Concept based notes

E-Commerce

BCA / MCA

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Syllabus

UNIT-1

Introduction to Electronic Commerce : Definition of Electronic Commerce, The scope of Electronic Commerce.

UNIT-2

Business Strategy in an Electronic Commerce : The value chain, Competitive advantage, Business strategy.

UNIT-3

Business to Business Electronic Commerce : Inter-organisational transactions, Electronic markets, Electronic data interchange (EDI), EDI: the nuts and bolts, EDI and Business Inter organisational E-Commerce.

UNIT-4

Designing (Technical, Detailed, High Level): Introduction to Technical Design and Construction. A Client Server Model of E-Commerce, Understanding Technical Design, Understanding Construction. Introduction to Detail Design. Any example of Applying Detailed Design: Introduction to High-Level Design, Understanding High-level Design, Performing High-Level Design, High Level design of Business transactions Applying High-Level design, Any Example of Applying High-level Design. Challenges and Opportunities in Applying High-Level Design.

UNIT-5

Testing & Implementation: Introduction to Testing. Understanding Testing. Applying Testing. Challenges an Opportunities in Applying Verification and Validation.

Implementation : Understanding Implementation. Applying Implementation Planning. An Example of Applying Implementation Planning. Challenges and Opportunities Implementation Planning. guidance

Chapter 1

E-commerce & Scope of E–commerce

Q 1. What is e – commerce? What are its characteristic?

Ans. The term commerce is define as trading of good & services or if ‗e' for ‗electronic' is added to this, the definition of e – commerce is defined as trading of goods, services, information or anything else of value between two entities over the internet.

Following are some definitions of e – commerce:-

1. It is the ability to conduct business electronically over the internet.
2. It means managing transactions using networking and electronic means.
3. It is a platform for selling products & services via internet.

Characteristics of e – commerce:-

1. Establishment of B to B relationship.
2. Electronic payment.
3. e – distribution of products & services.
4. Exchange of information.
5. Pre and post – sales support.
6. Customer relationship management.

Q 2. What are advantage of e – commerce ?

Ans. **Advantage of e – commerce:-**

1. **Facilitates the globalization of business:-**e – commerce facilitates the globalization of business by providing some economical access to distant markets and by supporting new opportunities for firms to increase economies by distributing their products internationally.

2. **Provides increased purchasing opportunities for the buyer:-**As e – commerce increases sales opportunities for the seller, it also increases purchasing opportunities for buyer.

3. **Lowering staffing cost:-** As in e – commerce, the selling & purchasing process is outline, the amount of interaction with staff is minimized

4. **Market based expansion:-** An e – commerce is open to entirely new group of users, which include employees, customers, suppliers & business partners.
5. **Increased profits:-**With e – commerce, companies reach more & more customers where physical commerce cannot reached, thus increasing profits.

6. **Increased customer service & loyality:-** e – commerce enables a company to be open for business wherever a customer needs it.

7. **Increase speed & accuracy:-** E – commerce see the speed and accuracy with which business can exchange information, which reduces cost on both sides of transactions. It is available 24 hours a day & 7 days a weak.

8. **Reduction of paper storage.**

9. **Increased response times**:- In e – commerce, the interaction with the system take place in real time & therefore allows customer or bidder to respond more Quickly & thus reduces the time of discussion between then as in traditional commerce.

Q.3 What are the limitations of e-commerce?

Ans. Limitations of e – commerce:-

1. **Security:-** the security risk in e – commerce can be-
   client / server risk
   data transfer and transaction
   risk virus risk

2. **High start up cost:-**
   The various components of cost involved with e – commerce are:-
   connection:- connection cost to the internet.
   hardware / software:- this includes cost of sophisticated computer, moduer, routers, etc.
   maintenance:- this include cost involve in training of employees and maintenance of web-pages.

3. **Legal issues:-** these issues arises when the customer data is fall in the hands of strangers.

4. **Lack of skilled personnel:-** there is difficulty in finding skilled www developers and knowledgeable professionals to manage and a maintain customer on line.

5. **Loss of contact with customers:-**Sometimes customers feels that they does not have received sufficient personal attention.

6. **Uncertainty and lack of information**:- most of the companies has never used any electronic means of communication with its customers as the internet is an unknown mode for them.

7. **Some business process may never be available to e – commerce:-**Some items such as foods, high cost items such as jewelry may be impossible to be available on the internet.

Q 4. What are the types of e – commerce ?

