

UNIT-1

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↳ **E-Commerce** :→ E-Commerce, commonly known as Electronic-Commerce, is a type of industry where the buying and selling of products or services is conducted over electronic system such as the internet and other computer networks.

Electronic commerce is generally considered to be the sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions.

This is an effective and efficient way of communicating within an organization and one of the most effective and useful ways of conducting business.

- * Electronic Commerce Speed up and Simplifies (सरल बना देता) communications and transaction between parties involved in goods, services and financial / monetary (आर्थिक, वित्तीय) dealings ;
- * It makes information accessible worldwide, include on the verity (सत्यता) and pricing of goods and services, this makes possible "shopping" worldwide, with little effort

and in a time/cost effective manner.

E-commerce is understood to mean the production, distribution, marketing, sale, delivery of goods and services by electronic means.

A commercial transaction can be decided in to three main stages.

1. The advertising and searching stage.
2. The ordering and payment stage.
3. And the delivery stage.

→ Objectives of E-commerce:

1. Creating Awareness.
2. Exploring Opportunities.
3. Sharing Opinions.
4. Breaking Barriers.
5. Enhancing Innovation (परिवर्तन, नवीनता)
6. Connecting Stakeholders. (हिशेदार)
7. Showcasing E-commerce.

→ Advantages of E-commerce:

1. 24x7 operation.
2. Global Reach: The net being inherently global, reaching global customers is relatively easy on the net compared to the world of bricks.
3. An extended enterprise is easy to build: In today's world every enterprise is part of the 'connected economy'; as such, you need to extend your enterprise all the way to your suppliers and business partners like distributors, retailers and ultimately your end-customers.
Tools like Enterprise Resource planning (ERP), Supply chain management (SCM) and Customer Relationship management (CRM), can easily be deployed over the Internet permitting amazing efficiency in time needed to market, customer loyalty, on-time delivery and eventually profitability.
4. Improve productivity.
5. Cost saving.
6. Better Customer Service.
7. Opportunities for new Business.

8. marketing tool to increase sale as well as to create new business.
9. "Speed up" & Simplifies Communications.
10. market Information accessible "world-wide".
11. Reduction of paper Storage.
12. It improves the quality of Standard goods and Services and to offer a variety of new services.
13. Reduce labor costs etc.
14. Computer platform Independent.

↳ Disadvantages of E-commerce:

1. Lack of human Contact.
2. Delivery issues.
3. International legislation
4. product description problems
5. Security issues
6. Customer are hesitate / hesitant (आशंकित) to buy some product online.
7. Not suitable for dealing with new or unexpected product.
8. Returning goods.

* security issues:

- ↳ security is perhaps (आयत, संभवः) the biggest worry for customers.
- ↳ customers worry that their financial details will not be safe.
- ↳ That the company will use them in an unauthorized way.
- ↳ That the level of security is insufficient.
- ↳ That their identity could be stolen by criminals.

↳ Forces Driving E-commerce ::

There are several forces that are driving the development of new e-commerce websites. As in the physical world of commerce there are three key players.

1. Businesses.
2. Customers.
3. Government.

→ The Driving forces for E-commerce

1. market and Economic pressures.

- a) Strong Competition.
- b) Global Economy.

c) Extremely Low Labor Cost in some countries.

d) frequent changes in market demands

e) Increases Expectation of consumers

f) Awareness among consumers: Now customers are well aware. Internet, print media and electronic media keep update the consumers about new products and their rates.

Societal and Environmental pressures:

a) Government Regulations: Every country have its own rules and regulations but now a days almost every country have well defined laws which provides a right environment for the e-commerce.

b) Rapid Political Changes

Technical pressures:

a) Rapid Technological Changes

b) New Technologies.

c) Information overload.

d) Digital Convergence (कीउमे) अभिमुख हो

➡ Traditional Commerce Vs. E-Commerce ::

E-commerce refers to business conducted over the internet. Traditional retailing (commerce) refers to business conducted in person or over the phone.

The difference is that e-commerce has made it easier for retailers to conduct business and it is a faster and more efficient way of getting things done.

→ Difference Between eCommerce and Traditional Commerce :

1. Direct Interaction.
2. Lower Costs.
3. Reach
4. Returns Rate
5. Credit Card Fraud.

1. Direct Interaction :: Traditional Commerce is often based around face to face interaction. The customer has a chance to ask questions and the sales staff can work with them to ensure a satisfactory transaction.

Often this gives sales staff an opportunity for upselling, or encourage (प्रेरित करना) the client to buy a more

expensive item or related items, increasing the Shop profits.

On the other hand, e-commerce doesn't offer this benefit unless features such as related items or live chats are implemented.

2. Lower Costs : E-commerce is usually much cheaper than maintaining a physical store in an equally popular location.

3. Reach :- with an online shop (E-commerce) you can do business with anybody living on a country you are able and willing (e.g. UK) to send mail to, unlike traditional commerce where you are restricted to people who actually come to your shop.

An online store has no capability limits, and you can have as many clients as your stock can serve.

4. Returns Rate : In a traditional store, the customer will be purchasing

the product, which has some benefits for both the customer and the store. The customer will be able to touch and check the items, to make sure they are suitable, and even try them on, which reduces the number of returned items or complaints.

5. Credit Card fraud:- The remote Nature of Ecommerce makes much more difficult to detect fraud, which means stores can lose money due to fraud.

While traditional commerce is secure, it's easier for a sales attendant to verify that the person buying something is actually the owner of the credit card, by asking for photographic ID.

→ Difference between these in tabular format are:

Key Element	E-Commerce	Traditional Comm
1. Accessibility	24x7	Limited Time
2. Customer Interface	Screen to face	face to face.
3. Customer Interaction	Self-Service	Seller influenced (ग्रन्थि 3107)
4. product Characteristic	Commodity	feel and touch
5. Acquire product information	web pages	magazines, flyers, online catalogs.
6. Request item	E-mail	Printed forms, letters.
7. Check product availability and confirm price	E-mail	phone, fax
8. Check inventory at warehouse	On-line database, web pages	phone, fax
9. Schedule delivery	E-mail, on-line database	printed form
10. Generate Invoice	on line database	printed form
11. Receive product	Shipper (unless it is electronic)	Shipper
12. Confirm Receipt	E-mail	printed form

- Direct interaction is present in traditional Commerce.
- E-commerce prove to be feasible (34354) for the standard product, low-value products, intangible products and digital products.
- In traditional Commerce customer can verify the identity of the seller and their physical location, whereas in e-commerce customers feel insecure because they cannot identify the seller and are unaware about many things.
- Traditional commerce is the best when it comes to convincing the customers on certain products.
- E-commerce uses e-cash, Credit Cards, debit cards and etc.

→ E-Commerce Opportunities for Industries !!

following are some of the areas where e-commerce is witnessing rapid growth in the global markets.

Indian SME and services companies need to tap (छेदना) into some of these vertical segments to gain the maximum advantage in the e-commerce solution sector.

1. Financial Services.

2. Stock Trading

online stock trading is nowadays one of the most demanding e-commerce utilities.

3. Banking.

4. Legal and professional services.

5. Tour and travel

6. Healthcare.

→ **Growth of E-commerce**!! India has an internet user base of about 137 million as of June 2012. The penetration (गुंती, छेती, मेती) of e-commerce is low compared to markets like the United States and the United Kingdom but is growing - at a much faster rate with a large number of new entrants (गतिमान).

Unique to India (and potentially to other developing countries), Cash on delivery is a preferred payment method. India has a vibrant (किमयमान) cash economy as a result of which 80% of Indian e-commerce tend to be cash on delivery.

Contents:

Market Size and Growth:

India's e-commerce market was worth about \$2.5 billion in 2009, it went up to \$6.3 billion in 2011 and to \$14 billion in 2012. About 75% of this is travel related (airline tickets, railway tickets, hotel bookings, online mobile recharge etc.)

Infrastructure:

There are many hosting companies working in India but most of them are not suitable for e-commerce hosting purpose, because they are providing much less secure and threat protected shared hosting.

E-commerce demand highly secure, stable and protected hosting.

Trends are changing with some of e-commerce companies starting to offer SaaS for hosting web stores with minimal one-time costs.

** Software as a Service (SaaS) is a slow delivery mode in which software and associated data are centrally hosted on the cloud by independent software vendors (ISVs) or application service providers (ASPs).

There could be various methods of e-commerce marketing as blog, forums, search engines and some online advertising sites like Google ads and Adroll.

In Early June 2013, Amazon.com launched their Amazon India marketplace without any marketing campaigns.

Funding:

AS OF 2012, most of the e-commerce companies are yet to start making money. However, due to their growth prospects, many venture capital firms such as Accel Partners have invested considerably.

In one of the biggest fund raising, Flipkart.com, in August 2012, raised about ₹822 crore (US \$140 million).

Entertainment ticketing website Bookmy Show.com raised ₹100 crore (US \$17 million) investment by Accel Partners.

Key Drivers in Indian e-commerce are:

- * Increasing broadband internet (growing at 20% - MoM) and 3G penetration.
- * Availability of much wider product range.
- * Busy lifestyles, urban traffic congestion

Unit-II

→ Business models for E-commerce ::

Business model is the method of doing business by which a company can sustain (रिहालना, काम रचना) itself, that is, generate revenue.

The business model spells (देख, पारी, बारी) out how a company makes money by specifying where it is positioned in the value chain.

Some model are quite simple. A company produces goods or services and sells it to customers. If all goes well, the revenues from sales exceed the cost of operation and the company realizes profit.

Others models can be more intricately (complicated) woven (बानाई). Radio and television broadcasting is a good example.

The broadcaster is part of a complex network of distributors, content creators, advertisers, and listeners or viewers. who makes money and how much, it is not always clear at the outset.

for our understanding, e-commerce can be defined as any form of business transaction

in which the parties interact electronically. A transaction in an electronic market represents a number of interactions between parties.

for instance, it could involve several trading steps, such as marketing, ordering, payment, and support for delivery.

An electronic market allows the participating sellers and buyers to exchange goods and services with the aid of information technology.



Fig: Representation of an electronic market.

Electronic markets have three main functions such as :

- (i) matching buyers and sellers.
- (ii) facilitating commercial transactions, and
- (iii) providing legal infrastructure.

A Company's business model is the way in which it conducts business in order to generate revenue. In the new economy, companies are creating new business models and reinventing old models.

We, broadly classified the business model as:

1. E-Business model based on the relationship of transaction parties.
2. E-Business model based on the relationship of transaction types.
3. Classification by revenue model.
4. Classification by distribution channel.

1. E-Business models Based on the Relationship of Transaction Parties:::

Electronic markets are emerging in various fields. Different industries have markets with different characteristics.

Understanding the nature of the market's requirements is critical for creating the underlying e-business infrastructure.

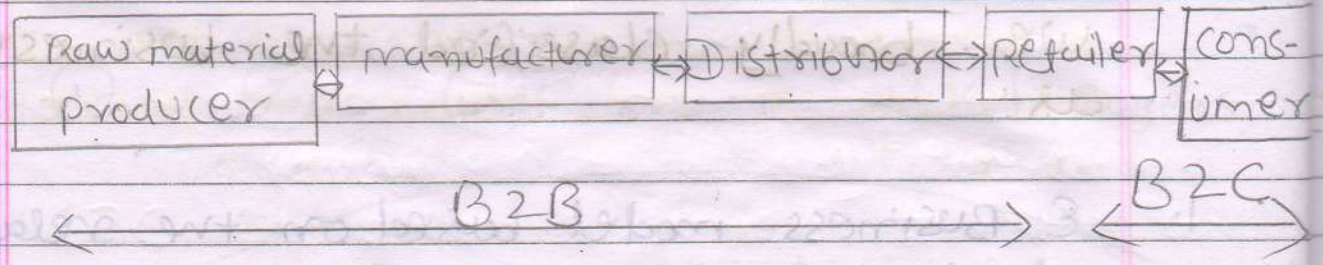


Fig: Relation Between B2B and B2C models.

The relation between B2B and B2C, the B2B covers business transactions along the various interacting existing in the value chain from producer of raw materials to retailers and consumers including manufacturers and distributors. On the contrary, B2C reflects only the

interactions between a customer and a retailer.

Basically, B2C transactions include the following steps:

- (i) Account acquisition,
- (ii) product discovery through search & browse,
- (iii) price negotiation,
- (iv) payment, and
- (v) product delivery.

In some cases, dispute resolution and customer services may also exist.

E-commerce can be classified the model according to the transaction parties (partners):

1. Business-to-Consumer (B2C),
2. Business-to-Business (B2B),
3. Business-to-Government (B2G),
4. Consumer-to-Consumer (C2C), and
5. Consumer-to-Business (C2B).

Within these broad categories, there are number of variations in the way the model are implemented.

model	Description	Examples.
B2C	Sells products or services directly to consumers.	amazon.com, autobytel.com, eDiets.com
B2B	Sells product or services to other businesses or brings multiple buyers & sellers together in a central marketplace.	metalSite.com, verticalNet.com, Shop2gether.com
B2G	Businesses selling to local, state and federal agencies	i'nov.com
C2C	Consumers sell directly to other consumers.	Ebay.com, InfoRocket.com
C2B	Consumers fix price on their own, which business accept or decline.	priceline.com

Table: Summary of E-Business Transaction models.

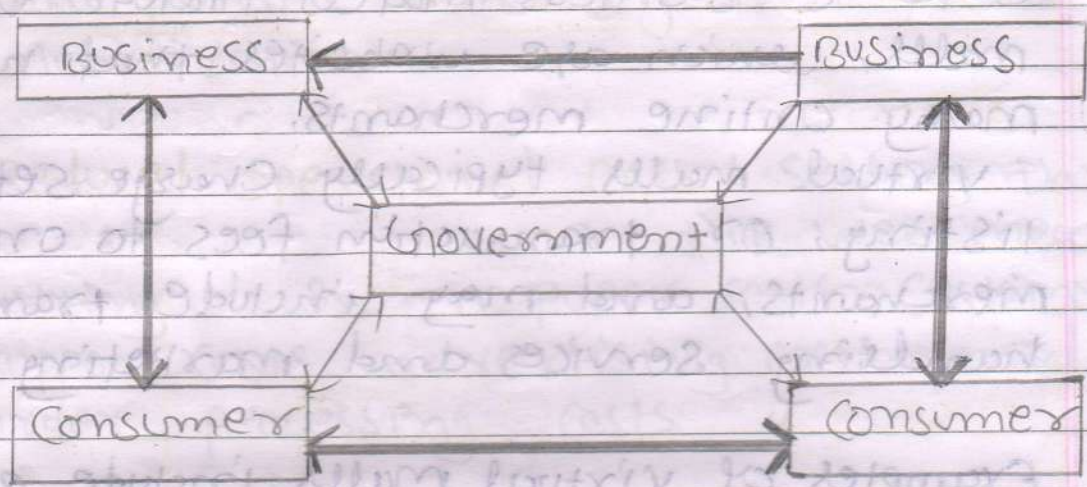


fig: E-Business Transaction model.

1. Business-to-Consumer (B2C) :->

In this type of e-commerce, "A consumer is motivated by a business".

Consumers are increasingly going online to shop for and purchase products, arrange financing, arrange shipment or take delivery of digital products such as software, and get service after the sale.

B2C e-business include retail sales, often called e-retail (or e-tail), and other online purchases such as airline tickets, entertainment venue tickets, hotel rooms, and shares of stock.

B2C e-business models include virtual malls, which are websites that host many online merchants.

Virtual malls typically charge setup, listing, or transaction fees to online merchants, and may include transaction handling services and marketing options.

Examples of virtual malls include excite.com, choicemail, women.com, amazon.com and yahoo.com.

Many people were very excited about the use of B2C on the Internet, because this new communication medium allowed businesses and consumers to get connected in entirely new ways.

The opportunities and the challenges posed by the B2C e-commerce are enormous. (id2met, 2001)

A large amount of investment has gone into this and many sites have either come up or are coming up daily to tap this growing market.

Some of the reasons why one should use B2C are:

1. Inexpensive costs, big opportunities.
2. Globalization.
3. Reduced operational costs: Selling through the web means cutting down on paper costs, customer support costs, advertising costs, and order processing costs.
4. Customer Convenience: Searchable content, shopping carts, promotions and interactive and user-friendly interfaces facilitate customer convenience, thus generating more business.

Customers can also see order status, delivery status, and get their receipts online.

5. Knowledge management: Through database system and information management, you can find out who visited your site, and how to create better value for customers.

* Negotiate (बादला, सहायता, पीछे-भाग)
* Shipshape (ठीक-ठीक)

How Does B2C Work?

B2C e-commerce is more than just an online store. It really is about managing the entire process, but just using technology as a tool for order processing and customer support.

