

E- COMMERCE

CHAPTER-1

Introduction

E-commerce is the short form of electronic commerce. The term electronic commerce includes whole series of commercial activities taking place in the cyber medium. The rapid growth of internet open new area of trade and commerce. The software and hardware converted he net into medium called World wide Web (www) Based on ecommerce work Internet today has a potential of making every computer an individual printing press library museum tour grade shopping mall advertising media bank etc.

E-commerce enable business to interact personally and directly with customers. In the near future through the growth of technologies nearly all electronic device will have potential to exchange information over the network. For doing online business easily one might require wide knowledge of unique business characteristic to win in cyber space.

Successful e-business class include the capability to market, demonstrate and configure products and services, serve as negotiator and settler of transactions and integrate real time information from the Net into the existing back office systems of both the enterprise itself and all its trading partners. By breaking down boundaries of time and space, the Net enables potential customers and business partners across the globe to do business under a roof. Thus any one can jump into the Net and establish an online presence with the creation of a simple web site. Net make geography irrelevant . But down loading the Net product delivery time and convenience play an important role in customer satisfaction.

E- Commerce can be categorized into five namely

- I Business to Business
- II Business to Customer
- III Inter business
- IV Intra business
- V Customers customer

BUSINESS TO BUSINESS

In the business to business agreement two organizations will have to decide on the basis of business relationship. One is the information that will be exchanged electronically and another is the action that will be taken on receipt of any business. Negotiations between prospective trading partners during the course of which the nature of information being exchanged is thoroughly discussed and implemented implementation means input the business documents into electronic data interchange (EDI) Translator for conversion of company specific data formats to a representation as a standard EDI message .The same mapping has to be available with the EDI Translator at the recipient end too, so that the standard EDI message can be interpreted correctly on receipt and presented to the receiving application.

Business to Business procurement is typically divided into four phases.

- I requisitioning
- ii Request for quote

- iii Purchase order generation and
 - iv Payment processing
- I Requisitioning is the first phase of B- to B purchasing . It consists of an online form containing product information , quantity, and cost that is filled out by the buyer and submitted over the Net for requisition approval. Firstly the application must determine the buyers purchasing privileges and limitations based on a role based profiling component. If requisition approval is required a workflow component routes the requisition

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in the form of an e mail message, fax or pager message to the appropriate manager. When approvals received the requisition is routed to the purchasing department again in the form of an email, fax or page and the appropriate purchasing agent begins the process of receiving quotes.

Ii Request for quote is the second phase which begins when the purchasing agent notifies potential suppliers that the enterprise is interested in making a purchase of specific goods in specific quantities at an approximate price. Typically this information or request for quote is posted at a message board in an online community of buyers and suppliers or delivered to pre identified suppliers through e- mail or fax.

Iii In the purchase order generation phase the purchasing manager must choose a supplier to fulfill the purchase order where the lowest price wins. The buyer can select a supplier in relatively short time. As soon as chosen supplier has been notified again through email, fax, or a page message the supplier can begin to fulfill the order. If the supply were to run low the application would automatically detect it. And an electronic message would be sent indicating

that inventory should be delivered to the distribution center as soon as possible.

- iv. Finally the application begins the payment processing portion of the transaction . The data transformation component transmits payment information in the form of corporate smart card information or an EDI transaction to the supplier in a format customized to integrate with internal supplier accounting systems.

B to B commerce dominated by long term buyer supplier business partner relationship and works for common interests such as lower costs and improved

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product and service offerings B to B applications requires four models.

1. Virtual market places
2. Resource management
3. Extended value chains and
4. Customer relationship management.

1. **Virtual Market places**

e- applications that enable enterprises to sell goods and services to other business on the Net are referred to as virtual marketplaces. Virtual marketplaces share several common components such as online catalogs of goods marketing promotions payment processing facilities and post sale customer care B to B virtual market places have an aim to increase revenues and simultaneously decrease costs while they improve the customer buying experience. The double benefit of increased revenues and decreased costs is an attractive argument for any company to begin doing business on the Net.

Virtual marketplaces can provide corporate giants and small business alike with a completely new distribution channel for access to customer worldwide. Virtual marketplaces also can offer many repeat customers improved access to

products and services and thus a wide choice of supply options Designing of ones website is very much simpler than decoding and establishing the offices for attracting the world B to B virtual marketplaces build imparalleled customer loyalty and repeat buying through careful attention to customer buying experience and comprehensive customer care.

All virtual marketplaces must emphasize four key process to be successful.

- a. Catalogue aggregation and creation
- b. Support for complex buying process
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- c. Integration with existing enterprise systems and
- d. Support for multiple types of payment

a. Catalogue aggregation and creations

During the catalog aggregation phase of the virtual marketplace selling process the customer get online catalog with goods and services that interest and value for the customer. Because enterprises often store product information in data scheme that are highly customized within a particular organization or department. Often some virtual marketplace catalog developers must include some open data integration component to integrate incompatible catalog entries.

Once the complete product offerings are in the catalog developers can focus on providing an interface to buyer that is consistent with the B to B buying process .Catalog functionality helps the buyers to search product category classification message boards real time that for negotiating flexible pricing bidding auctioning etc.

b. Support for complex buying processes

In order to support has wider range of potential buying process B to B sellers must incorporate flexible workflow component . Online selling

marketplace life cycle models are created in virtual marketplaces. Developing and deploying a virtual marketplace is not a one time event. It is continually evolving process of monitoring and responding to marketplace conditions.

But the virtual marketplaces cannot complete their transaction cycles without the customer at least venturing briefly back into the real world for a particular step in the sales process for example for purchasing a vehicle through e-commerce the buyer cannot get satisfaction without taking at least one real test drive.

It is easier to look at the B to B selling process from the point of view of the buyer rather than the seller. For purchasing an item through e-commerce industry the process is simply see buy get .For purchase of intermediate value and complexity the procedure must take into account more in depth comparison shopping and financial techniques.

c. Integration with existing enterprise systems.

Virtual marketplaces connect multiple enterprises each having distinct business architectures and buying processes. To interoperate with these processes virtual marketplaces must include component capable of sharing information with internal company systems such as ERP (Enterprise Resource planning) applications corporate databases, and custom-developed legacy systems.

d. Support for multiple types of payment

In a B – to B environment , payment for purchases is maintained by a third party financial provider such as Master card or any other credit cards of nationalized banks.

2. Resource Management

The second application category for B- to B application is resource management . Usually purchases are done in a bid or auction environment and also required potential suppliers and choose winning bids that will provide good commodity and least price. In EC (e- commerce) this information are identified and curbed internally for efficient use of materials and provide a basis for process engineering decisions made by executive management and consultants.

Maintaining an expert purchasing department has been quite expensive .The Net however enables business to both maintain best practice buying and dramatically reduce purchasing department labour and administrative costs. Traditionally reduce purchasing department labour and administrative costs. Traditionally most procurement applications have focused on maintenance Repair, and operations of (MRO) goods and services. For example purchase of ball point pens . Most MRO purchase are made from a simple catalog with fixed prices. Web based procurement application saves up to 15 percent of the total cost of making MRO purchases.

In order to transfer these efficiencies and cost savings to production and other non standard suppliers such as capital equipment and consulting services, e commerce are beginning to bring internet trading services and aggregation sites under the umbrella of procurement applications. These sites enable potential suppliers to engage in buying activities such as biding and auctioning collaboration in order to fulfill contracts beyond the means of smaller enterprises and providing discounts to frequent buyers and repeat customers automatically.

The benefits of implementing resource management application are the following.

- Manage long term relationship with suppliers

- Lower requisitioning costs
- Reduce supplier costs
- Increase accountability and control
- Reduced inventory costs
- Optimize purchases

3. **Extending the value chain**

Unlike virtual marketplaces or resource management applications that operate in high profile outward facing environments extended value chain platforms work almost entirely behind the scenes and are invisible to end consumers. Extending the value chain simply means integrating isolated enterprises value chain environments to create a superior collaborative commerce infrastructure.

In the manufacturing industry the idea of the value chain is practically self evident .For example the manufacturer buys raw materials such as steel molds them into a particular device such as a hinge and then sells the final product for more than the cost of the raw materials. The ultimate aim of extended value chain e- applications is to share enterprise information with suppliers buyers and business partners to enable supply planning demand planning production planning and logistics to occur in real time.

Extended value chain applications of course are not limited to just manufacturing environments. In any industry the ability to coordinate delivery of goods and services with buyers and plan hyper efficient supply of goods and services adds value to the business. For example in the healthcare industry, care providers can share information about particular treatments to forecast costs. In the new, digital economy supplier buyer and

business partner integration will be a tool for every enterprise to maximize efficiency and lower costs.

As market and supply conditions change, enterprises must also ensure that supplier models are flexible enough to integrate and disintegrate new and different business partners without partners without installing and uninstalling complex software. Successfully implemented extended value chain applications can then be linked with other systems to extend isolated solutions into channel wide value grids that supply real time information about production capability pricing and delivery dates from one end of the value chain on the other. These grids give enterprises at every stage of the value chain real time information about market demand and customers interest. This results in supply and demand planning that is driven by real time monitoring of consumer buying habits and demands.

In most value chain applications can be divided into four key phases.

- Demand planning
- Supply planning
- Logistics
- Production planning

4.Customer Relationship Management

A customer care process involved giving the customer some piece of information included product data, technical support, warranty information and order status, By e commerce standards each enterprises employed a call center to automatically direct telephone inquiries or accepted customer questions by e-mail.

A customer care transaction was considered to be effective if it build a relationship that transcend individual transactions and ensure customer satisfaction and repeat buying. Thus customer relationship management improves service and

reduces cost gives customers individual personalized attention and builds long term relationships to own the customers business forever and this helps the business man to invest more without much fear.

To manage complete customer relationships companies can create and monitor new customer touch points through automated email responses searchable databases of product support information and full features Websites with extensive product and service information business can begin to track every customer interaction with the enterprise and build individual profiles for important customers.

In general customer care management applications provide three important benefits to the enterprise.

- Improve care through individual treatment
- Reduced costs through customer self service\
- Increased repeat buying through long term customer relationships

The customer care processes that should be automated by a customer management platform include.

- One to one marketing
- Customer self service centered support and
- Customer account management.

CHAPTER III

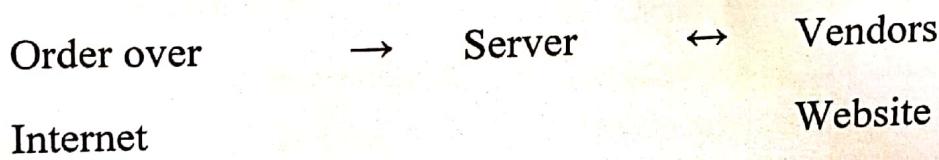
BUSINESS TO CUSTOMER

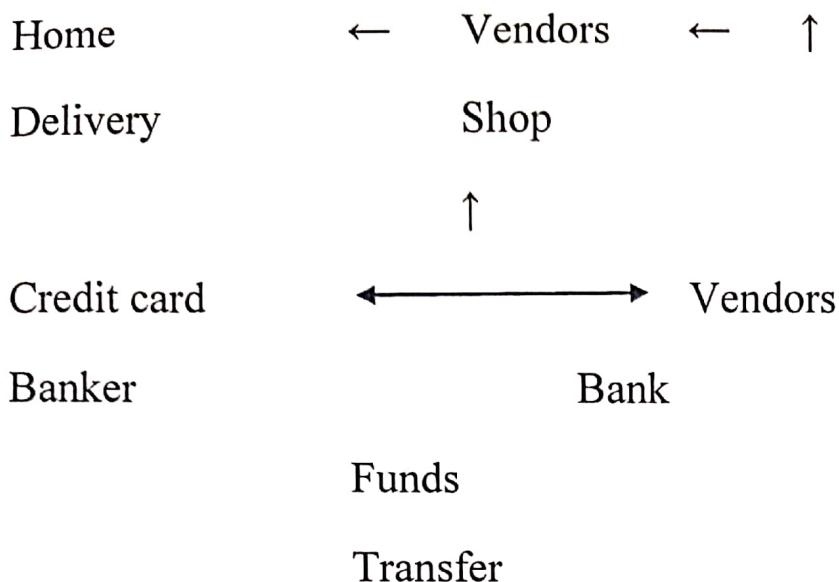
The primary focus of most B to C Applications is generating revenue by selling goods and services. Another type of B to C initiatives focuses on providing services that add value to traditional business models by improving interaction between retailers and customers to reduce costs. The most successful B to C 3 applications don't opt to only sell goods and services build online content and

communities or reduce customer interaction costs. To succeed, B-to C e-Applications must focus on dot com branding, building one to one relationship with customers aggregating online communities of users advertising both on the Net and in the conventional world and providing unparalleled customer care. As more and more consumers with wider and wider ranges of interests begin to use the net new and different model, for B-to C 3- Applications will be developed to meet their needs.

An internet based retail business is somewhat a mail order transaction . Instead of sending a cheque or DD , an EFT (Electronic funds Transfer) debit mandate or credit card number is furnished through internet along with the order for a particular commodity .Suppose a customer visits the website of a video shop. The various titles available for sale are displayed on the screen and the required CD can be chosen by clicking on them. To purchase the CD, the credit card number and communication address are to be furnished in the online format. Once the details are given the website verifies the card number by forwarding the same to the credit card issuer or the credit card verification service and upon receipt of conformation from them the order is possessed. The transfer of data between the buyer and the website takes place through the web server. These data are encrypted before exchanged. The exchange of information between the credit card verification service and the web server is also encrypted to protect the parties against frauds and misuse of the system. On the acceptance of an order the vendor packs and dispatches the ordered articles to the buyer.