Ans. **Types of e – commerce:-**

1. Business to customer (B to C):-It means the consumer is motivated by business.

   Customer identifies a need
   Searches for the product or services to satisfy the need
   Select a vendor and negotiates a price
   Receives the product or service
   Makes payment

   Gets service & warranty claims

B to C Working :

1. Visiting the virtual mall- customer visits the mall by browsing the outline catalogue.

2. Customer registers- customer has to register to become part of the site's shopper registry

3. Customer buys product.

4. Merchant processes the order- the merchant then processes the order that is received from the previous stage & fills up the necessary forms

5. Credit card is processed:- credit card of the customer is authenticated through a payment gateway or a bank.

6. Shipment & delivery:- the product is then shipped to customer.

7. Customer receives:- the product is received by customer and is verified.

8. After sales service:- after sale, the firm wants to maintains a good relationship with its customers. It is called CRM customer relationship management.

Business to business (B to B):- this is called as a business motivated by another business.

B2B is classified as:-

1. Market place:- a digital electronic market place where suppliers and commercial purchasers can conduct transactions.

2. E – distributors:- a company that suppliers products and services directly to individual business.

3. B2B service provider:- it is a company that aells access to internet based software application to another companies.

4. Infomediary:- a company whose business model is premised upon gathering information about customers & selling it to other businesses.

Consumer to business (C to B):- a business motivated by a customer.

The various C2B classified into:-

1. Idea collectors:- consumers generally have a great idea about how to improve the existing products and what new features can be added to new products. E.g. ideas.com
2. Reverse auctions:- it allow prospective airline travelers to visit the website and name their price for traval between only pair of city. If an airline is willing to issue a ticket at there price, the passenger is obligated to buy.
3. Consumer to consumer (C to C):-

In this type, a consumer is motivated by another consumer. Consumers sells directly to other consumers via online classified ads and auctions, or by selling personal services or expertise online. E.g. ebay.com

Q 5 What is the difference between traditional commerce and e – commerce?
Ans

Traditional Commerce	E- Commerce
Customer can easily identify & authenticate a merchant by seeing directly to him.	It is not easy in this case.
Customers can directly talk to merchant. Communication in the hands of a third party.	Customer can only see the representation & can only is not see the webpages
Customers can interact with other customers and gain feed back about merchant from other customers	Customer cannot interact with other customers.
It is not available all the time.	It is always available 24* 7*365 hours.
It is slow method.	It is fast method.
Customers just give cash to merchant & there is no need to give their name or address. So there is no worry about personal information.	Customer have to give their personal information to purchase the product.

Q 6 What is payment gateway ?

Ans Payment gateway are server based transaction processing system which enclose business to authorize, process, and manage credit card transaction securely in a real time.

It act as an intermediate between merchant shopping cart and all financial network involved with transaction.

Q.7 What are the areas of e-commerce?

Ans The areas of e-commerce are

1)EDI 2)E-market 3)Internet commerce

Q.8 What is trade cycle?

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

Pre-Sales: 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.

For business-to-business transactions the trade cycle typically involves the provision of credit with execution preceding settlement whereas in consumer- to-business these two steps are typically co-incident.

The nature of the trade cycle can indicate the e-Commerce technology most suited to the exchange.

Multiple Choice Questions

1. Which of the following describes e-commerce?
   A) Buying products from each other
   B) Buying services from each other
   C) Selling services from each other
   D) All of the above

2. Which of the following is part of the four main segments for e-commerce?
   A) B2B
   B) B2C
   C) C2B
   D) All of the above

3. Which segment do eBay, Amazon.com, and LandsEnd.com belong?
   A) B2Bs
   B) B2Cs
   C) C2Bs
   D) C2Cs

4. Which segment focuses on consumers dealing with each other?

A) B2B
B) B2C
C) C2B
D) C2C

5. Which segment is eBay an example?
A) B2B
B) C2B
C) C2C
D) None of the above

6. Which segment is most of the media's attention focused on?
A) B2B
B) B2C
C) C2B
D) C2C

7. In which segment is the dollar volume of e-commerce expected to be concentrated?
A) B2B
B) B2C
C) C2B
D) C2C

8. What combines purchase requests from multiple buyers into a single large order, which justifies a discount from the business?
A) Digital divide
B) Global digital divide
C) Demand aggregation
D) None of the above

9. The best products to sell in B2C e-commerce are:
A) Small products
B) Digital products
C) Specialty products
D) Fresh products

10. Which products are people most likely to be more uncomfortable buying on the Internet?
A) Books
B) Furniture
C) Movies
D) All of the above

Chapter 2

Client Server Technology

Q.1 What is a Client process?