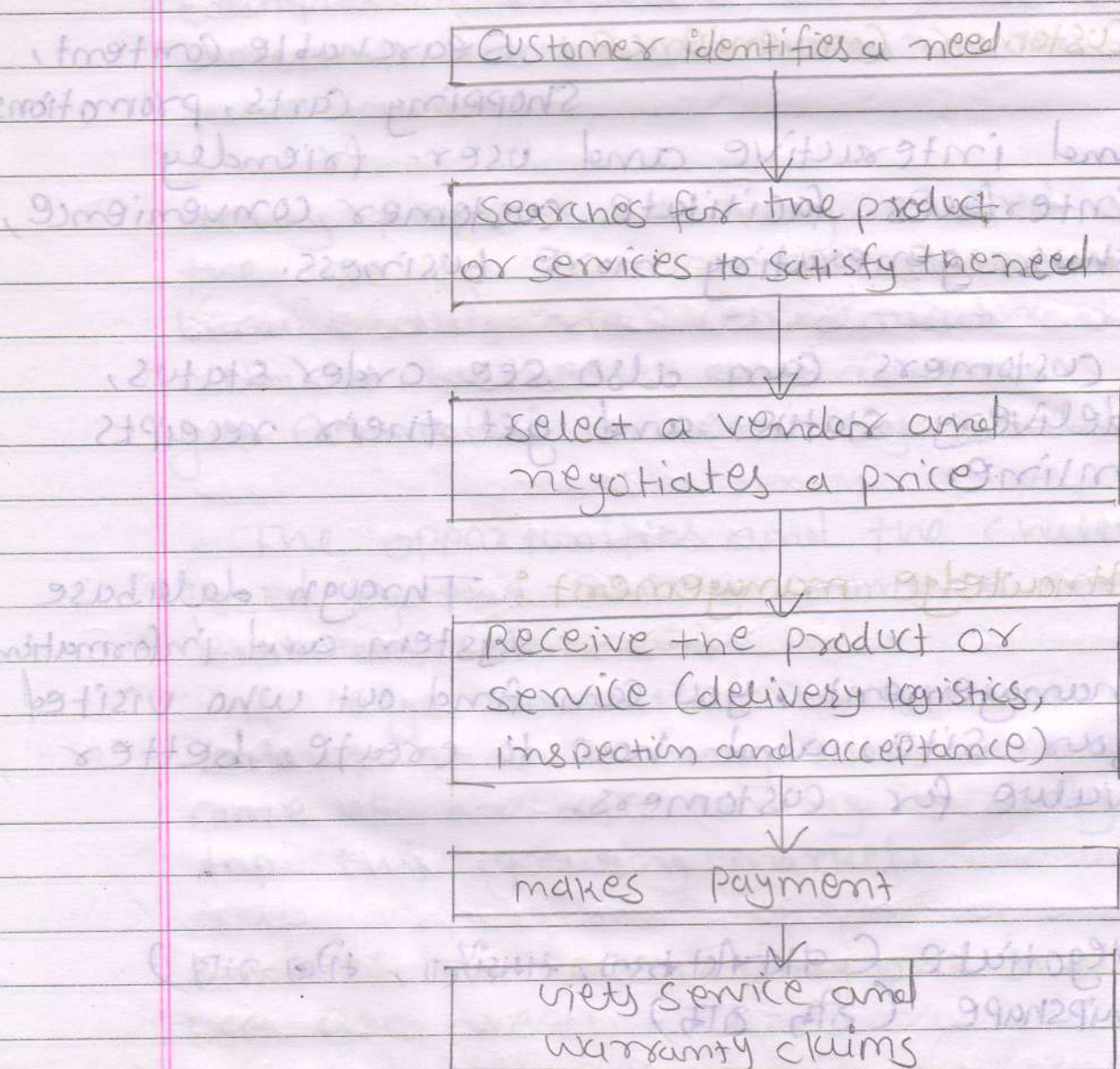


fig: processes in B2C

1. Visiting the Virtual mall.
2. Customer registers.
3. Customer buys products.
4. Merchant processes the order.
5. Credit card is processed.
6. Operations management.
7. Shipment and delivery.
8. Customer receives.
9. After-sales services.

2. Business-to-Business (B2B) :-

In this type of e-commerce, "A business is motivated by another business".

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

→ Advantages of B2B :-

1. Direct Interaction with Customers : This is the greatest advantage of e-business. The unknown and faceless customer including other businesses, buying the product of a large MNC. Large MNCs pay a fortune (₹447, 254, 12-10) for this information on customer buying patterns.
2. focussed sales promotion : This information gives authentic data about the likes, dislikes and preferences of clients and thus helps the company bring out focussed sales promotion drives which are aimed at the right audience.
3. Building Customer loyalty.
4. Scalability : This means that the web is open and offers round-the-clock access. This provides an access never known before, to the customer. This access is across locations and time zones. Thus a company is able to handle many more customers.

on a much wider geographical spread if it uses an e-business model.

S Savings in Distribution Costs.

→ Tools and Techniques at the Disposal (विकल्प, व्यवस्था, निपटारा) of B2B Enterprises;

It is important to know the right marketing strategies, which would be required to sell successfully and profitably over the web.

The web as a medium provides you with a unique platform to enable various strategies, which would not have been possible to execute in a conventional (परम्परागत, अल्पव्यक्ति) scenario.

1. Use of pricing as a tool.
2. Use of application service provider model.
3. Use of generic models which are known for efficiency as well as personalized attention to various business customers.
4. Use of Comparison Shopping.

→ Business-to-Business Transactions and models :→

B2B interactions involve much more complexity than B2C. for instance, typical B2B transactions include the following steps:

- (i) Review catalogues,
- (ii) Identify specifications,
- (iii) Define Requirements,
- (iv) Post Request for proposals (REP),
- (v) Review vendor reputation,
- (vi) Select vendor,
- (vii) Fill out purchase order (PO),
- (viii) Send PO to vendor,
- (ix) prepare invoice
- (x) make payment
- (xi) Arrange Shipment
- (xii) Organize product inspection and reception.

Due to the large number of transactions involved, business-to-business operations can be too risky, if e-business sites cannot guarantee adequate quality of service in terms of performance, availability, and security.

Several models and classifications have

been proposed for B2B Commerce. Below figure illustrates an electronic marketplace for B2B trading.

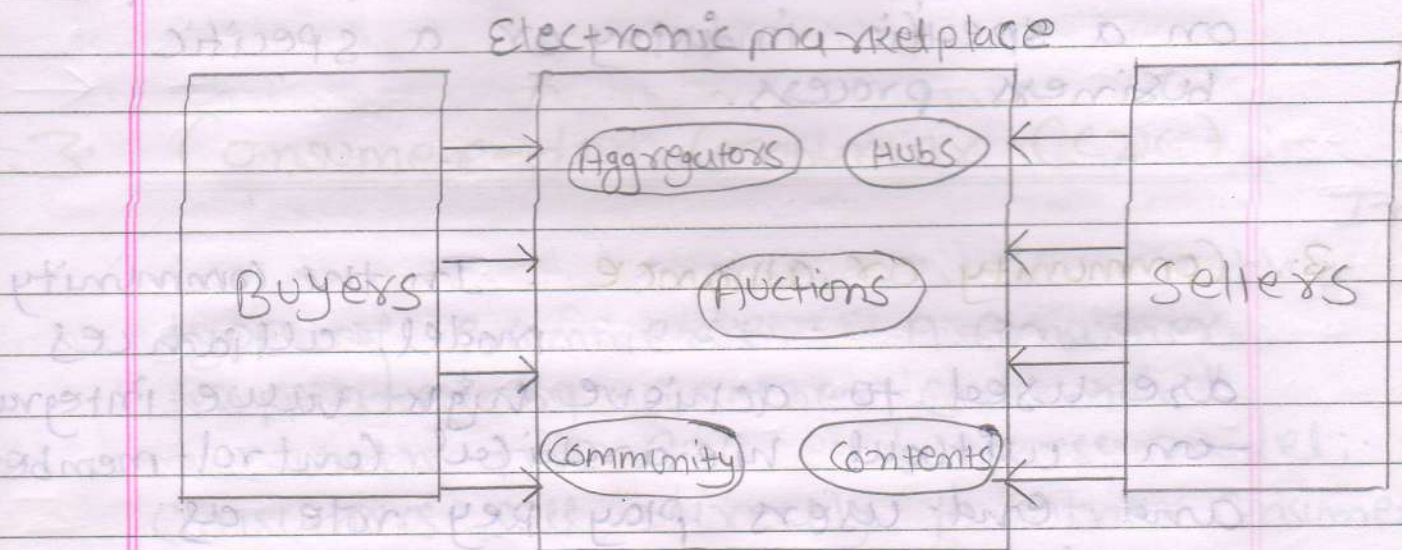


fig: Business-to-Business (B2B) marketplace.

The models can now be described as follows:

1. **Aggregators :-** In the aggregation model, one company aggregates buyers to form a virtual buying entity or aggregates suppliers to constitute a virtual distributor.

2. **Hubs or process Integration :** Hubs or process integration

focuses on producing a highly integrated value proposition through a managed process.

Hubs have been defined as neutral Internet-Based intermediaries that focus on a specific industry or a specific business process.

3. Community or alliance : In the community model, alliances are used to achieve high value integration without hierarchical control. members and end-users play key role as contributors and customers.

4. Content :: Content is the end product of this model of B2B Commerce. It has the purpose of facilitating trading. Revenue can be generated from subscription, membership, or advertising.

5. Auctions or dynamic pricing markets : Auctions or dynamic pricing markets handle complex exchange b/w buyers and sellers in B2B Commerce. Auctions (e.g. English, Dutch, Vickrey)

Reverse) use dynamic and efficient mechanisms for mediating and brokering in complex marketplace, like supply-chain and procurement systems.

3. Consumer-to-Consumer (C2C) :-

In this

type of e-commerce, "A Consumer motivated by another consumer".
with the C2C e-business model, consumers sell directly to other consumers via online classified ads and auctions, or by selling personal services.

Examples of consumers selling directly to consumers are ebay.com (auction) and TraderOnline.com (classified ads).

4. Consumer-to-Business (C2B) :-

In

this type of e-commerce, "A business is motivated by a consumer".

The C2B model, also called a reverse

auctions or demand collection model, enables buyers to name their own price, often binding, for a specific good or service generating demand.

The website collects the "demand bids" and then offers the bids to the participating sellers.

Reverse Auction. com (travel, autos, consumer electronics) and priceline.com (travel, telephone, mortgages) are examples of C2B e-business models.

↳ E-Business models Based on the Relationship of Transaction Types ::::

This business model is essentially ruled by the following two parameters.

on the basis of value addition : value addition is the addition of value to a product or service because of the opportunities that it offers on the web.

On the basis of Control: At the high end of Control there is hierarchical Control and at the low end there is no Control, so that it is self-organizing. Normally, the Control is done through the Policies of the Website.

Based on these, nine types of transaction can be identified as listed below !!

- ✓ 1. Brokerage.
- ✓ 2. Aggregator.
- ✓ 3. Info-mediary.
- ✓ 4. Community.
- ✓ 5. Value chain.
6. Subscription.
7. Manufacturer.
8. Advertising.
9. Affiliate.



These Transaction types take place in a variety of ways. Moreover, any given firm may combine one or two of these as part of its web business strategy.

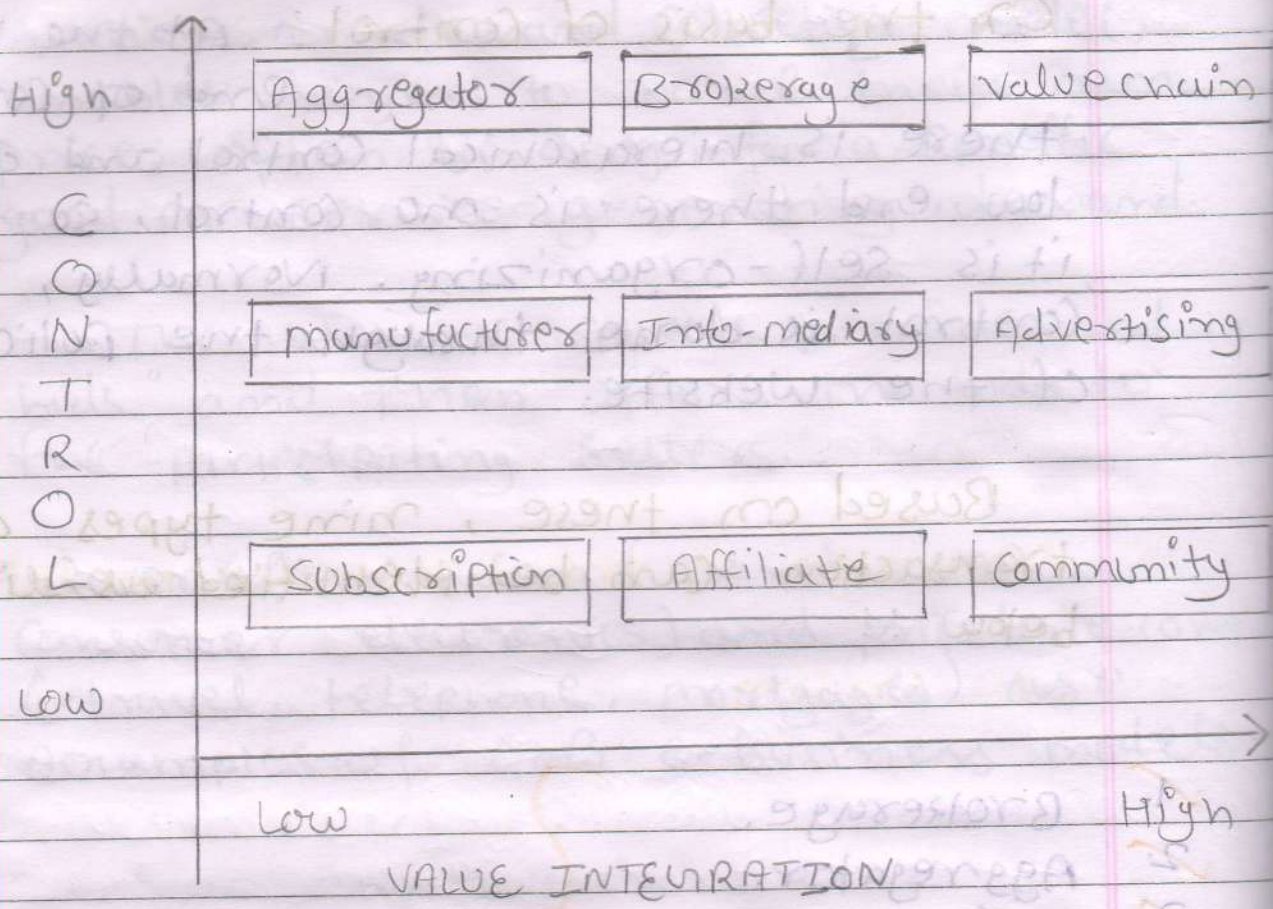


Fig : Transaction model.

1. Brokerage model :-

The characteristics of Brokerage model

- The price-discovery mechanism is its key-principle.
- It is a meeting point for seller and buyer.
- Auctions and exchanges are the model of transactions.

- d> It is a 'free market'.
- e> It consists of global network of buyers and sellers.
- f> It is a virtual marketplace enabled by the internet.
- g> It encompasses all types of organizations now.

↳ Advantages of the Brokerage model :

1. C2C trading

- (a) allows buyers and sellers to trade directly bypassing intermediaries, and
- (b) reduces cost for both the parties.

2. Global Reach

3. Trading Convenience, which

- (a) allows trading at all hours, and
- (b) provides continually updated information.

4. Sense of Community through direct buyer and seller communication.

5. Efficient access to information

6. Alleviation (or) of the risks of anonymous trading.

→ Brokerage — price discovery mechanisms.

These are three kinds of price discovery mechanisms, which form the basis for the brokerage model. They are:

1. Auction
2. Reverse Auction
3. Market Exchange

1. Auction Broker: many different auction formats have emerged since the first auction occurred in Babylon in about 500 B.C.

Today, different auction formats are aggregated on certain common attributes. These are open and sealed-bid auctions.

These are auctions where the auction price ascends as the auction proceeds and there are auctions where the price descends at regular intervals.

(a) English auction : The English auction is one of the most common auction formats. It is also known as the ascending-price auction. It is frequently used for selling art, wine, and other physical goods, which do not have a limited lifetime.

The English Auction is defined in the following way:

The auctioneer starts off the auction with the lowest acceptable price or the reserve price. He then receives bids (बिदाओं में बोल ली जाती है) from the bidders until the point from which there is no raise in the bid.

At that point, the auctioneer 'knocks down' the item, which indicates that the highest bidder will receive the item in exchange for the sum of money he bid for.

Sometimes, the reserve price will not be made known to the public. This may happen when the auctioneer is uncertain about the price expectation of the bidders and when he wishes the bidders to totally set the price level.

AS a consequence of not giving the reverse price, the item will never be sold if the highest bid is lower than the reverse price.

(b) Dutch Auction :- The Dutch auction was developed in the Netherlands to auction flowers and other product with a limited life. It is also known as the descending-price auction.

In a Dutch auction, the opening price is set extremely high. The price then descends with a predefined amount, at predefined time intervals, until a buyer claims the product to be mine (his).

The auction time period is often very short. This auction format is normally used for products that will perish (destroyed) in a short time.

(c) first-price sealed-bid auction :- The first-price sealed-bid auction has the main

Characteristic of not being an open-cry auction, like the English or Dutch auction, and thus the individual bids are hidden from other bidders.

This auction has two different phases - a bidding phase, in which all the bids are collected, and a resolution phase, in which the bids are opened and the winner is determined.

During the bidding phase, each bidder submits his bid, which is based on his own valuation.

The resolution phase works like this: all the bids are opened and sorted from the highest to the lowest bid. If it is only one item that is auctioned, the highest bid will be the winning bid.

If the multiple items of the same product are auctioned, the items are awarded to the highest bids until no more items are left. This is called a Discriminatory Sealed-Bid Auction.

(d) Vickrey Auction: William Vickrey, the winner of the 1996 Nobel prize in Economics, developed the Vickrey auction. It is also called the Uniformed

Second-price auction.

→ Impact of the web on Electronic Auctions:

The electronic auction process, the auctioneer brings together the suppliers (sellers) and the customers (buyers or bidders) within the auction process. During the process of transaction, trade objects and a rule base are needed. The entire auction process can be executed on the web.

Online Auction model

Buyer and
seller
registration

Setting up a
particular
auction

Scheduling
and
advertising

Bidding

Bid evaluation
and auction

Trade
settlement

fig: functional model of an online auction.

The impact of the web on the electronic auction is significant.

The electronic auction can benefit from the following web-related features.

1. Common infrastructure with millions of potential users, which increases the possibility of an auction to occur b/w potential suppliers and customers.
2. Standardized hypertext protocol for displaying the trade objects, which increases the economic feasibility of the electronic auctions.
3. Development of standardized search functions, which helps suppliers and customers to find each other.
4. Standards for secure payment (e.g. SSL and SET), which encourage suppliers and customers to actually use the web medium for trading.

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↳ electronic auction seller-buyer perspective:-

from a seller-buyer perspective, there are three different pairs of buyers and sellers that appear in electronic auctions.

These different pairs are:

- a) Consumer-to-consumer (C2C)
- b) Business-to-consumer (B2C)
- c) Business-to-business (B2B)

In the following section, eBay (C2C) [<http://www.ebay.com/>] is analyzed in detail.

→ eBay :→ eBay is the world's largest personal online trading community. eBay created a new market, an efficient one-to-one trading system in an auction format on the web.

Individuals - Not big businesses - use eBay to buy and sell items in more than 4320 categories, including automobiles, collectibles, antiques, sports memorabilia, computers, toys, Beanie Babies, dolls,

figures, coins, stamps, books, magazines, music, pottery, glass, photography, electronics, jewellery, gemstones, and much more.

Users can find the unique and the interesting - everything from Chintz China to Chairs, teddy bears to trains, and furniture to figurines on eBay.