Process of selling to customers



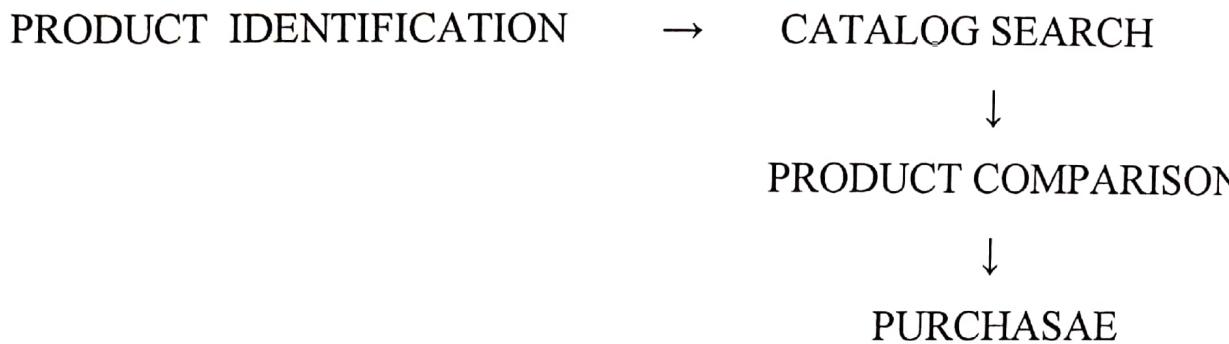


The real time nature of the Net also provides companies with supply and demand information that enables firms to better manage their pricing strategies.

- Product identification
- Catalog search
- Product comparison and
- Purchase

Product identification catalog search and product comparison can be described as the information gathering phase . When the retailer succeeds aggregating an audience of prospective customers the functionality of the site must begin to deliver. At this time customers identify compare and select products that they are interested purchasing by surfing the net and utilizing the features available in the market place application. When the consumer is ready to place an order and move from the information gathering phase to the purchase phase, the application must respond immediately to begin to process the transaction . Ultimately when all items have been selected the process moves to the checkout lane where the items are finally purchased.

BUSINESS TO CUSTOMER BUYING PROCES



One – to one marketing

In B- to C business models, there are rarely long term contracts, volume discounts or pre negotiated that ensure customers loyalty . Here consumers are fickle. B to C online market places are about using one to one marketing to meet and exceed consumer demand for personal courteous service. One to one marketing focuses about personalized service about knowing the customers preferences and buying habits. It acts as an intelligent salesperson that guide the customer at every stages of the buying process.

In the real world, providing this personalized service would require tremendous overhead. In conventional retail store, emphasis is on selling the maximum number of products and the sales people are rewarded based on the volume they sell. Here recognition of individual customer and customer loyalty have less importance . To attract customers to buy more and more products retailers must continuously broaden their customer base and attract new buyers through marketing promotions and advertising . As a result retailers begin to spend more and more money to attract fewer and fewer new customers .All this expenses is finally comes on the head of the consumer.

Three important principles of one to one marketing are

- Aim for economies of scope rather than economies of scale
- Manage customers individually
- Bring products and services directly to targeted consumers.

CHAPTER IV

INTER BUSINESS

The internet a group of worldwide information highways and resources in enabling the world to truly become an information society. The Internet is neither run nor owned by anyone. Every organization that is plugged into the internet is responsible for its own computers. All business communications using internet service can be broadly classified under the category of inter business . Internet can be broadly categorized into two groups of services.

- Communicating in cyber space

- Locating and retrieving information

Communication in cyber space is simply done by Internet Mail . It enables one to send information in form of letters, messages, advertisements, spreadsheets, game programs, binary files, multimedia data files across the Net to one or more Internet addresses. Most messages reach their destination across the globe in a few hours . The mail user agent software running on a PC or terminal is used to compose and send mail via a server and display the same on the users screen. It can perform a variety of functions to make mail management easier for the user.

The other ways of communicating on the internet are the following.

Usenet News

The Usenet news is similar to an electronic bulletin board. There are countless boards each dedicated to specific topic and shared by thousands of users. Messages are organized into newsgroups which are in turn classified into various classes such as business science magazine health computers etc.

Mailing lists

The usenet group is open to all, but if the interest is confined to a smaller domain a mailing list may be used. Discussion groups or announcements specific nature generally use mailing lists. Normally there is no charge for use of a mailing list. However the sender can charge for the content,E.g, E magazines . The vendors may subscribe to different mailing lists depending upon the products or services they sell. This enables them to receive inquiries from buyers.

Internet Relay Chat

Internet Relay Chat (IRC) offering a unique type of talking experience on the net has been used extensively for live coverage of world events news and sports commentary. The IRC network on the internet consists of multiple interconnected servers. The IRC allows a user to change from one chat group to another, join any

conversation or listen only. IRC can also permit a user to invite some of his confidents into a corner for a secret talk on the Internet.

Internet Talking

This Internet live audio service allows a users computer to connect to other users computers on the internet. The messages are exchanged in real time by these users as soon as they are typed by any of them. A program executing in the background called the talk daemon handles the actual communication service. This program should be compatible between users desiring to engage in internet talk. Once the connection is made the talk daemon divides each users screen into two halves by drawing a horizontal line in the middle. The local users keyboard strokes are captured in the upper half while the typed text of the remote user is displayed on the lower half of the screen.

- Robustness
- Reliability
- Bandwidth
- Security

The internet must be robust. It means business and trade demand that the delivery of transactions should be guaranteed .A document reported missing by a trading partner is unacceptable. Internet was created as a robust infrastructure since its design was based on the requirements of the military. Dynamic routing on the internet ensures that packets do reach their destination even if there are network out ages along the way.

The commercial world demands that the internet should guarantee the time of delivery. The Internet is having difficulty getting accepted as a reliable delivery channel.

The number of connections to the Internet continues to grow everyday. Severs of all types websites including those for business and conveyance are growing on

the Internet. Being promoted for commercial transactions. Internet should be secure reliable and cheap. The result of all this type is exponentially increased substantially to assure commercial users of its availability when they need it.

Security

Security of transactions is of paramount concern to the commercial world. Internet is an open network which can be invaded by hackers and criminals from all quarters. The intermediate nodes through which the message packet get routed, are extremely prone to security breaches . Secure Electronic Transaction (SET) protocol has been designed to make credit card transactions on the internet fully secure.

World Wide Web (WWW)

The world wide web or the web is a system for organizing linking and providing point and click access among related internet files resources and services. The point and click access is due to the underlying hypermedia approach of the web search engine. The web is an internet based navigational system an information distribution and management system with tremendous potential for commerce. The web has become an integral part of the internet.

The computer based information programs that enable web navigation are hypertext or hypermedia in which cross reference are embedded within documents and other entries. Each cross reference is a pointer to another document or to other actions lists or menus. This approach enables a user to move from one place in a document to another in a non sequential manner.

The hyperlinks which define the hypertext or hypermedia documents are actual live links. One can activate the link, and cause what if references, to appear on the users computer. Web documents are all hypertext documents. The highlighted words or pictures in a document are links that actually store hidden addresses to connect with the resources which they point. A click on this portion the desired

information. These hidden addresses are called Uniform Resource Locators (URL) URL s represent a link to almost every document file and resource on the internet.

The web facility on the internet is made up of a collection of servers and clients that can exchange information. Web browsers are used for browsing through web pages on internet websites .The pages were stored as HTML files.The Hypertext Markup Language (HTML) is the language used to prepare documents which are accessible over the world wide web. We browsers display these documents in a predetermined format. Websites are hosted by educational commercial and government institutions.

CHAPTER V

INTRA BUSINESS

Intranets use internet technology to deliver an organizations internal information. This includes integration of E-mail server and web server with the internet applications and the user interface is provided by we browsers.

The objective of an intranet is to organize each individuals desk top with minimal cost, time and effort to be more productive cost efficient timely and competitive. With an intranet, access to all information applications and data can be made available through the same browser. Intranets connect people together

with internet technology, using web servers we browsers, and data warehouses in a single view.

The differences between the Intranet and Internet lies in handling the applications properly. The internet is always starved of bandwidth .Whereas intranets have no bandwidth issue. Intranets, on the other hand, are secured and confined to organizations which could be benefit by implementing an intranet include finance, sales and marketing. Manufacturing personnel and customer support. An Intranet provides internet services within an organization. The intranet client is a universal browser. There may be any number of servers in the organization and they may support any services on any operating system.

An intranet has to be designed for the specific functionality requirements of an organization .The requirements or services may include the following

- Mail Services
- File Transfers
- Web Services
- Audio Services
- Video Services

Mail and Web enabled applications on an intranet help in cost saving and also increased access to information. An intranet achieves the following in an organization.

- Reduced costs
- Reduced telephone expenses
- Easier, faster access to technical and marketing information
- Easier, faster access to remote locations
- Increased access to competitive information

- Latest, up to date research base
- Easier access to customers and partners
- Collaborative group working
- Increased accuracy and timeliness of information
- Just in time information.

CHAPTER VI

CUSTOMER TO CUSTOMER

Customer to customer is the new business concept in e commerce . Here business is carried by the customers only. Mainly selling to products of so many companies are taking place here. The selling is done by the way of multilevel marketing or network marketing. The first customer after purchasing the particular product from the manufacturer and begin to recommend their friends to buy the same product. Thus the customer promote the business of the company and receives

the prescribed commission from the manufacturer. The manufacturer instead of spending for a advertisement and sales commission pays its for customer itself. Focusing on this type of marketing so many Multilevel companies launched india aiming the huge population . But so many of them have giving commissions by pyramid structure. Pyramid scheme means one single person or the person joined first be held at the top of the structure and the commission is accumulated in his own account only. Though multi level marketing is legal, pyramid scheme is illegal. Without implementing the cyber laws and information Technology act we can't respond against this illegal activities.

In future customer to customer type of business has tremendous growth in countries like India, the trustworthy about the products can be heard from our nearest friend and can decide it easily government can collect tax properly from this type of business . As it is an independent business opportunity people from all regions can takes its advantage.

Cyber space

The word cyber space describes the online world of computers which indicates a computer connected to another computer as part of a network linked through a modern. A computer network is network consisting of a central computer and a number of remote stations. As the control functions take place in the brain of the human body, and the word cyber has evolved to denote a virtual space or memory. Cyber space denotes the medium in which certain activities take place, like way thoughts work in human memory . Here activities take place in the back end of a computer and the results are displayed in the monitor .The data stored in electronic form as soft copies which could be retrieved at any point of time and visualized in the monitor.

Electronic Bill Payment (EBP)

Electronic Bill payment simply means that using PCs a consumer can pay their bills electronically whenever they want. The growing popularity of internet banking makes a checking account balances and bill payments available to consumers. The benefits of EBP at twofold, Firstly consumers are able to organize keep track of and pay all of their bills through a single electronic interface. Secondly the cost of paper and postage is eliminated for billing agents along with customer complaints that bills were not delivered correctly.

Using one to one marketing techniques bills can be customized for consumers based on their personal preferences. The real time basis of electronic billing allows consumers to always see the correct amount that is due. Telecommunications companies provide billing statements on their web sites, and allow customers to view detailed accounts of calling activity in order to analyze phone charges and prevent unauthorized calls. Consumers can pay for bills by using their credit cards.

Privacy and Security

One of the barriers faced by the consumers who do business on the Net is the lack of security on the Web. For protecting the sensitive information such as personal profiles, internal corporate documents or payment information a comprehensive and confidence inspiring security and access control component is established between parties by providing three key services to the application. One is establishment of information access boundaries, other is authentication of remote users and third authorization according to user profile.

Information boundaries allocate privileges to access protected areas of the site, content and business functions, as well as control access rights to applications on other computer systems. The most advanced solutions is not only to protect parts of files to ensure that confidential information remains safe.

User authentication refers to the process of ensuring that a user or program that is attempting to access the platform over the Net. This involves transmitting

confidential information such as username and password, a digital certificate or a public key for encryption from the user to the system.

Once the user is confirmed to be authentic the system can begin the process of determining what application resources the user has access to . If the user is determined to be allowed to view the selected file, execute the selected program or modify the selected data then the security component delivers automatically.

A typical exchange between an end user. The access control component and an e application could go as follows. The transaction would begin when the user sends a request for a page. Since the information boundary module indicates that the page is protected the access control component would send the user a notification page requiring her to log into the system. If the login information corresponds to a registered user, the authentication module would pass the request to the authorization module. The authorization module s responsible for working with the user profiling component to determine if the selected user has access to the protected page or resource.

Once users are logged into the system the access control component remembers what resources they have access to and allows them to access protected pages and data and excute programs.to identify possible breaches in security the component must automatically include intelligent logging and reporting features that identify security faults as well as otherwise invisible unauthorized attempts to access the system.

Without security component e application would be exposed to a number of different security breaches. Threats range from theft of a customers credit card number to breaking into online systems and committing fraud or misappropriating funds. Criminals may even attempt to steal confidential information for sale to other corporations or essential to select security component that is flexible enough to handle security for a wide range of applications. By combining a security access

control business component with technology components such as digital certificates cryptography and so on e-commerce developers can prevent interception of data and ensure proper access to content by the right person at the right time.

Search Engine

There are different ways in which a website can be promoted. These include mechanisms such as registering with search engines advertising newsgroup announcements and e-mail announcements. Search engine on the web will register websites along with their universal resource Locator (URL) and keywords from the content of the web pages. The popular search engines include netscape and yahoo. The easier it is to search and find, the more satisfied the user will be.

Searching techniques based on two basic combinations search by content and search by parameter. Searching by content is perhaps the single most common functionality on the net today in e-commerce searching by content can be used in any number of different situations. Some examples include searching by product description or type or visually searching photos or drawings of products whose names are not known but that are recognized rather than what it actually contains. Parametric searching allows users to search a product of a particular type exceeding a particular level of output possessing a specific feature and falling below a certain price. Common types of parametric searching include searching by alphabetical order by information hierarchy by keyword by logic and by natural language.

Electronic Data Interchange

Electronic Data Interchange (EDI) can be used to electronically transmit documents such as purchase orders, invoices, shipping notices, receiving advices and other standard business correspondence between trading partners EDI can also be used to transmit financial information and payments in electronic form.

EDI is a way of substituting electronic transactions for paper ones. When the documents are produced by high speed printers however they must still be detached

inserted and mailed and the copies must be filed by the originating organization. The originals must be physically transported to the addressee opened carried to the appropriate individual within the addressee.

The use of EDI Eliminates many of the problems associated with traditional information flow.

- The delay associated with making documents is eliminated
- Since data is not repeatedly keyed, the chances of error are reduced
- Time required to re enter data is saved
- As data is not re entered at each step in the process labour costs can be reduced.
- Because time delays are reduced there is more certainty in information flow.

The other advantage in the use of EDI is that it generates functional acknowledgement whenever an EDI message is received and it is electronically transmitted to the sender. The acknowledgement states that the message is received.

