

E-marketing (Mrkt 325)

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Unit One: Overview of E-Commerce

Learning Objectives:

Upon completing this unit, you should be able to

- Describe the basic concepts of e-commerce
- Understand the scope of e-commerce
- Explain the advantages and disadvantages of e-commerce
- Describe the elements of e-commerce
- Explain the marketing implication of internet properties
- Explain the 6Cs of internet

1.1 The Meaning and The Scope of E-Commerce

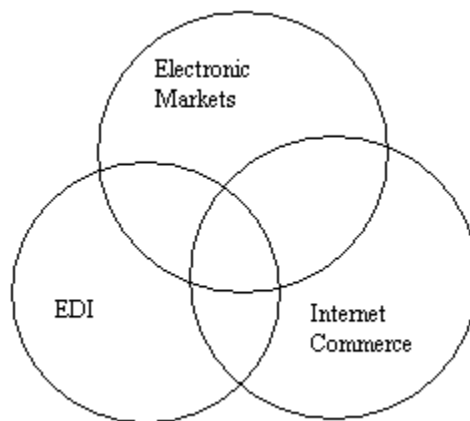
The meaning of e-Commerce

E-Commerce can be defined as using the power online networks, computer communications and digital interactive media to reach your marketing objectives. E-commerce will not replace traditional forms of marketing anyway. Instead, it will both add to and subtract from today's marketing mix. It will add more interactivity. But it will subtract costs. It will add more customer choices. But it will remove marketing's dependence on paper. It will add "information value" to products and services. But it will take away barriers to starting a business or extending a business into international markets. And most importantly, it will turn upside down some old notions we have held of what marketing is all about.

The Scope of E-commerce

The scope of e-commerce is vast. But, all activities in the internet are important for company and end users. Electronic commerce or e-commerce is a term popularized by the advent of commercial services on the internet. Internet-commerce is however, only one part of the overall sphere of e-commerce. The commercial use of the Internet is perhaps typified by once-off sales to consumers. Other types of transactions use other technologies.

Electronic Markets (EMs) are in use in a number of trade segments with an emphasis on search facilities, and Electronic Data Interchange (EDI) for regular and standardized transactions between organizations. The mainstream of e-Commerce consists of these three areas; these are represented as a diagram in Figure 1.1 and outlined in a little more detail below.



Internet Commerce: Internet Commerce is the use of the Internet for all phases of creating and completing business transactions. The Internet provides an opportunity to create markets, and serve customers in ways hitherto unimaginable. A couple of years ago many viewed electronic commerce as simply trading using online networks and EDI (Electronic Data Interchange). For them, the Internet was "totally irrelevant and unsuitable for electronic commerce". Their views have changed! Many large companies and retailers are now flocking to the Internet.

Electronic Market (E-Market): Electronic markets are the foundation of electronic commerce. They potentially integrate advertising, product ordering, delivery of digitizable products, and payment systems. An electronic marketplace (or electronic market system) is an interorganizational information system that allows the participating buyers and sellers to exchange information about prices and product offerings. The firm operating the system is referred to as the intermediary, which may be a market participant - a buyer or seller, an independent third party, or a multi-firm consortium.

E-markets provide an electronic, or on-line, method to facilitate transactions between buyers and sellers that potentially provides support for all of the steps in the entire order fulfillment process. The business process model from a consumer's perspective consists of activities that can be grouped into three phases: pre-purchase determination, purchase consummation, and post-purchase interaction.

Electronic Data Interchange (EDI): Transmission of business transactions from one company's computer to another company's computer. It is the exchange of information from one company to another using a computer network, such as the Internet. Companies that participate in EDI are referred to as trading partners. Trading partners may be involved in on-line banking, on-line retailing, and electronic funds transfer. There are paperless transactions in an electronic format. Electronic data interchange involves computer-to-computer exchanges of invoices, orders, and other business documents and therefore effects cost savings and improves efficiency because it minimizes the errors that can occur if the same information has to be typed into computers more than once. At the same time, EDI provides an easily accessible mechanism for companies to buy, sell, and trade information. In the business-to-business market, major corporations have embraced EDI systems, and in order to reduce costs

and improve efficiency and competitiveness, many corporate giants are now demanding that their suppliers convert their sales and purchasing operations into EDI systems as well. In the retail market, the use of EDI systems allows the retailer to implement quick response strategies that can reduce the time they must hold merchandise in inventory, which can result in substantial cost savings for the retailer.

1.2 Advantages and Disadvantages of E-commerce

Advantages of E-commerce

Some of the advantage of e-commerce can be listed in the following manner:

- A. E-commerce offers bottom-line benefits that tie in directly to the demands placed on the organization trying to make a transition into the new economy.
- B. E-commerce can save money and help you stretch your marketing budget. Electronic versions of catalogs, brochures, and specification sheets do not have to be printed, packaged, stored, or shipped. These can be updated online, and hence, you need not have to send them back to the printer for changes. This saves a lot of money.
- C. E-commerce can save time and cut steps from the marketing process. Marketers no longer have to wait for one of their sales representatives to give them the desired information. They can get it online on their own. E-mail allows you to exchange information with potential buyers quickly. It helps you get your message out to the market sooner, with online brochures, catalogues and so on.
- D. E-commerce gives customers another way to buy, while enabling them to take control of the purchasing process. Today, customers want more. They want more information about the products they buy, more input into the product itself, and support after the sale. Smart marketers can leverage the inherent interactivity of online communications by encouraging the customer to get engaged in

making decisions about the product. They can choose the color, select the shipping method, and place the purchase order themselves. The more you can get the customer involved in the process of customizing the product and the selling process to meet their particular needs, the more likely it is that you will get the sale.

- E. E-commerce can be information-rich and interactive. It appeals to information- hungry buyers and analytical buyers. It allows buyers and current customers to search and locate the information they need quickly.
- F. E-commerce can offer you instant international reach and indeed, online networks have created an instant global community. E-commerce erases the time and distance barriers that get in the way of conducting business transactions with customers in other countries.
- G. E-commerce can lower barriers to entry and offer equal opportunity for access. When you are doing business online, distinctions related to the ethnic background or gender or even the sizes of business do not seem to matter as much. The online world is a great leveler. And e-commerce helps to lower many of the marketplace barriers that have held some would-be entrepreneurs from full participation in the free market system.
- H. E-commerce can be continuously available. One of the best attributes of an online information server is that it is always on the job, twenty-four hours a day, 365 days a year.

Disadvantages of E-commerce

Some business processes may never lend themselves to electronic commerce. For example, perishable foods and high-cost items (such as jewelers, antiques, and the like) may be impossible to inspect adequately from a remote location, regardless of any technologies that might be devised in the future. Most of the disadvantages of electronic commerce today, however, stem from the newness and rapidly

developing pace of the underlying technologies. These disadvantages will disappear as e-commerce matures and becomes more available to and accepted by the general population. Many products and services require a critical mass of potential buyers who are well-equipped and willing to buy through the Internet.

Businesses often calculate the return-on-investment before committing to any new technology. This has been difficult to do with e-commerce, since the costs and benefits have been hard to quantify. Costs, which are a function of technology, can change dramatically even during short-lived e-commerce implementation projects, because the underlying technologies are changing rapidly. Many firms have had trouble in recruiting and retaining employees with technological, design, and business process skills needed to create an effective e-commerce atmosphere. Another problem facing firms that want to do business on the Internet is the difficulty of integrating existing databases and transaction-processing software designed for transforming traditional commerce into a software that enables e-commerce.

In addition to technology and software issues, many businesses face cultural and legal obstacles in conducting e-commerce. Some consumers are still somewhat fearful of sending their credit card numbers over the Internet. Other consumers are simply resistant to change and are uncomfortable viewing merchandise on a computer screen rather than in person. The legal environment in which e-commerce is conducted is full of unclear and conflicting laws. In many cases, government regulators have not kept up with the trends in technologies.

1.3 Elements of E-commerce

- **World Wide Web (WWW):** The web is accessed from the client machine using a web browser; at the time of writing the two most popular browsers are Microsoft Internet Explorer and Netscape Navigator. The web page to be viewed is specified by its web address, the uniform resource locator (URL), e.g. www.mcgraw-hill.co.uk; the URL contains the addressing information needed to derive the IP address of the server that holds the web page.
- **E-Mail:** Accessing e-Mail requires a mail client program; this may be a facility of the web browser or a separate software package. Incoming e-Mails are downloaded from a post-box (file) on the server and outgoing e-Mails are sent to the server for onwards transmission. Each e-Mail has to include the address of the recipient, e.g. susan.jones@mcgraw-hill.com (the name is fictitious); the second part of the e-Mail address (following the '@') is the domain name and is used on the mail server to derive the IP address.
- **Internet Service Provider:** Access to the Internet, for members of the public and small organizations, is via an Internet Service Provider (ISP). The user provides the client computer and uses a modem to connect to the ISP's server. Telecom providers and cable companies are increasingly providing digital services and open-all-the-time connections which give increased speed and convenience of access.

The ISP provides access to the web, an e-mail address and very possibly user space for the client to set up their own home page. Some ISPs specialize in hosting business sites with services designed to meet the need of that market. The provision of Internet services has become very competitive and users have taken to shopping around for the best package. Users of the service get the ISP's home page displayed when they log on which gives the service provider the opportunity to create

revenue from advertising and hosting links to commercial sites; many ISPs. In Ethiopia the internet service provider is EthioTelecom.

- **Server:** The server is a computer system linked into the Internet and that can be accessed by the clients. The server may run a number of applications; Internet server applications include:
- **Web Server:** Software that takes requests from client browsers searches the web and passes back the resultant pages to the browser. The server software will support TCP/IP. The server will, very probably, store a number of home pages that are available to local users and other Internet users.
- **Mail Server:** Software that acts as a 'post office' for the e-Mail system. Mail created on the client sites is passed to the appropriate post-box within the system or sent out over the Internet to its intended destination. Mail from outside is stored in post-box files and uploaded to the users' machine when requested by the mail client. As with the web server, the mail server uses TCP/IP for its Internet transmissions.
- **Intranets:** A web site designed for use by the employees of an organization - a private Internet. The Intranet can be used to replace documents such as staff manuals, internal telephone directories and office notices. Their advantage is that they are (hopefully) always readily available and that they can be easily updated. Intranet systems can include application systems where scripting languages give access to databases and the use of a browser gives easy access throughout the organization.
- **Extranets:** Some organizations have web sites available on the Internet but with access limited to account holders by a password system; such a facility is called an Extranet. Extranets are used in business to business trading where customers are required to have an account. Another use of Extranets is by consultancies and

business information services where business reports are made available online but only to clients and subscribers.

- **Webmaster:** The Webmaster is responsible for the provision of web services for the organization. Responsibilities include setting up and maintaining the server software and the home page for the organization. Where staff within the organization can provide their own web content the webmaster will probably set the standards so that the organization can ensure a professional appearance and consistent 'look and feel' for its users.

1.4 The Meaning of Internet Marketing: E-Marketing

Here are some of the definitions of Electronic Marketing (E-Marketing)

E-Marketing refers to using technology such as the internet, website and email, SMS, including its wide variety of options and tools to conduct marketing activities and achieve marketing objective.

E-Marketing is the application of the Internet and related digital technologies in conjunction with traditional communications to achieve marketing objectives.

E-Marketing is achieving marketing objectives through use of electronic communications technology

Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitability.

E-Marketing tools and strategies include:

- Business websites;
- Search Engine;
- Email;

- Online newsletters/e-zines;
- Online catalogues;
- Online press releases;
- Online surveys;
- Online customer service;
- Banner advertising;
- Affiliate marketing.
- Mobile telephone marketing;
- Online Community (Friendster, YouTube) - new
- Web Log (Blog) - new

E-Marketing is not an alternative to existing Marketing Plan, in fact we may already have a "Marketing Plan" that identifies its marketing objectives, outlines key strategies designed to achieve those objectives, and guides daily marketing activities.

With E-Marketing we can develop techniques to enhance this existing plan to make marketing activities more effective (smarter) more efficient (cheaper) and may even find that we can tap into new markets both locally and overseas.

How Would E-Marketing Enhance the Existing Marketing Plan?

- With the use of internet-based product catalogues we can reduce printing costs and maintain a higher quality of product information for customers.
- By utilizing marketing information systems, we can analyze our sales information to make more informed decisions and customers all over the world can view our products with a website.

Which Business Can Afford E-Marketing?

- The cost of e-Marketing depends on which strategies you choose to implement.
- Any business can start using simple e-Marketing techniques such as email, newsletters, computer-based data management and internet research by purchasing a computer and connecting to the internet which can be achieved with less cost.
- Businesses can also spend many thousands of dollars utilizing the services of a professional e-Marketing firm to create and implement a complete e-Marketing package. The choice is yours!

The Key to e-Marketing:

The key to successful e-Marketing in today's business environment is to place your clients in control. Allow them to choose how often and what type of messages they receive, thus creating a more meaningful relationship with your business.

- This is commonly referred to as Permission Marketing.
- Your e-Marketing messages and tools should aim to deliver information that the consumer wants - that they perceive to be valuable.

1.5 Internet Properties and Marketing Implications

Marketers who grasp what Internet technologies can do will be better poised to capitalize on information technology. Exhibit 1-1 displays a list of basic properties that give Internet technology the ability to transform business practice. Compare these properties to those of the telephone. Referring to the property descriptions, the telephone is a mediating technology, has global reach, and has network externality. In contrast, the Internet has properties that create opportunities beyond those possible with the telephone, television, postal mail, or

other communication media. It is these differences that excite marketers and have them wondering how to best capitalize on them.

These Internet properties not only allow for more effective and efficient marketing strategy and tactical implementation, but also, they actually change the way marketing is conducted. For example, the fundamental idea of digitizing data (bits not atoms) has transformed media and software delivery methods as well as created a new transaction channel. Also, the Internet as information equalizer has shifted the balance of power from marketer to consumer.

Internet technologies have changed traditional marketing in a number of critical ways:

- A. **Power shift from sellers to buyers.** Both individual and business buyers are more demanding than ever because they are just one click away from a plethora of global competitors, all vying for their business. In this environment, buyer attention is the scarce commodity and customer relationship capital a valued asset.
- B. **Death of distance.** Geographic location is no longer a factor when collaborating with business partners, supply chain firms, or customers, or just chatting with friends. The Internet made place less important and allows many buyers and sellers to bypass traditional intermediaries.
- C. **Time moderator/compression.** Time is not a factor with Internet communication between firms and their stakeholders. Online stores can be open 24/7; people can communicate as their schedules permit; time zones disappear for managers collaborating with partners on other continents.
- D. **Knowledge management is key.** In the digital world, customer information is easy and inexpensive to gather, store, and analyze. Managers can track marketing results as they are implemented, receiving play-by-play reports. However, turning huge databases

into meaningful knowledge to guide strategic decisions is a major challenge.

E. Interdisciplinary focus. Marketers must understand technology to harness its power. They do not have to personally develop the technologies, but they need to know enough to select appropriate

F. Enhancing the value proposition to customers. The Internet has the potential to enhance the value a firm provides to any given customer. An example of this is Amazon.com, which has provided value to its customers by providing a wide product assortment, a product recommendation engine, e-mail alert technology, and access to product reviews. Similarly, business consumers are able to get more customization, easier transactional capability, and better value-added services as a result of the Internet.

G. Reducing operational inefficiencies within the organization. The Internet is being used widely to reduce operational inefficiency within companies. Many organizations have implemented virtual teams for customer service, sales, and product development. Salespeople are using the Internet to give remote presentations to prospects, saving time and money.

Exhibit 1-1: the internet properties and marketing implications

Property	Marketing Implications
Bits not atoms	Information, products, and communication in digital form can be stored, sent, and received nearly instantaneously. Text, audio, video, graphics, and photos can all be digitized, but digital products cannot be touched, tasted, or smelled.
Mediating technology	Peer-to-peer relationships, such as auctions and music file sharing, and business partnerships can be formed regardless of geographic location. Technology allows timely communication and data sharing, such as with businesses in a supply chain

Universality / Global reach	Opens new markets and allows for worldwide partnerships, employee collaboration, and salesperson telecommuting.
Network externality	Businesses can reach more of their markets with automated communication, and consumers can disseminate brand attitudes worldwide in an instant.
Time moderator	There are higher expectations from consumers about communication with companies and faster work processes within companies.
Information equalizer	Firms employ mass customization of communication, and consumers have more access to product information and pricing.
Scalable capacity	Firms pay for only as much data storage or server space as needed and can store huge amounts of data.
Open standard	Companies can access each other's databases for smooth supply chain and customer relationship management This equalizes large and small firms.
Market deconstruction	Many distribution channel functions are performed by nontraditional firms (e.g., Edmunds.com and online travel agents) and new industries emerged (e.g., ISPs).
Task automation	Self-service online lowers costs and makes automated transactions, payment, and fulfillment possible.

Source: E-Marketing; *Strau, El-Ansay and Frost. Tan Prints (I) Pvt, Lt\ld. 2004. Page 10*

H. Streamlining supply chains. One of the biggest effects of the Internet on business is to streamline the companies' supply chains. Using the Internet, a company can easily share information with suppliers and customers across the globe, allowing it to plan and forecast better.

I. Increasing connectivity. The Internet is great at linking firms with other firms (e.g., in e-marketplaces), linking firms with their consumers (e.g., by e-mail) and linking consumers with other

consumers (e.g., eBay). This creates a dense network, leading to quicker communication among individuals and companies. One consequence of this is that large-scale virtual collaboration is possible among individuals who are spatially distributed.

- J. **Making everything faster:** It makes everything fastest Genomics discoveries come faster. You can crack data faster. You can build and correct supply lines faster. You can get information fast. The most direct way of increasing productivity is doing the same thing in a lesser period of time—turning things faster. And productivity is the key to everything—greater productivity increases economic growth.
- K. **Eliminating distance:** Today, the Internet eliminates distance for communication. You may call from Johannesburg and don't know whom you are talking to. If the question is not routine, you can push a button and you are speaking to someone over here. As far as the customer is concerned, you have no idea where they are.