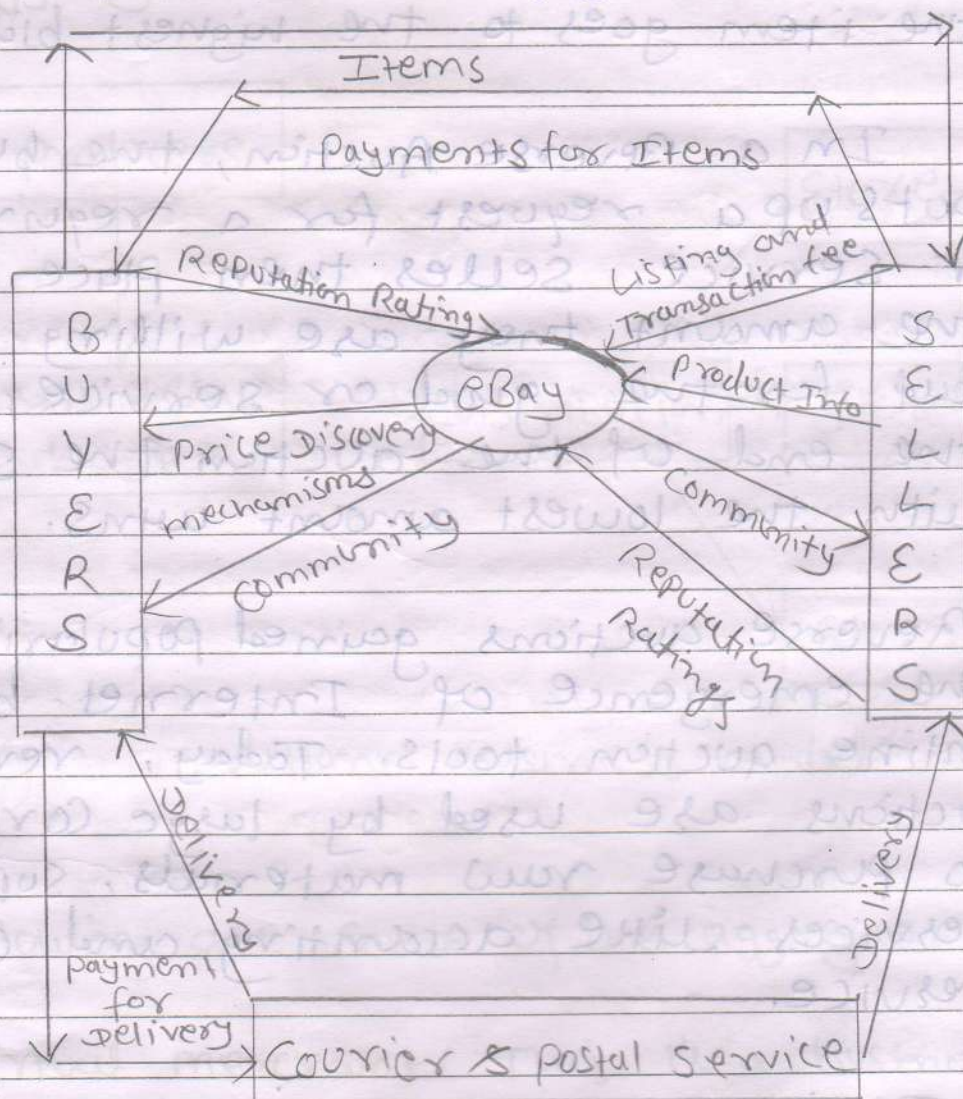


fig: eBay model

2. Reverse Auction : A type of auction in which sellers bid for the prices at which they are willing to sell their goods and services.

In a regular auction, a seller puts up an item and buyers place bids until the close of the auction, at which time the item goes to the highest bidder.

In a Reverse Auction, the buyer puts up a request for a required good or service. Sellers then place bids for the amount they are willing to be paid for the good or service, and at the end of the auction the seller with the lowest amount wins.

Reverse auctions gained popularity with the emergence of Internet-based online auction tools. Today, reverse auctions are used by large corporations to purchase raw materials, supplies and services like accounting and customer service.

It is important to note that reverse auction does not work for every good or service. Reverse auction works only when

there are many sellers who offer similar goods and services.

Ex: priceline.com

(2) Aggregator model :->

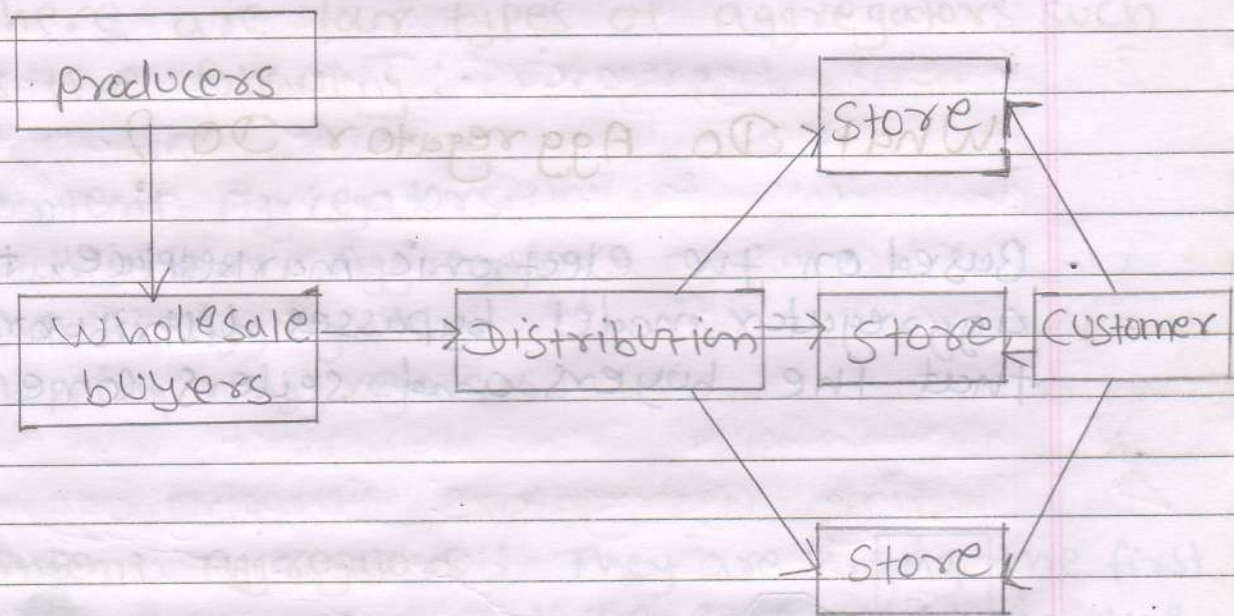


fig: Traditional Business model.

** following are some of the aggregator models:

1. Virtual merchant: This is a business that operates only from the web and offers either traditional or web-specific goods and services. The method of selling may be list price or auction.

2. Catalogue merchant : Catalogue merchant is the migration of mail order to a web-based order business.
3. Surf-and-turf.
4. Bit Vendor.
5. Subscription model: In this, the users pay for access to the sites.

What Do Aggregators Do ?

Based on the electronic marketplace, the aggregator model bypasses distributors so that the buyers and sellers come together.

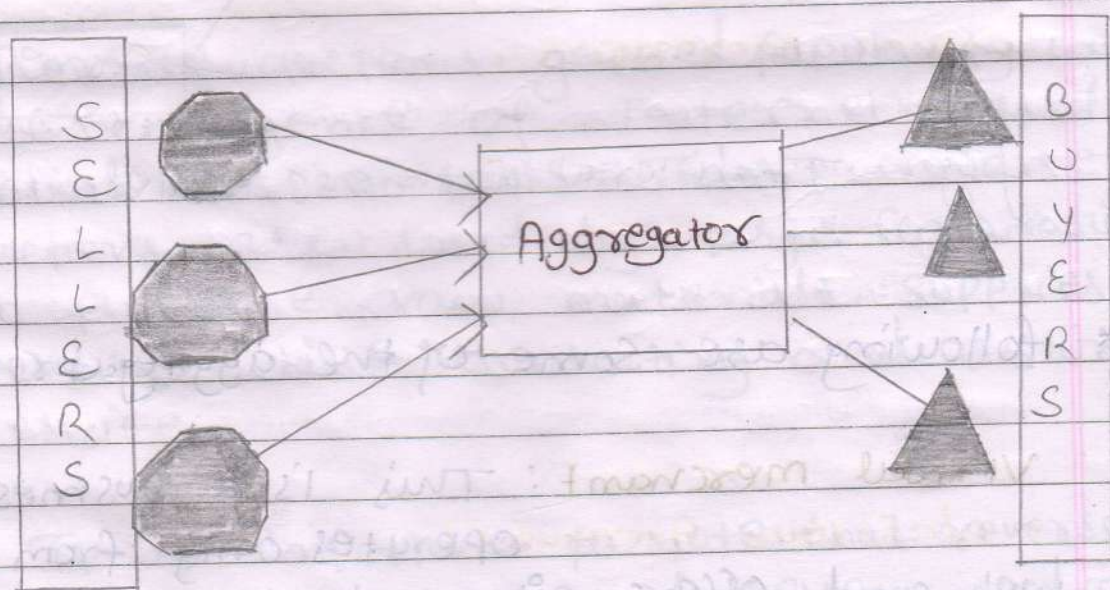


fig: The Aggregator model

To be more precise (सही, सुनिश्चित), the aggregators are the connectors between the buyers and the sellers.

They are involved in the overall process of selection, organization, matching the buyers and enabling the customers to create a value about the sellers.

There are four types of aggregators such as the following:

1. Content Aggregators.
2. Mainstream Aggregators.
3. Event Aggregators.
4. Shopping Aggregators.

1. **Content Aggregators**: They are among the first large-scale sites on the web and mostly represent large publishing companies, e.g. pathfinder.com.

Their basic challenge is that content has to be attractive enough to make the site viable.

2. **Mainstream Aggregator**: These include Yahoo providing a web directory and a search engine, along with a bunch

of attractive tools like email addresses, home page, reminders and many others.

The most attractive feature of these sites is that they have an 'easy-to-remember' URL which one of the reasons for them to be the top traffic sites on the web.

3. **Event Aggregators:** These are sites that provide in-depth content and tools tailored to the need of a particular group, which doubles as a clearly defined customer base.

4. **Shopping Aggregators:** Shopping aggregators let consumers roam (घूमना, गूगल करना) through hundreds of sites and catalogues and find the best price in seconds. They help consumers sift through dozens of e-commerce sites.

3. Info-mediary model :→ An organizer of virtual community is called an information intermediary or info-mediary, who helps sellers to collect, manage, and maximize the value of information about consumers.

Data about consumers and their buying habits are extremely (अति, बेशुमार) valuable, especially (विशेषकर, खासकर) when that information is carefully analyzed and used to target marketing campaigns.

Some firms are able to function as info-mediaries by collecting and selling information to other businesses.

An info-mediary may offer users free internet access (e.g. NetZero) or free h/w (e.g. emachines.com) in exchange for detailed information about their surfing and purchasing habits.

The info-mediary model can also work in the other direction, i.e. providing consumers with useful information about the websites in a market segment that competes (जिहाज) for their dollars.

many info-mediaries today follow business model that generate revenue from the seller side.

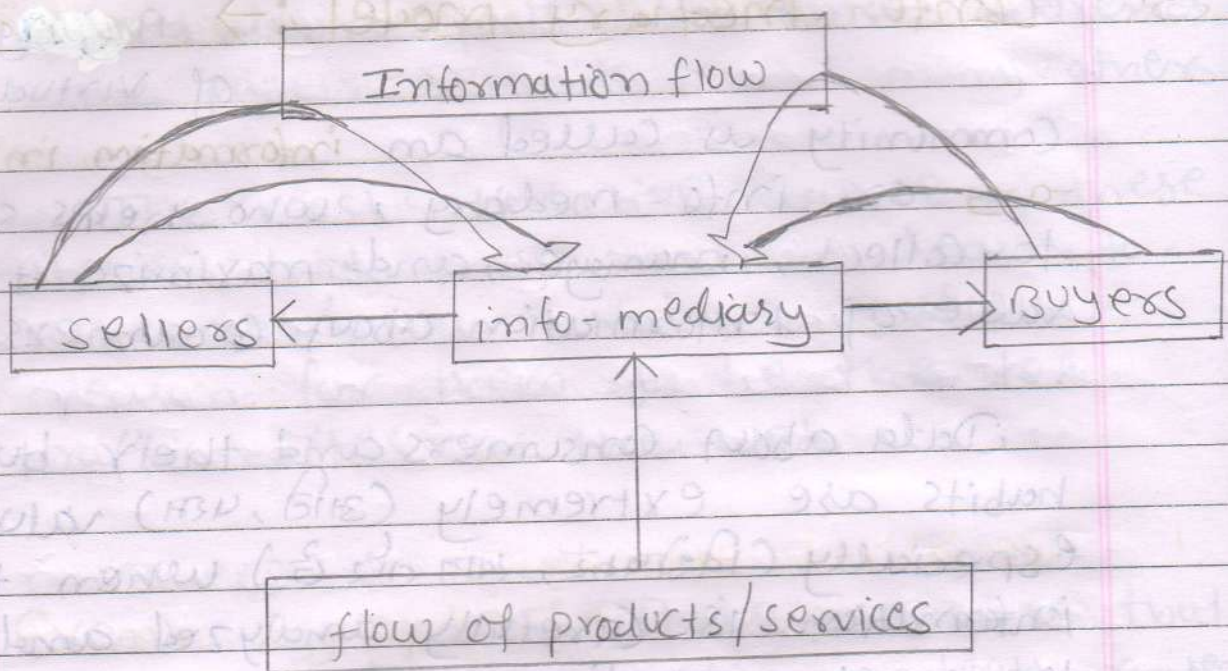


fig: Info-mediary Model.

Buyer-based revenue sources are relatively rare but can be expected to increase over the next few years as info-mediary services become valued in online shopping environments, characterized by increasing choice, complexity, and information overload. Such sources could include membership or subscription fees, allowing access to valued information or fees based on services, such as connecting a seller to a buyer and ensuring privacy protection.

An info-mediary front end to the web could help protect consumers from unsolicited mailings and confusing product selection.

→ Classification of Info-mediaries :->> Info-mediaries can be classified, in terms of their relationships with sellers and buyers, into four types based on whether these relationships are open (non-proprietary, giving anyone free access) or closed (proprietary, restricting access).

1. Specialized Agents: The related proprietary networks are sectioned off the broader internet by having closed relationships with both buyers and suppliers.
2. Generic Agents: These info-mediaries maintain open relationships with both buyers and suppliers and involve no relationship-specific investment.
3. Supplier Agents: many info-mediaries start off in this quadrant, sponsored either by specific companies with a vested interest in selling their products to the core group of sellers.
4. Buyer Agents: These info-mediaries establish relationships with a core set of buyers, working on their and any number of suppliers.

4. «Community model :- "Community" is an Internet buzzword these days. The dictionary defines it as

- (a) a unified body of individuals ---
- (b) the people with common interests living in a particular area, broadly, the area itself.

* E-communities (or electronic communities) are formed when group of people meet online to fulfil certain needs, which include personal interests, relationships, entertainment and transactions.

Of course, E-communities are not confined to just individuals but businesses as well.

* E-communities cater to group of people who come online to serve their common interests and needs, exchange information share interests, trade goods and services, entertain and, seek help.

The viability of the community model is based on user loyalty. Customer's loyalty can be achieved by building e-communities.

First, visitors come and look for information. Then, they start to contribute to the website (for eg., suggesting ways to improve

the sites or its services) and finally, they work inside the website.

→ functions of communities on the web:!

1. most people long to be accepted and loved and concerned about. These along with a desire to learn cause online communities to attract people.
2. Communities on the internet provide information. Since they tend to revolve around a particular interest or common task or hobby, they can be the sources for sharing information and can become deep reservoirs of technical information.
3. Communities also beget loyalty. members develop the habit of visiting one particular site again and again.
4. Communities also build your business. once people become used to a site, they are quite comfortable making a purchase through it rather than going into unknown territory.

→ Community structures : The internet communities can be found structured in several predictable ways as follows :

1. Newsletters : Newsletters, by definition, use one-way communication. They generally use listserver software that sends the same message to an entire list of people, and handles new subscribers and those who wish to unsubscribe. Listserver software (sometimes called a "listserv") is also backbone for e-mail discussion lists.

2. Discussion lists : one of the best ways to build a sense of community is by e-mail discussion lists. In a typical discussion list, the listserver software allows a member to send a message to the list address, and then sends that message to all the list members, all within a few minutes.

There are three types of discussion lists :

- a) E-mail discussion list.
- b) E-mail discussion list digest.
- c) moderated discussion list digest.

3. Bulletin Boards: one of the struggles of e-mail-based communities is keeping "threads" (different topics of conversation) separate.

Sure, the subject line usually includes the topic, but if you are reading 15 messages a day that are not sorted by topic, things will look disjointed.

One solution to this is a web-based bulletin board system. Their great strengths are:

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

4. Chat Rooms: Another significant type of community building tool is the chat room. This is a useful source of knowledge and information for any user.

⇒ Necessary Elements for the Community model: what is really necessary to build a successful community? A lot of case and planning case involved. But be sure to have:

1. A clear focus for the community that makes sense to prospective members.
2. The requisite technical capability through your own SLW and h/w or a free service.
3. A proper structure, guidelines, and parameters for the discussion to keep the group on target.
4. A moderator responsible for each group or list.
5. A clear strategy on how the community will benefit your business.

→ 5. Value chain model :- value chain moves businesses away from discrete streams of data about the product being made to one unified pool of information — one that even extends outside the company to suppliers and customers.

The goal is to develop full and seamless interaction among all members of the chain, resulting in lower inventories, higher customer satisfaction, and shorter time to the market.

Generalized portal : Alta Vista as a value chain model:

Alta Vista Company is the premier knowledge resource on the Internet. With its strong search engine tool and patented technology, Alta Vista opens up avenues in the maze of internet to the richest and the most relevant information on any subject from any nook of the web world, web pages, shopping and community resources.

(i) Alta Vista Search: The world's fastest, most comprehensive search service available in 25 languages with 8 distinct search dimensions.

(ii) Alta Vista Shopping.com: The first web-wide comparison shopping service on the internet, providing objective price and product comparison features to help users make intelligent purchasing decisions.

(iii) Alta Vista Live!

(iv) Alta Vista free access

(v) Alta Vista International.

personalized portal: my yahoo! as a value chain model:

my yahoo! is the user's own personalized version of yahoo! after the user gives his personal information, my yahoo! allows him to collect all his favourite sections of yahoo! in one place.

Some of the topics that Yahoo! offers are:

- a) pick your weather cities.
- b) Track your stock quotes.
- c) Read your choice of news.
- d) find local movie showtimes.
- e) follow your favourite sports teams.

Suresh

→ Electronic Payment System (EPS) :-

"A means of making payments over an electronic network such as the Internet".