Electronic Mail. (e-mail)

Electronic mail is the means by which we can electronically get our messages access to one another as against the conventional mode of paper based messaging. Messages can be prepared and sent reliably over communication networks from the desktop computer of the sender to be received at the desktop computer of the recipient.

The main component of electronic mail systems are.

- User agent which allows the user to prepare electronic mail
- Message Transfer agent which is responsible for routing electronic messages to their destinations.
- Message store where electronic mail can be stored until it is picked up by the recipient.

To send electronic mail the sender does not have to ensure that the recipients computer system is on. It can be sent and received at the convenience of the user.

Electronic Cash over the Internet

(Cyber cash or e-cash)

Electronic cash or e-cash is a new concept to execute cash payments using computers connected over networks. Using software on the customers own computer the customer can withdraw e-cash from their own account in a bank. The cash is stored in the hard disk of the customers computer in an electronic wallet which can be spent by the customer for purchase of items from any shop accepting e-cash. It can be used for receiving payments between customer and merchant or persons or for any money transaction.

The customer can use a browser to see products offered for sale on the web. He scans the sale pages and identifies the products available in different shops along with their sale prices. In doing so the customer browses through the Web pages on the merchants servers. After identifying the products the customer wants to buy he sends a request to the customers bank server for sending electronic cash from his account to his own system. The message is in enciphered form. After checking authenticity and balance the bank server sends back a secure e-cash packet which is stored in the electronic wallet of the customers hard disk.

Having obtained e-cash from his own computer the customer sends an order to the merchants server along with billing and shopping address, quantity ordered and the exact e-cash the merchant issues a receipt electronically to the customer and sends the e-cash to his account in the merchants bank. The merchant takes the desired steps for delivery of items to the customer. The merchants bank sends the e-cash packet to the customers bank. The customers bank after using the customers public key along with the secure packet received, verifies and remits the actual

fund to the merchants bank who transfers this money to the account. The customer gets the items dispatched by the merchant at the shopping address.

As the e- cash can reach the destination site using any computer network or internet which has an open architecture the security of the system is very important. Security is provided using encryption digital signatures and passwords. As e- cash is digitally signed by the customer there is no chance for dispute over payment. The implementations vary from one to another solution provider. While paying in the form of e- cash the customer has the option to reveal or conceal his identity. If the customer has the option to reveal or conceal his identity .If the customer wants to conceal his identity if the customer wants to conceal his identity the merchant cannot know it. When clearing the payee is identified by the bank but the merchant does not know of him.

Credit cards on the net

On the internet online commerce would be done with credit cards. A credit card has been defined as payment card the holder of which is permitted under his contract with the issuer of the card to discharge less than the whole of any outstanding balance on his payment card account on or before the expiry of a specified period .No physical paper needs to be passed unlike cash or checks. The consumer simply type our credit card number into the merchants world wide web page. The only thing that needs to pass between the merchant and the buyer is the credit card number .One of the main problems that credit card transactions over the net have become involved is the possibility of credit card frauds and that of security and privacy. The consequence of this has been that a number of corporations are engaged in the process of creating a system with some measure of security.

E- Commerce and Tax

The Internet related commerce offers luxury of and convenience to the average customer and its opportunities is increasing everyday. A wealth is generated through the means of e-commerce, a state has triggered the monetary control through taxes that are collected at a point of sale. Taxes can typically be classified into two types.

- i. Direct Taxes wherein the incident and impact is upon the same person, and
- ii. Indirect Taxes, wherein tax is levied on transactions.

Income taxes are based on the principle that each person should contribute to the revenue of the state according to his income. Indirect taxes are based on the principle that the more one consumes the more one ought to pay. Tax on luxury goods is higher than tax on basic goods.

E-commerce includes retailing and wholesale business online newspapers and other information sources, services online healthcare services, videoconferencing offshore and inland banking stock trading etc.

The basic modes through which e-commerce operates are:-

- Advertising, sale, Lease of Tangible products over the internet
- Advertising sale lease of intangible content such as software downloads digitized forms of music available for downloads electronic newspapers photos and services offered by online database.
- Advertising , sale licence of services such as offshore software development online newspapers online ticket bookings, trading in stocks and shares, online banking online casino games etc.
- Commerce in the form of advertising providing selling leasing. Licensing internet access and telecommunications.

Services and intangible products sold through websites advertising digitized database information services are some areas where taxes can be levied. The foremost question associated with internet based commerce fixing the place of the transaction. The place where a web server is located the place where a user initialize the transaction and the server where the payment is collected may be different .To fix the border of Internet trade two methods are forthcoming.

- i. to treat all individual based trade as having originated in the country where the server is located and
- ii. to treat business to business trade on the basis of physical presence or permanent business establishment which is widely used in Double Taxation treaties.

In the case of one line payment for purchase of a software from a software developers website two things aspects should follow:-

- i. A license is purchased, rather than ownership thus the purchaser pays a royalty to use the programme
- ii. A right to use the copyright to the programme is purchased thus a good has been acquired much like a book is purchased.

Another problem arises with incidence and levy of indirect taxes on intangible goods bought and sold via the medium of the Internet arises when products having high information value that can be transformed digitally and transferred electronically. The task is of taxing the value of the product which is a huge administrative task for customs authorities. The one easy solution is to let it be and continue with the policy of taxing the carrier medium only. It would involve applying a bit rate tax for every bit of information downloaded from websites selling intangible products this can be done by taxing internet business based on their domains especially the com domain hierarchy. The WHO agreement on customs valuation has given the members the option to tax the value of the carrier media

only or to include the information value in the customs valuation . India is yet to take a decision in this regard.

E- Money or e- cash or cyber cash is important in the context of the leaving of audit trials for financial institutions to examine and collect tax. With e- money tokens of value are expressed in digital form. E money transactions rely on deposit accounts allowing one person to transfer e- money to another. To create an audit trial in the case of e money it has been suggested that tax registration numbers be used. This information would be held in a central data bank, which financial institutions would have to check before a payment is made outside a country. If the validation would not be successful then the banks would levy a withholding tax and thus banks play the role of intermediary.

Commerce Net

Commerce net is a group of companies which is promoting the use of internet for electronic commerce. Its aim is to create infrastructure for business to business transactions on the Internet. Today it has over 200 members which include business in financial retail education computer communication manufacturing information services and publishing fields besides various government and defense agencies.

The object of commerce Net is to help companies streamline procurement and development cycles by performing transactions online. The solutions are based on the WWW technology with websites serving as a mail for large and small business. Displaying of products and fulfilling of orders over the internet is completed after the transactions with respect to payments using credit card numbers and other bank accounts of customers over the open internet and the customers are protected by providing six major security issues.

- Authenticity of trading for transactions
- Integrity of the message sent and received by trading partners

- Confidentiality of message
- The sender cannot deny sending the message
- The receiver cannot deny receiving the message
- Restricting access only to authorized users.

India and E commerce

E commerce is moving very fast and sooner all commerce in india is going to transfer in electronic form. The infrastructure required for efficient e commerce delivery and the current status of such infrastructure in India are.

- An internet access system which could be telephone or cable based.
- A strong credit card payment system and a fine tuned electronic funds transfer system for fast and smooth transactions
- A fast dispute resolution mechanism (cyber court) on which the public can repose confidence.
- Computer and internet literacy should spread among all.

The National information Technology policy (NTP) is developing e commerce in India. IT industry is quickly adapt electronic commerce, electronic business and electronic fund transfer and encourage to use e- commerce in order to meet the global challenge of liberalization and globalization.

CHAPTER VII

E-COMMERCE BUSINESS

If any one is interested in starting an online based business or e commerce site which involves actually selling of goods and services online, there are many choices that would come to the help for actual planning and building of the website. There are lot of incredible money making opportunities available to anyone selling virtually anything online. Many major corporations, large retail store chains and established large size companies have already discovered the role of an online presence in the beginning of the new millennium. The buying habits of consumers are tremendously changing.

People interested in working on a part time basis from home in order to supplement their income are among the fast growing group of online entrepreneurs . Home makers senior citizens people with physical disabilities and those with an entrepreneurial spirit are also among the people launching new online business ventures every day. In addition people looking for a career change and those who want to become their own bosses and set their own work schedules have found success launching online business. Even people with minimal computer skills but an excellent business idea have achieved success.

According to my view the better option to earn money from online based business is only by way of investing time and idea. In the case of time there are four concepts. One can kill time spent time sell time invest time. The idea is based on ones intellectual capacity. Connecting with time and idea, the people who kill time comes under the category of lazy. People who spent time comes under the category of job oriented persons. The persons who sell time comes under the category of highly qualified professionals and the persons who invest time come under the category of business promoters and investors. The first two types of people can't succeed in e commerce business. Now more and more people are becoming computer literate and are beginning to explore the internet on their own. The internets fast growing popularity has made it an attractive viable marketing tool for companies. Now virtually anyone with an idea for an one line business a computer access to the world wide web and software for creating a website can launch his own business venture in cyber space, with relative ease and with a minimal financial investment.

The e-commerce industry is truly open to everyone. Out of the hundreds of online business launched each month, only a handful will ever become profitable. According to my opinion any one who is interested in starting online business. Whether they are contemplating this as a full time career move or a part time way of generating additional income there are many opportunities open to them in cyber space for launching business on a smaller scale and making money. It is easy to succeed in online business venture if one have good business contacts. In earlier years our forefathers create assets by acquiring lands, but in the new millennium ones contact is considered as a priceless asset. The e commerce industry is relatively new. The rules and regulations for doing e commerce business is clearly specified in cyber laws and information technology act.

Before investigating the online business opportunities one should determine the operating type of business that fits his lifestyle and the significance of self employment .Launching your online business venture will take time, idea and plenty of preparation . In this business knowledge is power. Thus investing your manpower in advance is as important as investing your money. A very intelligent person invest time and energy only not the money.

For choosing e commerce business as a carrier one should consider the following points for success.

- You should have organizing ability, personal drive and leadership qualities
- You are able to endure long hours
- You should psychologically ready to take some risks
- You are prepared to wait several months before making a profit
- You must require specific expertise in the business you want to start
- You are very capable in identifying persons
- You have an open mind with frank words and deeds
- You never create cash liabilities ie take no loans or credits.
- You should always plan your future and works for achieving it
- You should be motivated and focused enough to do all of your work in a timely manner
- Your office and house should not be at a far distance. Keep the atmosphere quiet and privacy for getting much concentration
- Takes lessons from other mistakes
- Try to unify like minded and positive thinking persons
- Above all one should devote to almighty never fails.

Advantages of self employment

E-commerce open the way of self employment which is being able to control our professional destiny by operating our own online business and have control over our income potential. Being our own boss certainly has its advantages.

- We can enjoy the bliss of absolute freedom
- We won't have a boss constantly looking over our head
- If we are operating our online business from our own home we can look after the entire work.
- We can arrange our own works according to our wishes and time
- There is no dress code. There is no protocol
- It is usually easier to arrange our personal and professional life.

Importance Website.

Website is the backbone of the e-commerce industry, the internet's world wide web is packed with millions of web sites. Web site means a specific area of space allotted to the user in the server. It is measured in Megabytes (MB) or Giga bytes(GB) all information pictures data etc can be stored in the site. Any one from any place can access these information at any time. The web site can purchase from International companies which would provide International server. So many companies provide website free of cost. Free of cost means the user and the owner has no agreements or has no legal validity. The free offer can curtail at any time by the company. The intention behind in providing the free site is access advertisements of products and other consumer goods. In this case we have no guarantee to retain the site for ever if we build or design the site. On other hand if we purchase the site for cost we can build or design it at any cost. Without our permission no one can display advertisements. Since the web site is the primary way for interacting with potential customers and clients it's vital that our site convey a professional image it must be.

- Easy to read and understand
- Visually appealing
- Simple to navigate through using any web browser software
- Fast loading
- Error free
- Loaded with the information for your potential customers need and want.

The domain name you choose becomes your identity on the internets world wide web. When a new domain name is registered , we will be required to provide a numeric address, called the internet protocol. When someone types our websites domain name into their browser software the Domain name system automatically translates. Website website names into the corresponding numeric internet protocol address which allows web browser software to locate and access the web pages(www.domainanme.com)

The registration of the domain name is relatively quick and easy firstly contact the Internet service provider (ISP) that will be hosting your website.From the ISP obtain their servers if addresses and host names An e mail address also be required Click on the register a domain name link found on Network solutions main web page. When the domain name registration screen appears we need to provide the general information that is required including our e mail address and the domain name we are attempting to register. Once all of the information requested by the Domain Name Registration form has been entered click the submit this for processing button located at the bottom of the form. A message confirming the form has been submitted will appear on the screen, Usually within minutes we will receive an email message from the provider containing the domain. Name registration agreement. This is a legal document. If you agree to the terms, you must cut and paste the e mail message and send it back to the provider. Once the domain

Name registration agreement message from Network solutions . This message will contain a tracking number for your registration. Any correspondence with Network solutions in the future must contain this tracking number in the subject line of your e mail message. As soon as our registration form has been processed, we will receive yet another message confirming that our domain name has been registered. The registration fees is mailed later.

Kerala and e-commerce

As millions of people around the world gain access to the internet and begin to surf the web, the buying habits of people are changing rapidly . If we are looking to buy a major appliance, we need not spend much hours, driving from one appliance dealer to the next to learn about the latest models, their features or their cost. Through e commerce we can research products and comparison shop online in far less time and without having to deal with pushy sales people or find a parking spot at each store. Best of all, as a consumer we can do your shopping any time, day or night, without ever leaving your home . On the other hand for an appliance dealer, could miss out on many sales if their business is not represented on the web and easy to find using search engine. From these situations we can imagine the importance of e commerce industry. Many established business are using the internet simply to improve their customer service and cut costs. Now a small group of high income computer, computer literate people who shop online. As one of the high literate people in kerala can grasp the ecommerce opportunity very rapidly than any other state. In order to achieve this the action from the part of government is very important .At the same time attitude of the people should also wants to change. According to my view certain facts can be considered.

- By promoting IT industry only we can cope with the achievements attained by Andra Pradesh, Bangalore and Chennai.
- The policy of depending for all in government must set aside.
- The qualified unemployees must starts to gain the opportunities in e commerce industry.
- The attitude of all political parties towards the investors have to be changed.
- From the school level, categorize students based on their abilities, interest and nature.
- The concept of business, labour investments, management self employment and facing critical situations should be developed too early among the students.
- Through e commerce industry government can save tax evasion from all sources.