1.6 The Six-Cs Framework (*The Internet Toolkit*)

The Internet has fundamentally altered the way companies do business. Companies using the Internet have reexamined and streamlined their supply chains to reduce inventory-holding costs, reduce the time to market, and improve demand forecasting. Intranets, networks of computers accessible only to employees of a corporation or those granted special access, have helped companies share the knowledge that they create among different business units. The number of Internet hosts is growing steadily. Most of the top Internet retailers from a few years ago are still in business. A large variety of products are being successfully sold on the Internet. The number of households with access to online services continues to increase. In general, companies are using the Internet to add value using the six-C framework—commerce, content, communication, connectivity, community, and computing.

1. **Commerce.** Commerce is perhaps the one C in the Internet toolkit that can have both a strong physical and virtual space component (e.g., Internet retailers such as marcato.com take orders online, but deliver the products directly to the customer). For example, even if a consumer can place an order in a convenient way, if the product is not delivered on time, there is zero value. With online commerce, consumers can place orders at any time of the day or night. Moreover, they can shop from the convenience of their homes. Online commerce also provides a large amount of easily available information. The product assortment is larger than that at brick-and-mortar stores. Giving gifts is dramatically simpler-individuals can send gifts to many people from one online store without setting foot in a post office. Some stores provide consumers with “virtual dressing rooms” to try on a dress before ordering it.
2. **Communication.** The Internet offers a variety of communication technologies, such as e-mail and discussion boards, which provide many benefits. These technologies can promote better communication between a firm and its customers and among consumers.
3. **Connectivity.** Using the Internet, businesses can allow consumers to connect with customers in remote areas all over the world. For example, consumers may be interested to know how their peers would rate a given product. In addition, users can easily connected with other users and with company employees.
4. **Community.** The value elements in online communities include:
 - **Socializing:** meeting people, playing around, sharing jokes and stories, and just taking an interest in each other.
 - **Learningfrom others:** individuals benefit from expert users who have extensive product knowledge.
 - **Working together:** distributed work groups within companies and between companies use online communities

to build their teams, keep in touch, and even work on projects together. Similarly, community groups (e.g., office teams, school groups) have used online forums to work together.

5. **Content.** Businesses can use online content to:

- Educate their consumers about how to use the product;
- Provide detailed information about the product to the consumer for a richer shopping experience (e.g., mde@ethio.net.et provides buyers with information about the availability of the book, its rank among other books sold there, product reviews, etc.); and
- Provide product and price comparison tools (e.g., marcato.com provides consumers with the tools to compare prices for a variety of products across a number of prominent retail stores).

6. **Coordination/Computing.** Businesses can provide users with complex computing tools. For example:

- Consumers can track packages by visiting the available website;
- Advertising agencies such as Double-click provide complex real-time reports to advertisers; and
- Using Ditch's portfolio tracker, individuals can track changes in the stocks of their choice in real time.

Unit Summary

E-commerce is the process of using online network, computer communication and digital interactive media to reach marketing objectives. E-commerce is not the replacement of the traditional marketing rather plus or minus to the traditional marketing.

The scope of e-commerce is vast. The three major areas that e-commerce cover are electronic markets, electronic data interchange and internet commerce.

E-commerce has both advantages and disadvantages. The advantages of e-commerce include: offer bottom-line benefits, save time and money, cut step of marketing process, and gives customers another way of buying, global information rich and interactive reach, lower barrier to entry and offer equal opportunity, and continuously available 7x4 or 365 days.

On the other hand, e-commerce is not suitable for all products, newness and rapid change in technology, difficulty to determining return on investment in advance, difficulty of integrating existing databases and transaction processing software designed to transforming traditional commerce into a software that enable e-commerce cultural and legal obstacles in conducting e-commerce and the like are some of the disadvantage of e-commerce. To conduct e-commerce, we need certain information technology resources such as software, hardware, cables, people, WWW, e-mail, internet service provider, server, intranet, extranet, webmaster and governance of internet.

Intranet: enhance the value proposition to customers reduce operational inefficiencies within the organization, stream line supply chain, increase connectivity, make every thing fast and eliminate distance. The six-Cs framework (intranet toolkit) that explain how internet adds value to marketing activities are commerce, content, communication, connectivity, community and computing.

Learning Activity-1

Answer the following Questions.

1. Define e-commerce?
2. Discuss the scope of e-commerce
3. List out and define the elements of e-commerce.
4. Discuss how internet adds value to the marketing activities?

5. Describe the advantage and disadvantage of e-commerce.
6. Assume you are the Marketing Officer of ABC Company. Assume also your company is currently engaged in traditional way providing goods and services to its customers. Assume further the management committee of your company planned to market online. You are one of the management committee. The committee appoints you to identify, and report information technology resources required to enter in to e-commerce business. Explain what you should include in your report.
7. Is e-commerce completely replace the traditional way of marketing? Justify your answer.

Unit Two: Intermate Marketing Environment

Learning Objectives: After completing this unit trainees are expected to:

- Define e-business model
- Describe transactional parties-based e-business models
- Describe transactiontypes-based e-business models &
- Describe revenue-based e-business models

Introduction

A company's business model is the way in which it conducts business in order to generate revenue. In the new economy, companies are creating new business models and reinventing old models. Reading the literature, we find business models categorized in different ways. As such, there is no single, comprehensive and cogent taxonomy of web business models one can point to. Although there are many different ways to categorize e-business models, they can be broadly categorized as;

1. E-business model based on the relationship of transaction parties;
2. E-business model based on the relationship of transaction types; and
3. E-business model based on revenue.

E-business Model= Business Model+Information Technology
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2.1 E-business Model Based on Relationship of Transaction Parties

E-commerce is already defined as any form of business transaction in which the parties interact electronically. Transaction in an electronic market represents a number of interactions between parties. For instance, it could involve several trading steps, such as marketing, ordering, payment, and support for delivery. An electronic market allows participating sellers and buyers to exchange goods and services with the support of information technology.

Electronic markets have three main functions such as: (1) matching buyers and sellers, (2) facilitating commercial transactions, and (3) providing legal infrastructure. Information technology performs all the three functions and also helps to increase market efficiency and reduce transaction costs. The interaction between participants is

supported by electronic trade processes that are basically search, valuation, payment and settlement, logistics, and authentication.

Electronic markets are emerging in various fields. Different industries have markets with different characteristics. For example, an information B2C market differs in many respects from the automotive B2B market. The former represents companies that sell digital information goods, such as news, articles, music, books, or digital videos. In the information B2C market, the electronic infrastructure not only helps match customers and sellers, but also acts as the distribution channel, delivering products to customers. In this case, the infrastructure, such as servers and networks, must support the delivery of large files, streaming media and other types of digital goods in an efficient way. This B2C market over the Internet can be viewed as an open system, where the number of participants is unknown. In the automotive B2B market, the products traded, such as parts and components of cars, have a high degree of specificity. The market infrastructures used are to be mainly based on Electronic Data Interchange (EDI) over expensive VAN (Value Added Network) services. EDI involves the exchange of standardized, structured information between organizations, permitting direct communication between computer systems. Now, the automotive B2B market is using the Internet for many of its activities. At the heart of B2B applications is the strong integration of different applications. Servers, networks, and software should provide the infrastructure to integrate web-based applications with mainframe and legacy systems. B2B is also a closed market in the sense that the number of participants involved in trading is limited and known a priori.

Understanding the nature of the market's requirements is critical for creating the underlying e-business infrastructure. The relation between B2B and B2C models is clearly shown in Figure 2.1 below. B2B covers business transactions along the various interactions existing in the

value chain from producers of raw materials to retailers and consumers including manufacturers and distributors. On the contrary, B2C reflects only the interactions between a customer and a retailer. Basically, B2C transactions include the following steps: (i) account acquisition, (ii) product discovery through search and browse, (iii) price negotiation, (iv) payment, and (v) product delivery. In some cases, dispute resolution and customer services may also exist.

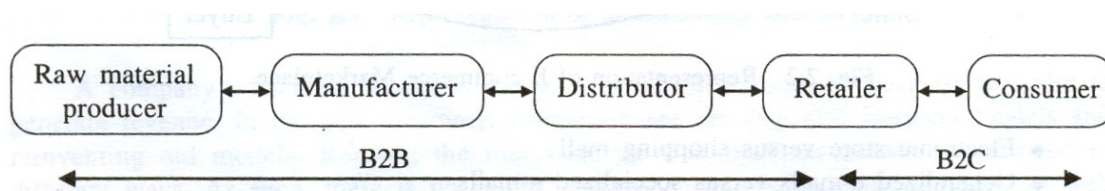


Fig.2.1: Relationship between B2B and B2C

2.1.1 Types E-Business Transactional Model

E-commerce can be classified according to the transaction partners such as business- to-consumer (B2C), business-to-business (B2B), business-to-government (B2G), consumer- to-consumer (C2C), and consumer-to-business (C2B). Within these broad categories, there are a number of variations in the way the models are implemented. Table 2.1 summarizes some of the current e-business models. The contents of the table are illustrated in the form of a diagram as in Figure 2.1.

Table 2.1: Summary of E-business Transaction Model

Model	Description
B2C	Sales products or services directly to consumers
B2B	Sales products or services to other business or brings multiple buyers and sellers together in central market place
B2G	Business selling to local, state and federal agencies
C2C	Consumers sale directly sale to other consumers
C2B	Consumers fix price on their own, which

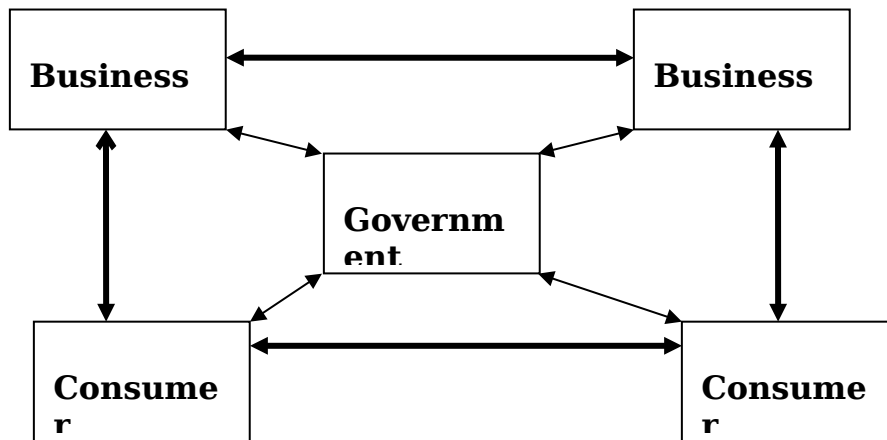


Fig. 2.2: E-business Transaction Model

Source: Adapted from *E-commerce a managerial perspective* by P.T. Joseph, P31

2.1.1.1 Business-to- Consumer (B2C) Model

Consumers are increasingly going online to shop for and purchase products, arrange financing, arrange shipment or take delivery of digital products such as software, and get service after the sale. B2C e-business includes retail sales, often called e-retail (or e-tail), and other online purchases such as airline tickets, entertainment venue tickets, hotel rooms, and shares of stock.

In developed economy many traditional brick and mortar retailers such as Barnes & Noble are now e-retailers with a web storefront. These combined brick and mortar/online businesses are also known as brick-and-click companies. With the introduction of e-banking in Ethiopia we can apply this type of transaction in the future.

Some B2C e-businesses provide high-value content to consumers for a subscription fee. Examples of e-business following this subscription

model include the Wall Street journal (financial news and articles), Consumer Reports (product reviews and evaluations).

B2C e-business models include virtual malls, which are web sites that host many online merchants. Virtual malls typically charge online merchants setup, listing, or transaction fees and may include transaction handling services and marketing options. Examples of virtual malls include ezega.com, ethiojobs.com and yahoo.com.

E-retailers that offer traditional or web-specific products or services only over the Internet are sometimes called virtual merchants, and provide another variation on the B2C model.

Some businesses supplement a successful traditional mail-order business with an online shopping site, or move completely to web-based ordering. These businesses are sometimes called catalog merchants.

Many people were very excited about the use of B2C on the Internet, because this new communication medium allowed businesses and consumers to get connected in entirely new ways. The opportunities and the challenges posed by the B2C e-commerce are vast. A large amount of investment has gone into this and many sites have either come up or are coming up daily to tap this growing market.

Some of the reasons why one should opt for B2C are:

- A. ***Inexpensive costs, big opportunities***. Once on net, opportunities are immense as companies can market their product to the whole world without much additional cost.
- B. ***Globalization***. Even in a small company, the web can make one appear to be a big player which simply means that the playing field has been leveled by e-business. Internet is accessed by millions of people around the world, and definitely, they are potential customers.

- C. **Reduced operational costs.** Selling through the web means cutting down on paper costs, customer support costs, advertising costs, and order processing costs.
- D. **Customer convenience.** Searchable content, shopping cans, promotions, and interactivity and user-friendly interfaces gives customer convenience, generating more business. A customer can also see order status, delivery status, and get their receipts online.
- E. **Knowledge management.** Through database systems and information management, one can say who visit your site, and how to create, better value for them.

The Process of B2C Model

B2C e-commerce is more than just an online store. It really is managing the entire process, but just using technology as a tool for order processing and customer support. Figure.2.1bellowdescribes the B2C processes in a comprehensive manner.

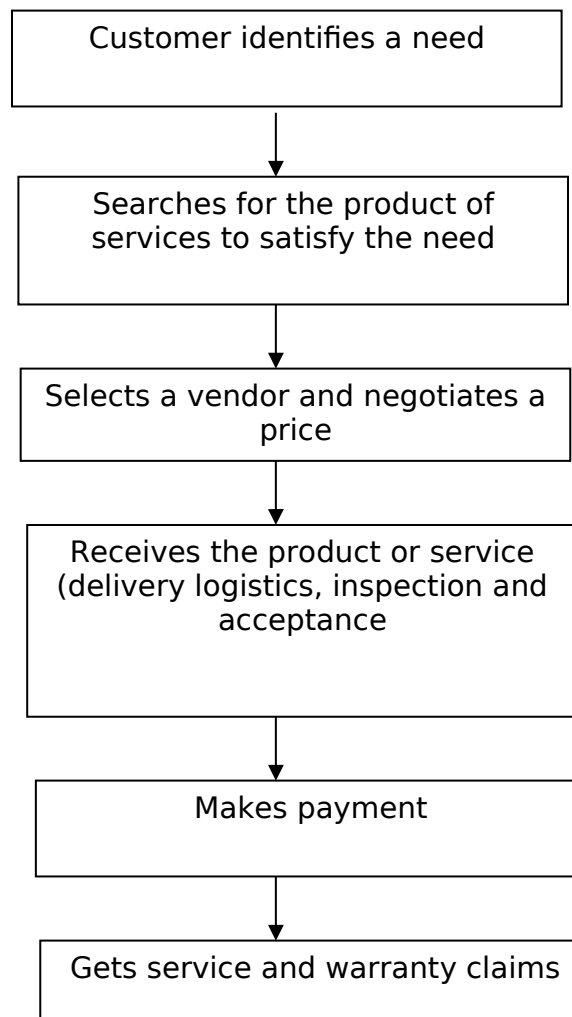


Figure 2.1 Process in B2C

Here is the process explained in more detail.

- i. **Visiting the virtual mall.** The customer 'visits' the mall by browsing the online catalogue-a very organized manner of displaying products and their related information such as price, description and availability. Finding the right product becomes easy by using a keyword search engine. Virtual malls may include a basic to an advanced search engine, product rating system, content management, customer support systems, bulletin boards, newsletters and other components which make shopping convenient for shoppers.
- ii. **Customer registers.** The customer should have to register to become part of the site's shopper registry. This will allow him or her to avail of the shop's complete services. The customer will be a part of the company's growing database which it can use for knowledge management and data mining.
- iii. **Customer buys products.** Through a shopping cart system, order details, shipping charges, taxes, additional charges and price totals are presented in an organized manner. The customer can even change the quantity of a certain product. Virtual malls have a very comprehensive shopping system, complete with check out forms.

- iv. **Merchant processes the order.** The merchant then processes the order that is received from the previous stage and processes it, filling up necessary forms.
- v. **Credit card is processed.** The credit card of the customer is authenticated through a payment gateway or a bank. Other payment methods can be used as well, such as debit cards, prepaid cards, or bank to bank transfers.
- vi. **Operations management.** When the order is passed on to the Logistics people, the traditional business operations will still be used. Things like inventory management, total quality management, warehousing, optimization and project management should still be incorporated even though it is an e-business. Getting the product to the customer is still the most important aspect of c-commerce.
- vii. **Shipment and delivery.** The product is then shipped to the customer. The customer should be able to track his order/delivery through the web site. Virtual malls have a delivery tracking module on the web site which allows a customer to change the status of a particular order.
- viii. **Customer receives.** The product is received by the customer, and is verified. The system should then tell the firm that the order has been fulfilled.
- ix. **After sales service.** After the sale has been made, the firm has to make sure that it maintains a good relationship with its customers. This is done through customer relationship management or CRM.

2.1.1.2 Business-to-Business (B2B) Model

B2B is that model of e-commerce whereby a company conducts its trading and other commercial activity through the network and the customer is another business itself. This essentially means commercial activity between companies through the Internet as a medium.

This is supposed to be a huge opportunity area in the web. Companies have by and large computerized all the operations worldwide and now they need to go into the next stage by linking their customers and vendors. This is done by supply chain software, which is an integral part of your application. Companies need to set up a backbone of B2B applications, which will support the customer requirements on the web. Many B2B sites are company and industry specific, catering to a community of users or a combination of forward and backward integration. Companies have achieved huge savings in distribution related costs due to their B2B applications.

Major Advantages of B2B Model

- A. ***Direct interaction with customers.*** This is the greatest advantage of e-business. The unknown and faceless customer including other businesses, buying the products of a large multinational company like Procter & Gamble through distributors, channels, shops and the like, now has a name, face, and a profile. Large multinational companies pay a fortune for this information on customer buying patterns.
- B. ***Focused sales promotion.*** This information gives authentic data about the clients likes, dislikes and preferences and thus help the company bring out focused sales promotion drives which are aimed at the right audience.
- C. ***Building customer loyalty.*** It has been observed that online customers can be more loyal than other customers if they are made to feel special and their distinct identity is recognized and their concerns about privacy are respected. It has also been found that once customers develop a binding relationship with a site and their product they don't like to shift loyalties to another site or product.