E-Payment is a subset of an e-commerce transaction to include electronic payment for buying and selling goods or services offered through the Internet.

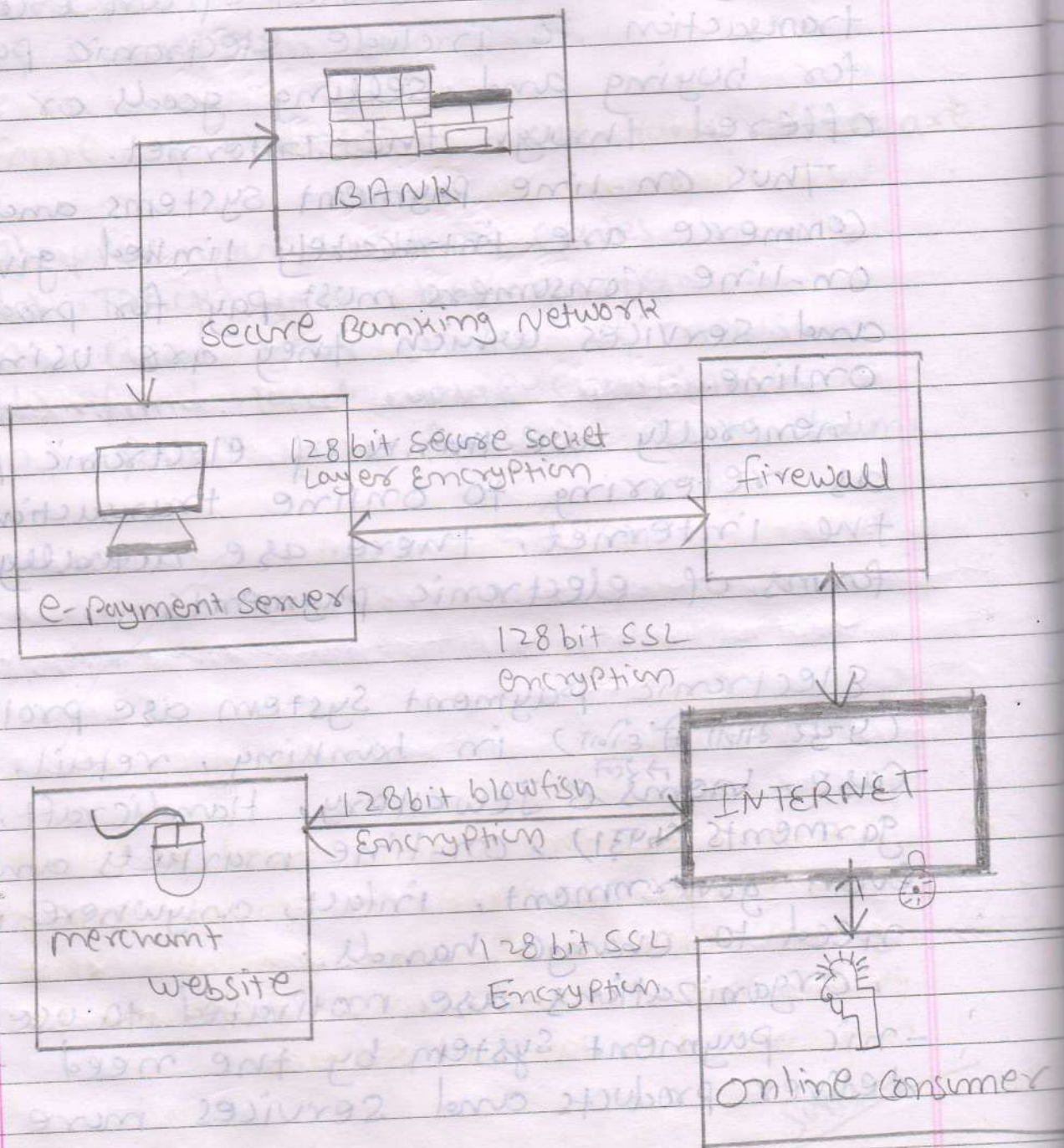
Thus on-line payment systems and E-commerce are intricately linked given that on-line consumers must pay for products and services which they are using online.

Generally we think of electronic payments as referring to online transactions on the internet, there are actually many forms of electronic payments.

Electronic Payment System are proliferating (घट्ठन मात्रा में होने) in banking, retail, health care, ^{→ गहने} Gems & Jewellery, Handicraft, fashion, garments (कपड़े), on-line markets and even government, in fact, anywhere money need to change hands.

Organizations are motivated to use electronic payment system by the need to deliver products and services more cost

effectively and to provide higher quality of service to the customers. Customers are encouraged (युक्त) to use the electronic payment systems because of the ease of making payments through them.



→ To a Consumer, an electronic payment system is a convenient way of making a purchase or paying for a service without having to hold physical cash or going through the process of completing a cheque. This may be achieved through a credit card, on-line or off-line, electronic cash, electronic-cheque, smart card etc, which are termed as Electronic money.

* Electronic money (also known as electronic cash, electronic currency, digital money, digital cash or digital currency) refers to money or scrip which is exchanged only electronically. Typically, this involves use of computer networks, the internet and digital stored value systems. EFT and direct deposit are example of electronic money. Also, it is a collective term for financial cryptography and technologies enabling it.

~~XXXXXX~~
→

Electronic payment systems need to fulfill certain requirements in order to emulate the properties of the existing payment schemes. Some of these requirements are: / special features required in payment systems:!

1. Acceptability : payment system needs to be widely acceptable in order to be successful.
2. Convertibility : It should be able to be converted into other types of funds.
3. Efficiency : The cost per transaction should be very low or nearly zero.
4. Flexibility : Several methods of payment should be supported.
5. Reliability : The payment system need to be highly reliable.
6. Scalability : Allowing new customers and suppliers into the system should not break down the infrastructure.
7. User friendly : payment should be as easy as in the real world.
8. Security : Electronic payment systems should allow financial transactions over open networks, such as the internet.

⇒ Conventional payment process :! A conventional process of payment and settlement involves a buyer-to-seller transfer of cash or payment information (e.g. credit card or check). The actual settlement of payment takes place in the financial processing network.

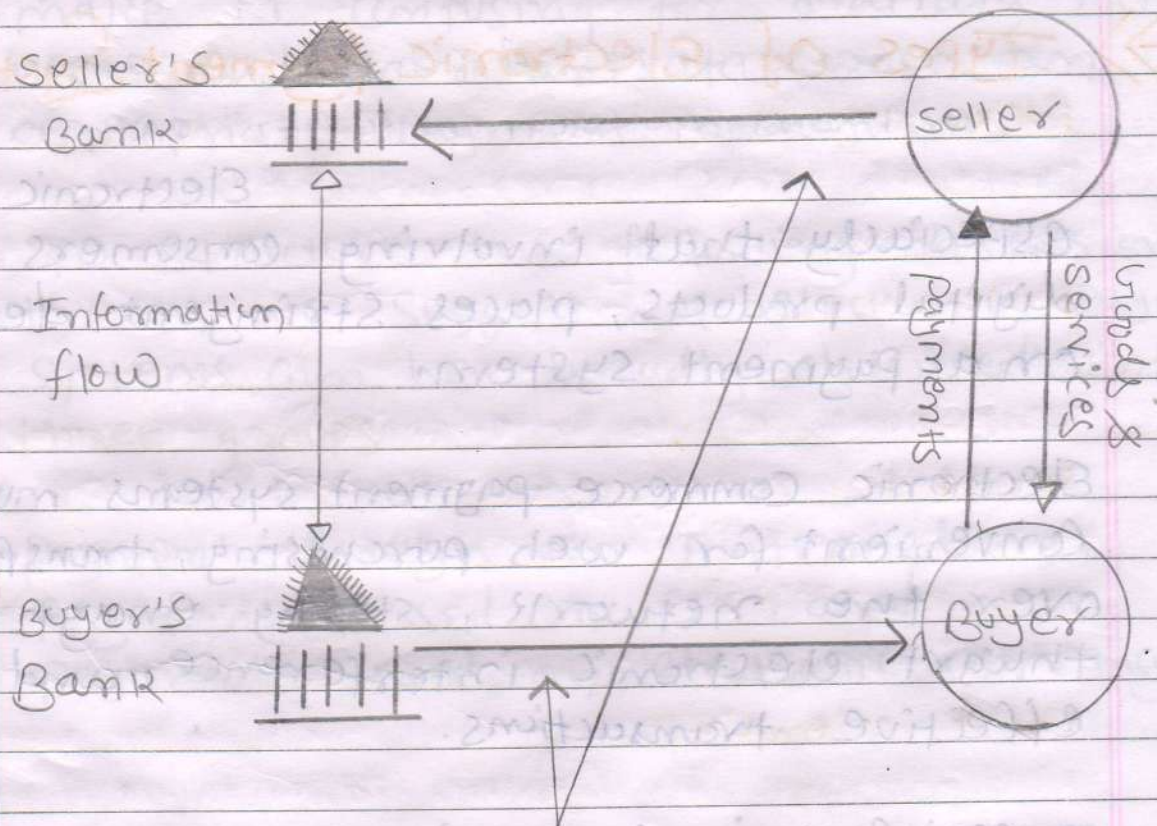


fig: A simplified model of transaction.

A cash payment requires a buyer's withdrawal from his bank account, a transfer of cash to the seller, and the seller's deposit of the

Payment to his account. Non-cash payment mechanisms are settled by adjusting, i.e. crediting and debiting, the appropriate accounts between the banks based on payment information conveyed via check or credit card.

Push
Imp.

Types of Electronic Payment Systems :-

Electronic Commerce, especially that involving consumers and digital products, places stringent demands on a payment system.

Electronic Commerce payment systems must be convenient for web purchasing, transportable over the network, strong enough to thwart electronic interference, and cost effective transactions.

Despite this impressive set of requirements there have been over two dozens proposed Internet payment standards or protocols. They range from Anonymous Internet mercantile protocols by AT&T Bell Labs to Conditional Access for Europe (CAFE) for the European

Community, to secure Electronic Transaction (SET) promoted by MasterCard.

many software and hardware products based on these open standards are being offered, including CyberCash, Digicash, monex, NetBill and NetCheque. While the diversity of these products is an indication of healthy competition, it does make it confusing for ordinary Internet users and merchants to choose an appropriate payment mechanism.

To structure the following discussion of types, we suggest all electronic payment systems can be broadly classified into three groups.

- 1. Payment through an Intermediary;
- 2. Payment Based on EFT, and
- 3. Payment Based on electronic currency.

1. Payment Through an Intermediary — Payment Clearing Services :::

When face-to-face purchase is replaced with on-line commerce, many aspects of a transaction occur instantly, under which various processes of a

normal business interaction are subsumed.

for example, a typical purchase involves stages of locating a seller, selecting a product, asking a price quote, making an offer, agreeing over payment means, checking the identity and validity of the payment mechanism, transferring of goods and receipts.

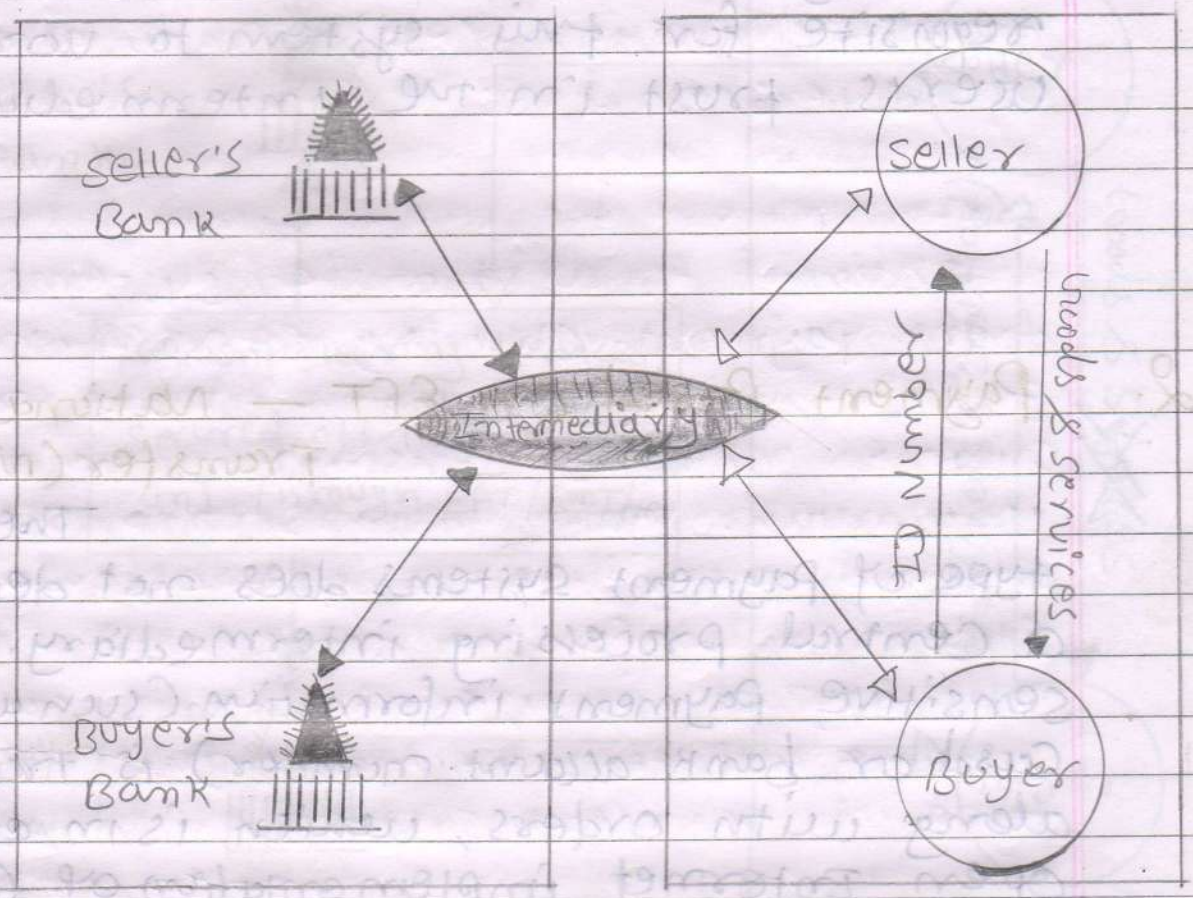
In order to be used as a substitute for face-to-face payments, online payment systems must incorporate all or some of these stages within their payment functions.

The lack of face-to-face interaction also leads to more secure methods of payment being developed for electronic commerce, to deal with the security problems for sensitive information and uncertainty about identity.

Consequently (कारण-इति, फलवत्), electronic commerce transactions require intermediaries to provide security, identification, and authentication as well as payment support.

← → : settlements

← → : payment Requests and Confirmation



secured, off-line settlement On-line Transactions and Confirmation

fig: Transactions with an Intermediary

The key benefit of this payment clearing system is that it separates sensitive and nonsensitive information and only non-sensitive information is exchanged online. This alleviates the concern with

Security that is often seen as a serious barrier to online commerce.

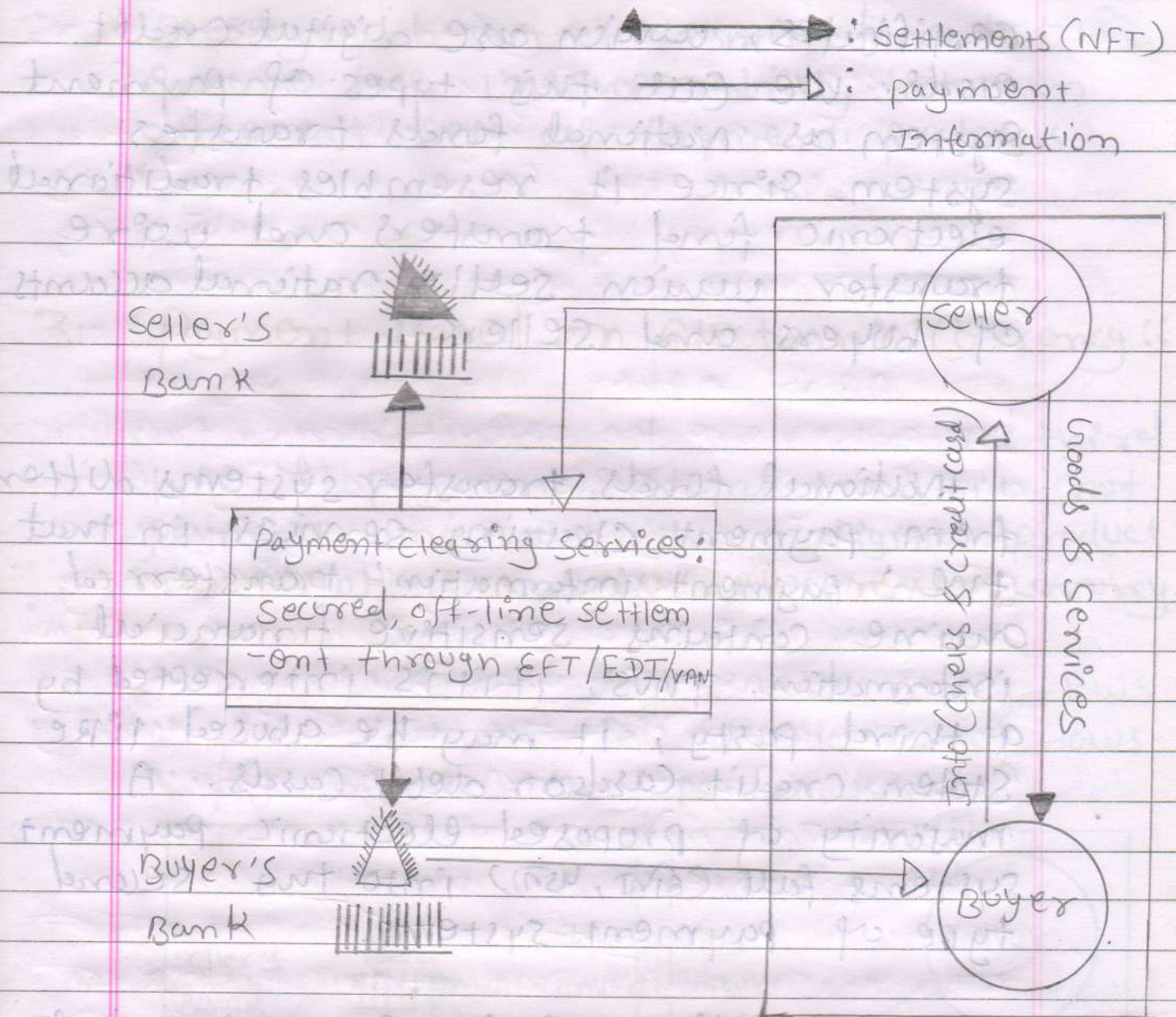
In fact, first virtual does not even rely (rely) on encryption for messages b/w buyers and sellers. A critical requisite for this system to work is the user's trust in the intermediaries.