But it is said to say that we the Malayalies are going towards some internet based pyramid schemes for purchasing the web sites. Without proper planning and reason a multinational USA based company sell their 35MB web site in India focusing on internet education and finally get failed. Following this so many India Web site selling companies tries to settle in the minds of us giving attracting offers to get rich quickly while working from home using the Internet. They are all works on the basic principle of multilevel marketing (MLM) plans. Though MLM is a good concept e commerce the money accumulated thereby pyramid schemes is illegal. Now so many companies are introducing get rich quick schemes for selling their products, franchises business opportunities and are accumulating money by way of pyramid structure. Delay implementing the information Technology Act and cyber courts actually helps the antisocial elements around the world to become

computer savy themselves and are cashing in on the internets potential by selling fraudulent inter related business opportunities . Many of these scams are targeted to individuals who are computer illiterate.

DIVISION 11

(CYBER LAWS)

CHAPTER I (INTRODUCTION)

Before entering into e commerce industry every one should try to understand what is cyber law. Cyber law is a new term that refers to all the legal and regulatory aspects of internet and world wide web which is concerned with e commerce or relating to any legal aspect or issue concerning any activity in cyber space. It is simply the deals with the application of those to the new facts relating to computer system and the means by which information transmitted and also with the recognition of electronic document and electronic signature.

In this new era of information Technology the concept of Netizen is evolved. Here Netizen means citizen on internet. When compared with citizen, Neitzen has no geographic boundaries. If home is the dwelling place of a citizen then website is for Netizen. Citizen has a name and neitzen has a domain name. Tracking ID number has the same importance of Pin code number. For getting the protection of cyber law, Neitzen wants to approach cyber courts. All rights and liabilities of a Netizen prescribed in cyber law can only be implemented through information Technology Act.

The shift from paper based to electronic transactions and the questions concerning the legal recognition authenticity and enforceability of electronic documents and digital signature are fully covered by cyber law. The five types of transactions exclude from the cyber world are

- Negotiable instruments
- Power of Attorney Instruments
- Trust deeds
- Wills and
- Documents of title to immovable properties
- Any other document or transaction that may be notified by central government.

CHAPTER II

THE CONTRACT ACT UNDER CYBER LAW

The Indian contract Act 1872, contract as an agreement enforceable by law. All agreements are contracts if they are made by the free consent of the parties competent to contract for a lawful consideration and with a lawful object are not expressly declared to be void.

In e- contracts an offer and the acceptance of an offer may be expressed by means of electronic records. When an electronic records used in the formation of a contract that contract shall not be denied validly or enforceability on the sole ground that an electronic record was used for that purpose. As between the originator and the addressee of an electronic record, the declaration of an intention or other statement shall not be deprived of its legal effect, validity or enforceability solely on the ground that it is in the form of an electronic record. The following provisions have to be legally recognized in order to facilitate e contracts.

- i. Legalizations of the concept of originator and addressee
- ii. Acknowledgement of Receipt of record or information as part of a legal process.

- iii. Modifications to the concepts of time and place of dispatch and receipt.

Concept or originator and addressee

Like Proposer and acceptor in the case of physical contract a new concept originator and addressee has to be recognized in the case of electronic contracts. An electronic record is said to be that of the originator if the same is sent by the originator himself. Privy to the originator and the addressee an electronic record is deemed to be that of the originator if it was sent.

- By a person who had the authority to act on behalf of the originator in respect of that electronic record or
- By an information system programmed by or on behalf of the originator to operate automatically.

If the transmission results in any error in the electronic record when received by the addressee and the addressee

- Knew that the record is erroneous or
- Could have known so had he exercised reasonable care or used any procedure already agreed upon with the originators agent then.

The addressee is not entitled to regard the electronic record so received, as the same as what the originator intended to send.

ii. Acknowledgement of receipt of record or data information

In the case of physical contracts, delivery is an important aspect. By delivery both the parties are aware that the document has been physically transferred and of course there could also be witnesses for that but it is not possible in the case of e contracts. Here one does not know whether the other party has received the document or not. Hence acknowledgement of the record has been received without any error is important .The concept is

On or before sending an electronic record

- Where the originator has requested the addressee or
 - The addressee has agreed with the originator that receipt of the electronic record be acknowledged then.
1. Where the addressee has not agreed with the originator that the acknowledgement be given in a particular form or by a particular method an acknowledgement may be given by way of.
 - Any communication method of the choice of the addressee or
 - Any conduct of the addressee which is sufficient to indicate to the originator that the electronic record has been received in tact.
 2. Where the originator has stated that the electronic record is conditional on receipt of the acknowledgement the electronic record is treated as though it has never been sent until the acknowledgement received.
 3. Where the originator has not stated that the electronic record is conditional on receipt of the acknowledgement and the acknowledgement has not been received by the originator within the time specified or agreed or if time has been specified or agreed within a reasonable time the originator.
 - May give notice to the addressee stating that no acknowledgement has been received and specifying a reasonable time by which the acknowledgement must be received and
 - If the acknowledgement is not received within the time so specified the originator may upon notice to the addressee treat the electronic record as though it has never been sent.
 4. Where the originator receives the addressee's acknowledgement of receipt it is presumed that the related electronic record was received by the addressee.

5. Where the received acknowledgement states that the related electronic record met technical requirements it is presumed unless evidence to the contrary is adduced that those requirements have been met

iv. Time and place of Despatch and receipt

In e contracts the place and time are immaterial because the transmission of data defeats both time and geographical barriers. The following are the new concepts with regard to time and place of dispatch and receipt.

1. Unless otherwise agreed to between the originator and the addressee the dispatch of an electronic record occurs when it enters an information system outside the control of the originator.
2. Unless otherwise agreed to between the originator and the addressee the time or receipt of an electronic record is determined as follows
 - i. If the addressee has designated an information system for the purpose of receiving electronic records, receipt occurs.
 - * at the time when the electronic record enters the designated information system or
 - * If the electronic record is sent to an information system of the addressee that is not the designated information system, at the time when the electronic record is retrieved by the addressee.
 - ii. If the addressee has not designated an information system, receipt occurs when the electronic record enters an information system of the addressee.
3. The parameters for determining the time of receipt mentioned above shall apply notwithstanding that the location of the information system of the addressee may be different from the place where the electronic record is deemed to be received.

4. Unless otherwise agreed between the originator and the addressee an electronic record is deemed to be dispatched at the place where the originator has his place of business and is deemed to be received at the place where the addressee has his place of business.
5. For the purposes of determining the time and place of dispatch and receipt of electronic records the following apply.
 - i. If the originator or the addressee has more than one place of business, the place of business is what has the closest relationship to the underlying transaction or where there is no underlying transaction the principal place of business.
 - ii. if the originator or the addressee does not have place of business reference is to be made to the usual place of residence and
 - iii. usual place of residence in relation to a body corporate means the place where it is incorporated or otherwise legally constituted.

CHAPTER III

ELECTRONIC DOCUMENTS

Legality of Electronic documents under cyber law

The Electronic transfer of information from computer to computer using an agreed standard of structure is called electronic Data Interchange. In the world of commerce, documents are mainly created on a computer and stored in digital form. They can be transmitted in digital form and read on other systems. The main documents are

- Digital signature
- Digital certificate

Signature is mark upon the message with the intention to authenticate it. The concept of digital signature is built on the technology of secured transmission of electronic documents over a computer network. The users of information technology must have trust in the security of information and communication infrastructure network and systems. A digital signature is a message encrypted with a private key to certify the contents. This process of encryptions is called digital signing .Digital signature can perform three different functions all being important to the security of the system.

- i. **Data integrity-** A digital signature indicates whether a file or a message has been modified.
- ii. **Data authentication -** A digital signature makes it possible to digitally verify the name of the person who signed the message.
- iii. **Non repudiation-** After one has signed and sent a message one cannot repudiate their signature because the message has signed with their own private key.

In an electronic record the paper medium is absent. Electronic signature means any letters characters numbers or other symbols in digital form attached to or logically associated with an electronic record and executed or adopted with the intention of authenticating or approving the electronic record. A writing therefore is deemed to be electronically signed if an electronic signature is logically associated with such writing.

If comparing electronic signature and a digital signature is an electronic identifier that utilizes an information security measure most commonly cryptography to ensure the integrity authenticity and non repudiation of the information to which it corresponds. Digital signature is an electronic signature which consists of a transformation of an electronic record using an encryption methodology and the asymmetric function. The most popular encryption methodology is the hash function.

According to the United Nations definition electronic data interchange (EDI) is a computer to computer transfer of commercial or administrative transaction. The authentication and non repudiation of digital signature is highly depend on the support of an elaborate legal frame work that seeks to facilitate E-commerce with the recognition of digital signatures through a specific statutory and regulatory

frame work. It advocates establishment of a detailed public key infrastructure licensing scheme.

Transmission of Electronic documents

An electronic document is a sequence of bits representing the state of electronic switches. Which is transmitted within a network and it moves from the originating computer through cable to another computer to which it is addressed. When there are many computers available in a network it may be necessary for the signals to be passed through routers which are like junction boxes. When signals reach here their addresses are read and the signals routed to the appropriate cable. When signals travel over internet there will be many such nodes through which the signals pass before they finally reach the destination. In order to maintain the confidentiality of communication it is therefore necessary to send the data in an Encrypted or Coded form so that if it falls into wrong hands it cannot be read. The receiver of the message should know how to de code or decrypt the messages are encrypted along with a hash function. Basically encryption process is simply the transformation of the original sequence of bytes in a document into a different set and when decrypted, will yield the original sequence once again.

A hash function denotes an algorithm, which translates one sequence of bits into another, generally into a smaller set such that.

- i. a record yields the same hash result every time the algorithm is executed using the same record as input.
- ii. It is computationally infeasible that a record can be derived or reconstituted from the hash result produced by the algorithm and
- iii. it is computationally infeasible that two different records can be found that produce the same has result using the algorithm.

A hash based signature uses a cryptographically secure has function to produce a has value. Out of the various systems of digital signatures the

asymmetric crypto system and hash function for authentication of an electronic record is prescribed in Cyber Law2. Asymmetric private key for creating a digital signature and public key to verify the digital signature. This system involves the processes of encryption and decryption of the data on which it is applied. Private key means the key of a key pair used to create a digital signature. Public key means the key of a key pair used to verify a digital signature and which is listed in the digital signature certificate. A private key can be used for decryption and the public key for encryption.

The digital signature process operates as follows. The sender of a document uses one of the standard asymmetric crypto systems that has the approval of the legal system and generates a key pair for the encryption of a document. The sender reaches the public key to the recipient in a manner that the receiver knows that it could not have been sent by any body other than the sender. The sender then proceeds to encrypt the document attach the hash value in encrypted form and sends it to the recipient. The recipient applies the public key of the sender and converts the coded message into its original form, computers verifies the hash value and acts on it.

In e-commerce transactions the parties do not come face to face with one another so that proper identification is done by the certifying authority. A certifying grants digital signature certificates to subscribers after proper identification and verification. The certification authorities would receive application from the persons who intend to sign electronic documents and issue digital signature certificates to them as per a procedure determined by them and approved by the authorities. When this digital certificate is installed in the users computer the users browser would generate the key pair using software approved by the certificate authority. The private key is stored in the computer and would be available

whenever a document is to be signed. The public key is sent to the certifying authority to be embedded in the digital certificate issued by the certifying authority. the certificate duly incorporating the public key of the subscriber and other details returned to the subscriber.

Every certificate is a password protected file that includes information such as the name and email address of the certificate holder an encryption key that can be used to verify the digital signature of the holder the name of the company issuing the certificate and period during which the certificate is valid. No digital signature certificate can be granted unless the certifying authority is satisfied that.

- The applicant holds the private key corresponding to the public key to be listed in the digital signature certificate.
- The applicant holds is private key which is capable of creating a digital signature.
- The public key to be listed in the certificate can be used to verify a digital signature affixed by the private key held by the applicant.
- Before the issuance of a digital signature certificate the certifying authority must.
- Confirm that the users name does not appear in its list of compromised users.
- Comply with the procedure as defined in his certification practice statement including verification of identification and employment.
- Comply with all privacy requirements
- Obtain a consent of the person requesting the digital signature certificate that the details of such digital signature certificate can be published on a directory service.

In the following situations, the certifying authority which has issued a digital certificate may suspend the same.

- On receipt of a request to that effect from
- The subscriber listed in the Digital signature certificate or any person duly authorized to act on behalf of that subscriber.
- A wide discretionary power is granted to the certifying Authorities for suspending Digital signature certificate in public interest.

A certifying Authority also has been empowered to revoke a Digital Signature certificate issued by it.

- Where the subscriber or any other person authorized by him makes a request to that effect.
- Upon the death of the subscriber
- Upon the dissolution of the firm or winding up of the company where the subscriber is a firm or a company.
- A material fact represented in the digital signature certificate is false or has been concealed.
- A requirement for issuance of the digital signature certificate was not satisfied.
- The certifying authority's private key or security system was compromised in a manner materially affecting the digital signature certificates reliability.
- The subscriber has been declared insolvent or dead or where a subscriber is a firm or a company which has been dissolved would up or otherwise has ceased to exist.

CHAPTER IV

CYBER CRIMES

Cyber crime can be said to be an act of commission or omission committed on or through or with the help of or connected with the internet whether directly or indirectly which is prohibited by any law and for which punishment monetary or corporal is provided .Computer systems are particularly vulnerable to computer crime because of a number of factors .The most important are.

- Quantum of data available in networks
- Density of traffic in the networking systems
- Open and easy connectivity
- Advancement of Electronic Technology
- Human involvement
- System accessibility.

The computer crimes that are recognized by the law would affect:-

- Hackers
- Digital contract parties
- The digital I C users
- Netizens

- Website owners
- Software professionals
- Certifying authorities
- Web hosting firms and
- Virus introducers

The crimes is a white collar crimes and can be caught by cyber police and punished by cyber courts. The skill and dexterity of a computer criminal is by all means superior to an ordinary criminals .So that the officials in this field requires advanced training and high levels of skills and techniques.

When any person commits any of the following acts, he is guilty of a computer crime.