- D. **Scalability.** This means the web is open and offers round-the-clock access. This provides an access never known before, to the customer. This access is across locations and time zones. Thus a company is able to handle much more customers on a much wider geographical spread if it uses an e-business model. The company can set up a generic parent site for all locations and make regional domains to suit such requirements. Microsoft is using this model very successfully. The additional cost
- E. **Savings in distribution costs.** A company can make huge savings in distribution, logistical and after sales support costs by using e-business models. Typical examples are of computer companies, airlines, and telecom companies. This is because the e-business models involve the customer in the business interaction to such a level that they are able to avoid setting up the huge backbone of sales and support force which ordinarily would have to be set up.

Types of Business-to-Business Transactions Models

B2B interactions involve much more complexity than B2C. For instance, typical B2B transactions include, among others, the following steps: (i) review catalogs, (ii) identify specifications, (iii) define requirements, (iv) post request for proposals, (v) review vendor reputation, (vi) select vendor, (vii) fill out purchase orders (PO), (viii) send PO to vendor. (ix) prepare invoice, (x) make payment. (xi) Arrange shipment, and (xii) product inspection and reception. Due to the large number of transactions involved, business-to-business operations can be too risky if e-business sites cannot guarantee adequate quality of service in terms of performance, availability, and security of serving additional customers comes down drastically once a critical mass is reached.

Electronic Marketplace

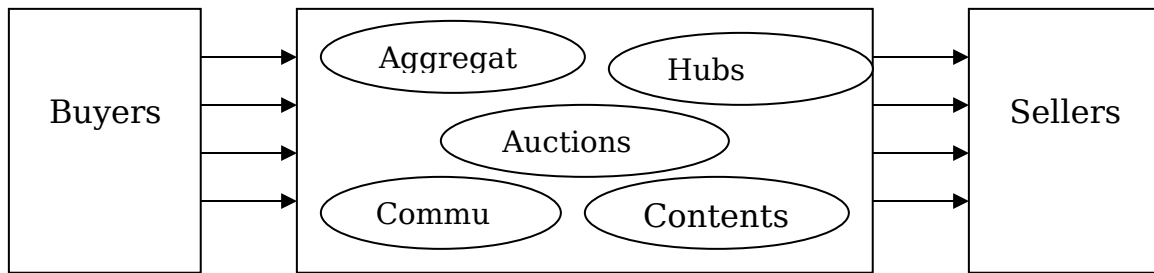


Fig. 2.2: Business-to-Business (B2B) Marketplace

Several models and classifications have been proposed for B2B commerce. Figure 2.2 above illustrates an electronic marketplace for B2B trading. The model could be oriented to a vertical market (e.g. wholesale trade, chemicals, construction, and electronics) or to a horizontal approach (e.g. office supply, and logistics).

The models can now be described as follows:

- A. **Aggregators.** In the aggregation model, one company aggregates buyers to form a virtual buying entity and/or aggregates supplier to constitute a virtual distributor. For example, in the science marketplace, one company became the central buying location for thousands of buyers to implement their own purchasing rules and obtain volume discounts. The aggregator takes the responsibility for selection and fulfillment, pricing, and marketing segmentation. Another example is an electronic company that offers a total home buying service, from search to financing, less than one site.
- B. **Hubs or process integration.** Hubs or process integration focuses on producing a highly integrated value proposition through a managed process. Hubs have been defined as neutral Internet-based intermediaries that focus on a specific industry or a specific business process. Hubs host electronic markets and create value by reducing the costs of transactions between sellers and buyers. There are examples of vertical hubs that

serve a vertical market or a specific industry, such as energy, steel, telecommunications, and plastic. On the contrary, functional hubs specialize in horizontal markets across different industries. Functional hubs focus on business processes such as project management, i.e. Maintenance, Repair and Operating procurement. An electronic business company that provides office supplies to many industries is a good example of a functional hub in B2B commerce.

- C. **Community or alliance.** In the community model, alliances are used to achieve high value integration without hierarchical control. Members and end users play key roles as contributors and customers. Basically, communities produce knowledge with economic value, such as Linux, MP3, and Open Source.
- D. **Content.** Content is the end product of this model of B2B commerce. It has the purpose of facilitating trading. Revenue can be generated from subscriptions, membership, or advertising. For example, there are e-companies that sell information about contracts to bid market intelligence and analysis, and jobs by industry.
- E. **Auctions or dynamic pricing markets.** Auctions or dynamic pricing markets handle complex exchanges between buyers and sellers in B2B commerce. Auctions are dynamic and efficient mechanisms for mediating and brokering in complex marketplaces, like supply-chain and procurement systems. Bundle auctions allow agents to bid for bundles of items and are useful for B2B applications such as automatic supply-chain or procurement.

Not only do businesses sell directly to consumers and other businesses online, but consumers are now interacting with each other to buy, sell, or trade products, personal services, or information.

2.1.1.3 Consumer-to-Consumer Model (C2C)

C2C provides a way for consumers to sell to each other, with help of an online market maker such as the auction site eBay. C2C e-business model, consumers sell directly to other consumers via online classified ads and auctions, or by selling personal services or expertise online. Examples of consumers selling directly to consumers are ebay.com (auction), and TraderOnline.com (classified ads).

Some of these exchanges, such as AskMe.com and abuzz, are free, and some allow their experts to negotiate fees with clients. InfoRocket.com, one of the first question and answer marketplaces, is driven by a person- to-person auction format. The InfoRocket.com bidding system allows a person who submits a question to review the profiles of the “experts” who offer to answer the question. When the person asking the question accepts an “expert” offer, infoRocket.com bills the person’s credit card, delivers the answer, and takes a 20 percent commission.

2.1.1.4 Consumer-to-Business Model

The C2B model, also called a reverse auction or demand collection model, enables buyers to name their own price, often binding, for a specific good or service generating demand. The web site collects the “demand bids” and then offers the bids to participating sellers

2.2 E-Business Model Based on Relationship of Transaction Types

Based on the degree of control and value integration five types of e-business transaction can be identified. These are brokerage, aggregator, info-mediary, and community and value chain. These transactions types take place in a variety of ways. Moreover, any given

firm may combine one or two of these as part of web business strategy.

2.2.1 Brokerage Model

Sites that process transactions for consumers normally handled in person, by phone or mail are brokers. The largest industries using this model are financial services, travel services, and job placement services. Online stockbrokers such as E-trade.com, Ameritrade.com, and Schwab.com, for instance, have captured about 20% of retail stock transactions. The online transaction broker's primary value propositions are savings of money and time. In addition, most transaction brokers provide timely information and opinion. Sites such as Monster.com offer job searchers a national marketplace for their talents, and offer employers a national resource for talent. Both employers and job seekers are attracted by the convenience and currency of information. Online stock brokers charge commissions that are considerably less than traditional brokers, with many offering substantial deals, such as cash and a certain number of free trades, to lure new customers

Given rising consumer interest in financial planning and the stock market, the market opportunity for online transaction brokers appears to be large. However, while millions of customers have shifted to online brokers, many have been worry to switch from their traditional broker who provides personal advice and a brand name. Fears of privacy invasion and the loss of control over personal financial information also contribute to market resistance. Consequently, the challenge for online brokers is to overcome consumer fears, by emphasizing the security and privacy measures in place.

Brokers make money each time a transaction occurs. Each stock trade, for example nets the company a fee, based either on a flat rate or a

sliding scale related to the size of the transaction. Attracting new customers and encouraging them to trade frequently are the keys to generating more revenue for these companies. Job sites generate listing fees from employers up front, rather than a fee when a position is filled.

The characteristics of brokerage model are as follows:

- The price-discovery mechanism is its key-principle.
- It is a meeting point for sellers and buyers.
- Auctions and exchanges are the modes of transactions.
- It is a 'Free Market'.
- It consists of Global Network of Buyers & Sellers.
- It is a Virtual Marketplace enabled by the Internet.
- It encompasses all types of organization now.

Following are the advantages of brokerage model:

- C2C trading, which allows buyers and sellers to trade directly bypassing intermediaries, and reduces cost for both parties.
- Global reach
- Trading convenience, which allows trading at all hours, and provides continually updated information?
- Sense of community through direct buyer and seller communication
- Efficient access to information
- Alleviation of the risks of anonymous trading.

2.2.2 Aggregator Model

Based on the electronic market place, the aggregator model bypasses distributors so that the buyers and sellers come together. Aggregators are the connectors between the buyers and the sellers. They are

involved in the overall process of selection, organization, matching the buyers' requirement with that of the available goods, fulfillments of the orders and enable the customers to create a value about the sellers.

There are four types of aggregators such as the following:

- **Content aggregators.** They are among the first large scale sites on the web and mostly represent large publishing companies e.g. Pathfinder.com. Their basic challenge is that, content has to be attractive enough to make the site viable.
- **Mainstream aggregators.** These include sites like Yahoo providing a web directory and a search engine, along with a bunch of attractive tools like e-mail addresses, homepages, reminders and many others. The most attractive feature of these sites is that they have an 'easy-to-remember' Uniform Resource Locator (URL) which is one of the reason for them to be the top traffic sites on the web.
- **Event aggregators.** These are sites that provide in-depth content and tools tailored to the needs of a particular group, which doubles as a clearly defined customer base, for example, mortgages-build tools, rates, advice, and the ability to purchase a mortgage online in the same place (Microsoft's HomeAdvisor or HomeShark).
- **Shopping aggregators.** Shopping aggregators let consumers roam through hundreds of sites and catalogues and find the best price in seconds. They help consumers sift through the dozens of e-commerce sites, as for example, compara.com or bizrate.com that evaluates their quality on same independent basis as consumer reports.

E-commerce is forcing changes in the distribution channels that require all parties- manufacturers, distributors, retailers, consumers and logistics companies-to evaluate their value proposition and develop capabilities that will meet the evolving demands of the Internet age.

Implications for manufacturers, other challenges and opportunities of the model are that, it

- A. Requires investment in marketing directly to the consumers so as to maintain customer loyalty for their brands,
- B. Relies on consumers' support for sale of their products,
- C. Requires brick-and-mortar enablers to function as a distribution center for local delivery and returns, and for regular retail activity.

The distribution channel and logistics infrastructure remain largely unchanged for products that are either perishable or require contact with the product prior to selection.

The changes generated by e-commerce represent equally significant opportunities and challenges for logistics and transportation companies to leverage the capabilities of the Internet.

The implications of the model are that, for the growth and ability to realize the potential for Internet-generated demand for delivery from local brick-and-mortar enablers, the same-day pickup and delivery infrastructure will need to evolve rapidly. The fragmented nature of same-day pickup and delivery service has limited achievement of delivery density, productivity and proper marketing to reduce the cost of service.

Logistics and transportation enablers who can use the same level of technology, marketing, operational planning, management talent to same-day service that has fuelled growth of the express market, will find that the pent-up demand for this service with e-commerce models can be greater than what Frederick Smith envisioned for overnight service when he launched Federal Express.

The capabilities needed for this model are:

- Greater investment in the brick-and-mortar infrastructure.
- Handling of inbound freight for finished goods.
- Management of a more traditional distribution network with truckload and less-than-truckload deliveries to local distribution centers.
- Optimization of stores to support customer visits to view new products and to handle exchanges and returns.
- Integration of the existing retailers with the online channel for sales to c-consumers.
- Handling same-day delivery of goods and pickup returns.

2.2.3 Info-mediary Model

An organizer of virtual community is called information intermediary or info-mediary, which helps customers to collect, manage, and maximize the value of information about consumers. Data about consumers and their buying habits are extremely valuable especially when that information is carefully analyzed and used to target marketing campaigns. Some firms are able to function as info-mediaries by collecting and selling information to other businesses. An info-mediary may offer users free Internet access (e.g. NetZero) or free hardware [e.g. eMachines.com] in exchange for detailed information about their surfing and purchasing habits. This is more likely to succeed than the pure advertising model.

The info-mediary model can also work in the other direction, i.e. providing consumers with useful information about the web sites in a market segment that compete for their dollar. Info-mediaries are in information business. Implying that they compete on their ability to capture and manipulate information in a manner that adds value for their clients, who could be sellers or buyers. A real info-mediary provides information services by capturing information from both sides of a transaction. They don't own the products or services that are

shipped directly from suppliers to customers. Many info-mediaries today follow business models that generate revenue from the deeper pockets on the seller side. These models could be in the form of exclusive contractual arrangements whereby the info-mediary is the leader in finding customers for a seller. Membership fees for participating in an electronic market could be another source of revenue. However, more common models involve advertising revenue, whereby the info-mediary accepts payments from suppliers based on advertising (screen) space, number of user page views, and transactional revenue, whereby a certain percent of sales goes to the info-mediary.

Buyer-based revenue sources are relatively rare but can be expected to increase over the next few years as info-mediary services become valued in online shopping environments characterized by increasing choice, complexity, and information overload. Such sources could include membership or subscription fees, allowing access to valued information or services, a transactional percentage, or fees based on services, such as connecting a seller to a buyer and ensuring privacy protection. An info-mediary front end to the web could help protect consumers from unsolicited mailings and confusing product selection. An analysis of the general info-mediary business model reveals that info-mediaries create and add value for the customer during several critical phases from the initial search of the supplier, and product comparison (as to whether it fulfils the requirements) to the actual transaction and ultimate product or service delivery (sales fulfillment). To support the initial phase, info-mediaries leverage the potential of the Internet to provide almost unlimited expansion of search space for consumers, thus overcoming the limitation of physical space inherent in traditional brick-and-mortar operations. While conventional stores, carry only the most popular items, amazon.com offers millions of

items, most of which sought only by a relatively few customers with specialized tastes. Buyers can certainly expand their search space through search engines, but a more organized universe provided by info-mediaries is generally preferable. For example, at Yahoo.com's Shopping area and amazon.com's zShops.com 's, buyers can search thousands of stores and millions of products. Aggregating a large number of suppliers, these info-mediaries save buyers' invaluable hours on tedious piecemeal searches through direct use of search engines. Ironically, the bringing together of buyers and sellers becomes increasingly necessary as the search space grows larger. In this sense, info-mediaries create and perpetuate their own demand.

Finally, info-mediaries also provide valuable assistance to buyers to make their purchasing decisions, by offering "suitable" suggestions. This function is supported by technology for one-to-one marketing based on online customer profiling. amazon.com not only anticipates book-buyers' demands, but also facilitates the purchase decision by presenting previous buyers' comments about the books on sale.

This analysis reveals how info-mediaries help buyers expand, organize, and optimize their search spaces with information and information technologies. For some products, including books, CDs, and flowers that are limited in size and relatively easy to ship, info-mediaries provide support through both the requirements and the acquisition phases. Thus, we identify two dimensions-vertical and horizontal-underlying the manner in which info-mediaries add and create value, as represented in the form of an info-mediary value grid: the vertical dimension is the potential to increase navigational value; the horizontal dimension is acquisition cost.

Classification of Info-mediaries

Info-mediaries can be classified in terms of their relationships with sellers and buyers into four types based on whether these relationships

are open (non-proprietary, giving anyone free access) or closed (proprietary, restricting access). Closed relationships imply a certain relationship-specific investment (such as membership fee), and parties making that investment expect a return. The four types are:

- i. **Specialized agents.** The related proprietary networks are sectioned off the broader Internet by having closed relationships with both buyers and suppliers. Entering the info-mediator's domain incurs cost on the part of buyers and sellers alike, usually in the form of a fee or a certificate that they satisfy a certain membership profile. These info-mediaries usually manage a specialized market; their business performance depends on their ability to deliver value through scope (sufficient numbers of sellers and buyers), specialization (a well-defined and lucrative niche), and infrastructure (a platform for transactions).
- ii. **Generic agents.** These info-mediaries maintain open relationships with both buyers and suppliers and involve no relationship-specific investment. Examples include search engines Hotbot.com and google.com that provide open search capabilities to any buyer looking for a supplier. The info-mediaries create value through their comprehensive and unbiased service, often generating revenue from advertising, which is priced based on eyeballs, or number of unique user clicks, and the value of screen real estate. Some info-mediaries like Yahoo.com attempt to create additional stickiness by providing community and personalization services. Others like Bizrate.com provide customers a rating system on various e-tailers' ability to deliver promised service.
- iii. **Supplier agents.** Many info-mediaries start off in this quadrant, sponsored either by specific companies with a vested interest in selling their products or by close affiliation to core group of sellers. Thus, they do not provide unbiased options for buyers.

Major auto manufacturers, for example, host their own web sites. Prior to offering other stock and mutual funds from a number of direct competitors, the Charles Schwab web site started off as a supplier agent providing access to only its own products. The sustainability of these info-mediaries depends on the quality of suppliers they include, provision of benefits to buyers, and the ability to maintain a good infrastructure and seamless exchange platforms.

- iv. **Buyer agents.** These info-mediaries establish relationships with a core set of buyers, working on their behalf and any number of suppliers. To succeed, they must build a large base of clients, at the same time, winning their trust. However, extracting valuable information and constructing information profiles deep and broad enough to create substantial value for clients is a slow process. The value of each client increases as more and more clients join the service. Since trust is often conelated with branding, and the ability to build profile, the strength of some pure-play Internet companies, we can see alliances between branded companies like Disney and pure plays like Infoseek.com in order to create info-mediaries like Go2Net. com.

2.2.4 Community Model

E-communities (or electronic communities) are formed when groups of people meet online to fulfill certain needs, which include personal interests, relationships, entertainment and transactions. Of course, c-communities are not confined to just individuals but businesses as well. E-communities cater to groups of people who come on-line to serve their common interests and needs, exchange information, share interests, trade goods and services, entertain and seek help. The viability of the community model is based on user loyalty (as opposed to high traffic volume). Customer loyalty can be achieved by building e-communities. First, visitors come and look for information. Then, they

start to contribute to the web site by, for instance, suggesting ways to improve the site or its services. Finally, they work inside the web site by for instance, volunteering as editors for a message board or by serving on a customer advisory board. Users make a high investment on both time and emotion in the site. In some cases, users are regular contributors of content and/or money. Having regular visitors contributes to advertising on info-mediary or specialized portal opportunities. The community model may also run on a subscription fee for premium services.