2. ~~X~~ Payment Based on EFT — National funds Transfer (NFT) ::::

The second type of payment systems does not depend on a central processing intermediary. Instead, sensitive payment information (such as credit card or bank account number) is transmitted along with orders, which is in effect an open Internet implementation of financial Electronic Data Interchange (EDI).

An Electronic funds Transfer (EFT) is a financial application of EDI, which sends credit card numbers or electronic checks via secured private networks b/w banks and major corporations.

To use EFTs to clear payments and settle accounts, an online payment service will need to add capabilities to process orders, accounts and receipts.



on-line transactions, and verification.

fig: National funds Transfer (NFT) System.

The Secure Electronic Transaction (SET) protocol - a credit card based system supported by Visa and MasterCard - uses digital

Certificates, which are digital credit cards. We call this type of payment system as National funds transfer system since it resembles traditional electronic fund transfers and wire transfer which settle national accounts of buyers and sellers.

National funds transfer systems differ from payment clearing services in that the 'payment information' transferred online contains sensitive financial information. Thus, if it is intercepted by a third party, it may be abused like stolen credit cards or debit cards. A majority of proposed electronic payment systems fall (into, use) into this second type of payment systems.

The objective of these systems is to extend the benefit and convenience of EFT to consumers and small businesses. However (clearly, it is), unlike C&A, EFTs, the internet is open and not as secure as private value added networks (VANS).

The challenge to these systems is how to secure the integrity of the payment

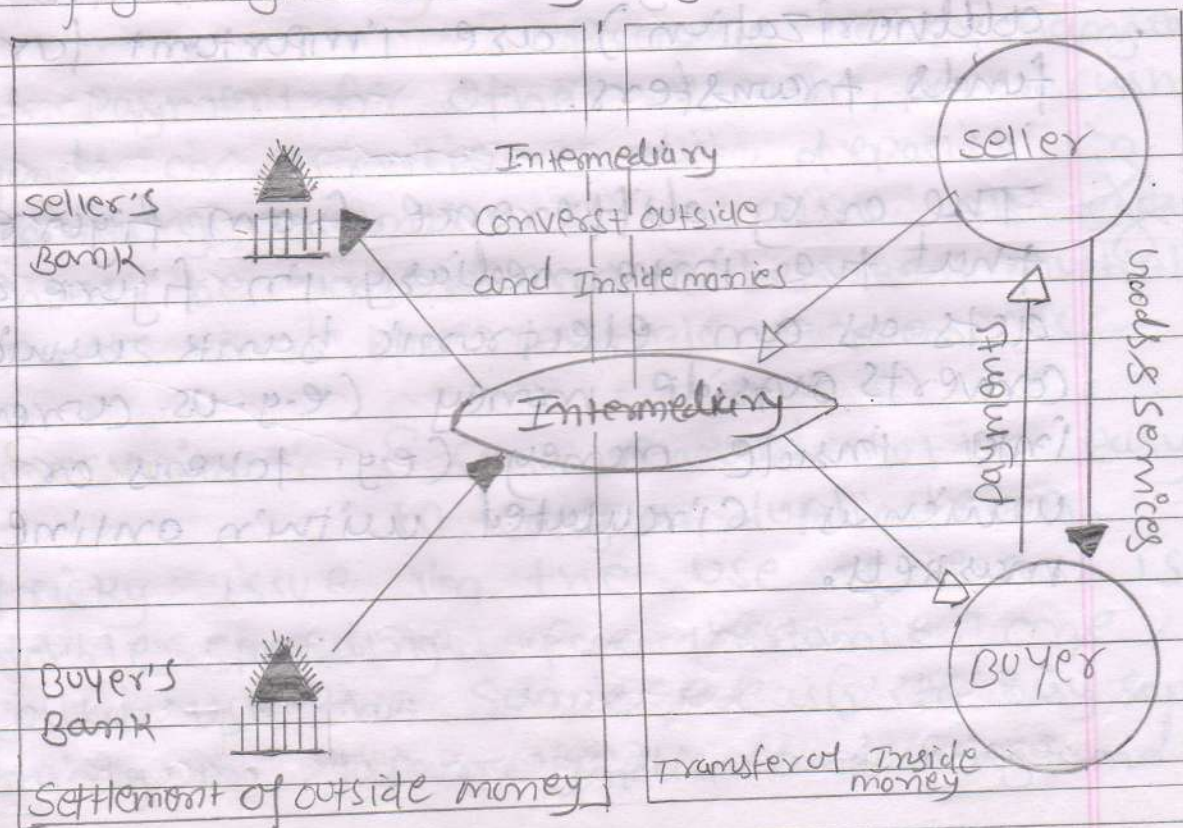
messages being transmitted and to ensure the interoperability between different sets of payment protocols.

3. Payment Based on Electronic Currency ::

The third type of payment systems transmit not payment information but a digital product representing values: electronic currency.

→ : outside money flows
→ : Inside money flows

fig: Digital Currency payment system.



✶ The nature of digital currency mirrors that of paper money as a means of payment. As such, digital currency payment systems have the same advantages as paper currency payment, namely anonymity (अज्ञातता, अनिर्दिष्टता) and convenience.

As in other electronic payment system, here too security during transmission and storage is a concern, although from a different perspective, for digital currency systems double spending, counterfeiting (चूरी, नकल), and storage become critical issues whereas eavesdropping (अनधिकृत श्रवण) and the issue of liability (जिम्मेदारता) are made without authorization) are important for national funds transfers.

✶ The only difference from figure is that the intermediary in figure above acts as an electronic bank which converts outside money (e.g. US currency), into inside money (e.g. tokens or e-cash) which is circulated within online markets.

⇒ E-CASH : ⇒

Cyber cash, e-cash, electronic cash,

digital money or digital cash provides the means to transfer money between transacting parties over a network such as the Internet.

Electronic cash must satisfy some general properties of digital money:

1. **Monetary Value:** E-cash must have a monetary value i.e. it must be backed either by cash or bank authorized credit.
2. **Interoperability:** E-cash must be interoperable i.e. exchangeable as payment for other e-cash, paper cash, goods or services, credit, deposits in banking accounts and the like. Also e-cash should be interoperable between multiple banks and blw multiple currencies.
3. **Security:** E-cash should not be easy to copy or duplicate. A tricky issue in the use of e-cash is double spending. For instance, one could use the same e-cash to buy something in Japan, India and England

Simultaneously. Preventing double spending from occurring is extremely difficult. for this reason, most systems rely on Post-fact detection and Punishment.

- 4: Divisibility : E-cash must be available in several denominations. It should also be divisible a way similar to real cash.

↳ Electronic Cash System / E-cash in Auction ::

Electronic cash is based on cryptographic systems called "digital Signatures".

This method involves a pair of numeric keys that work in tandem: one for locking (or encoding) and the other for unlocking (or decoding). messages encoded with one numeric key can only be decoded with the other numeric key and none other. The encoding key is kept private and the decoding key is made public.

By supplying all customers (buyers and sellers) with its public key, a bank enables the customers to decode any message.

(or currency) encoded with the private key. If decoding by a customer yields a recognizable message, the customer can be fairly confident that only the bank could have encoded it. These digital signatures are very secure and have proved to be more resistant to forgery than handwritten signatures.

Before e-cash can be used to buy products or services, it must be procured from a currency server. In e-cash technology such an electronic cash issuing server is called the e-mint.

The e-mint issues the electronic cash based on the funds provided by the customer in various denominations. The customer can use this e-cash to purchase items over the internet.

Any party involved in an e-cash transaction must necessarily maintain an account with an e-mint. The Deutsche Bank, The Mark Twain Bank in Australia are some of the banks offering e-cash services.

The electronic cash transactions take place in three distinct and independent phases:

1. purchasing e-cash :- The steps involved in the purchase of e-cash from an e-mint are:

The customer sends a request to the e-mint to issue e-cash for some amount of money. For this the customer's PC, using the appropriate SW, calculates how many digital coins of what denomination are needed to withdraw the requested amount.

A Random serial number of 64 bits or more for each coin is generated. This serial number is multiplied by another random serial number called the blinding-factor and the so obtained "blinded number" is sent to the e-mint server encrypted: using the banking public key. The bank or e-mint server decrypts the encoded blinded number using its private key.

The e-mint server using its private key creates a digital signature, or blind signature from the blinded number or token and sends it back to the customer's computer. The customer is able to divide the blinded number by the blinding factor and get the original serial number back.

The original Serial number plus the digital signature sent by the bank as the digital coins, their value being guaranteed by the bank.

A customer may store the digital coins on his hard drive or Smart Card. In exchange of the e-cash money is debited from the customer's account.

2. Purchasing with Electronic Cash :- A customer may use e-cash to purchase products or services on-line.

a) The customer selects the goods or services and transfers the digital coins to the merchant.

b) The merchant provides the goods to the customer.

3. Redeeming Cash by the merchant : The merchant transfers the e-cash to the e-mint.

a) The e-mint credits the merchant's account with the money.

The above example shows the exchange

of electronic cash between a Customer and seller.

Similar transfer of e-cash may take place b/w two individuals or institutions such as banks, universities or other businesses.

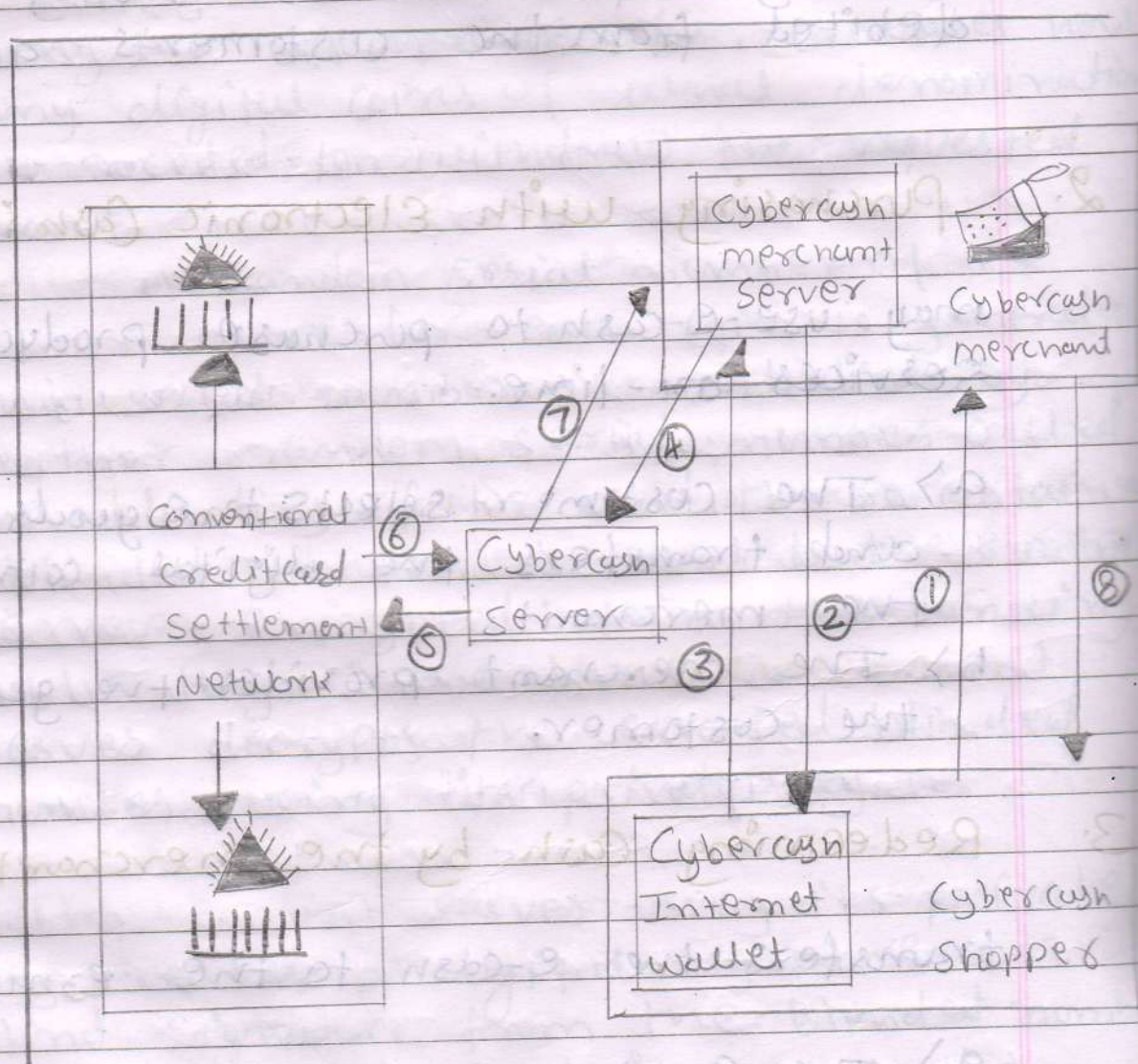


fig: Cyber Cash Payment Clearing process.

→ **Electronic Cheque (Check)** :: In today's competitive merchant landscape, it is vital to take advantage of emerging technologies to improve business efficiency. Electronic check (cheque) processing can make accepting cheques easier, safer, and more cost-effective for merchants.

****** Electronic Cheque is a piece of paper printed by a bank that you sign and use to pay for things.

Benefits can include improved cash flow, minimizing losses from returned cheques, lowered administrative costs, and reduced depository bank fees.

:: Characteristics ::

1. Cheques are currently settled in a traditional manner entailing the physical transportation of paper cheques to a local bank.
2. Transactions consists of payment for the exchange of goods and services in a face-to-face environment.
3. The vast majority of cheques presented are consumer cheques.

4. Some cheques are returned due to insufficient funds and fraud.

→ Life Cycle of a Check:

Cheques processing is composed of three interlined sub-processes, the "ABCs".

1. Authorization.
2. Bank - Office / Settlement.
3. Collections.

1. Authorization: Authorization systems and processes that help a merchant determine whether or not to accept a cheque. Merchants are generally moving from static negative files to real time verification systems based on sophisticated statistical models. Potential costs include vendor fees and lost sales on declined transactions.

2. Bank - Office / Settlement: - processes that facilitate the movement of funds. From a merchant perspective this process begins when a consumer hands a check to a cashier. Costs include labor, bank fees, transportation, float costs.

3. Collections - Processes that allow a merchant to recover funds effectively when a cheque is returned. merchants have generally moved from store-based internal collections to outsourced providers of collections services. costs include uncollected returned cheques, additional bank fees and collections efforts.

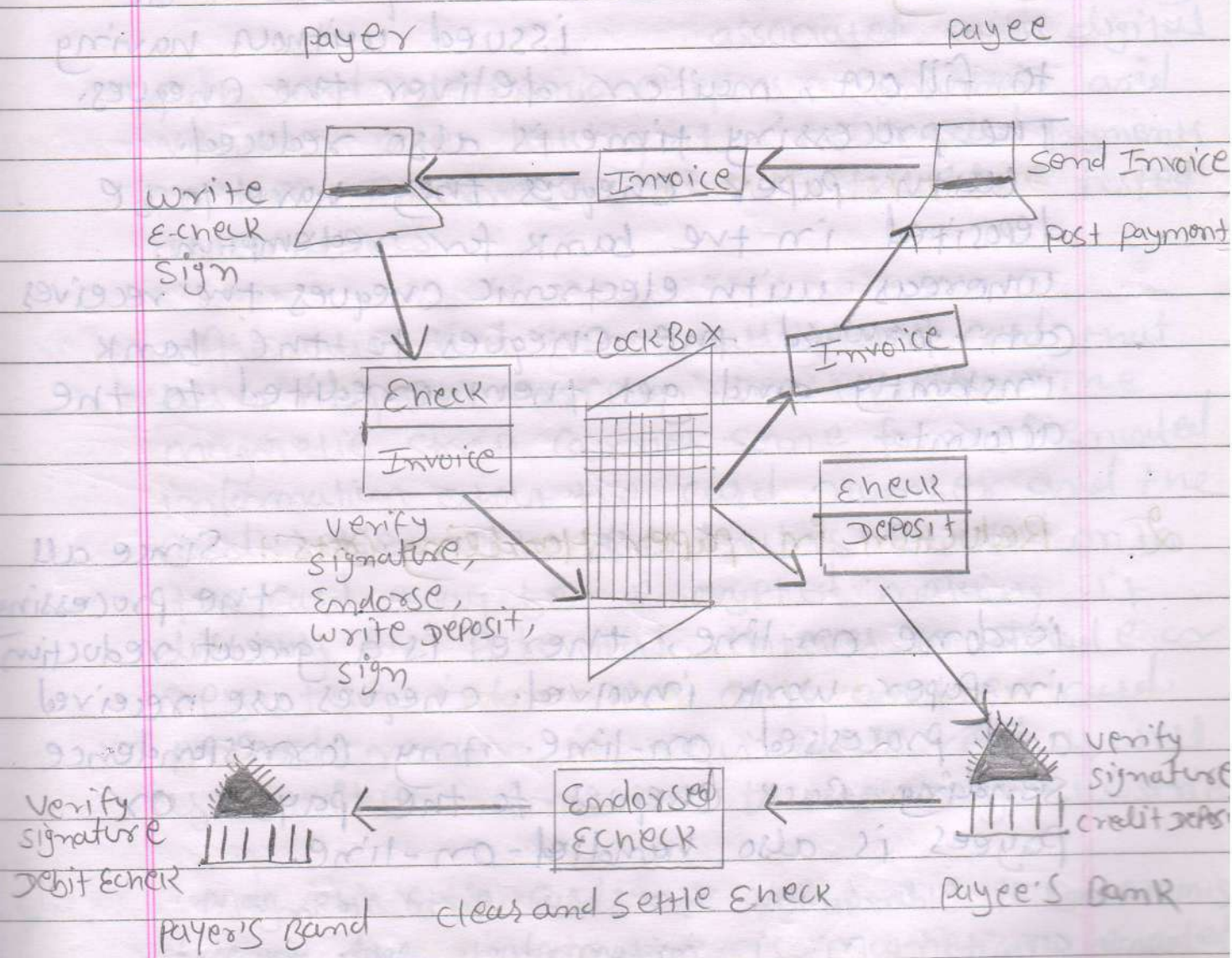


fig: Electronic Check Lockbox flow

→ Benefits of Electronic Cheques :- Compared to paper cheques and other forms of payments, electronic chequing provide the following advantages:

1. Saving in Time.
2. Reduction in Paper Handling Costs.
3. Reduction in Bounced Cheques.

1. Saving In Time :: E-Cheques can be issued without having to fill out, mail or deliver the cheques. The processing time is also reduced. With paper cheques they have to be deposited in the bank for redemption, whereas with electronic cheques the receiver can forward the cheques to the bank instantly and get them credited to the account.