- i. Knowingly or intentionally accesses and without permission alters, damages, deletes , destroys or otherwise uses any data, computer database, computer computer system or computer network in order to
 - * Devise or execute any unlawful scheme
 - * Devise to defraud, deceive or extort or
 - * Wrongfully control or obtain money, property or data.
- ii. Knowingly intentionally accesses and without permission takes, copies, or makes uses of any data or computer data base from a computer, computer system or computer network or takes or copies any supporting documentation whether existing or residing internet or external or a computer computer system or computer network.
- iii. Knowingly or intentionally accesses and without permission adds, alters, damages deletes, or destroys any data computer software computer programs or computer database which reside or exist internal or external to a computer computer system or computer network.

- iv. Knowingl or intentionally and without permission disrupts or causes the disruption of computer services or denies or causes the denial of computer services to an authorized user of a computer computer system or computer network.
- v. Knowing or intentionally and without permission provides or assists in providing a means of accessing a computer, computer system or computer network.
- vi. Knowingly or intentionally and with the intent to defraud , obtains or attempts to obtain or aids or abets another in obtaining any commercial computer service by false representation false statement unauthorized charging to the account of another by installilng or tampering with any facilities or equipments or by any other means.
- vii. Knowingly or intentionally and without permission accesses or causes to be accessed any computer, computer system or computer network.
- viii. Knowingly or intentionally introduces or allows the introduction of any computer containment or computer virus into any computer, computer system or computer network.
- ix. Destroys computer equipment without authorization intentionally or recklessly tempers with, takes away, transfers, conceals, alters, damages or destroys any equipment used in computer system or intentionally or recklessly causes any of the foregoing to occur.
- x. Whoever knowingly, will fully and without authorization destroyed , uses takes, injuries, or damages equipments or supplies, used for or intended to be used in a computer , computer system or computer network or whoever willfully, knowingly and without authorization destroys injures takes or damages any computer, computer system or computer network.

The computer crimes has been categorized into following types.

- i. Without the permission of the owner or the person in charge of a computer system.
 - Securing access to the system
 - Downloading data
 - Introducing virus
 - Damaging data or the system
 - Disrupting the system
 - Blocking access to another authorized user
 - Assisting another person in contravening provisions of the law
 - Charging service availed by him to another person by tampering with or manipulating the system.

Tampering with computer source documents

- ii. Publishing of information which is obscene in electronic form
- iii. Misrepresenting material facts to obtain digital certificates or to obtain license to issue certificates.
- iv. Breaching confidentiality of electronic documents for which a person has access in pursuant to any powers conferred under the law.
- v. Publishing digital certificates with false particulars
- vi. Failing to furnish information and returns.
- vii. Failing to maintain books, records as prescribed by the regulatory authority.
- viii. Failure by a certifying authority to comply with directions of the controller
- ix. Failure to assist the controller or an agency appointed by him to intercept any message transmitted in a computer resource in sovereign interest.

Common computer crimes

1. Hacking

Out of all cyber crimes, criminal hacking is amongst the biggest threats to the internet and e commerce. Hacking simply means breaking into computer security systems, Hacking is defines as destroys or deletes or alters any information residing in a computer resource or diminishes its value or utility or affects it injuriously by any means. Hacking creates a perception in the minds of Netizens that the internet is vulnerable and weak. Hacking also makes e commerce costlier because of huge investments required to install systems to guard against hackers. There are web sites which specialize in hacking and are virtual schools which teach the methods of hacking. In terms of the motivating factors and causes for hacking there are four types of hacking which are most prevalent today.

- For fun as a hobby, mostly by teenagers obsessed with the internet
- To damage the business of competitors
- With the intention of committing a further offence such as a fraud and misappropriation.
- By internet security companies to test their clients sytems and win their confidence.

The following ingredients ought to be proved before a person can be guilty for the offence of hacking in India.

- An act which destroys or deletes or alters any information residing in a computer resource or diminishes its value or utility or affect it injuriously by any means.
- The aforesaid act is committed with the intent to cause or knowing that it is likely to cause wrongful loss or damage to the public or any person.

Like all criminal offences, hacking also requires means rea ie intent or knowledge and actus reas, ie the act of commission .The punishment for criminal hacking is imprisonment up to 3 years or fine up to Rs. 2 lakh or with both.

2. CYBER FRAUD AND CYBER CHEATING

The word defraud involves two elements deceit and injury to the person deceived. Fraud on the Internet constitutes about one third of all cyber crimes. Some of the major areas of fraud and cheating on the internet include misuse of credit cards by obtaining passwords by hacking get rich schemes , deceptive investment newsletters containing false information about companies non delivery of goods purchased from online auctions and web sites, misappropriation and transfer of funds etc.

The expression cyber fraud in the Indian law can be used for fraud under the law contract and other civil laws. For claiming damages and compensation and the civil law, the expression cyber cheating appropriate in place of cyber cheating fraud. All acts which amount to cheating would be fraud but the vice versa may not be true in all cases. The following are therefore the ingredients of the offence of cheating.

- A representation is made by a person which is false and which he knows is false at the time of making the representation.
- The false representation is made with the dishonest intention of deceiving the person to whom it is made.
- The person deceived is induced to deliver any property to or to do or omit to do something which he would otherwise not have done or omitted.

3. VIRUS ON INTERNET

Computer virus has been defined as any computer instruction information data or programme that destroys, damages, degrades or adversely affects the performance of a computer resource or attaches itself to another computer resource and operates when a programme, data or instruction is executed or some other event takes place in that computer resource. Damage means to destroy, alter, delete, add, modify or rearrange any computer resource by any means. The introduction of virus

by a person with the intention or having knowledge that he is likely to cause wrongful or damage to the public or any person he destroys or deletes or alters any information residing in a computer resource or diminishes its value or validity or affects it injuriously it shall also amount to hacking. The act of planting a virus and other computer contaminants would also amount to the criminal offence of mischief.

4. DEFAMATION, HARASSMENT AND MAIL ABUSE

The internet provides a medium to the Netizen to communicate at the global level and promotes the freedom of speech and expression of even the common man who is using the internet today. The common meaning of defamation is injury done to the reputation of a person. The law provides that an imputation cannot be said to harm a person's reputation unless that imputation directly or indirectly in the estimation of others, lowers the moral or intellectual character of that person in respect of his caste or of his calling or lowers the credit of that person, or causes it to be believed that the body of that person is in a state generally considered as disgraceful. Therefore an imputation as stated above concerning a person about whom the imputation is made for it to fall within the ambit of defamation. The law provides that whoever prints or engraves any matter, knowing or having good reason to believe that such matter is defamatory of any person is also liable to be punished.

In many cases cyber pornography is done through e mail or websites. Attempts to control, restrict and regulate cyber pornography have completely failed. There are places where pornography is liberally permissible while in others there exists prohibitions restrictions or the permissible limits which are very conservative in comparison. A web site based in a foreign land transmits lustful material to a person in India or if it advertises its services on a computer network in India, and it would be liable under section 67 of the information technology act. The search engines would not be liable under section 67 because they neither publish nor transmit any material.

CHAPTER V

ROLE OF INTELLECTUAL PROPERTY IN CYBER LAW

Intellectual property is a new kind of property, which includes patents copyrights, trademarks, designs etc. In wider sense intellectual property means a property created by human brain. It is not similar to that of a land or house. The subject matter of intellectual property is very wide and includes literary and artistic works, films, computer programs, inventions, designs, trade marks etc, Intellectual property law concerns the legal rights associated with creative effort or commercial reputation and goodwill.

Software developers would prefer to patent the software for getting protection. The protection of software is granted under the copyright law and not the patent law. Computer software is specifically included in the category of literary works. The definition of literary works specifically includes computer programmes tables and compilations including computer databases. The term computer programme by the amendment in the copyright act in the year 1994 means a set of instructions expressed in words, codes, schemes or in any other form including a machine readable medium capable of causing a computer to perform a particular task or result. Copyright is a form of intellectual property protection granted under the Copyright Act, 1957 to the creators or authors of the work. Copyright owners have the exclusive right to do or authorize the doing of any of the following acts in respect of a work or any substantial part thereof.

- I Incase of a literary, dramatic or musical work, not being a computer program
- * To reproduce the work in any material form including the storing of it any medium by electronic means.

- * To issue copies of the work to the public not being copies already in circulation.
 - * To perform the work in public or communicate it to the public
 - * To make any cinematograph film or sound recording in respect of the work.
 - * To make any translation of the work.
 - * To make any adaption of the work.
 - * To do in relation to a translation or adaption of the work any of the aforesaid acts.
- ii In case of a computer program
- To do any of the acts specified above for literary, dramatic or musical work
 - To sell or give on commercial rental, or offer for sale or commercial rental a copy of the computer program.

Copyright would vest in the computer program itself and not in the idea behind it. Copyright subsists in published as well as unpublished works. Registration with the copyright office is not compulsory for copyright protection. The copyright in a work would vest with the original author of the work, irrespective of the fact that some other person has registered a copyright in the work subsequently.

If a software is developed by an employee in the course of his employment in the absence of an agreement to the contrary, the employer shall be the first owner of the copyright in the software developed by the employee in the course of his employment. There are many IT companies which do not employ software personnel but enter into contractual relationships with other companies for software development. There are two principal systems which are widespread for sourcing software on a contract basis. Many companies engage other companies to provide manpower resources for software development. There are two principal systems which are widespread for sourcing software on a contract basis. Many companies

engage other companies to provide manpower resources for software development . There are two principal systems which are widespread for sourcing software on a contract basis. Many companies engage other companies to provide manpower resources for software development . In such a situation, the company which is awarded the contract deputes its employees to work for the client company requiring software development. The other method prevalent is where companies just hire or engage other companies for software development. In such a situation the hirer company should ensure that the contract provides for a declaration from the developer company as to which employee or employees would be handling the work of software development.

Section 18 of the Copyright Act, 1957 permits the assignment of copyright. The owner of the copyright in an existing work or the prospective owner of the copyright in a future work may assign to any person the copyright either wholly or partially and either generally or subject to limitations and either for the whole term of the copyright or any part of thereof. In the case of assignment of copyright in any future work, the assignment shall take effect only when the work comes into existence. Where the assignee of a copyright becomes entitled to any right comprised in the copyright becomes entitled to any right comprised in the copyright the assignee as respects the right so assigned and the assignee or as respects the rights not assigned, are treated for the purpose of the Copyright Act as the owner of the copyright . No Assignment of copyright in any work is valid unless it is writing signed by the assignor or by his duly authorized agent.

The assignment of copyright in any work must identify such work and specify the rights assigned and the duration and territorial extent of such an assignment. The assignment of copyright in any work must also specify the amount of royalty payable, if any, to the author or his legal heirs during the currency of the assignment. The assignment shall be subject to revision, extension or termination on terms

mutually agreed upon by the parties. If the period of assignment is not stated, it shall be deemed to be five years from the date of assignment. If the territorial extent of assignment of the rights is not specified, it shall be presumed to extend within India, No assignment can be made orally or by conduct.

LICENCE OF COPY RIGHY

A Licence is a mere permission or leave to do something which would otherwise be unlawful. The licensee does not become the owner of the work but upon the assignment of a copyright, the assignee becomes the owner. In the IT sector, computer software is the intellectual property. An end consumer of a software purchases only a software licence, which implies that he is not the owner of the software. The terms of a software licence specifies that the licensee is entitled to install it on one computer only and that he can make one archival copy as a back up. The following are important exceptions to copyright infringement with respect to a computer program, provided in the copyright act.

(aa) the making of copies of adaptation of a computer programme by the lawful possessor of a copy of such computer programme from such copy.

- 1) In order to utilize the computer programme for the purpose for which it was supplied or
- 2) To make back up copies purely as a temporary protection against lost, destruction or damage in order only to utilize the computer programme for the purpose for which it was supplied.

Copy right protection is available to the form of the work and not the ideas behind the work. Therefore the idea behind the software code is not protected. The software code as is written is protected by the copyright law. A person who knowingly uses on a computer an infringing copy of a computer program is liable for imprisonment for a term which shall not be less than 7 days but which may

extend to three years and with fine shall not be less than Rs. 50,000 but which may extend to Rs. 2 lakh.

SOFTWARE PIRACY

Computer software piracy is a global problem and it is costly for the society. Software piracy means unauthorized copying installation redistribution or sale of software program which is badly affecting the revenues of software manufactures and authorized distribution channels there are some of the major losses caused by software piracy to the community.

- Loss of Jobs
- Higher costs to the software industry and hence higher prices of software for legitimate consumers.
- Loss of taxes
- Dampens the spirit to innovate and invest in the development of new software.

Under the new copyright treaty computer software and computer programs in any mode or form of expression are protected as literary works. Under the performances and phonograms Treaty a new right called the right of transmission has been added to the existing rights of reproduction public performance and communication.

CHAPTER VI

E-COMMERCE TAXATION

According to the wordings or Palkhivala tax can be defined as follows:

Taxes are the life blood of any government but it cannot be overemphasized that the blood is taken from the arteries of the taxpayers and therefore the transfusion has to be accomplished in accordance with the principles of justice and fair play. Every government has a right to levy taxes. But no government has the right in the process of extracting tax, to cause misery and harassment to the taxpayer and the gnawing feeling that he is made the victim of palpable injustice.

Governments all over the world are framing new laws for the various issues of taxation raised by e-commerce. The source of Indian tax system is through Income tax, Wealth Tax, Central Excise and sales Tax. Excise duty is a tax on manufacturer of goods within the country. Excise duties are levied under the Central Excise and Salt Act, the Excise Tariff Act and modified value added tax scheme. Central sales tax is levied on sale or purchase of goods in the course of interstate trade or commerce or outside the state. CST is also levied in the course of import or export of good from India. Municipalities can also levy entry tax on the entry of goods in to that municipality.

Customs duties are levied on imports at rates specified in the Annual Budget. Sales tax is levied on the sale of a commodity that is produced or imported and sold for the first time. If the product is sold subsequently without being processed further, it is exempt from sales tax. Central Sales ax (CST) is generally levied on all inter state sales. State sales tax apply on sales made within a state. Sales tax is also charged on works contracts in most states and the value of contracts subject to tax and the tax rate vary from state to state. However exports and services are exempt from sales tax. Other taxes such as expenditure Tax on payments to luxury hotels from telephone bills, the are also levied. A service tax will be charged on the amount of telephone bills, the

net premium charted by insurance companies and the brokerage or commission charged by stockbrokers for their services. Transfer for asset generates stamp duty. Real estate taxes can also be charged.