Ans. The client is a process that sends a message to a server process reQuesting that the server perform a task.

Client programs usually manage the user-interface portion of the application, validate data entered by the user, dispatch reQuests to server programs, and sometimes execute business logic.

The client-based process is the front- end of the application that the user sees and interacts with. The client process contains solution-specific logic and provides the interface between the user and the rest of the application system.

The client process also manages the local resources that the user interacts with such as the monitor, keyboard, workstation CPU and peripherals.

One of the key elements of a client workstation is the graphical user interface (GUI).

Q.2 What is a Server process?

Ans. A server process (program) fulfills the client reQuest by performing the task reQuested. Server programs generally receive reQuests from client programs, execute database retrieval and updates, manage data integrity and dispatch responses to client reQuests.

Sometimes server programs execute common or complex business logic. The server-based process "may" run on another machine on the network. This server could be the host operating system or network file server; the server is then provided both file system services and application services. Or in some cases, another desktop machine provides the application services.

The server process acts as a software engine that manages shared resources such as databases, printers, communication links, or high powered-processors. The server process performs the back-end tasks that are common to similar applications.

Q.3 What is client server architecture?

Ans. **Client/server architecture** The client/server architecture significantly decreased network traffic by providing a Query response rather than total file transfer. It allows multi-user updating through a GUI front end to a shared database. Remote Procedure Calls (RPCs) or standard Query language (SQL) statements are typically used to communicate between the client and server.

The following are the examples of client/server architectures.

1) **Two tier architectures** A two-tier architecture is where a client talks directly to a server, with no intervening server. It is typically used in small environments(less than 50 users).

In two tier client/server architectures, the user interface is placed at user's desktop environment and the database management system services are usually in a server that is a more powerful machine that provides services to the many clients. Information processing is split between the user system interface environment and the database management server environment.

2) **Three tier architectures** The three tier architecture is introduced to overcome the drawbacks of the two tier architecture. In the three tier architecture, a middleware is used between the user system interface client environment and the database management server environment. These middleware are implemented in a variety of ways such as transaction processing monitors, message servers or application servers. The middleware perform the function of Queuing, application execution and database staging. In addition the middleware adds scheduling and prioritization for work in progress.

The three tier client/server architecture is used to improve performance for large number of users and also improves flexibility when compared to the two tier approach.

The drawback of three tier architectures is that the development environment is more difficult to use than the development of two tier applications.

The widespread use of the term 3-tier architecture also denotes the following architectures:

- Application sharing between a client, middleware and enterprise server
- Application sharing between a client, application server and enterprise database server.

i) **Three tier with message server**. In this architecture, messages are processed and prioritized asynchronously. Messages have headers that include priority information, address and identification number. The message server links to the relational DBMS and other data sources. Messaging systems are alternative for wireless infrastructures.

ii) **Three tier with an application server** This architecture allows the main body of an application to run on a shared host rather than in the user system interface client environment. The application server shares business logic, computations and a data retrieval engine. In this architecture applications are more scalable and installation costs are less on a single server than maintaining each on a desktop client.

3-tier architecture provides:

A greater degree of flexibility
Increased security, as security can be defined for each service, and at each level
Increased performance, as tasks are shared between servers

Q.4. What are Benefits of the Client/Server Model ?

Ans **Divides Application Processing** across multiple machines.Non-critical data and functions are processed on the client Critical functions are processed on the server

Optimizes Client Workstations for data input and presentation (e.g., graphics and mouse support)

Optimizes the Server for data processing and storage (e.g., large amount of memory and disk space)

Scales Horizontally – Multiple servers, each server having capabilities and processing power, can be added to distribute processing load.

Scales Vertically - Can be moved to more powerful machines, such as minicomputer or a mainframe to take advantage of the larger system's performance

Reduces Data Replication - Data stored on the servers instead of each client, reducing the amount of data replication for the application.

Q.5 What are the characteristics of client/server architecture?

Ans. The basic characteristics of client/server architectures are:

1) Combination of a client or front-end portion that interacts with the user, and a server or back-end portion that interacts with the shared resource.

   The client process contains solution-specific logic and provides the interface between the user and the rest of the application system.
   The server process acts as a software engine that manages shared resources such as databases, printers, modems, or high powered processors.

2) The front-end task and back-end task have fundamentally different requirements for computing resources such as processor speeds, memory, disk speeds and capacities, and input/output devices.