2. Reduction in paper Handling Costs :: Since all the process is done on-line, there is a great reduction in paper work involved. Cheques are received and processed on-line. Any correspondence sending back cheques to the payers or payees is also handled-on-line.

3. Reduction in Bounced cheques: E-chequing can be designed in such a way that the receiver can get authorisation from the sender's bank before accepting the e-cheque.

⇒ **CREDIT CARD !!!!!** To avoid the complexity associated with digital cash and electronic cheques, Consumers and vendors are looking at credit card payments on the Internet as one of the time tested alternatives.

A credit card is a small plastic card that has a magnetic strip on the exterior. The magnetic strip carries some form of encoded information about the card number and the card holder. The data that is encoded onto the card may be encrypted making it difficult for potential thieves to decode or copy the information onto another card. A card reader is required to read as well as write information to the magnetic strip.

Magnetic strip cards are vulnerable to compromise because the information is magnetically encoded

and stored on the exterior of the Card. This can be copied, forged or altered. If the data is encrypted, then the security of the information is enhanced, but the ability to exactly copy the encoded data and create a forged copy of the Card is still a threat.

Credit Card have proved popular for a number of reasons as the following:

1. The system is familiar to users and was widely used before the advent of e-commerce thus bolstering the user's confidence.
2. Transaction costs are hidden from users (i.e. basically met by sellers, and passed on to all customers, not just credit card users).
3. Payment is simple anywhere and in any currency, thus matening the global reach of the internet.
4. The Credit-issuing Company shares the transaction risk.

Traditionally, the credit cards were used as off-line means of payment. with the

Coming of the Internet they have been widely accepted as on-line payment mechanism as well. Though the use of credit cards during electronic transaction added a new flavor in electronic commerce, there is nothing new in the basic process.

The consumers, who want to buy a product or service, simply send their credit card details to the involving service provider and the credit card organization handles this payment like any other electronic transaction.

Existing Credit Card-Based Electronic Payment Systems include:

- (a) The use of encrypted credit cards (e.g. www form-based encryption)
- (b) Third-Party authorization (e.g., first virtual)
- (a) Encryption and credit cards !!! In this scheme in order to make a truly secure and nonrefutable transaction using an encrypted credit card, each consumer and each vendor generates a public and a secret (private) key.

The public key is sent to the credit

Company and put on its public key server. The Secret key is re-encrypted with a password and the unencrypted version is erased.

(b) Third-party processors and Credit Cards:-

A third party credit card processor is a company that accepts credit card orders on behalf of other online businesses. In third-party processing, consumers register with a third party on the Internet to verify the electronic micro transactions.

Here, the two key servers are merchant server and payment server. Using a client browser, a user makes a purchase from a merchant server by clicking on a payment URL (hyperlinks), which is attached to the product on a www page.

The payment URLs send the encoded information including the details of purchase (e.g., price of item, target URL and duration) to the payment server. If the information entered by the customer is valid and funds are available, the payment server processes the payment.

transaction and redirects the user's browser to the purchased item with an access URL, which encodes the detail of the payment transaction (the amount, what was purchased and duration). The access URL acts as a digital invoice, stamped "paid" by the payment server; which provides evidence to the merchant that the user has paid for the information and provides a receipt that grants the user access. Once the customer is authenticated, the payment is automatically processed.

→ Pros and Cons of Credit Card Based Payments !!

Credit card have advantages both for the buyer and the seller. Buyers enjoy the credit period whereas the sellers have the advantages of enhanced sales on credit cards. Also sellers are ensured that they will be paid for all their sales, They need not worry about fraud.

Drawbacks of the existing credit card-based electronic payment systems !!

1. The relatively high transaction cost makes them impractical for small-value payments.

2. Second, they cannot be used directly by individuals to make payment to other individuals (peer-to-peer transaction).
3. Third, protecting the security of transacting is vital, especially in the virtual world where there is no payment guarantee to the merchant by a bank.
4. In credit card the magnetically stored data is vulnerable to damage if the card is placed close to a magnet.
5. The magnetic strips of card are also vulnerable to scratches.

⇒ SMART CARD : ⇒

"A Smart card is a small plastic card that looks similar to a credit card, but it contains a microprocessor and a storage unit."

Card technology has advanced over the years to keep ahead of the worldwide increase in card related crime. As the criminal fraternity found ways of producing sufficiently good counterfeit cards, so the card companies introduced new ways of combating the problem.

A succession of anti-fraud measures have been introduced over the years such as the hologram, the card verification value (CVV, a value stored on the magnetic stripe which can be used to determine if a card has been produced illicitly), and in some cases, photographs of the cardholder.

One technology which offers many benefits is the Smart card; essentially a small computer chip embedded into a plastic card with the same dimensions as the magnetic stripe card. The only difference the cardholder sees is a small metal area on the face of the card which contains a

set of electrical contacts through which the chip can be accessed.

from the anti-crime perspective there are a number of benefits in adopting the Smart Card. The card itself (or in conjunction with the terminal) can make decisions about whether or not a transaction can take place. Secret value can be stored on the card which are not accessible to the outside world.

→ Benefits of Smart card:

1. The ability to have more than one payment application resident on the card.
e.g. a card could contain an "electronic purse" to provide the equivalent of cash, usually for lower value transactions such as parking, tickets, newspapers etc.
2. The ability to have other applications such as loyalty schemes and access to information facilities (e.g. libraries) co-resident on the card.
3. The possibility of reducing on-line validation costs by allowing the card to operate off-line more of the time.

In the future there may be the possibility of storing personal details such as driving license and medical records on the card.

Smart Card technology has been able to overcome most of the limitations of the magnetic strip cards, however they are more expensive to issue.

The stored data is not externally exposed to physical damage, such as scratches, and it is not vulnerable to damage from magnetic fields.

Further smart cards can store significantly greater amounts of data, estimated to be almost 100 times, than the magnetic stripe cards.

— Smart Cards are basically of two types!!

1. memory smart cards / Electronic purse / debit cards.
2. Intelligent or Relationship-based smart cards.

⇒ Electronic purses !!

Electronic purses are smart cards that are capable of storing monetary value onto their microprocessor chip. The consumers for purchase can use this money. These are used as debit cards for the payment against purchase of goods / services or a pre-paid telephone cards.

The electronic purses contain less infoⁿ and processing capabilities than the intelligent smart cards.

Smart cards can be loaded with money at an ATM equipped with a smart card reader.

Smart card technology can be used in either on-line or off-line mode.

An off-line smart card operates in the following manner:

1. The consumer pays for the goods / services purchased by inserting the smart card into the vendor's smart card reader.
2. If there is enough money available for the purchase made, the value of the purchase

is deducted from the balance on the card.

The smart card technology may also be used on-line from the customer PC if a smart card slot and relevant SW are available.

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UNIT-4

⇒ **E-marketing** :: E-marketing can include any Internet-based promotion, including websites, targeted e-mail, Internet bulletin boards, sites where customers can dial-in and download files, and so on.

OR

E-marketing refers to the use of the internet and digital media capabilities to help sell your products or services. These digital technologies are a valuable addition to traditional marketing approaches regardless of the size and type of your business.

✶ E-marketing is also referred to as Internet marketing (I-marketing), online marketing or web-marketing.

E-marketing joins creative and technical aspects of the internet, including design, development, advertising and sales. It includes the use of a website in combination with online promotional techniques such as search engine marketing (SEM), social media marketing, interactive online ads, online directories, e-mail marketing and so on.

The digital technologies used as delivery and communication mediums within the scope of e-marketing include:

- a) Internet media such as websites and e-mail.
- b) Digital media such as wireless, mobile, cable and satellite.

→ Benefits / Advantages of E-marketing:

E-marketing provides businesses with access to mass markets at an affordable price and allow them to undertake a personalised marketing approach.

The flexible and cost-effective nature of e-marketing makes it particularly suitable for small businesses.

Following are some benefits:

1. Wider prospect reach.
2. Cost-effective approach.
3. Reduction in cost through automation and use of electronic media.
4. 24/7 marketing.
5. Increased Interactivity:- E-marketing allow you to create

interactive campaigns using music, graphics and videos.

6 Increased ability to track results.

→ Traditional marketing:

These are certain problems associated with the Traditional marketing!

1. Traditional marketing is often expensive. It can cost a lot of money to produce and print brochures, products sheets, and catalogues.
2. Traditional marketing can be a very time-consuming process.
3. Traditional marketing often has a "hit and miss" quality. Marketers often send out bulk of mails to customers and yet receive a tiny response.

→ E-marketing Value Chain :: As such, e-marketing thrives with the maintenance of strong relationship between the Company and the Customer. It is like a chain — The Company acquires customers, fulfills their needs and offers support (before and after purchase), and gains their confidence so that they return to it again.

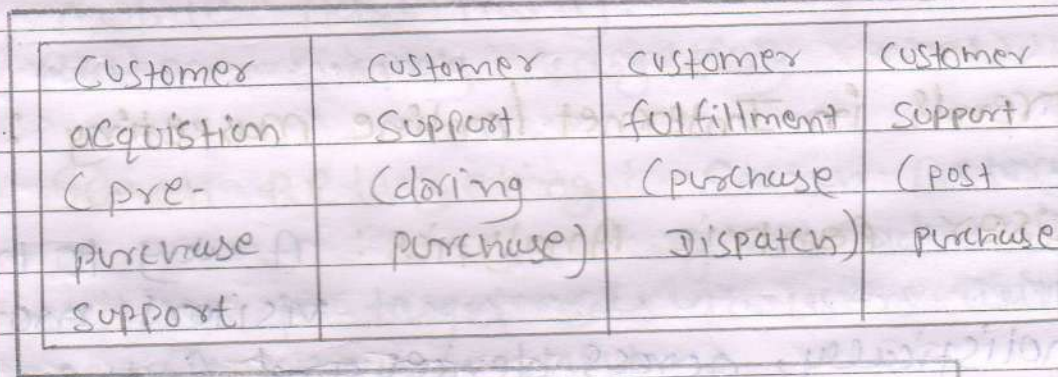


fig: E-marketing value Chain.

→ Various means of Advertising ::

- (1) E-mail
- (2) Banners
- (3) Sky scrapers

nothing but a direct exchange of links b/w websites.

- (5) Streaming video & Audio.
- (6) Effectiveness Tracking.
- (7) mini-sites
- (8) Pop-ups
- (9) Coupons
- (10) Loyalty programs.
- (11) Partnerships
- (12) providing Information and etc.

→ Trends in Internet / online marketing :

1. User-Centric Analytics: A way to track visitors more holistically, across devices and further through a sales funnel.
2. Content marketing: It is where you demonstrate your expertise through the content you produce, whether that be articles on your website, industry publications, webinars, research paper, etc.
3. Integration of social and search.

4. Technology - enabled Relationship management.

5. Backlink Clean-up :: These was a time when low quality directory listings, reciprocal links, and paid links helped you rank better in organic search results.

6. Remarketing.

7. Responsive Design.

8. HTML5/CSS3 Usage.

9. web videos.

10. mobile Advertising.

11. Better display Targeting

12. Search Retargeting : Search Retargeting gives advertisers the ability to target ads at users with a specific search history.

13. E-mail Remarketing Campaigns.

⇒ E-Customer Relationship management:

Customer Relationship management (CRM) is defined as the aligning (विशेष कर, मिलाप) of business strategy with the corporate culture of the organization, along with customer information and a supporting information technology of the customer interactions that promote a mutually beneficial relationship b/w the customer and the enterprise.

* Customer Relationship management (CRM) is a system for managing a company's interactions with current and future customers. It involves using technology to organize, automate, and synchronize sales, marketing, customer service, and technical support.

In other words,

* Customer Relationship management (CRM), is typically an organization-wide business strategy designed to reduce the costs associated with obtaining customers and increasing profitability through customer loyalty.

The idea behind CRM is to gather all information regarding a Client within the organization to give a unified and holistic view of each customer. CRM thus enable sales, customer support and marketing to make more informed and faster decisions on cross-selling and upselling to target markets.

Also the CRM system allows businesses to manage business relationships and the data and information associated with them.

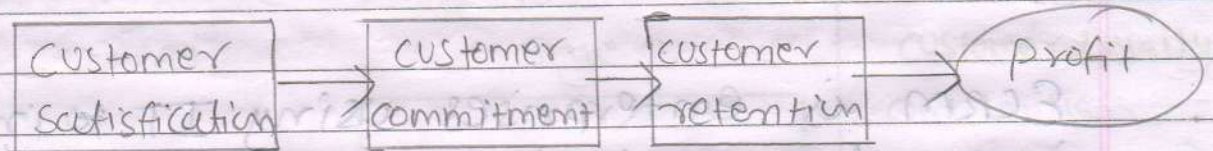


fig: Customer Satisfaction and Profit

→ Elements of a CRM:

CRM is a multifaceted effort that necessitates the use of not only CRM software, but also effective employee management. The basic elements of a CRM in an organization are broken down into three main parts.

1. People.
2. Processes.
3. Technology.

→ ECRM :-

The ECRM or electronic customer relationship management encompasses all the CRM functions with the use of the net environment i.e., internet, extranet and intranet.

Electronic CRM concerns all forms of managing relationships with customers making use of information technology (IT).

ECRM is enterprises using IT to integrate internal organization resources and external "marketing" strategies to understand and fulfill their customer's needs.

Comparing with traditional CRM, the integrated information of ECRM can be more efficient to communicate with customers.

→ Strategy for ECRM / E-CRM Solutions :-

ECRM Solutions can be deployed and managed to provide increased revenues and decreased costs for companies while improving customer service. E-CRM goals can be achieved with internet business strategies, web-based CRM specification development, interactive interface design and electronic publishing.

The Strategy for e-crm can be visualized in three stages, :

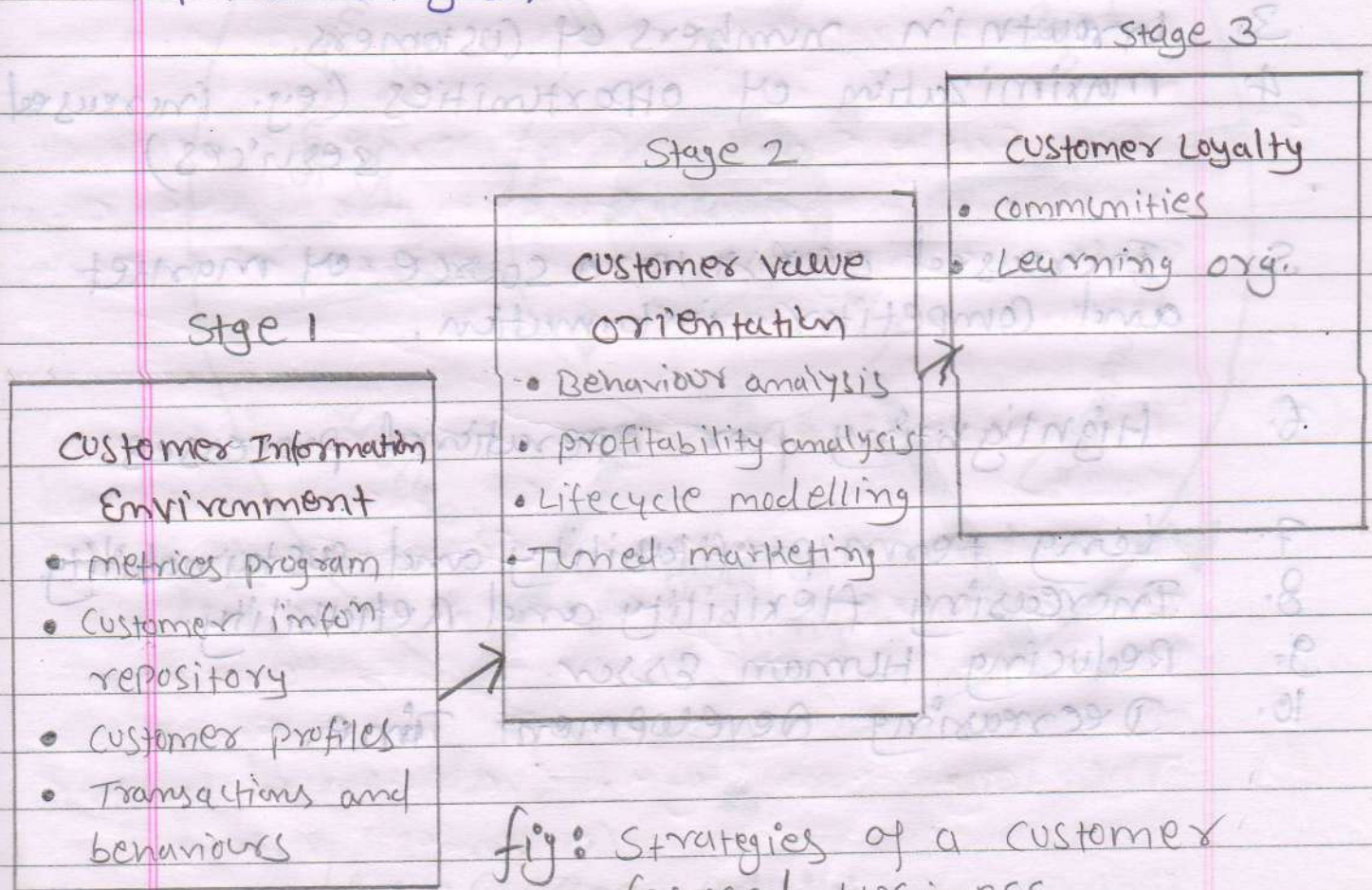


fig: Strategies of a customer focussed business.

→ Benefits of effective CRM :- There are significant business benefits which accrue from an effective, integrated customer relationship management approach.

1. Reduced costs, because the right things are being done.
2. Increased customer satisfaction, because they are getting exactly what they want.
3. Growth in numbers of customers.
4. Maximization of opportunities (e.g. increased services)
5. Increased access to a source of market and competitor information.
6. Highlighting poor operational processes.
7. Long term profitability and sustainability.
8. Increasing flexibility and reliability.
9. Reducing Human Error.
10. Decreasing Development Time.