E-commerce includes retailing and wholesale business online newspapers and other information sources, services online gambling services (places where gambling is legal) video conferencing offshore and inland banking stock trading etc. One of the major challenge faced by e-commerce is cross border electronic transmission. Since the geographical border is not a factor in Internet the laws of direct and indirect taxation is not fully applicable in e-commerce.

The government of India has also set up a committee to go into the various questions regarding taxation of e-commerce whose recommendations are made available on 2001-2002 budget.

Residence of a person and source of income are two fundamental principles which confer territorial jurisdiction upon a taxing authority to impose income tax. In the environment of cross border commerce the application of the aforesaid principles may lead to double taxation of a person. To avoid double taxation for the same transaction in different countries the system of Double taxation avoidance agreements (DTAAs) has been evolved in which the principle of Permanent establishment (PE) has been incorporated. In the area of international taxation and DTAAs tax treaties the concept of PE has formed the basis of revenue sharing by different tax jurisdiction.

The concept of permanent establishment is based on the requirement that an enterprise has a sufficient presence through which it conducts business in the source country before it can be subjected to taxation by that country. A permanent establishment is most often defined as a place of management a branch an office a factory a workshop a mine quarry or other place of extraction of natural resources or

a building site or other place of extraction of natural resources or a building site or a assembly project which exists for more than a period of 6 to 12 months and in certain circumstances an agent or permanent representative Under most current income tax treaties a permanent establishment doesnot include the use of facilities solely for the purpose of storage display or delivery of goods and merchandise.

Permanent establishment is a fixed of place of business in a country or a dependent agent in a country who has the authority to enter into contracts on behalf of the assessee and who habitually exercise such authority .The three conditions for PE is

- The existence of place of business
- This place of business must be fixed
- The business of the enterprise should be carried out through this fixed place of business.

The concept of PE requires that the business is carried on from a distinct geographical point. The definition refers to a physical location of business in a particular place with a certain degree of permanence .The commercial activity of the enterprise must be done through some connection with the fixed place of business .The permanent establishment shall be deemed to exist where

- A person other than an agent of an independent status
- Acts in one contracting state, on behalf of an enterprise of the other contracting state.
- Has an authority to conclude contracts in the name of that enterprise and
- Habitually exercise such authority.

The nature of the Internet permits large scale business activity in another country without any physical presence whatsoever over there what to speak of a permanent establishment in such country. Through the Internet enterprises , Banks,

retailers, wholesalers, brokers and even professionals such as doctors, lawyers and architects based on their country are free to do their business or professional activities in another country without any physical presence there. It is evident that many foreign enterprises based in the developed part of the world would be able to engage in full scale business activities in the third world countries without a permanent establishment there, which would result in loss of income tax revenue to them. So that the concept of PE had less importance and the DTAAs should be reviewed and amended .Thus income attributable to a substantial business connection with a place can be taxed in that place. The concept of permanent establishment implies a substantial business connection with the place where it is located.

The growth of cross border business transactions facilitated by e commerce encourages global business and taxation of non residents would assume significance. A resident is taxable on his global income whereas non resident s is taxable on income sourced in India. Since Cross- border transactions lead to double taxation, based on the principles of residence and source and the mechanism of Double Taxation Avoidance agreements has been evolved as a principle of international taxation .DTTAs are governed by section 90 of the income tax act 1961, This states.

Agreement with foreign countries.

90(1) The central government may enter into an agreement with the government of

any country outside India.

- a) For the granting of relief in respect of income on which have been paid both income tax under this act and income tax in that country or
- b) For the avoidance of double taxation of income under this act and under the corresponding law in force in that country or

- c) For exchange of information for the prevention of evasion or avoidance of income tax chargeable under this act or under the corresponding law in force in that country or investigation of cases of such evasion or avoidance or
 - d) For recovery of income tax under the corresponding law in force in that country and may by notification in the official Gazette make such provisions as may be necessary for implementing the agreement.
- (2) Where the central Government has entered into an agreement with the government of any country outside India under subsection (1) for granting relief of tax or as the case may be avoidance of double taxation then in relation to the assessee to whom such agreement applies the provisions of this act shall apply to the extent they are more beneficial to that assessee.

Countries with which no agreement exists.

- 91(1) If any person who is resident in India in any previous year proves that, in respect of his income which accrued or arose during that previous year outside India, he has paid in any country with which there is no agreement under section 90 for the relief or avoidance of double taxation income tax by deduction or otherwise under the law in force in that country, he shall be entitled to the deduction from the Indian income tax payable by him of a sum calculated on such doubly taxed income at the Indian rate of tax if both the rates are equal.
- (2) If any person who is resident in India in any previous year proves that in respect of his income which accrued or arose to him during that previous year in Pakistan he has paid in that country by deduction or otherwise tax payable to the government under any law for the time being in force in that country relating to taxation of agricultural

income he shall be entitled to deduction from the Indian income tax payable by him.

- a) of the amount of the tax paid in Pakistan under any law aforesaid on such income which is liable to tax under this act also or,
- b) of a sum calculated on that income at the Indian rate of tax whichever less.

(3) If any non resident person assessed on his share in the income of a registered firm assessed is a resident in India in any previous year and such share includes any income accruing or arising outside India during that previous year in a country with which there is no agreement under section 90 for the relief or avoidance of double taxation and he proves that he has paid income tax by deduction or otherwise under the law in force in that country in respect of the income so included he shall be entitled to a deduction from the Indian income tax payable by him Double taxation

The assessee should have in fact paid the tax in such a foreign country by deduction otherwise. As cross border e commerce grows the term business connection in section 9 would have more importance. As is apparent from section 9, would have more importance. As is apparent from section 9, section 9, would have more importance. As is apparent from section 9, income is deemed to accrue or arise in India in certain cases, one of them being where it accrues or arises through or from any business connection in India, The term business connection has not been defined in the act. It is referred to in decided cases as having a wide though uncertain meaning. In the leading case of CITs RD Aggarwal and co justice shah speaking for the

Supreme court observed as follows.

A business connection in section 9 of the present Act involves a relation between a business carried on by a non resident which yields profits or gains and some activity in the trouble territories which contributes

directly or indirectly to the earning of those profits or gains I predicates an element of continuity between the business of the non resident and the activity in the taxable territories a stray or isolated transaction is normally not to be regarded as a business connection. Business connection may take several forms it may include carrying on aa part of the main business or activity incidental to the main business of the non resident through an agent or it may merely be a relation between the business of the non resident and the activity in the taxable territories which facilitates or assists the carrying on of that business , In eac case the question whether there is a business connection from oor thrugh which income profits or gains arise or accrue to a non resident must be determined upon the facts and circumstances of the case.

A relation to be business connection must be real and intimate and through or from which income must accrue or arise whether directly or indirectly to the non resident.

The expression business connection postulates a ral and intimate relation between trading activity carried on outside the taxable terriorties and trading activities within the territories the relation between the two contributing to the earning of income th non resident in his trading activity/

The expression business connection has been construed as being vide enough to cover professional connection also within ambit to this case the non resident counsel appeared with the Indian conseil engaged by the Indian solicitors and argued the case on behalf of the client. In these circumstances the supreme court held that there was an indirect professional connection between the appellants and the non resident counsel which could be said to be a business connection and thus the counsel had earned income for the work done in India within the meaning of section 9 of the income tax act.

Section 5 and 9 of the Income tax Act 1961 do not therefore depend upon a permanent establishment (PE) to assume jurisdiction over business income which accrues or arises or is accruing or arising through any business connection in India. Neither section 5 nor section 9 requires the services of web servers or computer equipment to tax business income. The concept of PE which is a resident of Double Taxation Avoidance Agreement (DTAAs) is a major stumbling block against generation of income tax revenues from e-commerce transaction. Since India has signed double taxation avoidance treaties with most trading partners, the PE principle would get into the share of sections 5 and 9 of the Income Tax Act 1961.

Besides accruing or arising through a business connection the following categories of income are also covered under section 9 as deemed to accrue or arise in India.

- * Income which falls under the head salaries if it is earned in India.
- a. Service rendered in India, \
- b. The rest period or leave period which is preceded and succeeded by services rendered in India and form part of the service contract of employment.

Shall be regarded as income earned in India.

- * Income chargeable under the head salaries payable by the Government to a citizen of India service outside India.
- * Dividend paid by an Indian company outside India.
- * Income by way of interest payable by:-
- a. The government
- b. A person who is a resident except where the interest is payable respect of any debt incurred or money borrowed and used for the purpose of a business or profession carried on by such person outside in India or

for the purposes of making or earning any income from any source outside India or.

- c. A person who is a non resident where the interest is payable in respect of any debt incurred or moneys borrowed and used for the purposes of a business or profession carried on by such person in India.

* Income by way of royalty payable by:-

- a. The Government or
- b. A person who is a resident, except where the royalty is payable in respect of any right property or information used or services utilized for the purposes of a business or profession carried on by such person outside India or for purposes of making or earning any income from any source outside India or
- c. A person who is a non resident where the royalty is payable in respect of any right property or information used or services utilized for the purposes of a business or profession carried on by such person in India or for the purposes of making or earning any income from any source in India.

Royalty means consideration for:-

- I The transfer of all or any rights in respect of a patent, invention, model design secret formula or process or trade mark or similar property.
- II The imparting of any information concerning the working of or the use of a patent mentioned model design secret formula or process or trade mark or similar property.
- III The use of any patent, invention, model design secret formula or process or trade mark or similar property.
- IV The imparting of any information concerning technical industrial commercial or scientific knowledge experience of skill

- v. The transfer of all or any rights in respect of any copy right literary artistic or scientific work including films or video tapes for use in connection with television or tapes for use in connection with radio broadcasting but not including consideration for the sale, distribution or exhibition or cinematographic films.\

Certain income by way of royalty has been excluded by th two provision to section 9, which are as follows:

Provided that nothing contained in relation to so much of the income by way of royalty as consists of lump sum consideration for the transfer outside India, of or the impartinf of information outside India in respect of any data documentation drawing or specification relating to any ppattent invention model sdesign secret formula or process or trade mark or similar property if such income is payable in pursuance of an agreement made before the Ist day of April 1976 and the agreement is approved by the central government.

Provided further tha nothing contained in this caluse shall apply in relation to so much of the income by way of royalty as consists of lump sum payment made by a person who is a resident for the transfer of all or any rights in respect of computer software supplied by a non resident manufacturer along with a computer or computer based equipment under any scheme approved under the policy on computer software export, software development and Training 1986 of the Government of India.

Income by way of fees for technical services payable by

- a. The Government or
- b. A person who is resident except where the fees are payable in respect of services utilized in business or profession carried on by such

- person outside India or for the purpose of making or earning any income from any source outside India or
- c. A person who is a non resident where the fees are payable in respect of services utilized in a business or profession carried on by person in India or for the purpose of making or earning any income from any source in India.

CHAPTER VII
E COMMERCE AND TAX
AGENTS OF NON RESIDENCE

The income tax act 1961 contains the rules to recover taxes from the agent of a non resident Section 160 defines the term representative assessee

in relation to certain persons the relevant portion of which with respect to a non resident is as follows:

- (a) In respect of the income of a non resident specified in sub sub-section (1)
- (b) of section 9, the agent of the non resident including a person who is treated as an agent under section 163

Section 161 of the Income tax act 1961 defines the liability of a representative assessee which is as follows.

161 (1) Every representative assessee as regards the income in respect of which he is a representative assessee shall be subject to the same duties responsibilities and liabilities as if the income were received or accruing to or in favour of him beneficially and shall be liable to assessment in his own name in respect of that income but any such assessment shall be deemed to be made upon him in his representative capacity only, and the tax shall, subject to the other provisions and be levied upon and recovered from him in like manner and to the same extent as it would be leviable upon and recoverable from the person represented him.

(1A) Notwithstanding anything contained in sub section (1) where any come in respect of which the person mentioned in clause (iv) of sub section (1) of section 160 is liable as representative assessee consist of or includes profits and gains of business tax shall be charged on the whole of the income in respect of which such person is so liable at the maximum marginal rate. Provided that the provisions of this sub section shall not apply where such profits and gains are receivable under a trust declared by any person by will exclusively for the benefit of any relative dependent on him for support and maintenance and such trust is the only trust so declared by him.

(2) Where any person in respect of any income assessable under this section in the capacity of representative assessee he shall not in respect of that income be assessed under any other provision of this Act.

Section 163 says that who may be regarded as agent.

163(1) For the purpose of this Act, agent relation to a non includes any person in India.

- a. Who is employed by or on behalf of the non resident or
- b. Who has any business connection with the non resident or
- c. from or through whom the non resident is in receipt of any income whether directly or indirectly or
- d. Who is the trustee of the non resident.

And included also any other person who where a resident or non resident as accuated by means of a transfer a capital asset in India.

Provided that a broker in India who in respect of any transaction does not deal directly with or on behalf of a non resident principal but deals with or through a non resident broker shall not be deemed to be an agent under this section in respect of such transactions if the following conditions are fulfilled, namely.

1. The transactions are carried on in the ordinary course of business through the first mentioned broker and

2. The non resident broker is carrying on such transactions in the ordinary course of his business and not as a principal.

(2) No person shall be treated as the agent of a non resident unless he has had an opportunity of being heard by the assessing officer as to his liability to be treated as such.

* He is employed by or on behalf of the non resident

- * He has any business connection with the non resident.
- * From or through him the non resident is in receipt of any income whether directly or indirectly.
- * He is the trustee of the non resident.
- * He has acquired by means of a transfer from the non resident a capital asset in India.

A person in India who has not received any income on behalf of a non resident but has actually paid the non resident the sums sought to be taxed, may be treated as an agent under section 163 (1) © and assessed as a representative assessee. The liability of the statutory agent appointed under this section as assessed under section 161 is personal and non resident.

Section 162 of the Act grants the representative assessee the right to recover the tax paid from the person on whose behalf it is paid and also grants other protections

- 162(1) Every representative assessee who, as such pay say sum under this Act, shall be entitled to recover the sum so paid from the person on whose behalf it is paid or to retain out of any moneys that may be in his possession or may come to him in his representative capacity an amount equal to the sum so paid.
- (3) Any representative assessee or any person who apprehends that he may be assessed as a representative assessee may retain out of any money payable by him to the person on whose behalf he is able to pay tax a sum of equal to his estimated liability and in the event of any disagreement between the principal and such representative assessee or person as to the amount to be so retained, such representative assessee or person may secure from the Assessing Officer a certificate stating the amount to be so retained pending final settlement of the

liability and the certificate so obtained shall be his warrant for retaining that amount.