3) The environment is typically heterogeneous and multivendor. The hardware platform and operating system of client and server are not usually the same. Client and server processes communicate through a well-defined set of standard application program interfaces (API's) and RPC's.

4) An important characteristic of client-server systems is scalability. They can be scaled horizontally or vertically. Horizontal scaling means adding or removing client workstations with only a slight performance impact. Vertical scaling means migrating to a larger and faster server machine or multiservers.

Q. 6. What are the different types of servers?

Ans.

File servers. -With a file server, the client passes reQuests for files or file records over a network to the file server. This form of data service reQuires large bandwidth and can slow a network with many users down considerably. Traditional LAN computing allows users to share resources, such as data files and peripheral devices, by moving them from standalone PCUs onto a Networked File Server (NFS).

Database servers-In database servers, clients passes SQL (Structured Query Language) requests as messages to the server and the results of the Query are returned over the network. The code that processes the SQL request and the data resides on the server allowing it to use its own processing power to find the requested data, rather than pass all the records back to a client and let it find its own data as was the case for the file server.

Transaction servers- Clients invoke remote procedures that reside on servers which also contains an SQL database engine. There are procedural statements on the server to execute a group of SQL statements (transactions) which either all succeed or fail as a unit. The applications based on transaction servers are called On-line Transaction Processing (OLTP) and tend to be mission-critical applications which require 1-3 second response time, 100% of the time and require tight controls over the security and integrity of the database.

The communication overhead in this approach is kept to a minimum as the exchange typically consists of a single request/reply (as opposed to multiple SQL statements in database servers). Application servers are not necessarily database centered but are used to server user needs, such as. download capabilities from Dow Jones or regulating a electronic mail process. Basing resources on a server allows users to share data, while security and management services, which are also based in the server, ensure data integrity and security.

Multiple Choice Questions

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5.Which segment is eBay an example?
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   B) C2B
   C) C2C
   D) None of the above

6. Which segment is most of the media's attention focused on?
   A) B2B
   B) B2C
   C) C2B
   D) C2C

7.What combines purchase requests from multiple buyers into a single large order, which justifies a discount from the business?
   A) Digital divide
   B) Global digital divide
   C) Demand aggregation
   D) None of the above

Chapter 3
Supply Chain Management & Value Chain

Q 1 What is supply chain management ?

Ans. **Supply chain management:-**

- supply chain is a process umbrella under which products are created and delivered to customers.
- It is a seQuence of processes and activities invoked in manufacturing and distribution cycle.
- It is a network of facilities that made raw materials, trans form them into intermediate goods & then final products and deliver the products to customers through a distribution system.

Q 2. What are the components of supply chain ?

Ans The following fine basic components of SC mare:-

1. Plan:- it is the first step of SCM. It plans for meeting the customer demand.

2. Source:- it means from where customer are ready to purchase their products. In this step, price, delivery & payment process of the goods are maintained.

3. Make:- it is the manufacturing step. In this the necessary step for manufacturing steps are taken like production, testing, packaging and prepation for delivery.

4. Deliver:- in this step customer give receipt of orders which he wants. A warehouse is maintainesd to store the product details.

5. Return:- in this step a customer relationship management is maintained. In this customers are supported & feedback is taken from customers about products. A network is maintained for receiving defective & excessive products from customers.

Q 3. What are the benefit of SCM ?

Ans.

1. It is web based not web enabled.
2. It incorporates broadcast and active messaging.
3. It supports the exchange of real time benefits.
4. It has open internet application architecture which allows rapid deployment.
5. It is platform independent.

6. It is fully integrated system.
7. Global trading capabilities.
8. Global knowledge exchange.
9. Horizontal & vertical market place.
10. E – market place to e – market place connectivity.
11. Enterprise – to – enterprise connectivity.
12. It maximize selling opportunities by capturing valuable customer information buying patterns, freQuency of visits, preferences, order history.
13. It provides tool sets to achieve new business by reaching out to customers that you never could before.
14. Improved customer response time.
15. An ability to offer local products globally.

Q. 4 What is value chain analysis? What are the primary and secondary activities?

Ans The **value chain**, also known as **value chain analysis**, is a concept from business management that was first described and popularized by Michael Porter in his 1985 . A value chain is a chain of activities for a firm operating in a specific industry. Products pass through all activities of the chain in order, and at each activity the product gains some value. The chain of activities gives the products more added value than the sum of added values of all activities. It is important not to mix the concept of the value chain with the costs occurring throughout the activities. A diamond cutter can be used as an example of the difference. The cutting activity may have a low cost, but the activity adds much of the value to the end product, since a rough diamond is significantly less valuable than a cut diamond.