2.2.4.1 Functions of Communities on the Web

- A. Most people long to be accepted and loved and concerned about. These along with a desire to learn cause online communities to attract people. Word gets out about a discussion going on or a place to make personal or business contacts and visitors are attracted. They may end up joining the community.
- B. Communities on the Internet provide information. Since they tend to revolve around a particular interest or common task or hobby, they can be the sources for sharing information, and become deep reservoirs of technical information.
- C. Communities also beget loyalty. Members develop the habit of visiting one particular site again and again. They get so used to the site, that they develop a sense of ownership, especially if they are involved in online communication.
- D. Communities also build your business. Once people become used to a site, they're quite comfortable making a purchase through it rather than going into unknown territory. Communities build "stickiness" (the tendency to spend a long session at a particular

site), and that builds loyalty, which in return builds traffic and trust, and trust is the common currency of business.

i. Community Structures

Internet communities can be found structured in several predictable ways as follows:

- A. **Newsletters.** Newsletters, by definitions are one-way communication. They generally use listserver software that sends the same message to an entire list of people, and handles new subscribers and those who wish to unsubscribe. Listserver software (sometimes called a “listserv”) is also the backbone for e-mail discussion lists.
- B. **Discussion lists.** One of the best ways to build a sense of community is by e-mail discussion lists. In a typical discussion list, the listserver software allows a member to send a message to the list address, and then sends that message to all the list members, all within a few minutes.

There are three types of discussion lists:

E-mail discussion list. All messages from the members are forwarded to other members as soon as they are received. If a particular list is not active, several hundred messages could be on such a list. But a larger list with lots of discussion can easily generate 50 to 109 c-mails per day and swamp many users. Lists can be configured so that a moderator approves a message before it is sent to the members. Larger lists usually offer a digest option.

E-mail discussion listdigest. The digest collects all the messages sent to the list, bundles them, and email them in one e-mail to subscribers, either daily or when the accumulation reaches a certain size, depending on how the list is set up. A digest helps control the level of e-mail, but tends to inhibit spontaneous interactions among members on the list.

Moderated discussion list digest. Large discussion lists are eventually forced to limit the quantity and screen the quality of messages that go out to the list members. When people receive e-mail from the discussion list nearly every day, they begin to get acquainted with other list subscribers and recognize them by their comments and hobby horses and idiosyncrasies. These various points of view make for a rich sense of community and commonality. If one member shares a problem, another will jump in with a solution that may work out well for the member.

Discussion lists on the Internet number in hundreds of thousands, on every conceivable kind of topic. They are often used for product support and trouble-shooting. They can also become support groups. If you sell orthopedic equipment, for example, your discussion list could be very valuable to people who share the same need and encounter similar problems. If you sell hobby items, a discussion list could be a magnet for hobbyists who are happy to share their stories about radio-controlled airplane models, dollhouse collectables, and antiques. Training groups and online class discussions are another use.

E-mail discussion list digest bundles them, and c-mails them in accumulation reaches a certain size, control the level of e-mail, but tends the list.

- C. **Bulletin Boards:** One of the struggles of e-mail-based communities is keeping “threads” (different topics of conversation) separate. Sure, the subject line usually includes the topic, but if you are reading 15 messages a day that aren’t sorted by topic, things will look disjointed. One solution to this is a web-based bulletin board system. Their great strengths are:

1. Keeping threads separate; and
2. Allowing posts to be read, searched, and researched later by individuals who may not have been part of the original conversation.

D. Chat Rooms

Another significant type of community building tool is the chat room. This is a useful source of knowledge and information for any user. As for business people, it has a great utility value. Sometimes even people from Public relations schedule chats and interviews with famous personalities. Such chats may have overwhelming responses and may also gear up businesses. For nearly every business, it is preferred that the chats are scheduled ahead of time so that enough people gather around for the same topic and have a meaningful discussion. This may give fruitful results for business starters. If a small business needs a chat room, web hosting services often have no-or-low-cost rooms available. E-Groups has a Java-based chat room built into their online list areas, if there is a need for occasional facility, but all participants need to register as group members to use the chat room. This gives additional security for the participants.

Building a community can be an extremely a valuable strategy in developing your online business. But one warning: if you treat communities as a tool of publicity and so betray them later, they'll soon become a negative force rather than a positive. Make sure your community building strategy is part of a carefully designed business plan that you are committed to maintain over the long term.

The viability of the community model is based on user loyalty (as opposed to high traffic volume). Users make high investments of both time and emotion on the site. In some cases, users are regular

contributors of content and/or money. Having users who visit continuously offers advertising, info-mediary or specialized portal opportunities. The community model may also run on a subscription fee for premium services.

2.2.5 Value chain Model

Value chain moves businesses away from discrete streams of data about the product being made to one unified pool of information-one that even extends outside the company to suppliers and customers. The goal is to develop full and seamless interaction among all members of the chain, resulting in lower inventories, higher customer satisfaction and shorter time to market.

2.3 E-Business Model Based on Revenue

Every new business aims to maximize its profits. The primary issue for a new e-business is choosing its revenue streams. In fact, a new e-business is really a collection of revenue streams. Revenue streams are the most effective metrics by which to judge a business.

Each revenue stream differs based on these four dimensions:

- **Strength**-a strong revenue stream is one that adds the most to the profitability of the organization.
- **Stability**-a stable revenue stream is not easily altered by changes in the business environment.
- **Cyclical**-a cyclical revenue stream does not provide consistent returns to the company. As a result, it is dangerous for a company to count on a single revenue stream that is vulnerable to a cyclical market.
- **Resource needs**-the amount of money, time, technology, people and other resource a revenue stream requires.

A firm's revenue model describes how the firm will earn revenue, generate profits, and produce a superior return on invested capital. We use the terms revenue model and financial model interchangeably. The

function of business organizations is both to generate profits and to produce returns on invested capital that exceed alternative investments. Profits alone are not sufficient to make a company successful. In order to be considered successful, a firm must produce revenue. The merchant typically charges more for the computer than it pays out in operating expenses, producing a profit. But in order to go into business, the computer merchant had to invest capital either by borrowing or by dipping into personal savings. The profits from the business constitute the return on invested capital, and these returns must be greater than the merchant could obtain elsewhere, say, by investing in real estate or just putting the money into a savings account.

Although there are many different e-commerce revenue models that have been developed, most companies rely on one, or some combination, of the following major revenue models: the advertising model, the subscription model, the transaction fee model, the sales model and free service.

A. **In the advertising revenue model**, a web site that offers its users content, services, and/or products also provides a forum for advertisements and receives fees from advertisers. Those web sites that are able to attract the greatest viewership or that have a highly specialized, differentiated viewership and are able to retain user attention (“stickiness”) are able to charge higher advertising rates. Yahoo.com, for instance, derives its primary revenue from selling advertising such as banner ads. This model, originally one of the primary revenue models for the web, has fallen somewhat into disfavor, although it remains a primary source for web-based revenue.

B. **In the subscription revenue model**, a web site that offers its users content or services charges a subscription fee for access to

some or all of its offerings. For instance, consumer reports online provide access to its content only to subscribers, who have a choice of paying a birr3.95 monthly subscription fee or a birr 24.00 annual fee. Experience with the subscription revenue model indicates that to successfully overcome the disinclination of users to pay for content on the web, the content offered must be perceived as a high-value-added, premium offering that is not readily available elsewhere nor easily replicated.

- C. **In the transaction fee revenue model**, a company receives a fee for enabling or executing a transaction. For example, eBay.com created an online auction market place and receives a small transaction fee from a seller if the seller is successful in selling the item. E-Trade-com, an online stockbroker, receives transaction fees each time it executes a stock transaction on behalf of a customer.
- D. **In the sales revenue model**, companies derive revenue by selling goods, information, or services to customers. Companies such as Amazon.com, which sells books, music, and other products, DoubleClick.net, which gathers information about online users and then sells it to other companies, and salesforce.com, which sells sales force management services over the web, all have sales revenue models.
- E. **In the Free for service/Fees**-charging fees to consumers (individuals or businesses) for subscribing to content or service or for auction participation, charging brokering fees for consummating a transaction or finder's fee, and charging fees for the use of technology.

2.4 Unit Summary

A business model is the method of doing business by which a company can sustain itself. It is architecture of the flow of product, service and information. It spells out how a company makes money by pinpointing where it is positioned in the value chain but it does not indicate how the company realizes the business mission. There are different ways of categorizing e-business models. As a result, there is no single, comprehensive cogent taxonomy of web business models one can point to. Generally, e-business model can be broadly categorized based on the relationship of transaction parties; on the relationship of transaction types and on revenue.

Electronic market enables sellers and buyers to exchange goods and service with the support of information technology. Such market has the functions of matching buyers and sellers, facilitate commercial transactions and provide legal infrastructures. These functions can be performed by information technology which also helps to increase market efficiency and reduce transaction costs. E-business transaction model classified into B2C, B2B, C2C and C2B based on transaction partners. B2C model includes virtual malls, e-retailers, and catalog merchants.

Some of the reasons that one should opt for B2C model are globalization, Inexpensive, big opportunities, reducing operational costs, customer convince and knowledge management. B2C model process starts with customer visiting of virtual mall and end with after sales services. B2B transaction model is commercial activities between companies through medium of internet. The major advantages of this model among other are direct interaction with customer, customer loyalty, and focus on sales promotion, scalability, and saving of distribution cost.

Some of important web based B2B marketing tools and techniques (strategies of selling are pricing using of service provider model, generic model, and comprising shopping. B2B model include aggregators who for virtual buying entity or a virtual distributor, tubs who produce a highly integrated value proposition, community model who produces knowledge with economic value, content that facilitate trading and auction or dynamic pricing market model which handle complex exchange.

Consumer to consumer e-business transaction model is from one which enables consumers to exchange goods and services with the help of online market directly and Consumer to Business (C2B) transaction model also called reverse auction/demand collection enables buyers to transact electronically through intranet with the business enterprises.

E-business model based on the relationship of transaction type can be classified as brokerage model, aggregator model, infomediary model, community and value chain model. Aggregators connect buyers and sellers. The four types of aggregator models are content aggregators, main stream aggregators, event aggregators and shopping aggregators. Infomediary model helps customer to collect, manage and maximize the value of information about consumers. Based on the relationship between buyers and sellers infomediary model is classified into specialized agents, generic agents, suppliers agents and buyers agents.

The other transaction type e-business model is community model which will be formed when group of people meet online to fulfill certain needs. This model provides the communities on web various functions. The community structures include newsletters, discussion lists, bulletin board, and chat rooms care and planning and bottom line are the necessary elements for the community models.

Finally, value chain model pool discrete business information into unified form. The third category of e-business model is revenue model which aims to maximize the firm's revenue. This model rests on maximizing revenue through e-advertising, e-subscription, e-commission, e-free for service, e-sales, e-transaction fee and e-affiliated revenue.

Self-check Exercise -2

Part I: Discussion questions

1. Describe e-business model according to transaction partner.
2. What are the advantages of B2B and B2C model?
3. Discuss the three broad categories of e-business models
4. List and explain the three types of e-mail discussion list
5. Explain how to measure e-business revenue stream?
6. Discuss the building blocks (structure) of e-business community model?
7. Describe the primary type of auctions

Part II: Multiple choice

1. Which of the following is the function of electronic market?
 - A. Match buyers and seller
 - B. Hinder commercial transaction
 - C. Its infrastructure cannot service as means of delivering product to customers.
 - D. It is closed system
2. Website that hosts many online merchants is best referred as
 - A. E-mail
 - B. Bricks and mortars
 - C. Online seller
 - D. Info midairry
3. Which is the reason for B2C e-business model
 - A. Knowledge management
 - B. Increased operations costs
 - C. Customer inconvenience
 - D. Localization of the contemporary market

4. Which of the following B2C transaction process logically come first
 - A. Customer visit of virtual mall C. Getting services and warranty claims
 - B. Making payment D. Selecting vendor and negotiating price
5. Many travelers buy ticket form Ethiopian Air Lines online. Which of the following e-business model best describes this?
 - A. B2B B. C2B C. B2G D. C2C
6. Web sites such as Yahoo provide web directory and a search engine along with a group of attractive tools such as e-mail address, home page, reminds and the like. This is the best example of which e-business aggregator model
 - A. Content aggregator C. Mainstream aggregator
 - B. Event aggregator D. Shopping aggregator
7. Which represents e- business market maker who did not take title to the good traded online?
 - A. Brokerage model B. Aggregator model C. Info-midary model
 - D .Hubs
8. Factors that characterize online auctions is (are)
 - A. Scarcity B. Perishability C. Geographical restriction of goods
 - D All
9. In which of the following e-business model alliances are used to achieve high value integration without t hierarchical control
 - A. Hubs B. Community C. Aggregators D. Process integration
10. Which of the following is correctly matched?
 - A. Content aggregators- mostly represent large publishing companies

- B. Event aggregators- provide in depth content and tools
 - C. Shopping aggregators-let consumer travel through hundreds of sites catalogues
 - D. All are correctly matched
11. An organizer of virtual community which helps customer to collect, manages, and maximizes value of information about customer is
 - A. Info-mediary B. Aggregator C. Broker D. Community on the web
 12. The marketing of product to business for use in the business operations or for resale is
 - A. B2B B. C2B C. C2C D. E-Shopping
 13. The gatherers of buyers to form a virtual buying entity and /or supplier to constitute virtual distributor are called
 - A. Information intermediaries C. Aggregators
 - B. Community on the web. D. Brokers
 14. A method of developing an online e presence in which several individual or group are encourage to join and participate in ongoing interaction designed around a common purpose is
 - A. Price discovery mechanism C. Info-midary model
 - B. E-community model D. Brokerage model
 15. Information intermediaries that maintain open relationships with both buyers and sellers and involves no prelateship of specific investment is:
 - A. Specialized agents B. Generic agents C. Buyer agents D. Sellers agents

UnitThree: Online BusinessStrategies

Learning Objectives:

At the end of this unit, you should be able to:

- Understand client-server applications in selling online;
- Distinguish between networks and Internet;
- Understand how do internet protocols are working;
- Understand how search engine works and perform search;
- Identify different software agents
- Understand internet standards and specification, and documentation.

3.1 The World Wide Web

The World Wide Web is a system of Internet servers that supports hypertext to access several Internet protocols on a single interface. Almost every protocol type available on the Internet is accessible on

the web. This includes e-mail, File Transfer Protocol, Telnet, chat on the Web, Internet relay chat, I Seek You, Multipurpose Internet Mail Extensions and the like. In addition to these, the World Wide Web has its own protocol called the Hypertext Transfer Protocol.

The World Wide Web provides a single interface for accessing all these protocols. This creates convenient and user-friendly environments. The web gathers together these protocols in to a single system. Because of this feature, and because of the web's ability to work with multimedia and advanced programming languages, the World Wide Web is the fastest growing component of the Internet.

The operation of the web relies primarily on hypertext as it means of information retrieval. Hypertext is a document contains words that connect to other documents. These words are called links, and opens on a single click. A single hypertext document can contain links to many documents. In the context of the web, words or graphics many serve as links to other document, image, videos and sound. Links may or my not follow a logical path and is based on how the source document isprogrammed. On the whole, the WWW contains a complex virtual web of connections among a vast number of documents, graphic, videos and sounds.

3.2 Internet Client-Server Application

The users of Internet interact through one of the several client-server applications. As the name suggests, in a client-server application there are two major classes of software-the client software, which usually exists on an end-user's desktop and provides navigation and display. The other software is the server software, which usually exists on a workstation or a server-class machine and provides back-end data access services, where the data can be something simple like a file or complex like a relational database. The most widely uses client server

applications are World Wide Web (www), e-mail, telnet, web chat, file transfer protocol, and multipurpose internet mail extensions.

3.2.1 Telnet

Telnet is a program that allows you to log into computers on the Internet and use online databases, library catalogs, chat services and more. To Telnet to a computer, you must know its address. This can consist of words (www.yahoo.com). Some services may require connection to a specific port on a remote computer. In this case, type the port number after the Internet address, for e.g. telnet dte.vsnl.net.in to access your web server. Probably the most common web-based resource available through telnet is library catalogs. A link to a telnet resource may look like any other link, but it will launch a telnet session to make the connection. A telnet program must be installed on your local computer and configured to your web browser in order to work

3.2.2 File Transfer Protocol (FTP)

This is both a program and a method used to transfer files between computers on the Internet. Anonymous FTP is an option that allows users to transfer files from thousands of host computers on the Internet to their personal computer account. File transfer is quite rapid. FTP sites contain books, articles, software, games, images, sounds, multimedia, course work, data sets, and more. FTP transfers can be performed on the World Wide Web even without special software. In this case, the web browser will suffice. You can retrieve FTP files via search engines such as FAST, FTP Search, located at <http://ftsearch.lycos.com>. This option is convenient because you do not need to know FTP program commands.

3.2.3 Chat on the Web

For the most part, businesses have ignored the potential economic payoff from online communications. Except for e-mail, the Internet and web have been treated as a medium with information flowing in only

one direction-either pulled by or pushed to the end user. Most recently, businesses have begun to recognize that the Internet and the web offer the ability to engage customers in a dialogue and create virtual communities where customers can also communicate with one another. Chat programs are now common on the web. They are sometimes included as a feature of a web site, where users can log into the “chat room” to exchange comments and information about the topics addressed on the site. Chat may take other, more wide-ranging forms. A variation of chat is the phenomenon of instant messaging. With instant messaging, a user on the web can contact another user currently logged in and type a conversation.

3.2.4 IRC(Internet Relay Chat)

Internet Relay Chat (IRC) is a form of real-time Internet text messaging (chat) or synchronous conferencing. It is mainly designed for group communication in discussion forums, called *channels*, but also allows one-to-one communication via private messages as well as transfer, including file sharing. These channels are usually based on a particular topic. While many topics are frivolous, substantive conversations also take place. To have access to IRC, you must use an IRC software program. This program connects you to an IRC server and allows you to visit IRC channels.