(4) The amount recoverable from such representative assessee or

Person at time of final settlement shall not exceed the account specified in such certificate except to the extent to which such representative assessee or person may at such time have in his hands additional assets of the principal.

Section 166 makes it clear that income tax authorities have the option to make an assessment on the representative assessee or a direct assessment on the person beneficially entitled to the income.

Section 167 provides the remedies for recovery of taxes in cases of representative assessee

Section 173 grants power of recovering taxes from the non resident.

The combined effect of section 166, 167 and 173 gives the tax authorities two options which are.

- To assess the representative assessee or the person beneficially entitled to the income.

- Having assessed either of the two, to recover the tax from the property held by either of the two

The income Tax Act has a strong recovery mechanism claim its share out ofross border commerce income which is deemed to accrue or arise in India even though the non resident may not have any physical or geographical presence herein india.

CHAPTER VIII

ELECTRONIC BANKING

Information Technology and Electronic Funds Transfer system have emerged the twin pillars of modern banking developments. Electronic funds Transfer Electronic clearing system. E money. Smart Cards and credit cards are the different types of payment instruments in e commerce transactions. At the level of inter bank payment and settlement real time and on line funds transfers are likely to play a major role both in local as well as inter city transactions.

The negotiable instruments act 1881 defines a Negotiable instrument as a Promissory note. Bill of exchange or cheque. A Bill of exchanges is an instrument in writing containing an unconditional order signed by the maker, directing a certain person to pay a certain sum of money only to or to the order of a certain person or to the here of the instrument. In e commerce industry trade and other commercial activities involve large value payments over vast geographic distances. Fund transfer in cyber medium is done through the mode of Telex. The telegraphic transfers represent payment instructions sent in a telex mode an upcountry branch of the same bank or to a correspondent bank branch to credit the beneficiary account with a given amount. A cipher code is appended to the text of the message to ensure integrity and authenticity during transit.

Clearing house facilitate the exchange of instruments and processing of payments instructions at a central point among the participating banks in 1986. Reserve Bank of India framed a set of guidelines known as the Uniform regulations and rules *URR) for the bankers clearing Houses. The URB represent a significant step forward in providing a formal institutional framework for the payments systems in the country. All banks including state Co-operative banks General post office are eligible to become members of the clearing house. Electronic clearing services (ECS) credit scheme provided a system to be put in place that would.

- I Decrease the volumes of paper instruments in Magnetic ink character
- Recognize (MICR) clearing and
- II Improve customer service by ensuring prompt and secure interest in dividend payments to the beneficiaries.

ECS CREDIT AND DEBITS

In ECS credit a series of electronic payment instructions are generated to replace instruments. The system works on the basis of one single debit transaction

triggering a large number of credit entries. These credits or electronic payment instructions which possess details of the beneficiary account number amount and bank branch are then communicated to the bank branches through their respective service branches for crediting the accounts of the beneficiaries either through magnetic media duly encrypted or through hard copy.

User institutions including the corporate bodies and government department which have to effect payment to large number of beneficiaries submit details of payments in magnetic media to the bank managing clearing the clearing house, through sponsor bank ECS credit service is available as on 01.09 1998 at all the 16 offices of the RBI viz Mumbai, Calcutta, Chennai, New Delhi, Ahmedabad, Bangalore, Hyderabad, Kanpur, Nagpur, Jaipur, Patna, Guwahati, Bhubaneshwar, Thiruvananthapuram, Chandigarh and Pune (SBI)

ECS debit is a scheme which facilitates payment of insurance premium and loan instalments etc by customers. ECS debit works on the principle of pre authorized debit system under which the account holders account is debited on the appointed date and the amounts are passed on the utility companies. The scheme thus facilitates.

- Faster collection of bills by companies
- Better cash flow management and
- Eliminates the need to go collections banks by the customer.

CHEQUE TRUNCATION

Cheque Truncation is a method of payment processing where under movement of the paper instrument is truncated by substituting with electronic transmission of the cheque details or data under the negotiable instruments act, 1881, cheques would have to be presented for payment to drawee or drawer bank. The paying bank has a right to insist for a physical presentation

and possession of the cheque are designed to provide the bank with an opportunity to examine the signature and other authentication of the cheque. Cheque truncation is a method of payment processing where under movement of the paper instrument is truncated by substituting with electronic transmission of the cheque details or data.

ELECTRONIC FUNDS TRANSFER ACT

EFT system means an Electronic Fund Transfer system for carrying out inter bank and intra bank funds transfer within India through EFT centers connected by a network and providing for settlement of payment obligations arising out of such funds transfers between participating banks or institutions.

1. Any payment order below a sum specified shall be eligible for funds transfer under EFT system is only through batch processing (processing of batch files, which are in ASCII format.) If in a single payment instruction the originator directs payments to several beneficiaries each payment direction shall be treated as a separate payment order.
- ii The parties to a funds transfer in the batch processing are the sending bank, the sending service branch of the sending bank the sending EFT centre, the receiving EFT centre the receiving service branch and the beneficiary bank. Sending banks means the branch of a bank maintaining an account of and to which payment order is issued by the originator . Originator means the person who issues a payment order to the sending bank.
- iii For the purpose of determination of rights and liabilities arising out of funds transfer in the batch process each branch or office of a bank or an institution as the case may be and each EFT Centre shall be treated as a separate unit.

Iv A payment order issued for execution in the batch processing of the EFT system shall become irrevocable when it is executed by the sending bank. Any revocation after payment order is executed by the sending bank shall not be binding on any other party in the EFT system.

V Every participating bank shall open and maintain in every EFT center settlement account for settlement of payment obligations arising under the funds transfer executed in the EFT system .Settlement Account means an account maintained by a participating bank or institution for the purpose of settlement of payment obligations under EFT system the payment obligations between participating banks and institutions shall be settled on a netting basis at the end of each EFT business day by debiting or crediting the settlement accounts maintained with the EFT centers.

Vi The Nodal department shall specify the security procedure for verification of authenticity of payment orders or as the case may be the EFT data file. A security procedure may require the use of algorithms or other codes identifying words or number encryption call back procedures authentications key or similar security devices specified from time to time. Security procedure means a procedure specified by the purpose of.

- Verifying that a payment order a communication cancelling a payment order of an EFT Data file is authorized by the person from whom it purports to be authorized and
- Detecting effort in the transmission in the content of payment order a communication or an EFT Data file.

vii The Nodal Department may procure the required technology for carrying out funds transfer in the EFT system on real time basis and notify the

participating banks and institution of the availability of High Value funds Transfer facility in the EFT system.

viii Every participating bank institution shall before execution of a payment order in the High value funds transfer processing ensure availability of adequate funds in its settlement account with the sending EFT Centre.

ix The Nodal Department may specify the charges payable by a participating bank or participating institution for execution of any payment order in the High value funds transfer processing and the procedure in regard to issue acceptance execution and settlement of payment orders and such other matters as are necessary for ensuring the integrity efficiency or reliability of the High value funds transfer processing of the EFT system.

x. Every participating bank of institution admitted in the EFT system shall be entitled to execute any payment order for Transfer of Funds to a beneficiary.

xi. Every participating bank or institution shall maintain the security and efficiency of the system.

ELECTRONIC AGREEMENT

Electronic agreements and electronic message are the blood of commerce.

Electronic agreements and electronic message are electronic records.

Electronic agreements and electronic message are electronic records.

- Electronic record means data record or data generated image or sound stores received or sent in a election form or microfilm or computer generated micro fiche.
- Electronic form with reference to information means any information generated sent receive or stored in media magnetic optical computer memory microfilm computer generated micfo fiche or any similar device.

- Data means representation of information knowledge facts concepts or instructions which are being prepared or have been prepared in a formalized manner and is intended to be processed is being processed or has been processed in a computer system or computer network and may be in any form or stored in the memory of the computer.

Electronic Agreements can be classified into:

- Electronic agreement upon which digital signature are affixed by both the parties.
- Electronic agreement through email messages between the parties.
- With digital signatures of the party sending the message.

“85 A presumption as to electronic agreements

The court shall pursuant that every electronic record purporting to be an agreement containing the digital signatures of the parties was so concluded by affixing the digital signature of the parties.

Depending upon the nature of the legal dispute various combinations out of inter alia the following factual questions may arise pertaining to electronic messages.

- Identify of the Originator
- The receipt of the e- message
- The identity of the e- message as fed into the computer for transmission by the originator with the message as received by the address
- The fact that contents of the electronic message have not been altered.
- Contents of the electronic message

The principles of burden of proof would decide as to what would be required to prove any or more of the aforesaid issues that may arise in a case. When the e- message is digitally signed by the originator period of the

digital signature would prove the originator's identity and the contents of such a message. Since digital signature involves the process of the hash function to encode and encryption of the data, the integrity of the data also can be proved by evidence of digital signature. By proving the digital signatures on an e-message, it can be shown that there has been no alteration in the data contained in such an e-message.

The following are some of the evidence which would be relevant for the originator to lead on this regard.

- The statement of the author of the e-message i.e. the originator himself or the person authorized in this regard as the case may be
- Statement of witnesses if any who have knowledge of the contents and dispatch of the e-message in question to the addressee
- Proof of the e-mail address from where the e-message was sent to the addressee.
- The acknowledgement if any of receipt of the e-message by the addressee. Evidence will have to be tailored according to the needs of the case.
- The acknowledgement if any from the email service regarding the confirmation that the message has been sent to the addressee e-mail address.
- User logs maintained with Network service provide the email was sent by the originator to the addresses.
- Other corroborative evidence.

For the addressee on the other hand the following are some of the evidence to prove the identity of the originator receipt of the e-message and the contents thereof.

- Proof of the e mail address of the originator through documents If any such as letters etc. Where the originator has stated his email address.
- Oral evidence of persons who may be aware of the e mail address of the originator.
- Proof of identification of the originator through the use log maintained with the Network service provider.
- Evidence of the fact that the e-mail account of the receiver of addressee has been sent from the email address of the originator.
- Oral evidence of the persons who have knowledge of the receipt of the e message by the addressee.
- Evidence regarding acknowledgement of receipt of an electronic record as proof of matters in section 12 of the IT Act 2000
- Other corroborative evidence.

CHAPTER IX CYBER CONSUMERS IN INDIA

Cyber consumerism is likely to provide the greatest law of consumer protection. As a market the internet is still in the process of development. As goods are purchased online from the cyber market and delivered later the cyber consumer does not get the opportunity to examine them. If the internet facilitates commerce it is also a medium which can be misused by unscrupulous retailers and traders to exploit consumers. Cross border e commerce raises issues of jurisdiction of consumer courts in India. Consumer protection in the cyber world has been specifically addressed in the

Electronic Signatures in Global and National commerce act. The act seeks to protect consumer in the following areas.

- Preserves consumer protection. The act makes it clear that it does not affect existing requirements under the consumer protection laws.
- Requirements of consumer choice. The Act makes it clear that it does not require any consumer or any other person to agree to use or accept electronic records signatures or contracts.
- Protection against confusion and deception: The act requires that consumers affirmatively consent to the use of e notices e records and e contracts . Prior to consenting the consumers must be given notice of their rights and the firm must verify that the consumer will be able to access electronically the information on they will be provided.

The ultimate intention of the consumer protection law is to protect only the people at large who consume goods at the end of the production chain and not for the industry which uses good for commercial purposes in an e commerce transactions for instance an Indian consumer buys a television made in japan from a retail web site based in germany which is found to be defective I would not be viable if he has to litigate in japan.

The concept of cause of action in the territorial jurisdiction under consumer law have great importance in jurisdiction over the cyber world cause of action means the whole bundle of material fats which are necessary for the plaintiff to provide order to entitle him to successes in the suit. Cause of action includes the circumstances forming the infringement of the right or the occasion for the action.

Cause of action in a consumer dispute ordinarily would arise in either or more of the following places, depending upon the nature of the dispute raised by the consumer.

- Place A: The place where the transaction of purchase and sale of goods or hiring of services is entered into
- Place B: From where goods are dispatched to the consumer.
- Place C: Where the goods are delivered to the consumer for use or where the services are performed or to be performed for the consumer.,
- Place D: From where payment for the goods or services is made by the consumer to the opposite party.
- Place E: Where the payment is received by the opposite party from the consumer.

INDIAN AIRLINES CORPORATON & QRS V. CONSUMER EDUCATION AND RESEARCH SOCIETY AND ANOTHER.

In this case before the National commission for complainant purchased a ticket for a flight to Lucknow via Bombay by Indian Airlines on 17.08.1989. He traveled to Bombat but was unable to proceed further to Luxcknow because the flight was cancelled .A complaint was filed on behalf of the said complainant in Gujarat. It was held that to part of the cause of action had arisen within the state of Gujarat. The cancelled sector of the flight was one originating from Bombay and the cause of action, if any could be said to have arisen only in Bombay .The filling of the compliant at Ahemedabad in Gujarat on the ground that Indian airlines had a branch office at that place, was held to be non maintainable for lack of jurisdiction.

The Internet empowers an Indian consumer to visit any market on the globe and purchase goods or hire services through his PC by only a few clicks. When foreign goods and services would be very easily available to the Indian cyber consumer then the foreign manufacturer or distributor must be conscious and would be liable to the consumer under consumer . Protection .Act for any manufacturing defect etc. Thus foreign retailers service providers and the aforesaid category of

conscious manufactures and distributers would be amenable to the jurisdiction of consumer forums in India because the cause of action in an ordinary sale of goods or hiring of services would substantially or at lease partially arise in India causes of action in India in such cases would consist of any or more of the following facts taking place in India.

- The consumers buys the goods or hires services from India.
- The goods are sold or services are provided to the consumer in India.
- The products is delivered or services are availed of in India.
- The consumer suffers the manufacturing defect or deficiency in services in India.

Case:

Smith V. Hobby Lobby stores Inc. v. Boto. Co. Ltd.