⇒ **E-CRM Toolkit:** An E-crm 'toolkit' covers a wide diversity of channels. In order to bring true customer management across online business, one needs the E-crm products to fulfil the following criteria.

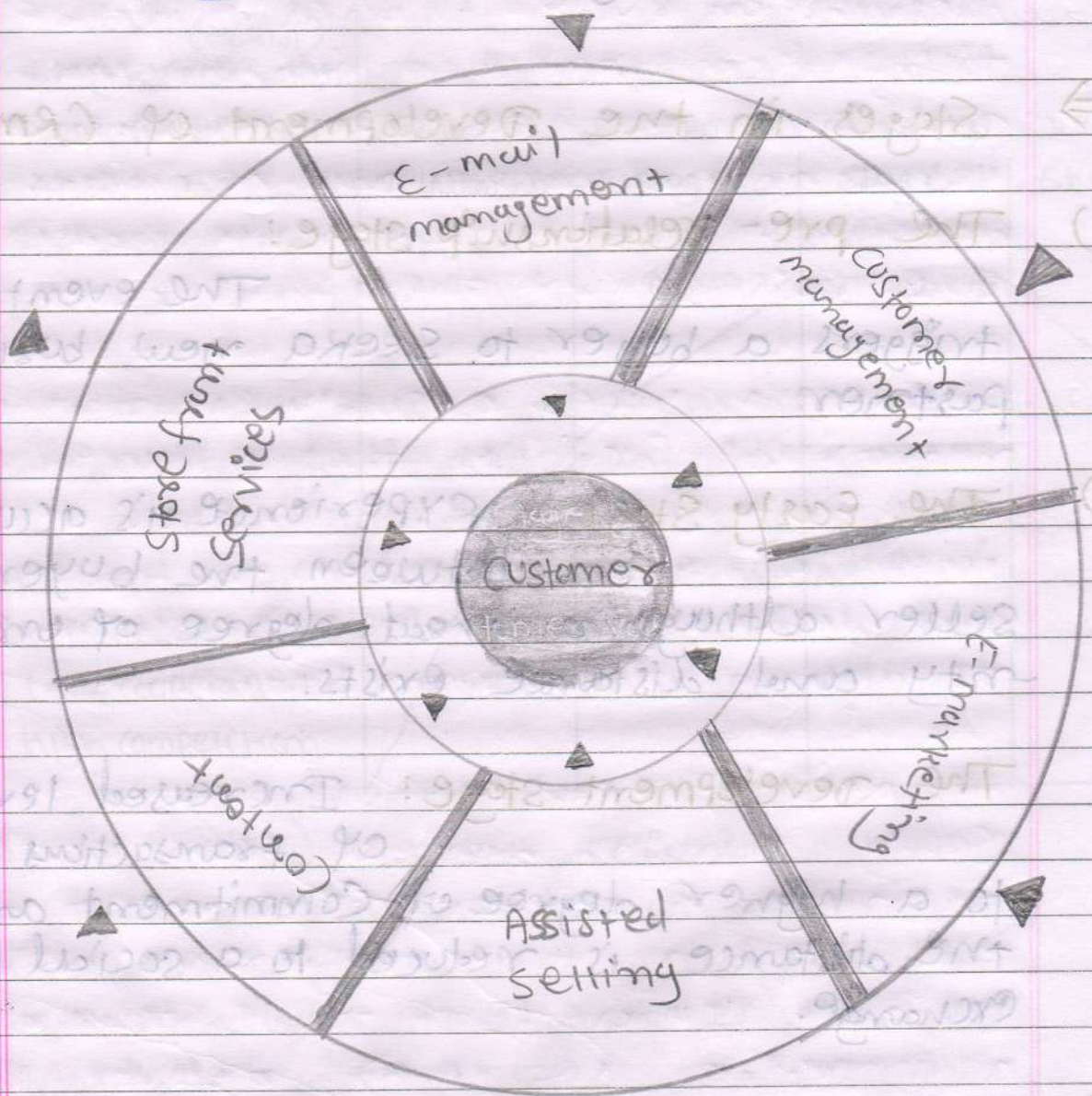


fig: E-CRM toolkit

1. Content.
2. Storefront and merchandising services.
3. Email management.
4. Customer management.
5. E-marketing.
6. Assisted selling.

⇒ Stages in the Development of CRM :-

(1) The pre-relationship stage!

The event that triggers a buyer to seek a new business partner.

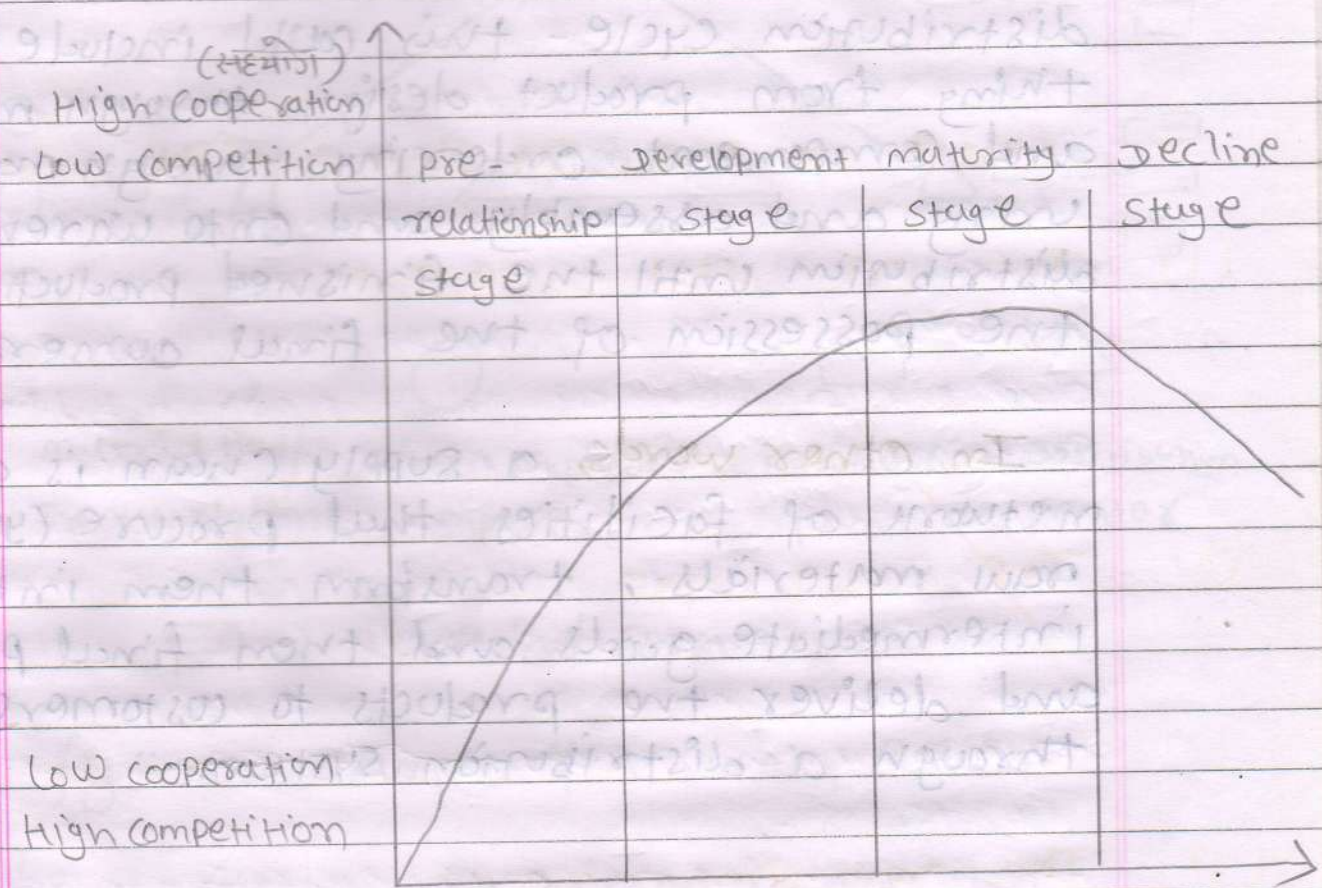
(2) The Early Stage! Experience is accumulated between the buyer and seller although a great degree of uncertainty and distance exists.

(3) The development stage! Increased levels of transactions lead to a higher degree of commitment and the distance is reduced to a social exchange.

(4) The long-term stage! Characterised by the companies' mutual importance to each other.

(S) The final stage: The interaction between the companies becomes institutionalized.

↳ A Relationship life cycle model:



⇒ E-Supply Chain Management ::

↳ Supply Chain management :: The term Supply chain represents the sequence of processes and activities involved in the manufacturing and distribution cycle - this could include everything from product design through materials and component ordering through manufacturing and assembly and onto warehousing distribution until the finished product is in the possession of the final owner.

In other words, a supply chain is a network of facilities that procure (yico) raw materials, transform them into intermediate goods and then final products and deliver the products to customers through a distribution system.

Supply Chain management (scm) is the combination of art and science that goes into improving the way your company finds the raw components it needs to make a product or service and deliver it to customers.

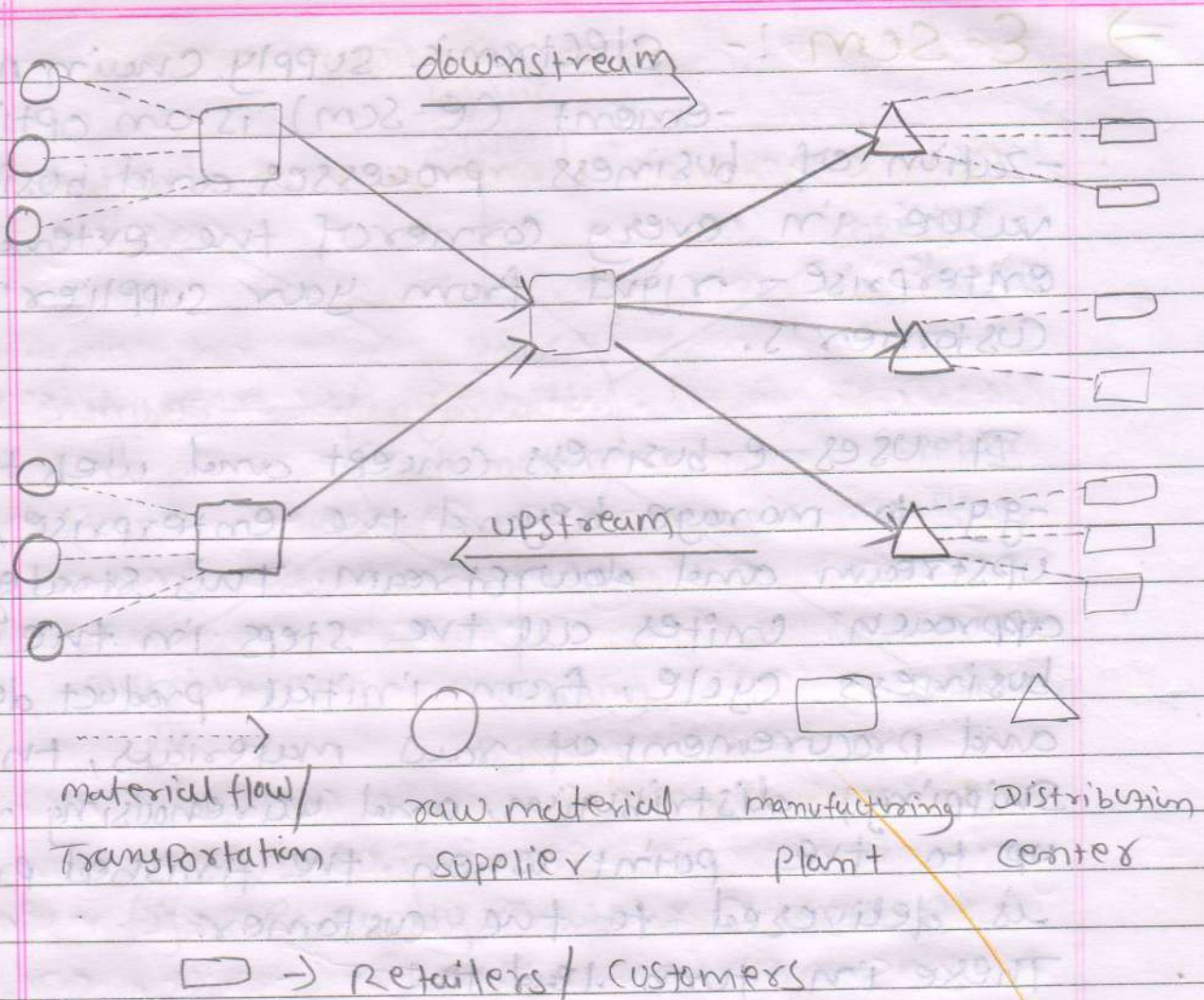


fig: An Example of a Supply Chain.

→ Component of SCM:

1. Plan.
2. Source.
3. make.
4. Deliver.
5. Return.

→ E-SCM :- Electronic supply chain management (E-SCM) is an optimization of business processes and business value in every corner of the extended enterprise - right from your supplier's to customer's.

It uses e-business concept and web technology to manage beyond the enterprise, both upstream and downstream. This strategic approach unites all the steps in the business cycle, from initial product design and procurement of raw materials, through shipping, distribution, and warehousing right up to the point when the finished product is delivered to the customer. These in turn lead to!

→ Improved relations with channel partners.

→ Better control over budgeting and investments.

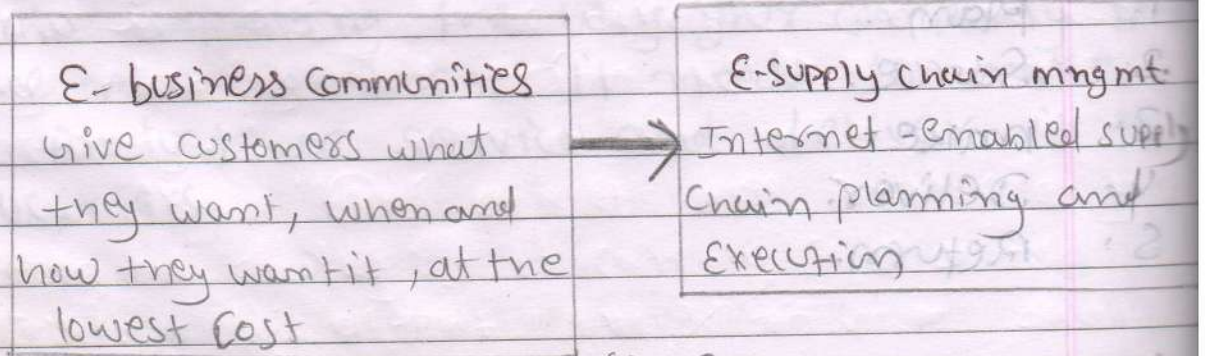


fig: E-SCM - value proposition

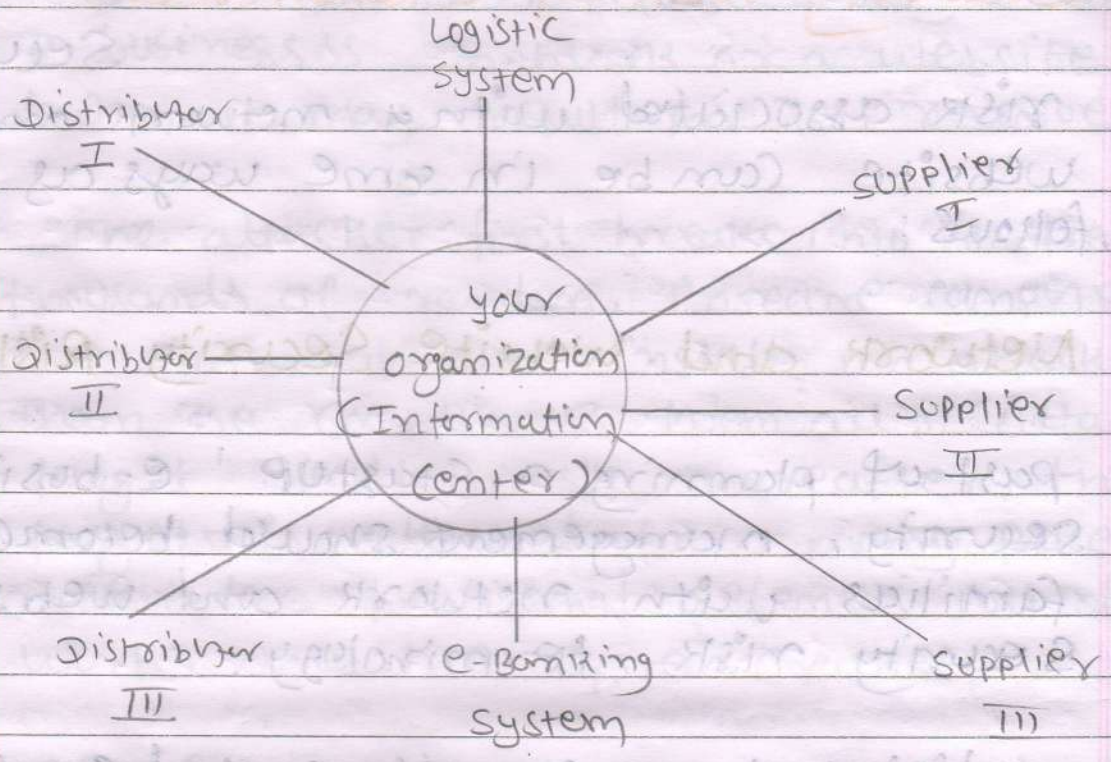


fig: E-Supply Chain & Structure.

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⇒ Security Risk of E-commerce!!

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

Network and Website Security Risks:

AS part of planning a startup 'e-business' security, management should become familiar with network and web server security risk terminology.

malicious hackers, also called crackers, gain access to steal valuable information such as credit card numbers, attempt to disrupt (विचलाना, अवरुद्ध) service, or cause any other damage.

1. Denial of Service Attacks — A Denial-of-service or

DoS attack is an attack on a network that is designed to disable the network by flooding it with useless traffic or activity.

while a DoS attack does not do any technical damage, it can do substantial (भारी, समूह, विस्तारित, समुदाय) financial damage

to an e-business, because every second an e-business's network or a website is down, it may result in lost revenues.

The attacker first breaks into hundreds or thousands of random, insecure computers on the internet and installs an attack program. Then he coordinates them all to attack the target simultaneously. Thereafter, the target is attacked from many places at once: the traditional defenses just do not work, and the system crashes.