3.2.5 ICQ or I Seek You'

As the name implies, ICQ or 'I Seek You' is simply a smart way of getting in touch with people. This small program takes up the complicated work of finding friends, colleagues and people with similar interests across the globe for the users, people who could be communicating by e-mail, chat, SMS, phone or pager, and makes it as straight forward as calling across a room and starting a friendly

conversation. The most popular method of communication on ICQ is instant messaging, enabling you to send a message that immediately pops up on an online contact's screen. ICQ also lets you chat, send e-mails, SMS and wireless-pager messages, as well as transfer files and URLs. ICQ phone incorporates IP telephony functions enabling you to engage in PC-to-PC and PC-to-phone calls. Used in multiple-user mode, groups can conduct conferences or play games with ICQ. In fact, ICQ supports a variety of popular Internet applications and serves as a Universal Platform from which you can launch peer-to-peer applications. ICQ brings together the most widely used methods of communication in the simplest way. ICQ is also a global community that puts you in touch with friends you already know and friends you haven't met yet. Just as search engines help you find information, ICQ helps you find people. The ICQ Community can connect you to people with similar interests, beliefs and passions.

3.2.6 Multipurpose Internet Mail Extensions (MIME)

Using HTTP, you can transfer full-motion video sequences, stereo sound tracks and even high-resolution images. The standard that makes this possible is MIME. HTTP utilizes MIME to identify the type of object being transferred across the Internet. Object types are identified in a header field that comes before the actual data for the object. Under HTTP, this header field is the Content-Type header field. By identifying the type of object in a header field, the client receiving the object can appropriately handle it. For example, if the object is a Graphic Interface (GIF) image, the image will be identified by the MIME type image/GIF. When the client receiving the object of type image/GIF can handle the object type directly, it will display the object. When the client receiving the object of type image/ GIF cannot handle the object directly, it will check a configuration table to see whether and application is configured to handle an object of this MIME type. If so application is configured for use and is available with the client, it will

display the GIF image. Otherwise, it will flash an error message on the screen. MIME typing is extremely useful not only to Http, but also to other protocols. MIME typing was originally developed to allow e-mail messages to have multiple parts with different types of data in each part and thus attach any type of file to an e-mail message.

3.2.7 E-mail

E-mail allows computer users locally and worldwide to exchange messages. Each user of e-mail has a mailbox address or user account identity, with which all main transactions are done. Messages sent via e-mail reach their destination within a matter of seconds. A powerful aspect of e-mail is the option to send electronic files to a person's e-mail address. Non-ASCII files known as binary files, may be attached to e-mail messages. For example a document created in Microsoft Word can be attached to an e-mail message and retrieved by the recipient in any e-mail program such as Pine, Netscape messenger or Outlook Express.

3.3 Networks and Internets

A computer network consists of two or more computers that are connected to each, other using cables and other network devices that handle the flow of data. When you connect two or more computers together, you form a network. Later, if you connect one network to another, you form an Internetwork or an Internet, for short. Network technology enables employees to use resources located in computers of different networks, without being influenced by the technology difference behind each of these networks.

3.3.1 Communication Switching

A network switch or switching hub is a computer networking device that connects network segments The term network switch does not generally encompass unintelligent or passive network devices such as hubs and repeaters.

Through the use of communication switching, computer networks allow computers to transfer data using shared lines of communication such as a cable. Communication switching works similar to telephone switching networks. A telephone switching network eliminates the need to connect a wire between your telephone and every telephone you may ever call. Instead, the phone company connects your phone (and everyone else's phone) to a set of switches. When you place a phone call, the switches create the connection between two phones. Without a telephone switching network, if you needed to call 11100 different people, you would need to connect 1,000 lines to your phone. In a similar way, computer networks rely on communication switches. Networks use two common methods of communication switching to transfer data-circuit switching and packet switching. In circuit switching, the switches create a single, unbroken path between devices that want to communicate.

Most computer networks, including the Internet, don't use circuit switching. They use a technique called packet switching. In a typical terminal-to-host data connection, the line remains idle for most of the time. Thus, with data connections, a circuit-switched approach is inefficient. In a circuit-switched network, the connection provides for transmission at constant data rate. Thus, each of the two devices that are connected must transmit and receive at the same data rate as the other.

In packet switching, programs break data into small pieces, called packets, and then transmit the packets between computers. Packets are a piece of data that adheres to a standard set of rules (protocols) that define their size and format. Unlike circuit switching, in a packet-switched network, data can flow along multiple paths.

In packet-switched networks, breaking one path does not prevent the data from reaching its destination. The packet will simply find a

different path. Each packet must contain its destination address. As the packet travels from one computer to another, each computer examines the packet's address and routes the packet to its next intermediate hop or directly to the destination. The Internet is a packet-switched network.

3.3.2 Developments in Transmission

Internet is measured by the capacity of its cables to carry information bits to users; this carrying capacity is called bandwidth. Universities and corporations typically connect directly to the Internet with dedicated leased lines of either 1,544,000 or 45,000,000 bits per second (bps). Each of these lines must support hundreds or even thousands of simultaneous users. In contrast, most home users dial into Internet through the telephone network, at narrowband rates. The modems on their computers are connected to a "twisted pair" of copper phone wires that can transmit at the rate of 14,000 to 56,000 bps. At such speeds text scrolls quickly down the screen, but a large image can take several minutes to appear.

Some home users in industrial countries can now access the Internet at midband speeds of 128,000 bps or more. At midband speeds, still images open on the screen quickly, and it becomes possible to transmit moving pictures, though these are fuzzier than television images, appear to hesitate, lag, or jerk.

3.3.3 Network Routers

Network designers use routers to transfer, or route data between networks that use different network technologies. Since the Internet comprises of various networks that use many different network technologies, routers are an integral part of the Internet. A router has an address on the network. Using the addressing capability of routers, nodes on a network can send packets destined for another network to a router. The router, in turn, will transfer the packet to the other network. To manage network traffic, Network designers also use

routers to segment large sections of a Local Area Network (LAN) to smaller segments, called subnets

3.3.4 The Internet Protocol Suite

The problem of Internetworking is how to build a set of protocols that can handle communications between two or more computers, using any type of operating system, and connected using any kind of physical medium.

Internet Protocol Suite is the set of communications protocols used for the Internet and other similar networks. It is commonly also known as **TCP/IP** named from two of the most important protocols in it: the Transmission Control Protocol (TCP) and the Internet Protocol (IP).

The Internet Protocol Suite consists of four abstraction layers. From the lowest to the highest layer, these are the *Link Layer*, the *Internet Layer*, the *Transport Layer*, and the *Application Layer*. The layers define the operational scope or reach of the protocols in each layer, reflected loosely in the layer names. Each layer has functionality that solves a set of problems relevant in its scope.

The Link Layer: This layer contains communication technologies for the local network the host is connected to directly, the link. It provides the basic connectivity functions interacting with the networking hardware of the computer and the associated management of interface-to-interface messaging.

The Internet Layer: This layer provides communication methods between multiple links of a computer and facilitates the interconnection of networks. As such, this layer establishes the Internet. It contains primarily the Internet Protocol, which defines the fundamental addressing namespaces, used to identify and locate hosts on the network. Direct host-to-host communication tasks are handled in the Transport Layer, which provides a general framework to transmit data between hosts using protocols like the Transmission Control Protocol and the User Datagram Protocol (UDP).

Application Layer: This layer contains all protocols that are defined each specifically for the functioning of the vast array of data communications services. This layer handles application-based interaction on a process-to-process level between communicating Internet hosts.

3.3.5 The Internet Naming Conventions

Computers on the Internet identify each other by their IP addresses such as 209.194.84.59 and so on. But remembering numbers is a gift only few of us possess. Names like yahoo.com are the most preferred in such a situation. Internet is divided into a number of registries or top-level domains (TLDs).

Internet naming conventions call for the type of web site to be identified by the registry-the portion after the dot in any web address. For example, sites that come under the .com registry are commercial sites or sites belonging to commercial organizations. Similarly, .gov to indicate government bodies and .org represents non-profit organizations and societies. But unfortunately, that's not always the case. The .com registry has been by far the most popular, and everybody seems to opt for .com. Uniform or Universal Resource Locators (URLs) provide a uniform way of identifying resources that are available using Internet protocols (IP).

Hostname information used in URLs identifies the address to a host and is broken down into two or more parts separated by periods. The periods are used to separate domain information from the hostname. Common domain names for web servers begin with www, such as www.xlri.com, which identifies the web server called xlri in the commercial domain. Domains you can specify in your URLs include:

- .com — commercial sites
- .edu — education sites
- .gov — nonmilitary government sites
- .mil — military sites

.net — network sites (developers, internet service providers, and so on)
.org — Organizational sites

3.3.6 Transmission Control Protocol (TCP)

The Internet uses packet switching hardware that can become overrun with datagrams. Since this necessitates additional communication software, the TCP has been invented. All computers that attach to the Internet run TCP/IP software.

TCP solves several problems that can occur in packet switching system. If a router becomes overrun with datagrams, it must discard them. As a result, a datagram can be lost in its trip through the Internet. TCP automatically checks for lost datagrams and handles the problem. The Internet has a complex structure with multiple paths that datagrams can travel. When the hardware in a router fails or network fails, other routers start sending datagrams along a new path, analogous to the way cars detour around a barricade on a road. As a result of the change in routes, some datagrams can arrive at the destination in a different order than they were actually sent. TCP automatically checks incoming datagrams and puts the data back in order. Network hardware failures sometimes result in duplication of datagrams. TCP automatically checks for duplicate datagrams and accepts only the first copy of data that arrives. TCP software makes it possible for two computer programs to communicate across the Internet in a manner similar to the way humans use a telephone. Once the programs establish a connection, they can exchange arbitrary amounts of data and then terminate communication.

Although TCP and IP can be used separately, they were designed at the same time to work as part of a unified system, and were engineered to cooperate and to complement each other. TCP provides a connection-oriented, reliable, byte stream service. The term

connection-oriented means that the two applications using TCP (normally considered a client and a server) must establish a TCP connection with each other before they can exchange data. There are exactly two end points communicating with each other on a TCP connection.

3.4 Search Engines

The Internet today contains billions of web sites, which is analogous to a library having billions of books. This list of web sites is getting longer every second. In such a situation, if one has to search for a particular topic, it becomes almost impossible to find it, as one is aware of possibly a few hundred sites. It is at this point that the search engines come to the rescue. Or rather helps us in finding the proverbial needle in this immense haystack (or tiny fly in the web). We may use two basic approaches. The first one is by a search engine and the second, by a subject guide such as Yahoo, Snap, Google and Magellan. Subject guides are for browsing general topics. For specific information one should use a search engine.

How do the Search Engines Work?

All search engines have what are called 'robots' or 'spiders', which spend their time going from link to link across the Internet. When they find a new site or an updated site, they will copy some information about the site back to their home database. It is this database, which is interrogated when you run a search. People can register their web pages with search engines, which means that they usually get listed much more quickly than waiting for the spiders to come across them

3.5 Value of Software Agents in a Networked World

E-commerce is changing the way business is getting done in the Information Age. To gain a competitive edge, businesses are in need to new computational models and infrastructure. To address this need,

businesses are developing a model of inter-organization e-commerce. According to this model, different users are represented by autonomous software agents interconnected via the internet. The agents act on behalf of their human users/organizations to perform information gathering tasks, such as location and accessing information from various sources, filtering unwanted information, and providing decision support.

The agents act on behalf of their human users/organizations to perform information gathering tasks, such as locating and accessing information from various sources, filtering unwanted information, and providing decision support. It can be an autonomous (preferably) intelligent, collaborative, adaptive computational entity. Here, intelligence is the ability to infer and execute needed actions, and seek and incorporate relevant information, given certain goals.

Software agents are an innovative technology designed to support the development of complex, distributed, and heterogeneous information systems. There is however no complete standard/consensus definition of an agent. As a result, agents tend to be characterized in terms of a number of their behavioral attributes.

Commonly cited main attributes of agents include the following:

- **Autonomy:** the ability to act autonomously to some degree on behalf of users for example by monitoring events and changes within their environment.
- **Pro-activity:** the ability to pursue their own individual set goals, including by making decisions.
- **Re-activity:** the ability to react to and evaluate external events and consequently adapt their behaviour and make appropriate decisions to carry out the tasks to help them achieve their goals.
- **Communication and Co-operation:** the ability to behave *socially*, to interact and communicate with other agents (in multiple agent

systems (MAS)) i.e. exchange information, receive instructions and give responses and co-operate when it helps them fulfil their own goals.

- Negotiation: the ability to conduct organized conversations to achieve a degree of co-operation with other agents
- Learning: the ability to improve performance over time when interacting with the environment in which they are embedded.

A major advantage of employing software agents with intranet, Internet, and extranet applications is that they are able to assist in locating and filtering all the data. They save time by making decisions about what is relevant to the user. They are able to sort through the network and the various databases effortlessly and with unswerving attention to detail to extract the best data. They are not limited to hard (quantitative) data but can also be useful in obtaining soft data about new trends that may cause unanticipated changes and opportunities in local or even global markets. With an agent at work, the competent user's decision-making ability is enhanced with information rather than paralyzed by input. Agents are Artificial Intelligence's answer to a need created by Internetworked computers.

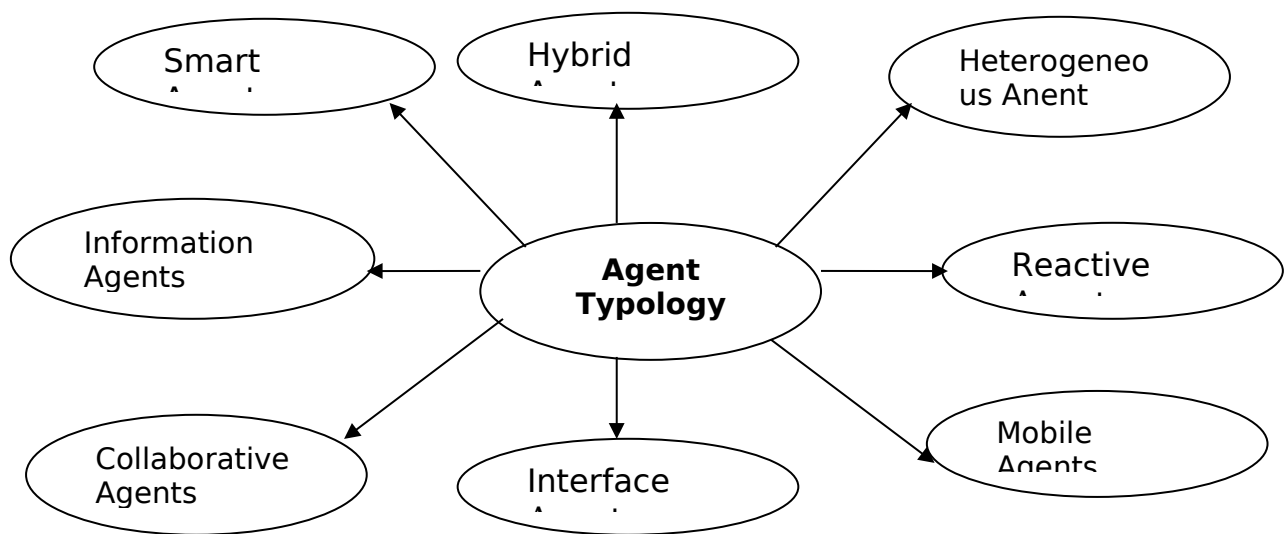
3.5.1 Types of Software Agents

Software agents can be classified as collaborative, information, smart, hybrid, heterogeneous system, reactive, interface and mobile. Each one is discussed as follows.

- (i.) **Collaborative agents:** Collaborative agents emphasize autonomy and cooperation (with other agents) in order to perform tasks for their owners. They may learn, but this aspect is not typically a major emphasis of their operation.

In order to have a coordinated set up of collaborative agents, they may have to negotiate and reach mutually acceptable agreements on some matters.

In brief, the general characteristics of these agents include autonomy, social ability, responsiveness and proactiveness. Hence, they are able to act rationally and autonomously in an open and time-constrained multi-agent environments. They tend to be static, large, coarse grained agents. They may be benevolent, rational, truthful or some combination of these or none. Typically, most recently implemented collaborative agents do not perform any complex learning, though they may or may not perform limited parametric or rote learning.



- (ii.) **Interface Agents:** Interface agents emphasize autonomy and learning in order to perform tasks for their owners. The key metaphor underlying interface agents is that of a personal assistant who is collaborating with the user in the same work environment. Note the subtle emphasis and distinction between collaborating with the user and collaborating with other agents as is the case with collaborative agents. Collaborating with a user may not require an explicit agent

communication language as is required when collaborating with other agents

- (iii.) **Mobile Agents:** Mobile agents are computational software processes capable of roaming Wide Area Networks (WANs) such as the www, interacting with foreign hosts, gathering information on behalf of its owner and coming back home, having performed the duties set by its user. These duties may range from flight reservation to managing telecommunications network. However, mobility is neither a necessary nor a sufficient condition for agenthood. Mobile agents are autonomous and cooperate, albeit differently to collaborative agents. For example, they may co-operate or communicate by one agent making the location of some of its internal objects and methods known to other agents. By doing this, an agent exchanges data or information with other agents without necessarily giving all its information away.
- (iv.) **Information/Internet Agents:** Information agents have come about because of the sheer demand for tools to help us manage the explosive growth of information we are currently experiencing, and which we will continue to experience henceforth. Information agents perform the role of managing, manipulating or collating information from many distributed sources.
- (v.) **Reactive Software Agents:** Reactive agents represent a special category of agents which do not possess internal, symbolic models of their environments; instead they act/respond in a stimulus-response manner to the present state of the environment in which they are embedded. However, the most important point to be noted about the reactive agents are not these (i.e. languages, theories or architectures), but the fact that the agents are relatively simple and they interact with other agents in basic ways. Nevertheless, complex patterns of behavior emerge from these interactions when the ensemble of agents is viewed globally.

