level.
- In minutes the vendor's sales order system, using EDI software, receives the EDI PO.
- The supplier's system automatically notifies their shipping department to send goods.
- Once the goods are packed and ready to ship, the shipping system generates an Advanced Ship Notices (ASN) to send to the buyer's receiving department.
- The vendor's ERP system then generates an EDI invoice to transmit to the buyer's accounts payable system.

Benefits of EDI

- Faster Processing
- Lower Costs
- More Accuracy, Fewer Errors
- Better Relationships
- Strategic Benefits
- Environmental Benefits



E-markets

- Electronic markets are markets connected through modern communications networks and powered by high-speed computers. In an electronic marketplace, buyers and sellers do not have to be in the same physical location in order to interact.
- A classic example of electronic markets is the Nasdaq stock market. Nasdaq was launched in the 1970s, long before the widespread use of the Internet, and it does not have an exchange floor.
- Essentially, Nasdaq is a huge electronic network connecting investors, brokers, and dealers, allowing various parties to exchange information and buy and sell securities.
- The World Wide Web has become the universal interface for electronic markets.

E-markets

- People can use the web to access various electronic markets virtually from anywhere at any time. Ordinary investors can use the Internet to conduct online trading through online brokerage firms, and customers can bid for various products at online auction houses such as eBay.
- Consider the development of electronic markets in the financial world. In just a few years, online trading has fundamentally changed the dynamics of investment.
- Before the advent of web-based technologies, an investor who wanted to place an order with a broker had to either walk to the local office of the broker or call by phone.
- Then, some time later, a second call was necessary to get a confirmation of the transaction.

E-markets

- As of 2002, a growing number of brokerage firms offer Internet-based services that contrast sharply with the traditional scenario. Online investors can log onto the web site of the brokerage firm using a web browser.
- The following are some of the typical functions of the online trading application offered by most online brokers to investors:
- Place buy and sell orders and receive electronic confirmations as soon as the order is executed.
- Check account balances.
- Receive real-time price updates.
- View historic account activities.
- Track the portfolio performance on a real-time basis.

Emerging Trends

- Traditional or brick-and-mortar businesses are primarily product-centric, usually competing on the basis of product differentiation and innovation. In contrast, e-businesses focus on customers and adopt a customer-centric approach.
- In the traditional way of doing business, companies manufactured products and customers purchased them. But now customers are active participants in the product design process; in fact, they often dictate terms to manufacturers and decide the features of products.
- Emerging e-business and mobile technologies and the greater availability of broadband telecommunications have catalyzed their transformation into e-enabled organizations.

Emerging Trends

- E-business has helped expand industries and telecommunications enabling small-scale businesses to flourish and spread internationally.
- This new form of interaction has brought along many new trends, a few of which are given below:
- Consumer Trends:
- Increase Speed of Service
- Customer Count speed of service
- Customer Hate Delays, Time is money
- Why does delay occur?
- What does this trend means to E-business?

Emerging Trends

- Empower your customer
- Self service changing the concept of intermediary.
- Configuration of Pc's, travel and real estate
- Provide Integrated Solutions, not Piecemeal
- Product sell solution
- Integration of Products
- One Stop Shopping
- Consumers don't need another retailer or another electronic distribution channel; they need integrated solutions businesses that solve their one stop problems.

Emerging Trends

- Provide Flexible Fulfillment Convenient Service Delivery
- Unique product demands
- Home delivery and other services
- Delivering right products to consumers
- E-commerce enabled supply chain management, implementation of software, making time, inventory wastage minimum.
- Enterprise Technology Trends Enterprise application help the companies connect different systems, provide greater access to information and more closely link employees, partners and customers