So far, these attacks are strictly denial-of-services. They don't affect the data on the websites. These attacks cannot steal credit card numbers or proprietary information. They cannot transfer money out of your bank account to trade stocks in your name. Attackers cannot gain financially from these attacks.

2. Viruses :: Viruses are the most common security risk faced by e-businesses today. A virus is a small program that inserts itself into other program files that then become "infected", just as a virus in nature embeds itself in normal human cells.

The virus is spread when an infected program is executed, and this further infects other programs.

Examples of virus effects include inability to boot, deletion of files or entire hard drives, inability to create a file, and thousands of other possibilities.

viruses are generally introduced into a computer system via email or by unauthorized network access.

3. Trojan horse :- It is a special type of virus that emulates (रूप धारण, बनावटी की प्रतीक) a benign (निष्कल, अच्छा) application. It appears to do something useful or entertaining but actually does something else as well, such as destroying files or creating a "backdoor" entry point to give an intruder access to the system.

4. Worm :: This is a special type of virus that does not directly alter program files. Instead, a worm replaces a document

SPY → जसुस, जासूसी

or an application with its own code and then uses that code to position itself.

5. **Spyware** : Spyware is software that gathers user information from the machine on which it is installed, often transmitting it to an outside user or company. It is usually downloaded and installed along with other applications or media players, often without the user's approval or knowledge.

Some spyware tracks websites visited for advertisers or collects personal information from web forms. Others seek out email address for spam lists or credit card numbers, passwords, and other potentially harmful information.

6. **Adware** : Adware is any slw application in which advertising banners are displayed while the program is running.

The authors of these applications include additional code that delivers the ads, which can be viewed through pop-up window or through a bar that appears on a computer screen.

⇒ Types of Threats In E-Commerce:

There are four types of threats:

1. Interception
2. Interruption
3. modification
4. fabrication

1. **Interception** :: An interception means that some unauthorized party has gained access to an asset. The outside party can be a person, a program, or a computing system.

Examples of this type of failure are illicit copying of program or data files, wiretapping to obtain data in a network. Although a loss may be discovered fairly quickly, a silent interceptor may leave no traces by which the interception can be readily detected.

2. **Interruption** : In an Interruption, an asset of the system becomes lost, unavailable, or unusable. An example is malicious destruction of a hardware device, erasure of a program or

data file, or malfunction of an operating system file manager so that it cannot find a particular disk file.

3. **Modification** :: If an unauthorized party not only accesses but tampers with an asset, the threat is a modification.

For example, someone might change the values in a database, alter a program so that it performs an additional computation, or modify data being transmitted electronically. It is even possible to modify hardware.

Some cases of modification can be detected with simple measures, but other, more subtle (सूक्ष्म, गहिरा), changes may be almost impossible to detect.

4. **Fabrication** : Finally, an unauthorized party might create a fabrication of counterfeit objects on a computing system. The intruder (गुप्तचर) may insert spurious (निरा) transactions to a new communication system or add records to an existing database.

⇒ Security Risk management Approach in E-commerce :::

Steps for Risk management ::

1. Know the risks and train the troops (अज्ञान, खै):-

your exposure to e-commerce risk depends on your business policies, operational practices, fraud prevention and detection tools, security controls, and the type of goods or services you provide.

your entire organization should have a thorough understanding of the risks associated with any internet transaction and should be well-versed in your unique risk management approach.

2. Select the right acquirer and service provider ::

If you have not launched an electronic storefront, you need to partner with a visa acquirer that can provide effective risk management support and demonstrate a thorough understanding of internet fraud risk and liability. you also want to take a good, hard look at any service provider before you sign a contract.

3. Develop essential website Content ::

When designing your website, keep operational needs and risk factors foremost in your mind. Key areas to consider are privacy, reliability, refund policies, and customer service access.

4. focus on Risk Reduction: Your sales order function can help you efficiently and securely address a number of risk concerns. You can capture essential Visa card and cardholder details by highlighting required transaction data fields and verifying the Visa card and customer data that you receive through the internet.

5. Build Internal fraud prevention: By understanding the purchasing habits of your website visitors, you can protect your business from high-risk transactions.

6. Use Visa tools :- To reduce your exposure to e-commerce risk, you need to select the use the right combination of fraud prevention tools. Today, there are a number of options available to help you

differentiate b/w a good customer and an online thief.

Key visa tools include Address Verification Service (AVS), Card Verification Value 2 (CVV2), and Verified by Visa.

7. Apply fraud Screening :: fraud-screening methods can help you minimize fraud for large purchase amounts and for high-risk transactions.

By screening online Visa Card transactions carefully, you can avoid fraud activity before it results in a loss for your business.

8. Implement Verified By Visa :: The tool verified by Visa can create the most significant reduction in merchant risk exposure by increasing transaction security through cardholder authentication and by providing chargeback protection against fraud.

E-commerce merchants who work with their acquirers to implement verified by Visa are protected from certain fraud-related chargebacks on all personal Visa

Cards with limited exceptions. If applicable, E-commerce merchants may receive a reduced interchange rate.

⇒ Cyber Laws In e-Commerce!!! Cyber Laws are

meant to set the definite pattern, some rules and guidelines that defined certain business activities going on through internet legal and certain illegal and hence punishable.

The IT Act 2008, the cyber law of India, gives the legal framework so that information is not denied legal effect, validity or enforceability, solely on the ground that it is in the form of electronic records.

The IT Act 2008 attempts to change outdated laws and provides ways to deal with cyber crimes. Let's have an overview of the law where it takes a firm stand and has got successful in the reason for which it was framed.

1. The E-commerce industry carries out its business via transactions and communicating done through electronic records. It thus

becomes essential that such transactions be made legal. Keeping this point in the consideration, the IT Act 2000 empowers the government departments to accept filing, creating and retention of official document in the digital format.

2. The Act legalizes the e-mail and gives it the status of being valid form of carrying out communication in India.

This implies that e-mails can be duly produced and approved in a court of laws, thus can be regarded as substantial document to carry out legal proceedings.

3. The act also talks about digital signatures and digital records. These have been also awarded the status of being legal and valid means that can form strong basis for launching litigation in a court of law. It invites the corporate companies in the business of being Certifying Authorities for issuing secure digital signatures certificates.

4. The Act now allows Government to issue notification on the web thus heralding e-governance.
5. It eases the task of companies of filing any form, application or document by laying down the guidelines to be submitted at any appropriate office, authority, body or agency owned or controlled by the government. This will help in saving costs, time and manpower for the corporate.
6. The act also provides statutory remedy to the corporates in case the crime against the accused for breaking into their computer systems or network and damaging and copying the data is proven. The remedy provided by the Act is in the form of monetary damages, not exceeding Rs. 1 crore (\$ 200,000).
7. Also the law sets up the Territorial Jurisdiction of the Adjudicating Officers for cyber crimes and the Cyber Regulations Appellate Tribunal.
8. The law has also laid guidelines for providing Internet services on a license on a non-exclusive basis.

→ Cyber Crimes :>>>

Computer or cyber crimes are considered as illegal, unethical or unauthorized behavior of people relating to the automatic processing and transmission of data, use of computer system and networks.

Common types of cyber crimes may be broadly classified in the following groups!

I. Against Individuals!

(a) Against person!

- (i) Harassment through e-mails.
- (ii) Cyber-stalking.
- (iii) Dissemination of obscene material on the internet.
- (iv) Defamation.
- (v) Hacking / cracking.
- (vi) Indecent exposure.

(b) Against property of an individual!

- (i) Computer vandalism.
- (ii) Transmitting virus.
- (iii) Internet intrusion.
- (iv) Unauthorized control over computer system.

2. Against Organizations:

(a.) Against Government, Private firm, company, group of individuals :-

- (i) Hacking & cracking.
- (ii) Possession of unauthorized information.
- (iii) Cyber terrorism against the government organization.
- (iv) Distribution of pirated software etc.

3. Against Society at large :-

- (i) Pornography (Specially Child Pornography).
- (ii) Polluting the youth through indecent exposure.
- (iii) Trafficking.

⇒ Business Ethics in E-Commerce!!

RBE (Responsible Business Conduct) is characterized by responsible business conduct at all four levels of its identity as an enterprise ::

1. Compliance with the law.
2. Risk management.
3. Reputation enhancement.
4. Value added to the community.

Responsible business conduct includes the choices and actions of owners, managers, employees, and agents that are ::

- (a) within their authority,
- (b) well informed,
- (c) intended to pursue the enterprise purpose and meet reasonable stakeholder expectations, and
- (d) sustainable over time.

Responsible business conduct (RBE) allows an enterprise to improve its business performance, make profits, and contribute to the economic progress of its community.

A management tool owners and managers use to encourage responsible business conduct is commonly called a business ethics program.

A business ethics program also helps owners and managers address the triple bottom line:

the financial, social, and environmental results or impacts of the business's operations. Business owners and managers have learned that a business ethics program helps owners and managers improve their business performance, make profits, and contribute to economic progress by better

- Recognizing political, economic, social and technological pressures.
- Understanding organizational culture: participation, responsibility, knowledge sharing, and methods of dealing with conflict.
- Fostering reasonable stakeholder expectations.
- Developing responsible management practices to meet stakeholder expectations.
- Learning from enterprise decisions and activities.

A business ethics program provides a toolkit

of leadership and management practices to aid any enterprise - large or small - in the responsible pursuit of its envisioned future. It helps owners and managers ensure that their employees and agents comply with applicable laws and regulations.

It also helps them minimize risk to the enterprise, enhance the enterprise's reputation, and bring value to stakeholders by adapting emerging global standards of responsible business conduct and best practices.

⇒ EDI Applications In E-commerce. ||

EDI is the electronic transfer of structured business documents in an organization internally among groups of departments or externally with its suppliers, customers.

The documents are used in EDI are invoices, purchase orders, acknowledgements and payments.

EDI (Electronic Data Interchange) is the direct communication of trading messages b/w computer systems, using national and international telecommunication networks.

EDI is defined by International Data Exchange Association (IDEA) as :-
This definition has four elements :-

1. Structured data.
2. Agreed message standards.
3. from one computer system to another.
4. By electronic means.

→ EDI Application In Business :-

Although EDI was developed to improve transportation and trade, it has spread everywhere. four very different scenarios in industries that uses EDI extensively :-

International or cross border trade, electronic fund transfer (EFT), healthcare, EDI for insurance claim processing and manufacturing and retail procurement.

OTHER'S IMPORTANT TOPICS

SURESH
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→ Electronic Commerce and the Trade Cycle:

A trade cycle is the series of exchanges, between a customer and supplier, that take place when a commercial exchange is executed. General trade cycle consists of -

presales: finding a supplier and agreeing the terms.

Execution: selecting goods and taking delivery.

Settlement: Invoice (if any) and payment.

After Sales: following up complaints or providing maintenance.

E-commerce can be applied to all different phases of the trade cycle. The trade cycle varies depending on -

- 1) The nature of the organization (or individual) involved.
- 2) The frequency of trade between the partners to the exchange.
- 3) The nature of the goods or services being exchanged.

The Trade cycle has to support !!

- 1) finding goods and services appropriate to the requirement and agreeing the terms of trade (Search and Negotiation).
- 2) placing the order, taking delivery and making payment (Execution and Settlement).
- 3) After sales activities such as warranty, service etc.

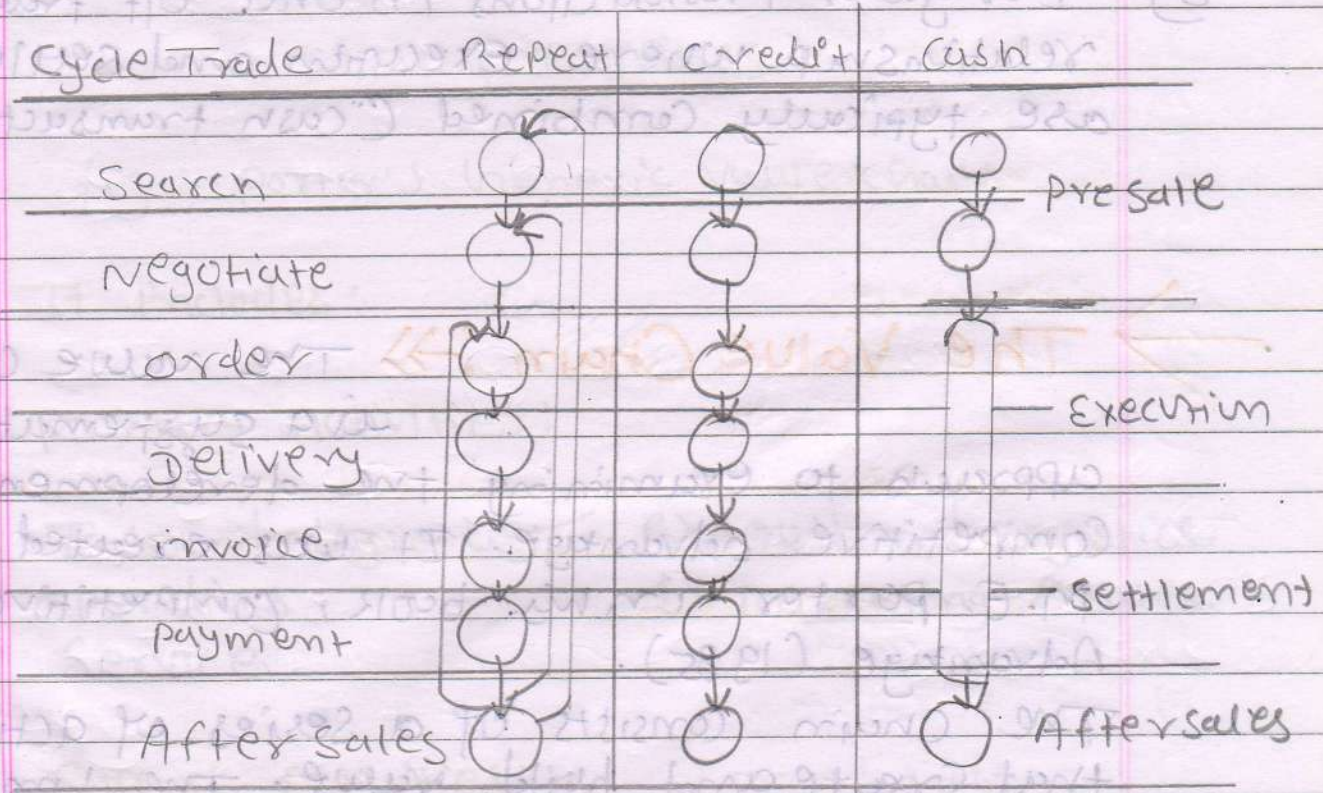


fig: Generic Trade Cycle

The Generic Trade Cycle can be Identified as -

- 1) Regular, repeat transactions between commercial trading partners (Repeat trade cycle)
- 2) Irregular transaction between commercial trading partners where execution and settlement are separated (Credit transaction)
- 3) Irregular transactions in once off trading relationship where execution and settlement are typically combined ("cash transaction").

→ **The Value Chain** :⇒ The value chain is a systematic approach to examining the development of competitive advantage. It was created by M.E. Porter in his book, competitive Advantage (1985).

The chain consists of a series of activities that create and build value. The 'margin' depicted in the diagram is the same as added value.

The organisation is split into 'primary activities' and 'support activities'.

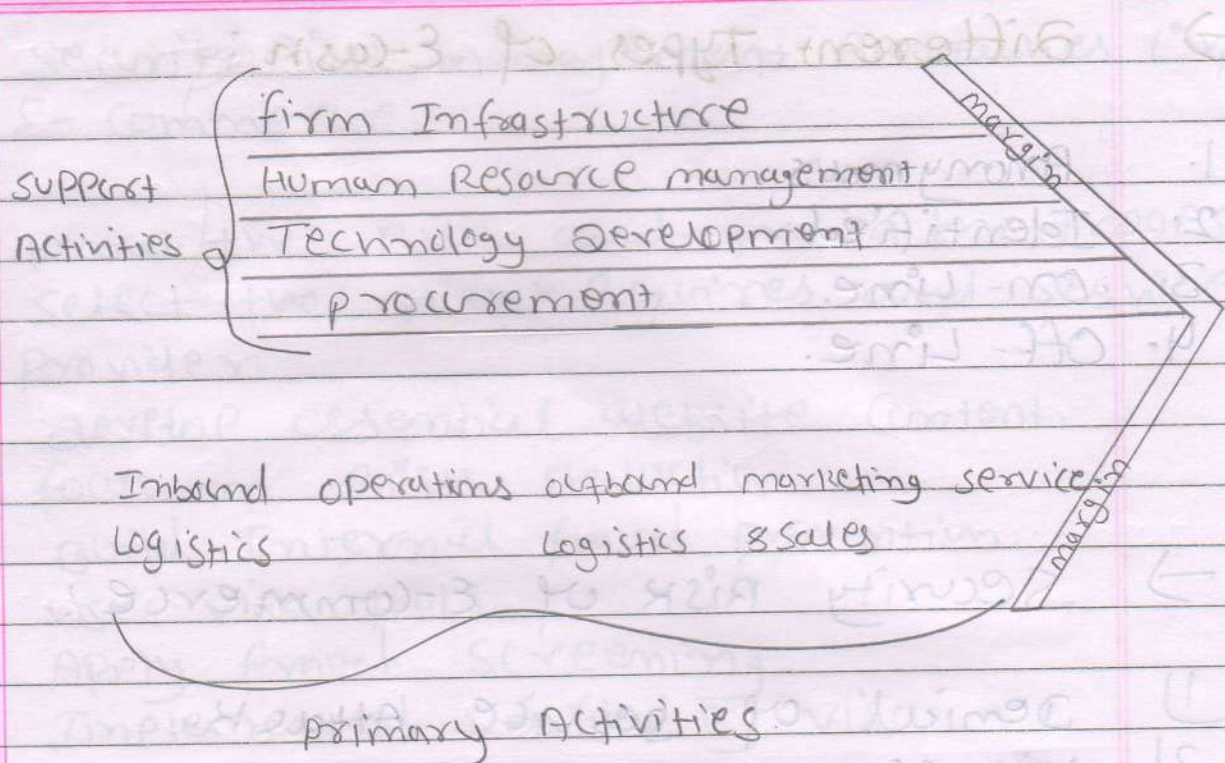


fig: porter's generic value chain.

It includes:

1. Primary Activities:

- a) Inbound Logistics.
- b) Operations
- c) Outbound Logistics.
- d) Marketing & Sales.
- e) Service.

2. Support Activities:

- a) Procurement.
- b) Technology Development.
- c) Human Resource Management (HRM)
- d) Firm Infrastructure.

Shreshth