- (vi.) **Hybrid Agents:** So far, we have reviewed five types of agents: collaborative, interface, mobile, Internet and reactive agents. The debates as to which of them is better are rather academic, and frankly, sterile, rather too early to get into. Since each type has (Or promises) its own strengths and deficiencies, the trick (as always) is to maximize the strengths and minimize the deficiencies of the most relevant technique for your particular purpose. Frequently, one way of doing this is to adopt a hybrid approach which bring together the strengths of both the deliberative and reactive paradigms. Hence, hybrid agents refer to those whose constitution is a combination of two or more agent philosophies within a singular agent. These philosophies include a mobile philosophy, an interface agent philosophy and collaborative agent philosophy.
- (vii.) **Heterogeneous Agent Systems:** Heterogeneous agent systems, unlike hybrid systems described in the preceding section refers to an integrated set-up of at least two or more agents which belong to two or more different agent classes. A heterogeneous agent system may also contain one or more hybrid agents.
- (viii.) **Smart Agents:** Smart agents are those agents which can learn, cooperative and are autonomous. In a way, all agents are smart. But for our understanding, when these three qualities are combined in an agent, we call it smart.

3.6 Internet Standards and Specification

Many standards are in place on the web to enable information to be transformed the way it is. The Internet is not a single, unified network and so, it is not surprising that it is not controlled by a single body. Although there are standards, there is no authority to enforce them. If any organization deviates from the collective standards, it loses the benefits of global connectivity. Groups such as the InterNIC do exist to carry out central management functions for the Internet. The ultimate authority for the technical direction of the Internet rests with the

Internet Society (IS). This professional society is concerned with the growth and evolution of the worldwide Internet, with the way in which the Internet is and can be used, and with the social, political and technical issues. It is a voluntary organization whose goal is to promote global information exchange.

3.7 The Role of Documentation

A key to rapid growth of the Internet has been the free and open access to the basic documents, especially the specifications of the protocols and standards.

The beginnings of the ARPANET and the Internet in the university research community promoted the academic tradition of open publication of ideas and results. However, the normal cycle of traditional academic publication was too formal and too slow for the dynamic exchange of ideas essential to creating networks.

3.8 Self-Check Exercises-3

Part I: Short Answer

1. What is World Wide Web?

2. Mention some of the internet protocols available on the World Wide Web that enable you to sell online. Explain the main functions of each

3. What are internet client server applications?

4. Distinguish between network and internet. Which of the two enable you to sell online? Explain

-
-
5. Of packet switching and circuit switching which one will best facilitate your business transaction? why
 6. Mention the four layers on internet protocol suit and indicate the importance of each in e-commerce
 7. What is search engine? Indicate its importance in selling online?
 8. What are software agents? What are their characteristics?
 9. List and define software agents
 10. Indicate standard and specification of the internet.

Part II: Fill in the blank

1. The two major classes of client server applications are_____ and _____
2. E-mail box address is also called_____
3. _____ is a program that allows you to log into computers on the internet and use online databases, library catalog, chat services and more
4. _____is both a program and a method used to transfer files between computers on the internet

5. The standard that enable you to transfer full-motion video sequences, stereo sound tracks and high-resolution images is called _____
6. The connection of networks is called _____
7. Computers on the internet identify each other by their _____
8. _____ provides a uniform way of identifying resources that are available using internet protocol (IP)

Unit Four: Application of E-commerce

Learning Objectives:

After completing your study of this unit, you should be able to;

- explain the business functions to which e-commerce is applicable;
- explain the facilities of e-shop;
- discuss the elements of e-branding and e-advertising;

E-Shops come in all shapes and sizes. They range from, at the simplest end of the spectrum, a few simple web pages to highly complex sites offering a range of products and services including online ordering and payment. E- Auction brings buyer and sellers geographically separated. E- Advertising changes the traditional advertising in to interactive advertising. E- Branding also adds value to the product and services transacted electronically. Protection against these threats requires businesses to have strict security measures in place. The growing of e-commerce is dependent, among other factors, on the existence of secure, user-friendly and cost-effective payment systems. Handling payments is a costly process that has been a central part of bank business for the past century. However, it is now being transferred by technological development, and in particular, the Internet. This unit aimed at acquainting you with such applications of e-commerce.

4.1 E-shop/ Intermate retailing

The full-service e-shop needs an extensive range of facilities. These include: company information, customer registration and online mailing of customers with information, site navigation, product database, online payments, and delivery and after sales services:

- A. **Online Information:** Trust is an issue on the Internet and it is not an issue that is likely to go away. One element of this issue knows that an e-commerce site is a bona-fide trader and not just a scam. Part of the reassurance is having a known brand name and trading record. Further elements are: a site that gives a professional image and the inclusion of company information on the web site. Company information lets the potential online shopper know what sort of outfit the e-Shop is (or represents). The information can include a company profile, summaries of annual reports, messages from a director, etc. All of this does not prove that a site is genuine but it has been shown that it reassures potential customers.
- B. **Customer Registration:** E-commerce customers have to give their suppliers details about themselves; a name and address are a minimum requirement if goods are to be delivered. This, and more, information would be required if the customer were to open a bank account or purchase an insurance policy but it is not information that we normally provide when we buy cornflakes at a conventional grocer or some light reading at a station bookshop. The context in which the e-Commerce vendor asks for this information is also important. The e-Commerce site can require
- Customer registration prior to using the site;
 - Customer details only when an order is placed and the information is needed.

Prior registration of customers can allow the site to be customized to that user's needs and it facilitates the building of a marketing

database by the e-Vendor. Prior registration does, however, annoy or scare away many potential users; they don't want to go through the hassle and invasion of privacy involved in registration before they make a purchase.

- C. **Site Navigation:** Large complex web sites (and some smaller ones) can be slow to download, difficult to navigate and, horror of horrors, contain erroneous hypertext links. Good site design and intuitive site navigation are vital.

Site navigation is aided by site index, preferably accessible from every page; a site search engine and logical sequencing of facilities with clear links to the next stage in any process. Great care needs to be taken in site design. An e-Commerce site must aim to appeal to the experienced user and to be readily accessible to the novice.

- D. **Product Database:** E-Commerce sites sell a variety of products and the layout and technical design can be similarly varied. The web site contains a series of product descriptions, prices and possibly a picture of each product...

- E. **Online Orders:** The most common analogy on a web site is a shopping basket in the UK and a shopping cart in the US. In e-Shops selling tangible goods, the customer is invited to browse round the shop, select goods and put them in their basket. On a good site the contents of the basket can be inspected at any time, the total value of the goods is shown and any of the goods can be 'returned to the shelves' if the customer decides against the purchase. Once satisfied the customer proceeds (electronically) to the checkout.

In a service site such as an airline, the search process, indicated above, is also the shopping process. The site displays available flights and prices and the customer will choose, change the search or go elsewhere.

The checkout involves filling in a form. The form filling is reduced for customers who have pre-registered and have not subsequently lost their passwords. To pay the customer has to provide a credit card number and for delivery the name and address. Often the e-Vendor will want to get more details for marketing purposes.

F. **Online Payment:** For a retail transaction, the norm is that the payment is made at the time of purchase coincident with the exchange of goods. The retailer takes cash, cheque or a credit / debit card as payment and the customer takes the goods. This simultaneous exchange of value gives both parties reasonable confidence in, what is normally, a 'casual' trade exchange. It contrasts with many business to business transactions which are part of an ongoing trade relationship and where credit is given; the dispatch of the goods takes place first and payment is made later after an invoice is received. Further issues concerning payment will be discussed latter in section 4.5.2.

G. **Delivering the Goods:** Internet e-Commerce allows the user to order what they want, when they want, but then they have to wait until the postman arrives. The delivery system for e-Commerce purchases has to depend on the size of the product, its nature, urgency and the distance that packet will have to travel. Examples of delivery systems are:

- i. **Post:** The post is relatively cheap, reasonably rapid and is useful for small packets of non-perishable products; books and CDs are ideal products for posting. For the customer, there is no requirement to wait in for the delivery — the packet can, in most instances, be simply posted through the letter box. It has been said that you can sell anything online provided it will fit through a letter box.
- ii. **Packet:** Call them parcels or call them packets, there are a variety of organizations that provide a home delivery parcel

service. Packed delivery services are not that cheap and if next day delivery is required then there is a premium rate to pay. Like post they are essentially for reasonably robust types of merchandise, computer equipment could be one example. Delivery can be problematic; if the customer is not at home then the delivery service (should) take the packet back to the depot, an extra hassle for those who are rarely at home.

- iii. **Local Delivery:** The idea that all e-Commerce can be conducted from a central warehouse with minimum overheads starts to break down when it comes to perishable (and possibly very bulky) goods.
- iv. **Collect your Own:** An alternative to local delivery, that is suggested, is for the customer to collect their own goods. The produce is ordered electronically, paid for online, picked and packed by the vendor but then the customer picks it up at the local depot or supermarket — cuts out the queues at the checkout and the customer only has the local traffic jam to cope with.
- v. **Electronic Delivery:** The one way to not only order what you want, when you want but also get it when you want is electronic delivery. A lot of software is sold online and downloaded with savings in packaging, distribution costs and time for both the supplier and the customer. It is suggested that music and books have the same potential but it does increase the risk to the copyright and the result is a product that is not quite the same.
- vi. **No delivery:** The final category is for those intangibles where there is no need for delivery. An insurance policy bought online can be confirmed there and then; airline tickets can be substituted by an e-Ticket, etc. There are security implications that were perhaps not present with the traditional ways of

contracting for services but these electronic replacements are achieving an increased acceptance.

Overall the issue of delivery of electronically purchased goods is somewhat problematic- there are issues of cost and issues of trust. A tendency of strategic information systems has been to transfer tasks to the customers of the system. Inter-organizational systems achieve this trick and many Internet E-Commerce systems can achieve similar savings for the order and payment stages of the trade cycle.

H. After-Sales Service

The Internet can have considerable advantages in the area of after sales. A good web sit can provide excellent product information and diagnostic support. The advantages of the Internet over conventional manuals and postal updates are:

- No printing costs;
- Material is readily corrected and updated;
- Hyperlink indexes and search facilities can be provided;
- No mailing costs;

For software, bug fixes and updates can be downloaded. These advantages are particularly applicable in the computing and software field where access to the internet is fairly readily available. These advantages could apply in other sectors, electrical goods could be an example, but the manufacturers are not sensibly able to expect their customers for these categories of goods to be online.

The other aspect of after sales is when things go wrong; the new shirt that falls apart at the seams or the electric heater that expires with a puff of blue smoke the first time it is used. When these problems occur with goods bought in a conventional shop you take them back; it is not necessarily pleasant or convenient but it can be done and there is a person there to whom the problem can be explained. For goods bought

online (as is the case with any direct sales channel) the goods have to be wrapped up and posted off to the supplier. Doubtless many online suppliers are very good in dealing with such problems but it seems more problematic, and there is nobody available to shout at!

4.2 E-Auction

An auction is a market of buyers and sellers. Typically, multiple buyers compete to obtain one or more items from one seller. The bidding process determines the sale price, which cannot be predicted with certainty by either the buyer or the seller. The best-known example of an online auction is eBay, but there are also Onsale Auctions, Yahoo Auctions, and Amazon.com Auctions, among others.

Online auctions have several advantages over traditional auctions. First, in online auctions, the audience does not have to be physically present to participate, which means that individuals can place their bids at any time, and a large audience can be put together on relatively short notice. Second, because of search engines and hierarchy-based classification schemes, consumers can easily locate the auctions with the products they want. Third, online auctions create global markets for a local product.

But online auctions also have their share of disadvantages. First buyers cannot see, touch, or feel the product that they are buying before placing their bid. Of course, this is standard problem with buying anything through the Web, however, the implications with auctions can be more profound, especially when consumers buy from other consumers. Second, there is the potential for fraud by both the buyer and the seller—the buyer may not pay and the seller may not deliver the goods.

Online auctions appeal to sellers as a cheap means of selling their product since they involve a low level of overhead. Because the auctioneer rather than the seller bears the onus of generating traffic, marketing costs are dramatically reduced. Online auctions appeal to buyers for the following reasons.

First, online auctions are an entertaining way of buying a product. With the advent of modern retailing institutions (e.g., supermarket, department store), consumers have become accustomed to buying from stores that quote a fixed price. The suspense of the dynamic price and the competition make auctions entertaining; the constant bidding action keeps people hooked. Some have suggested that auctions have made shopping interesting again for the male shopper.

Second, auctions have led to the formation of trading communities. eBay is a great example of a trading community. In many cases, the same individuals are buyers as well as sellers. In addition, a common interest in an obscure collectible or antique creates strong relationships among individuals.

4.3 E-Advertising

Advertising is a worldwide industry that, until now, has been mainly a one-way street, with consumers passively absorbing advertising messages. Advertisers hoped that potential buyers would remember their slogan or jingle long enough to make a trip to the store and purchase the product.

This has changed with the advent of interactivity. The new concept of 'interactivity' has overpowered the traditional concept of advertising, by putting the buyer in the driver's seat. Interactivity allows consumers to increase their control over the buying process. We are all deluded into the maze of data. We long for a sense of mastery over the information that washes over us. Given the opportunity, we'll be more selective about the kind of information we choose to receive.

Interactivity gives us that option. Thus, the audience is not captive anymore and the marketers are going to have to work harder than before, to entice them. The marketing efforts will have to be information-rich and user-friendly.

Web based advertising has become an important part of a company's media mix. Numerous companies are committing large advertising budgets to the Internet.

4.3.1 Various Means of E-advertising

- A. **E-mail:** The advantages of e-mail are its low cost and the ability to reach a wide variety of targeted audiences. Most companies develop a customer database to which they send e-mails. E-mail is emerging as a marketing channel that affords cost-effective implementation and better, quicker response rates than other advertising channels. Marketers should be racing to embrace the medium. Sometimes, it may also happen that when every marketer starts inundating prospects and customers with e-mail, the consumers may negatively react.
- B. **Banners:** They make up 50 per cent of online ad revenues, but their effectiveness may be waning. When IBM kicked off banner ads in 1994 on tech site Hotwire, 30 per cent of the people who saw the ads clicked on them. Now the overall click-through rate for banner ads has dropped to a measly 0.3 per cent.

But it is the most commonly used form of advertising on the Internet. As you surf your way through the information superhighway, banners are everywhere. The smaller the file size, the quicker it gets loaded. Typically, a banner contains a short text or a graphical message to promote a product. A major advantage of using banners is the ability to customize them to the target audience. One can decide which market segment to focus on.

- C. **Skyscrapers:** These are the extra-long skinny ads running down the right or left side of a web site.
- D. **Banner Swapping:** Banner swapping is nothing but a direct exchange of links between web sites. To be precise, company A may agree to display a banner (in the form of a link) of company B in exchange for company B displaying company A's banner.
- E. **Streaming Video and Audio:** Companies and content networks insert ads for marketers into music and video clips, as consumers listen to them. It is much more like the TV that marketing advertisers know and trust.
- F. **Effectiveness Tracking:** This is an upstart dynamic logic designed by a pioneering service to help traditional advertisers gauge the impact of their marketing by placing tiny files, called cookies, on viewers' computers. This helps them track where people go after seeing their ads.

4.4 E-branding

A known and respected brand name can present to potential customers a powerful statement of quality value, and other desirable qualities in one recognizable element. Branded products are easier to advertise and promote, because each product carries the reputation of the brand name.

4.4.1 Elements of E-Branding (e-branding criterion)

The key elements of a brand are differentiation, relevance, and perceived value. Product differentiation is the first condition that must be met with to create a product or a service brand. The company must clearly distinguish its product from all others in the market. This makes branding for commodity products such as salt, nails, or plywood difficult, but not impossible.

If a brand has established that it is different from competing brands and that it is relevant, and inspires a perception of value to potential

purchasers, those purchasers will buy the product and become familiar with how it provides value. Brands become established only when they reach this level of purchaser-understanding.

In traditional marketing, “branding” campaigns are designed to embed a company or a product name in your consumer psyche. Firms often use a combination of persuasive, emotional advertising campaigns and public relations to encourage a link between a positive “feeling” and a product. If it works, it can make you want to spend your hard-earned money as fast as possible. Online companies are putting branding to work with remarkable success. Research shows the brand names of seven Internet companies are already recognized by more than 50 million US adults, giving them ‘mega-brand’ status. According to Opinion Research Corporation International, the following Net names are top-of-mind with Americans: America Online. Yahoo!, Netscape, amazon.com, Priceline.com, Infoseek and Excite Intelliquest conducted a research and asked 10,000 randomly selected Internet users (unaided by a list of possibilities) to name the sites they associate with certain products.

This clearly shows the effect that e-branding has on the psyche of the consumer. This e-branding criteria is summarized in Table 4.1

Table 4.1: E-Branding Criteria

Element	Meaning to the customer
Differentiation	In what significant ways is this product or service unlike its competitors?
Relevance	How does this product or service fit into my life?
Perceived value	Is this product or service good?

4.5 Self-Check Exercise -4

1. What facilities do you need to have e-shop?

2. Indicate factors that can affect the delivery of goods sold online.

3. What distinguish e-advertising form traditions advertising?

4. List the techniques of e-advertising.

5. What criterion must be fulfilled to effectively advertise a product online?

Part II: Multiple choice

Part II: Multiple Choice

1. Which of the following is important facilities of e-shop?

- A. Site navigation C. Customer registration

- B. Online payment D. Product database E. All of the above
2. The after sales service of e-commerce differ from traditional after sales service in that
 - A. No printing cost in the latter
 - B. The former needs more cost than the latter
 - C. Material is readily corrected and updated in the former
 - D. The latter provides hyperlink indexes and search facilities
 3. Which of the following is not correct
 - A. An e-commerce site is just a scan not beneficial of trader
 - B. E-commerce site require customer registration prior to using the site
 - C. An e-commerce site must aim to appeal the experienced user and to be readily accessible to the novel.
 - D. All of the above
 4. Online auction differs from traditional auction in that
 - A. The former needs physical presence of participants
 - B. Consumer can easily locate the auction with the product they want in the case of the latter
 - C. The former creates global market for a local product.
 - D. In the case of the latter individuals can place their bids at any time
 5. Identify the importance of e-advertising over other media of advertising
 - A. The target audiences go to advertising
 - B. People preference to surf the net that is increasing
 - C. The un restrictiveness of internet graphically
 - D. All are correct
 6. The most commonly used form of advertising on the net is:
 - A. E-mail C. Banners

- B. Skyscrapers D. Effective tracking
7. The key element (s) of e-branding is:
- A. Differentiation C. Perceived value
- B. Relevance D. All of the above

Unit Five: Mobile Electronic Commerce: M-Commerce

Learning Objectives: After completing this unit, you should be able to:

- Understand the basic concept of M-Commerce
- Define M-Commerce
- Explain the advantages and disadvantages m-commerce
- Identify and explain products and service that can be available through m-commerce
- Explain the area of applications of m-commerce

5.1 The Concept of Mobile Electronic Commerce

Mobile Commerce is known as M-Commerce. M-commerce are used to buy and sell goods by using the wireless devices like cell phones, personal digital assistants and other hand-held devices that have operated with Internet access. By using m-commerce we can access advanced mobile applications and highspeed services and we can use this device remotely, anywhere, at any time. We can use the same hand-held device for both Telecommunications and for bill payment and account evaluation.