Smith brought a wrongfuol death action against Hobby Lobby stores . Hobby Lobby stores filed a third party complaint against Boto co. ltd. Whow as the manufacturer of the alleged defective product based at Hong Kong. Boto was maintaining an internet site which was also accessible to residents of Arkansas. The court held that Arkansas did not have jurisdiction because Boto had no agent or distribution system in Arkansas. Moreover Boto had not made any sale to knowledge regarding the method or manner of transportation or distribution of its products by its customers .Therefore the court held that there were insufficient for jurisdiction in Arkansas.

In jurisdiction over the Cyber world if several courts have jurisdiction in a case, and the cause of action arises partially at several places, then a clause in a contract restricting jurisdiction between parties to a particular or certain courts and ousting jurisdiction of others would be valid for instance if a we site based in japan enters into contract with an Indian consumer which inter alia provides that the crusts in japan only would have jurisdiction and to other

court of form such a clause should not be upheld in india for its oppensive
an would defect the end of justice. Therefore cyber consumers buying goods
or availing services from other countries ought to exercise caution against
an exclusion clause which would have the effect of virtually defeating the
rights of the consumers.

CHAPTER X

Jurisdiction

The physical and geographical boundaries are vanished in cyber space
internet provided a platform for every Neitizens to reach anywhere and
everywhere from anywhere and everywhere it is the global nature of the
internet and conscious global actions of the web sites which will either invite
them to foreign courts or the local laws of different countries. Jurisdictional
invitations from foreign country depend upon the intent and the activities
of the web sites. The law does not require that a substantial part of the cause
of action must arise in a place to give jurisdiction to the court in that place.
The place where the cause of action arises depends upon the facts and
circumstances of each case. Where the cause of action arises partially in

different places all such places would have jurisdiction and the choice of a place from the same vests with the plaintiff. Based on the principle of cause of action the courts of India also have jurisdiction over foreign since cause of action depends upon the place or places from where parties communicate interact operate and transact with one another subsections (3), (4), and (5) of section 13 of the IT Act. 2000 assume relevance and determining the place of cause of action.,

(13) (3) save as otherwise agreed to between the originator and the addressee an electronic record is deemed to be dispatched at the place where the originator has his place of business and is deemed to be received at the place where the addressee has his place of business.

(13) (4) The provisions of sub section (2) shall apply notwithstanding that the place where the computer resource is located may be different from the place where the electronic record is deemed to have been received under sub section (3)

(13) (5) For the purpose of this section.

- a) if the originator or the addressee has more than one place of business the principal place of business shall be the place of business.
- b) if the originator or the addressee does not have a place of business his usual place of residence shall be deemed to be the place of business
- c) usual place of residence in relation to a body corporate means the place where it is registered.

THE CYBER APPLATE TRIBUNAL

Section 48 of the Information Technology Act 2000 provides for the establishment of appellate tribunals known as cyber Regulations appellate Tribunal to hear appeal of a persons aggrieved by an order made by the

controller or adjudication officer section. 57 provides for appeal to cyber appellate Tribunal from the order made by controller for adjudicating officer it has to be filed within a period of forty five days from the date on which a copy of the order is received by the aggrieved party and is to be done in such form and be accompanied by such fee as may be prescribed.

The Tribunal has been enjoined to follow the rules of natural justice in deciding matters. Natural justice means fairness in decision making. Its rules are-

- To act fairly
- To give each party a fair hearing and
- To declare any interest a judge has in the subject matter of dispute before him.

Controller or adjudicating officer.

For the purpose of adjudicating whether any person has committed any contravention the central government may appoint any officer not below the rank of a Director to the Government of India an equivalent officer of the state government to be an adjudicating officer. He must have legal qualification and experience of not less than 3 years and has undergone any training programme in the area of information Technology , The procedure for holding the inquiry has been prescribed in information Technology Rules 2000. That officer after holding inquiry may impose penalty or award in accordance with the provision of the relevant sections.

- As he thinks fit
- After giving the person a reasonable opportunity for making representation and
- Being satisfied about the contravention.

While adjudicating the quantum of compensation the adjudicating officer shall be due regard to the following factors.

- The amount of gain of unfair advantage made as a result of the default
- The amount of loss caused to any person as a result of the default.
- The repetitive nature of the default.
- The adjudicating officer is an administrative authority expressly empowered by the act to adjudicate only. He performs quasi judicial function only as an administrator or adjudication in the proceeding before him, he does not try an accused for the commission of any crime but determines the liability of the contravener for the breach of his obligations laid down under the Act. He impose penalty for the breach of the civil obligations and not impose any sentence for the commission of an offence. Therefore unlike in a criminal case where it is essential for the prosecution to establish that the accused had the necessary guilty intention or in other words the requisite mens rea to commit the alleged offence with which he is charged before recording conviction he is not required to establish guilty intent. Even after an adjudication and levy of penalty, the defaulter can still be tried and punished for the commission of an offence under the penal law, where the act also amounts to an offence under that law. The judging of penalty doesnot constitute judgement or order of a court or judicial tribunal necessary for the purpose of supporting the plea of double jeopardy.

The adjudicating officer is not a court I It is deemed to be civil court for purpose of section 345 and 346 of the Code of Criminal procedure. 1973 (section 46 (5) (b)) All proceeding before it are deemed to be judicial proceedings within the meaning of sections 193 and 228 of the Indian Penal code.

Cyber Appellate Tribunal Its powers

Section 56 provide for appeal to Cyber Appellate Tribunal from the order made by controller or adjudicating officer. It has to be filed within a period of forty five days from the date on which a copy of the order received by the aggrieved party and to be done in such form and he accompanied by such feed as may be prescribed.

For the purpose of discharging its functions the Cyber Appellate s Tribunal has the same powers as that of a civil court under the code of civil procedure. 1908 the following procedures are to be complied with while trying a suit namely.

- Summoning and enforcing attendance of any person and examining him on oath.
- Requiring the discovery and productions documents or other electronic records.
- Receiving evidence on affidavit
- Issuing commission for the examination of witnesses or documents
- Reviewing its decisions
- Dismissing an application for default or deciding it ex parte.
- Dismissing an application for default or deciding it exparte.
- Any other matter that may be prescribed.

Appeal To High Court

Any aggrieved person may file an appeal to the High Court within sixty days from the date of communication of the decision or the order of the Tribunal on any question of fact or law. The High court may allow the appeal to be filed within a further period not exceeding sixty days if it is satisfied about the sufficient cause preventing filing of the appeal

Appeal to the High Court lies only on the question of fact or law arising out of the order of the Appellate Tribunal finding by the Tribunal is not final only if.

- There is no evidence to support it or
- It is perverse and not rationally possible
- It is inconsistent with the evidence or contradictory to it
- It is based on the inadmissible evidence or upon in proper rejection of the relevant and admissible evidence.
- It rests on conjecture surmises and suspicions or arrived at on consideration of materials which are partly relevant and partly irrelevant and inadmissible
- It is based upon misapplication of the provisions of the statute or misconstruction of the ration of a particular Supreme Court decision

Section 61 of the Act provides that in respect of

- Any matter which an adjudicating officer or the Cyber Appellate Tribunal is empowered by or under the Act no court shall have jurisdiction to entertain any suit to determine and
- Any action taken or to be taken in pursuance of any power conferred by or under the Act no injunction can be granted by any court or other authority.

DIVISION III

INFORMATION TECHNOLOGY
ACT 2000

INTRODUCTON

Information Technology bill was introduced in Lok Sabha on 16th December 1999 by the Hon'ble Minister for Parliamentary Affairs. Mr. Promod Mahajn to lead India as an It Leader in the Global from while laying the bill before the House,

The Hon'ble Minister has explained the need of such bill in the following terms.

New communication system and digital technology have make dramatic changes in the way we live. A revolution is occurring in the way people transact business. business and consumer are increasingly using computers to create. Instant and store information in the electronic form instead of traditional paper documents . Information stored in electronic form has many advantage it is cheaper easier to store, retrieve and speieder to communicate Although people are aware of these advantages they are reluctant to conduct business or condlcude an ttansaction in the electronic form due to lack of appropriate legal framework. The two principal hurdles which stand in the way of facilitating electronic commerce and electronic

governance are the requirements as to writing and signature for legal recognition. At present many legal provisions assume the existence of paper based records and documents and records which should bear signatures. The law of evidence is traditionally based upon paper based records and oral testimony. Since electronic commerce eliminates the need for paper based transactions hence to facilitate e-commerce the need for legal changes have become an urgent necessity international trade through the medium of commerce is growing rapidly in the past few years and many countries have switched over from traditional paper based commerce to e-commerce.

OBJECTS OF THE ACT

The Information Technology Act, 2000 seeks to achieve the following objects.

1. To grant legal recognition to electronic records
2. To grant legal recognition to Digital signature for authentication of the information or matters requiring authentication under any law of the country.
3. To permit retention of information documents and records in electronic form where any law requires such retention for a specific period.
4. To foster use and acceptance of electronic records and digital signatures in the Government offices and its agencies.
5. To prevent the possible misuse arising out of transaction and other dealings concluded over the electronic medium.
6. To prevent and arrest offences as well as deter abuse of information Technology.
7. To deal with civil and criminal liabilities arising out of contravention of the provisions of the law.
8. To provide for necessary changes in the various provisions which deal with offences relating to documents and paper based transactions.

9. To facilitate electronic fund transfers between the financial institutions and banks.
10. To give legal sanctity for books of account maintained in the electronic form by the banks.

COMPUTE TERMINOLOGY DEFINED IN THE ACT.

Section 2 contain the definition.

ACCESS

Section 2(1) (a) of the Act has defined the term Access .Access means with its grammatical variations and cognate expressions means gaining entry into instructing or communicating with the logical arthentical or memory function resources of a computer computer system of computer network.

ASYMMETRIC CRYPTOSYSTEM

Section 2 (1) (f) of the Act has defined the terms asymmetric cryptosystem which means a system of a secure key pair consisting of a private key for creating a digital signature and a public key to verify the digitals signature.

COMPUTER

Section 2(1) of the Act has defined the term Computer which means any electronic magnetic optical or other high speed data processing device or system which performs logical arithmetical and memory functions by manipulations of electronic magnetic or optical impulses and includes all input output processing storage computer softwere or communication facilities which are connected or related to the computer in a computer system or computer network.

COMPUTER CONTAMINANT

Explanation (1) under clause (h) of section 43 of the Act has defined the term computer contamination which means any set of computer instructons that are designed

To modify destroy record transmit data or programme residing with in a computer, computer system or computer rework or.

By means to usurp the normal operations of the computer system

Computer system or computer network.

COMPUTER DATA BASE

Explanation (i) under clause (h) of section 43 of the Act has defined the term computer database which means a representations of information knowledge facts concept or instruction in text image, audio, video that are being prepared or have been prepared in a formalized manner or have been produce by a computer. Computer system or computer network and are intended for use in a computer computer system or computer network.

COMPUTER NETWORK

Section 2 (1) (i) of the Act has defined the term computer network which means the interconnecton of one or more computers through.

- I the use of satellite microwave terrestrial line or other communication media and
- ii) terminals or a complex consisting of two or more interconnected computers whether or not the recommendations is continuously mentioned.

COMPUTER RESOURCE.

Section 2 (1) (k) of the Act has defined the term computers source which means computer computer systems computer network data computer database or softwre.

COMPUTER SYSTEM

Section 2(1) (l) of the Act has defined the term computer system which means a device or collection of device including input and output support devices

and excluding calculators which are not programmable and capable of being used in connection with external files, which contain computer programmes, electronic instructions in put data and out put data that performs logic arithmetic, data storage and retrieval, communication control and other functions.

COMPUTER VIRUS

Explanaton (iii) under clause(h) of section 43 of the Act has defined the term computer virus which means any computer instructon, information data or programme that destroys damages, degrades or adversely affects theperformance of a computer resource or attaches itself to another computer resource and operates when a programme data or instruction is executed or some other event takes place in that computer resource.

DATA

Section 2(1)(j) of the Act has defined the term computer network which means the interconnection of one or more computers through.

- i) The use of satellite, microwave, terrestrial line or other communication media and
- ii) Terminals or a complex consisting of two or more inter connect computers whether or not the interconnection is continuously maintained.

COMPUTER RESOURCE

Section 2(1) (k) of the Act has defined the term computer resource which means computer computer system, computer network data, computer database or software

COMPUTER SYSTEM

Section 2(1) (l) of the Act has de defined the term computer system which means a device or collection of devices, including input and output support devices and excluding calculators which are not programmable and capable of

being used in conjunction with external files, which contain computer programmes, electronic instructions inputdata, and output data, that performs logic, arithmetic data storage and retrieval communication control and other functions.

COMPUTER VIRUS

Explanation (iii) under clause (h) of section 43 of the Act has defined the term computer virus b which means any computer instruction, information data or programme that destroys damages, degrades or adversely affects the performance of a computer resource or attaches itself to another computer resource and operates when a programme data or instruction is executed or some other event takes place in that computer resource.

DATA

Section 2(1) (o) of the Act has defined the term data which means a representation of information knowledge facts concepts or instructions which are being prepared or have been prepared in a formalized manner and is intended to be processed or has been processed in a computer system or computer network and may be in any form or stored internally in the memory of the computer.

ELECTRONIC FORM

Section 2(1) (r) of the Act has deigned electro form according to that section electronic form with reference to information means any information generated, set, received or stored in media magnetic oiptical computer memory micro form computer generated micro fiche or similar device.

FUNCTION

Section 2(1) (u) of the Act has defined the term function .Function in relation to a computer includes logic, control arithmetical process, deletion, storage and retrieval and communication or telecommunication from or within a computer.

INFORMATION

Section 2(1) (v) of the Act has defined the term information which includes data, text, images, sound, voice, codes, computer programmes,. Software and databases or micro film or computer generated micro fiche.

SECURE SYSTEM

Section 2(1) (ze) of the Act has defined the term secure system Accordingly secure system means computer hardware software and procedure that

- a) Are reasonably secure from unauthorized access and misuse.
- b) Provides a reasonable level of reliability and correct operation.
- c) Are reasonably suited to performing the intended function and
- d) Adhere to generally accepted security procedure.

ELECTRONIC RECORDS

Section 2(1) (t) of the Act has defined the term electronic record .According to that section electronic record means data record or data generated image or sound stored received or sent in an electronic form or computer generated micro fiche, Section 3 of the Indian Evidence Act 1872 has been amended and as a result this electronic records could now be produced as evidence for the inspection of the courts. For the electronic record to be admissible in evidence bit is to be authenticated by digital signature.