M-commerce is an advanced technology of e-commerce. The time and space limitation removed and we can access any time we need. Through m-commerce, we can improve the wide range of productivity. In short, Mobile commerce is defined as the buying and selling of products and services through the use of wireless mobile devices. M-commerce is considered the next generation of e-commerce and this particular technology will allow users to shop through Internet without a plug-in terminal.

5.2 The meaning of Mobile Commerce

Mobile Commerce is the subset of e-commerce, which includes all e-commerce transactions, carried out using a mobile (hand held) device. "Mobile Commerce is any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device"

5.3 Advantages and Disadvantages of M-Commerce

5.3.1 Advantages

M-commerce has several major advantages over its fixed counterparts because of its specific inbuilt characteristics such as ubiquity, personalization, flexibility, and distribution, mobile commerce promises exceptional business market potential, greater efficiency and higher fruitfulness. They are explained as follows.

Ubiquity

The use of wireless device enables the user to receive information and conduct transactions anywhere, at any time.

Accessibility

Mobile device enables the user to be contacted at virtually any time and place.

The user also has the choice to limit their accessibility to particular persons or times.

Convenience

The portability of the wireless device and its functions from storing data to access to information or persons.

Localization

Positioning technologies, such as the Global Positioning System (GPS), allow companies to offer goods and services to the user specific to his/her current location. Location based services can be, thus, offered to meet consumers' needs and wishes for localized content and services.

Instant Connectivity:

Ever since the introduction of the General Packet Radio Service (GPRS) mobile devices are constantly "online", i.e. in touch with the network ("always-on" feature). This feature brings convenience to the user, as time-consuming dial-up or boot processes are not necessary.

Personalization

The combination of localization and personalization will create a new channel/business opportunity for reaching and attracting customers. Personalization will take the form of customized information, meeting the user's preferences, followed by payment mechanisms that allow for personal information to be stored, eliminating the need to enter credit card information for each transaction.

Time Sensitivity

Access to real-time information such as a stock quote that can be acted upon immediately or a sale at a local boutique. Security depending on the specific end user device, the device offers a certain level of inherent security.

Pro-active functionality

Mobile Commerce opens, by the virtue of its ability to be immediate, local and personal, new avenues for push marketing, such as content- and product offers. Services like “Opt-in advertising” can be offered, so that a user may choose the products, services and companies which he wants to be kept informed about. The Short Message Service (SMS) can be used to send brief text messages to consumers informing them of relevant local offerings that best suit their needs. This feature ensures that the “right” (relevant) information can be provided to the user at the “right” place, at the “right” time. On the other hand, the user does not have to fear missing some potentially crucial information or getting it too late.

5.3.2 Disadvantages

The following list summarizes the disadvantages of m-commerce:

Mobile devices offer limited capabilities (such as limited display). Between mobile devices these capabilities vary so much that end user services will need to be customized accordingly.

The heterogeneity of devices, operating systems and network technologies is a challenge for a uniform end user platform. For this reason, standardization bodies consisting of telecommunication companies, device manufacturers and value added service providers integrate their work.

Mobile devices are more prone to theft and destruction. The communication over the air interface between mobile device and network introduces additional security threats.

5.4 Areas / Uses of M-Commerce

In the current commerce industry, mobile commerce or M-Commerce has been entered in finance, services, retails, telecommunication and information technology services. In these sectors, M-Commerce is not only being widely accepted but also it is being more used as a popular way of business/ commerce.

Finance Sectors

Mobile Commerce works vastly in finance sector including all big and major financialinstitutes, banks, stock market and share Brokers. Whenever any user needs money or wants any sort of banking and finance related services, he/she can access the services or register services via voice calling or via Short Message Services (SMS). WAP based mobile handsets allow the user to access the official website of the institute.

User can transact money or transfer money, or pay the bill from its bank account using mobile commerce facilities. Banks also provide round the clock customer care services, which can be used any time through voice calling. Some customer care services are also provided non-voice services on mobile that is known as insta-alert facility.

While in the stock market, the user can access the stock market quotes and get in live touch with current trading status on its mobile in two forms either voice (customerassistance) or non-voice (SMS alerts) or both.

The share broker sends market trends and tips of trading on their clients' mobile. Alsobroker can suggest the appropriate stock for intra-day trading to their users.

Telecommunication Sectors

Mobile has played a giant role in communication technology through its versatility and superiority. The ubiquity and easy usage have further made it extremely popular across the globe. It has already

surpassed the fixed phone in the world. Software platform is essential for operating any mobile and this tool has revolutionized the communication world because of its functioning as a small computer. The booming popularity has forced the corporate world to develop a new commerce platform that can reach to masses. Mobile commerce has attracted massive traffic because of its unique characteristics. The user can change the service of any financial institute or banks if gets better product and service or user is unsatisfied with the service of the subscribing company.

Besides this several bills can be paid using mobile and user can also check the available balance, the status of cheques, and the status of requested processing and customer care support. Several dealings can be handled through mobile phones.

Service / Retail sectors

Service and Retail sectors are also among the leading sectors, which have nurtured most from mobile commerce. M-Commerce has proved a major boon for these sectors. Several business dealings no matter how big or small are being finalized on the mobile phone. Customer would be able to book the order, can hire carrier/courier services and above all could also pay the dues related to it through mobile.

Information Sector

After the bursting of dotcom bubble, ecommerce has gone downwards to hell. But the evolution of mobile commerce has again worked as ambrosia for them. A separate sector has been evolved to exercise on this field for the IT experts. The webmasters have skillfully exploited this new area of IT-enabled commerce.

In the IT field, mobile commerce has been used massively to deliver financial news, stock updates, sports figures and traffic updates and many more onto a single handheld device 'mobile'.

5.5 Products and services available through M-Commerce

Mobile ticketing

Tickets can be sent to mobile phones using a variety of technologies. Users are then able to use their tickets immediately, by presenting their phones at the venue. Tickets can be booked and cancelled on the mobile device with the help of simple application downloads, or by accessing the WAP portals of various travel agents or direct service providers.

Mobile vouchers, coupons and loyalty cards

Mobile ticketing technology can also be used for the distribution of vouchers, coupons, and loyalty cards. These items are represented by a virtual token that is sent to the mobile phone. A customer presenting a mobile phone with one of these tokens at the point of sale receives the same benefits as if they had the traditional token. Stores may send coupons to customers using location-based services to determine when the customer is nearby. It is a very simple commerce method.

Content purchase and delivery

Currently, mobile content purchase and delivery mainly consists of the sale of ringtones, wallpapers, and games for mobile phones. The convergence of mobile phones, portable audio players, and video players into a single device is increasing the purchase and delivery of full-length music tracks and video. The download speeds available with 4G networks make it possible to buy a movie on a mobile device in a couple of seconds.

Location-based services

The location of the mobile phone user is an important piece of information used during mobile commerce transactions. Knowing the location of the user allows for location-based services such as;

- Local discount offers

- Local weather
- Tracking and monitoring of people
- Local map

Information services

A wide variety of information services can be delivered to mobile phone users in much the same way as it is delivered to PCs. These services include:

- News
- Stock quotes
- Sports scores
- Financial records
- Traffic reporting

Customized traffic information, based on a user's actual travel patterns, can be sent to a mobile device. This customized data is more useful than a generic traffic report broadcast, but was impractical before the invention of modern mobile devices due to the bandwidth requirements.

Mobile banking

Banks and other financial institutions use mobile commerce to allow their customers to access account information and make transactions, such as purchasing stocks, remitting money. This service is often referred to as Mobile Banking, or M-Banking.

Mobile Storefront

The reinvention of the mobile phone as a touch sensitive handheld computer has for the first time made mobile commerce practically feasible.

Mobile brokerage

Stock market services offered via mobile devices have also become more popular and are known as Mobile Brokerage. The yellow the

subscriber to react to market developments in a timely fashion and irrespective of their physical location.

Auctions

Over the past three years mobile reverse auction solutions have grown in popularity. Unlike traditional auctions, the reverse auction (or low-bid auction) bills the consumer's phone each time they place a bid. Many mobile SMS commerce solutions rely on a one-time purchase or one-time subscription; however, reverse auctions offer a high return for the mobile vendor as they require the consumer to make multiple transactions over a long period of time.

Mobile Browsing

Using a mobile browser-a World Wide Web browser on a mobile device-customer

can shop online without having to be at their personal computer.

Mobile Purchase

Catalog merchants can accept orders from customers electronically, via the customer's mobile device. In some cases, the merchant may even deliver the catalog electronically, rather than mailing a paper catalog to the customer. Some merchants provide mobile websites that are customized for the smaller screen and limited user interface of a mobile device.

Payment Methods

Consumers can use many forms of payment in mobile commerce, including:

Premium-rate telephone numbers, which apply charges to the consumer's long-distance bill. Charges added to the consumer's mobile telephone bill, including deductions to prepaid calling plans

Credit cards

Some providers allow credit cards to be linked to a phone's SIM card.

Micropayment services

Stored-value cards, often used with mobile device application stores or music stores

5.5 Self-check Exercise-5

Answer the following questions on the space provided

1. What is m-commerce?

2. Discuss the advantages and disadvantages of m-commerce

3. Explain what products or services can be available through m-commerce

4. Identify and explain the areas of application of m-commerce

Unit Six : Electronic-Security and Electronic-Payment System

Learning Objectives: after completing this unit you should be able to:

- Identify and describe the issue and importance of electronic security
 - explain the source of e-security risks and how to protect e-risk.
 - distinguish between electronic security and physical security;
 - discuss the possible causes of network security and how to overcome it;
 - describe security risks associated with network and website
 - Explain the system of e-payment system; and
 - discuss various techniques of e-payments

6.1 Electronic-Security (E-Security)

The Internet is a public network consisting of thousands of private computer networks connected together. This means that a private

computer network system is exposed to potential threats from anywhere on the public network

In the physical world, crimes often leave evidence-finger prints, footprints, witnesses, video on security cameras and so on. Online, a cybercrime also leaves physical and electronic evidence, but unless good security measures are knowledge, it may be difficult to trace the source of a cybercrime.

Additionally, e-businesses must protect against the unknown. New methods of attacking networks and web sites and new network security holes are being discovered with disturbing frequency. By carefully planning its network and web site security system, an e-business can protect itself against many known and as yet unknown threats. An e-business must always be prepared for network and web site attacks, or risk the loss of assets.

Another very important reason to protect an e-business' network and a web site is to maintain the e-business' relationships with its customers. Many Internet users perceive that there is a large risk to their privacy and security when they buy products and services or submit personal information online. Although the perception of risk may be greater than the actual risk, it is still a cause for concern. An e-business must address customers' perceived risk just as much as any actual risks.

An e-business cannot expect perfect security to be obtained for its network and web site. The important issue for an e-business is to have adequate security to protect its assets, revenue stream, customer privacy, and its own reputation. Determining adequate security depends on an individual e-business' situation. For example, a web site providing information flavors of dog food may not require the same level of security as an online banking web site. An e-business must

determine its security needs according to the risks involved, the value of the assets at risk, and the cost of implementing a security system.

How does an e-business identify the security issues to be addressed? First, the e-business must thoroughly understand its business and how all its systems, not just its web servers, are used. Several aspects of e-business computer systems security need to be addressed.

Security has become one of the primary concerns when an organization connects its private network to the Internet. Regardless of the business, an increasing number of users on private networks are demanding access to Internet services such as the World Wide Web (WWW), Internet mail, Telnet, and File Transfer Protocol (FTP). In addition, there are corporations which offer web home pages and FTP servers for public access on the Internet

6.1.1 Security on the Network

Network administrators have increasing concerns about the security of their networks when they expose their organization's private data and networking infrastructure to Internet crackers. To provide the required level of protection, an organization needs a security policy to prevent unauthorized users from accessing resources on the private network and to protect against the unauthorized export of private information. Even if an organization is not connected to the Internet, it may still want to establish an internal security policy to manage user access to portions of the network and protect sensitive or secret information.

The fundamental problem may be that the Internet was not designed to be very secure i.e. open access for the purposes of research was the prime consideration at the time the Internet was implemented.

However, the phenomenal success of the Internet is combined with the introduction of different types of users, including unethical users, has aggravated existing security deficiencies to the extent that wide-open Internet sites risk inevitable break-ins and resultant damages. Other factors include the following:

- A. **Vulnerable TCP/IP services.** A number of the TCP/IP services are not secure and can be compromised by knowledgeable intruders; services used in the local area networking environment for improving network management are especially vulnerable.
- B. **Ease of spying and spoofing.** A majority of Internet traffic is unencrypted; e-mail, passwords, and file transfers can be monitored and captured using readily-available software, Intruders can then reuse passwords to break into systems.
- C. **Lack of policy.** Many sites are configured unintentionally for wide-open Internet access without regard for the potential for abuse from the Internet; many sites permit more TCP/IP services than they require for their operations and do not attempt to limit access to information about their computers that could prove valuable to intruders.
- D. **Complexity of configuration.** Host security access controls are often complex to configure and monitor; controls that are accidentally misconfigured often result in unauthorized access.

Sites that ignore these problems face some significant risk that they will be attacked by intruders and that they may provide intruders with a staging ground for attacks on other networks. Even sites that do observe good security practices face problems with new vulnerabilities in networking software and the persistence of some intruders.

Some of the problems with Internet security are the result of inherent weakness in the services (and the protocols that the services implement), while others are a result of host configuration and access

controls that are poorly implemented or overly complex to administer. This is further aggravated by the tremendous growth of the Internet and the way it is used. Businesses and agencies now depend on Internet for communications and research and thus have much more to lose if their sites are attacked.

Besides implementing secure technologies, an e-business should develop security policies and procedures. Everyone working in an e-business should understand his or her responsibilities for keeping the business secure. Also, a plan of action should be ready to deal with any potential security problem.

The biggest potential security problem in an e-business is of human, rather than electronic origin. The weakest link in any security system is the people using it. The employees of an e-business may not understand the security policy. Sometimes, the security policy is so burdensome that the employees are not able to follow it, or refuse to follow it because it makes it difficult for them to get their work done. Table 2.1 summarizes general security issues that e-businesses must consider.

Security risks associated with a network and a website can be addressed in some ways as follows:

6.1.2 Network and Web Site Security Risks

As part of planning a startup e-business' security, management should become familiar with network and web server security risk terminology. Originally, hacker was a term used to describe gifted software programs. Today, hacker is a slang term used to refer some who deliberately gains unauthorized access to individual computers or computer networks. Ethical hackers use their skills to find weaknesses in computer systems and make them known, without regard for personal gain. Malicious hackers, also called crackers, gain access to

steal valuable information such as credit card numbers, attempt to disrupt service, or cause any other damage. Since there is wide press coverage of computer system security breaches, the terms “hacker” and “cracker” are now generally used interchangeably for those involved in malicious unauthorized computer system access.

An e-business must protect itself against unauthorized access to its computer network, denial of service traffic overloads, and the intrusion of destructive viruses.

(i.) Security and e-mail

E-mail users who desire confidentiality and sender authentication use encryption. Encryption is simply intended to keep personal thoughts personal.

E-mail is typically encrypted for the reason that all network correspondence is open for eavesdropping. Internet e-mail is obviously far less secure than the postal system, where envelopes protect correspondence from casual snooping. In contrast, the header area of any e-mail message will show that it has passed through a number of nodes on its way to you. Each of these nodes presents the opportunity for snooping.

(ii.) Network and website security

The best way to recognize when a hacker is attempting unauthorized network access is to monitor network performance. Setting up, logging, and monitoring established network reference points, called benchmarks, can alert an e-business to security problems. A skilled system administrator and other well-trained technicians, who use these bench-marks to monitor and manage the network and servers, are critical. Other tools such as passwords, firewalls, intrusion detection systems, and virus scanning software should be used to protect an e-business' network and web site.

A password is a code, or more often a common word, used to gain access to a computer network. Passwords are only effective when used properly. Often a computer user chooses a bad password, such as a short common word, a name, or birthday, because he or she could remember the password easily. One way hackers penetrate network security is by using software that “guesses” a password by trying millions of common words until one of the words is accepted. Passwords that require a minimum length of six characters in a mix of letters and numbers increase the number of potential passwords into the billions and make it more difficult for a hacker to guess them. A computer user should also change passwords regularly. If a user has access to multiple systems, it is a good idea to have different passwords on each system.

A firewall is software or hardware used to isolate and protect a private system or a network from the public network. A firewall provides an easy-to-manage entry point to multiple systems behind it. Firewalls can control the type of information that is allowed to pass from the public network to the private network, as well as what services inside the firewall are accessible from the outside. Firewalls can also log activity to provide an audit trail, in case the network is penetrated.

Virus scanning software, including e-mail virus scanning, should be installed on all network computers. Antivirus software should be kept updated. Communication ports should be used to allow data to enter and exit the network. The system administrator should close all unused communications ports. Up-to-date security patches for operating systems should be installed as soon as the patches are available, to prevent hackers from exploiting built-in system weaknesses.

(iii.) Transaction Security and Data Protection

Transaction security, especially for credit card transactions, and the protection of customer data are as important as web site and network security. Tools to protect transaction data and customer data include:

- using a predefined key to encrypt and decrypt the data during transmission;
- using the Secure Sockets Layer (SSL) protocol to protect data transmitted over the Internet. SSL provides encryption of data between the browser on the customer's computer and the software on the web server, allowing data such as credit card information to be transmitted securely. SSL uses digital certificates so that a web browser can authenticate the server it is connected to, making sure that credit card data is going to the appropriate server;
- moving sensitive customer information such as credit card numbers offline or encrypting the information if it is to be stored online;
- removing all files and data from storage devices, including disk drives and tapes, before getting rid of the devices; and
- Shredding all hard-copy documents containing sensitive information before trashing them.

6.2 Electronic Payment (E-Payment) System

The growth of e-commerce is dependent, among other factors, on the existence of secure, user-friendly and cost-effective payment systems. Handling payments is a costly process that has been a central part of bank business for the past century. However, it is now being transformed by technological developments, and in particular, the Internet. The importance of the payment function lies in the fact that it could encourage convergence between sectors with disparate objectives, since payment systems are the common denominator of all e-commerce transactions. Conceptually, the alternative means of

payment available for e-commerce may be classified as either electronic money (e-money), or electronic access products. The difference between them is that whereas electronic access products basically provide internet access to traditional products (credit card payments, bank transfers, and the like), e-money is a new concept, and in particular is considered to be “private money not depending on central bank reserves.”

Consolidated methods of payment used for distance selling mostly at national level, such as cheque, cash-on-delivery and credit-transfer mechanisms, have proven easy to adapt to electronic transactions. The credit card system has to date been the usual payments instrument for goods ordered over the Internet. This is despite security concerns and relatively higher transaction cost. Nevertheless, the lack of a widely accepted e-payment system is not considered to be a major barrier for the gearing up of e-commerce. The most important factors are undoubtedly user trust and user confidence.

Everyone agrees that the payment and settlement process is a potential bottleneck in the fast-moving electronic commerce environment, if we rely on conventional payment methods such as cash, cheques, bank drafts, or bills of exchange. Electronic replicas of these conventional instruments are not well suited for the speed required in e-commerce purchase processing. For instance, payments of small denominations (micropayments) for bits and pieces of information must be accepted by vendors in real time. Conventional instruments are too slow for micropayments and the high transaction costs involved in processing them, add greatly to the overhead. Therefore, new methods of payment are needed to meet the emerging demands of e-commerce. These new payment instruments must be

secure, have a low processing cost, and be accepted widely as global currency tender.

6.2.1 Digital Payment Requirements

For any digital payment system to succeed, the following criteria as given in Table 6.2 ought to be satisfied.

Table 6.2: Digital Payment Requirements

<i>Criteria</i>	<i>Need for the criteria</i>
Acceptability	Payment infrastructure needs to be widely accepted.
Anonymity	Identity of the customers should be protected.
Convertibility	Digital money should be able to be converted to any type of fund.
Efficiency	Cost per transaction should be near zero.
Integration	Interfaces should be created to support the existing system.
Scalability	Infrastructure should not breakdown if new customers and merchants join.
Security	Should allow financial transactions over open networks.
Reliability	Should avoid single points of failure.
Usability	Payment should be as easy as in the real world.

6.2.2 Online Payment Categories

Online payments can be broadly divided into three categories as shown in Table 6.3 E-payment systems are proliferating in banking, retail, health care, online markets, and even in government-in fact, anywhere money needs to change hands. Organizations are motivated by the need to deliver products and services more cost effectively and to provide a higher quality of service to customers.

Table6.3: Online Payment Categories

<i>Category</i>	<i>Description</i>
Micropayment	Transaction Value Less than 5 Euro or Dollar.

	Transaction Costs are nearly zero.
Consumer Payments	Transaction Value between 5 and 500 Euro or Dollars. Payments are executed by credit card transactions.
Business Payments	Transaction Value more than 500 Euro or Dollars. Debit Cards or invoices are appropriate solutions in this system.

6.2. 3 Techniques of e-payment

(i.) Digital Token-based E-payment Systems

None of the banking or retailing payment methods in their present form are completely adequate for the consumer-oriented e-commerce environment. Their deficiency is their assumption that the parties will at some time or other be in each other's physical presence or that there will be a sufficient delay in the payment process for frauds, overdrafts, and other undesirables to be identified and corrected. These assumptions may not hold good for e-commerce and so many of these payment mechanisms are being modified and adapted for the conduct of business over networks.

Entirely new forms of financial instruments are also being developed. One such new financial instrument is electronic tokens which is available in the form of electronic cash/money or cheques. Electronic tokens are designed as electronic analogs of various forms of payment backed by a bank or a financial institution. Simply stated, electronic tokens are equivalent to cash that is backed by a bank.

(ii.) Credit Cards as E-payment Systems

Without doubt, the basic means of payment used and initiated via the Internet for consumer transactions till date is the credit card. Credit cards have proved popular for a number of reasons as the following:

- A. The system is familiar to users and was widely used before the advent of e-commerce, thus bolstering the users' confidence.
- B. Transaction costs are hidden from users (i.e. basically met by sellers, and passed on to all customers, not just credit card users).
- C. Payment is simple anywhere and, in any currency, thus matching the global reach of the Internet.
- D. The credit-issuing company shares the transaction risk; helping overcome consumers' fear and reluctance to buy goods they have not actually seen, from sellers they do not know (in the physical world this function was important because it enabled sellers to take payment from buyers they do not know; online this trust relationship is needed in both directions).

(iii.) The Mobile Payments

The biggest wildcard in the e-commerce and e-payment field at the moment is the mobile Internet access develops. Already schemes such as Internet access via SMS (short message service), and pre-paid reloadable cards are in place, allowing payment to be via a mobile phone. The use of the SIM card in the user's mobile phone as part of a pay system implies a shift in the roles of both banks and telephone operators.

6.3 Self-Check Exercise-6

Part I: Descriptive Questions.

Answer the following on the space provided

1. Why it is essential to have e-security measure?

2. What are the causes of e-security risks?

3. Explain how to manage network and website security risks.

4. Explain the techniques of protecting transaction security.

5. What are the three major categories of online payment?

Part

II: Multiple Choice

1. How can e-business protect itself against many known and yet unknown network and website attacks
 - A. Use of password
 - B. Use of firewall
 - C. Scan virus
 - D. All are correct
2. One of the following is not the reason to have e-security
 - A. To prevent the risk of loss of asset
 - B. To maintain customer relationship
 - C. To buy antivirus for sellers interest
 - D. To smooth running of business
3. Which of the following is (are) the reason (s) to internet site risk in e-commerce?

- A. Vulnerable TCP/IP configuration
 - B. Lack of security policy
 - C. Complexity of configuration
 - D. All are possible
4. Identify the criteria that make e-payment successful
- A. Acceptability
 - B. Insecurity
 - C. Inefficiency
 - D. Variability
5. Which of the following is correct?
- A. Electronic tokens are equivalent to cash that is backed by a bank
 - B. Credit card by no means cannot be used as electronic payment system
 - C. Peer to peer transaction is possible in credit card e-payment system
 - D. All

Unit Seven: Internet Marketing Strategies

Learning Objectives:

After completing your study of this unit, you should be able to:

- Define e- marketing strategy;
- explain the customer tailored e-business strategies;

Many or most organizations have a business strategy be the business is electronically supported business or not. Each development in computer technology has presented opportunities for business. The inter-organizational system and the use of EDI are the result of the network outside the company.

E-marketing strategy is deployment of enterprise resource to capitalize on technologies for reaching specified objective that ultimately improve performance and create sustainable competitive advantage. In order to help you better understand such electronically based marketing strategies this section highlights e-business permission strategy, brand leverage strategies, affiliated marketing strategy and viral marketing strategies.

7.1 Customer Tailored Intermate Marketing Strategies

7.1.1 Permission Marketing Strategy

Many businesses would like to send e-mail messages to their customers and potential customers to announce new products, new product features, or sales, on existing products. However print and broadcast journalists have severely criticized some companies for sending e-mail messages to customers or potential customers. Some companies have even faced legal action after sending out mass e-mailings. Unsolicited e-mail is often considered to be a spam.

Many businesses are finding that they can maintain an effective dialogue with their customers by using automated e-mail communications. Sending one e-mail message to customer can cost less than one cent if the company already has the customer's e-mail address. Purchasing the e-mail addresses of persons who have asked to receive specific kinds of e-mail messages will be between a few cents and a dollar to the cost of each message sent. Another factor to consider is the conversion rate. The conversion rate of an advertising method is the percentage of recipients who respond to an ad or promotion. Conversion rates on requested e-mail messages range from 10 per cent to over 30 per cent. These are much higher than the click-through rates on banner ads, which are currently under 1 per cent and decreasing.

The practice of sending e-mail messages to people who have requested information a particular topic or about a specific product is called opt-in e-mail and is part of a marketing strategy called permission-marketing. Thus, a marketing strategy that only sends specific information to persons who have indicated an interest in receiving information about the product or service being promoted should be more successful than a marketing strategy that sends general promotional messages through the mass media. One web site that offers opt in e-mail services is yesmail.com.

To induce potential customers to accept, or opt in to, advertising information sent via e-mail messages, the seller must provide some incentive. This incentive could be entertainment, a chance to win a prize, or even a direct cash payment. For example, AllAdvantage.com is a company that pays web users for permission to monitor their web surfing activities. After tracking these users, AllAdvantage.com presents targeted ads to them. Advertisers are willing to pay a premium to have access to persons who have demonstrated by their web surfing habits that they are interested in the products or services offered by the advertisers.

7.1.2 Brand-leveraging Strategies

Rational branding is not the only way to build brands on the web. One method that is working for well-established web sites is to extend their dominant positions to other products and services. Yahoo is an excellent example of this strategy. Yahoo was one of the first directories on the web. It added a search engine function early in its development and has continued to parlay its leading position by acquiring other web businesses and expanding its existing offerings. Then, Yahoo acquired GeoCities and Broadcast.com, and entered into an extensive cross-promotion partnership with a number of Fox entertainment and media companies. Yahoo continues to lead its two

nearest competitors, Excite and Infoseek, in ad revenue by adding features that web users find useful and that increase the site's value to advertisers. Amazon.com expansion from its original book business into CDs, videos, and auctions is another example of a web site leveraging its dominant position by adding features useful to existing customers.

7.1.3 Affiliate-marketing Strategies

Affiliate-marketing approach only works for firms that already have web sites that dominate a particular market. As the web matures, it will be increasingly difficult for new entrants to identify unserved market segments and attain dominance. A tool that many new, low-budget web sites are using to generate revenue is affiliate marketing. In affiliate marketing, one firm's the affiliate firm's web site includes descriptions, reviews, ratings, or other information about a product that is linked to another firm's site that offers the item for sale. For every visitor who follows a link from the affiliate's site to the seller's site, the affiliate site receives a commission. The affiliate site also obtains the benefit of the selling sites brand in exchange for the referral.

The affiliate saves the expense of handling inventory, advertising and promoting the product, and processing the transaction. In fact, the affiliate risks no funds whatever. Cdnw.com and amazon.com were the first two companies to create successful affiliate programs on the web. CDnow's Web Buy program, which includes more than 250,000 affiliates, is one of Dnow's main sources for new customers. The amazon.com program has over 400,000 affiliate sites. Most of these affiliate sites are devoted to a specific issue, hobby, or other interests. Affiliate sites choose books or other items that are related to their visitors' interests and include links to the seller's site on their web pages. Books and CDs are choices for this type of shared promotional

activity, but sellers of other products and services also have successful affiliate marketing programs. B&D Coffee, eToys, and the T-ShirtKing have found affiliate marketing to be a good way to attract new customers to their web sites.

One of the more interesting marketing tactics made possible by the web is cause marketing, which is an affiliate marketing program that benefits a charitable organization (and thus, supports a “cause”). In cause marketing, the affiliate site is created to benefit the charitable organization. When visitors click a link on the affiliate’s web page, a donation is made by a sponsoring company. The page that loads after the visitor clicks the donation link carries advertising for the sponsoring companies. Many companies have found that the clicks through rates on these ads are much higher than the typical banner ad click-through rates. A leading retail web florist, proflowers.com, has had excellent results advertising on The Hunger Site page. When a visitor clicks the button on this page, a group of sponsoring advertisers donates food to a hungry person and a page appears in the visitor’s browser with ads for the sponsors.

7.1.4Viral-marketing Strategies

Traditional marketing strategies have always been developed with an assumption that the company was going to communicate with potential customers directly or through an intermediary that was acting on behalf of the company, such as a distributor, retailer, or independent sales organization. Since the web expands the types of communication channels available, including customer-to-customer communication, another marketing approach has become popular on the web. Viral marketing relies on existing customers to tell other persons-the company’s prospective customers-about the products or services they have enjoyed using. Much as affiliate marketing uses web sites to spread the word about a company, viral marketing

approaches use individual customers to do the same thing. The number of customers increases much as a virus multiplies, thus the name.

7.2 The 4 Ps of E-marketing

Traditionally the marketing mix is co-ordinate so efficient product, price, promotion and place strategies are developed for products purchased over the counter. The internet is changing the way we sell our products and services. Consumers now use the internet to research and purchase products/services online. Organization now needs online strategies to attract and retain customers. The e-marketing mix considers the elements of presenting the marketing mix online.

E-commerce sales are increasing at extremely high rates. Why? What does buy products online offer over one to one sale?

- Firstly, there are clear online facts about the product you are purchasing. The buyer knows immediately about product features, the facts, not salespersons assumptions. Electrical store offers clear information on products and their specification, consumers know what they get if not there is a customer service number where they can find out more.
- The buying process is also customized for returning visitors, making repeat purchases easier. Organizations can also offer immediately ancillary products along with the main purchase. As mentioned in marketing mix section, pricing is always difficult to do and must take into account many considerations.

The four Ps of marketing are Product, Price, Placement and Promotion. Developing technology, naturally, has an effect on all of these, and the Internet in particular has seen fundamental shifts not only in the

means available to promote products, but also in the placement, or distribution of products.

Although tools for research, retention, distribution and product creation have changed dramatically, the fundamental principles of marketing still guide strategy.

7.2.1 Product

Product is the element of the marketing mix that involves researching customer's needs and developing appropriate products: the fundamental features of the product to meet the user's needs and the extended product: the additional features and benefits beyond the core product.

Products and services are what a company sells. From fast moving consumer goods to digital products such as software to services such as consultancy, the Internet has allowed for a plethora of new products.

Technology allows for mass customization of products, seen in a growing trend of letting customers customize goods online before they are created.

For example, NIKEiD (www.nikeid.nike.com) and Converse (www.converse.com) both allow customers to create their own trainers based on a number of preset options that will then be manufactured to the customer requirements. In a similar fashion, computer products can be built to specifications, as the costs of offering this type of service to customers is reduced by the Internet.

7.2.2 Price

Traditionally pricing was about finding about your costs, discovering how much consumers are willing to pay, taking account competition pricing then setting your price.

The internet has made pricing very competitive. Many costs i.e. store costs, staff cost have disappeared for complete online stores, placing price pressures on traditional retailers. The internet gives consumers

the power to shop around for the best deal at a click of a button. Such easy access to information helps to maintain prices within the online world.

E-pricing can also easily reward loyal customers. Technology allows repeat visitors to be tracked, easily allowing loyalty incentives to be targeted towards them. Payment is also easy online credit cards use allows for easy payments. Consumers can purchase direct from manufacturers cutting out retailers totally. The challenge for online retailers is to ensure that the product is delivered to the consumer within a reasonable time.

With customers able to easily access pricing information from a number of suppliers with relative ease, the Internet is growing a market of near perfect competition (Porter,2001). The prevalence of search engines and of shopping comparison websites, such as www.pricerunner.com and www.nextag.com, make it easy for customers to compare product prices across a number of retailers. The temptation for companies to differentiate themselves on price has led to decreased prices for many commodities, from the regularly reduced pricing of books on Amazon.com to ticket prices on low cost airlines such as EasyJet (www.easyjet.com) in Europe.

7.2.3 Distribution/Location

Online location can refer to where links are placed on other websites, and how the product can reach to the consumer. For example, using transportation companies, forwarding agents, mail forwarding companies like UPS, DHL, EMS... to put the product on the hands of the consumer.

Particularly for digital products and services, the Internet gives companies access to a global marketplace. Product distribution and markets no longer have to be dictated by location. With efficient delivery and shipping channels, products that are not digital can also

benefit from a far wider market place. The Internet allows the basic foundations of mail order businesses to flourish online with a catalogue that is cheaper to produce and update, and cheaper to distribute.

7.2.4 Promotion

The Internet as an information and entertainment medium naturally lends itself to be used to promote products. The online promotional mix is an extension of the offline, but with some significant differences: online promotion can be tracked, measured and targeted far more sophisticatedly than offline. Advertising, personal sales, promotions based marketing and public relations can all be conducted through the online medium.

Promoting products and service online is concerned with a number of issues. Having a recognizable domain name is first stage towards e-promotion. Most organizations today have some form of webpage used in most if not all advertisements. Placing banner advertisements on other web pages is a common form of e-promotion. Banner ads must be placed where potential customers browse.

Web public relations are another approach to promoting online. News worthy stories based on product or service launches can be placed on the company's webpage, or articles sent to review sites for consumers to read. Hopefully this form of online promotion will pull the consumer in.

Direct e-mail is a popular and common form of e-promotions, although slowly becoming the most hated by many consumers. Organizations can send e-leaflets to hundreds and thousands of respondents, hoping a small percentage will reply.

7.3 Self-check Exercise-7

Answer the following question on the space provided.

1. Name customer tailored marketing strategies of e-commerce

2. What is :

a. permission marketing strategy

b. brand leverage e-marketing strategy

c. affiliated e-marketing strategy

d. viral marketing strategy

3. A company wants to announce the features of the new product it develops to its existing and potential customers. To accomplish this task the marketing officer of the company visited the Chamber of Commerce to access trade directory which contains possible customers e-mail addresses so as to send them e-mail message.

4. Your company planned to sell online. To accomplish this objective your company approached amazon.com, one of the leading dominant website company, to subscribe its site to obtain link. What e-marketing strategy amazon.com applied

Write “T” if the statement is true and “F” if the statement is falls provide

1. The more you have access to prospects' e-mail address, the less likely you will apply e-permission marketing strategy
2. Affiliated e-marketing strategy is the best approach to a company that newly begins e-commerce.
3. Brand leverage e-marketing strategy is an approach by which online seller extends its dominant website by increasing features useful to its existing customers.
4. E-permission marketing strategy is an approach to continuously increasing the number of customers as a viral multiple through moth-to-moth promotion.

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