Activities

The primary activities include: inbound logistics, operations (production), outbound logistics, marketing and sales (demand), and services (maintenance).

The support activities include: administrative infrastructure management, human resource management, technology (R&D), and procurement. The costs and value drivers are identified for each value activity.

The **Value Chain framework** of **Michael Porter** is a model that helps to analyze specific activities through which firms can create value and competitive advantage.

Primary activities

1) **Inbound Logistics** Includes receiving, storing, inventory control, transportation scheduling.

2) **Operations** Includes machining, packaging, assembly, equipment maintenance, testing and all other value-creating activities that transform the inputs into the final product.

3) Outbound Logistics The activities required to get the finished product to the customers: warehousing, order fulfillment, transportation, distribution management.

Support activities

Firm Infrastructure

Human Resource Management

Technology Development

Procurement

Margin

Inbound Logistics | Operations | Outbound Logistics | Marketing & Sales | Service

primary activities

4) Marketing and Sales The activities associated with getting buyers to purchase the product including channel selection, advertising, promotion, selling, pricing, retail management, etc.

5) **Service** The activities that maintain and enhance the product's value, including customer support, repair services, installation, training, spare parts management, upgrading, etc.

Support activities:

1)Procurement :-It refers to the purchase of goods and services for the organization.Procurement of raw materials, servicing, spare parts, buildings, machines, etc

2)Technology Development:-It includes CRM,internet marketing activities,production technology.

3)Human Resources Management:-An organisation would manage recruitment and selection,training and development.

4)Firm Infrastructure:-It includes MIS for planning , general management, planning management, legal, finance, accounting, public affairs, Quality management, etc.

Q ..5 Give an Example of value. chain

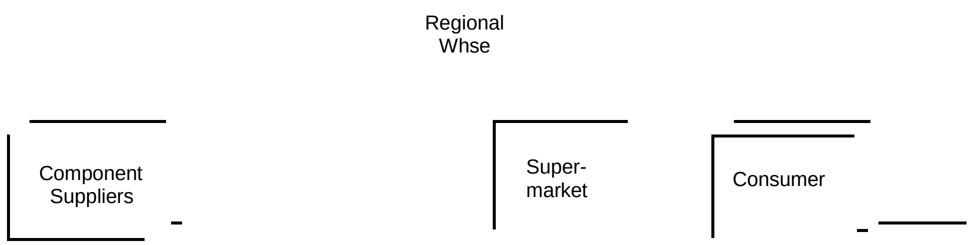
Ans Food supermarkets value system

Inbound Logistics: Large number of suppliers

Vast number of products

Process: Retail

Outbound Logistics: Vast number of Consumers



- Institutional factors (regulation, union activity, taxes, etc.)

Q. 7 What is meant by term stakeholder?

Ans The term **stakeholder**, as traditionally used in the English language in law and notably gambling, is a third party who temporarily holds money or property while its owner is still being determined. In a business context, a stakeholder is a person or organization that has a legitimate interest in a project or entity.

A **corporate stakeholder** is a party that can affect or be affected by the actions of the business as a whole. Stakeholders also defined as those groups without whose support the organization would cease to exist.

Q. 6. What are the cost drivers of value chain?

Ans Porter identified 10 cost drivers related to value chain activities:

Economies of scale
Learning
Capacity utilization
Linkages among activities
Interrelationships among business units
Degree of vertical integration
Timing of market entry
Firm's policy of cost or differentiation
Geographic location

Q. 8 What is the relationship between Technology and the Value Chain?

Ans Because technology is employed to some degree in every value creating activity, changes in technology can impact competitive advantage by incrementally changing the activities themselves or by making possible new configurations of the value chain.

Various technologies are used in both primary value activities and support activities:

Inbound Logistics Technologies

- Transportation
- Material handling
- Material storage
- Communications
- Testing
- Information systems

Operations Technologies

- Process
- Materials
- Machine tools
- Material handling
- Packaging
- Maintenance
- Testing
- Building design & operation
- Information systems

- **Outbound Logistics Technologies**

- Transportation
- Material handling
- Packaging
- Communications
- Information systems

Marketing & Sales Technologies

- Media
- Audio/video
- Communications
- Information systems

Service Technologies

- Testing
- Communications
- Information systems

Q. 9 What are the benefits of Value Chain?

Ans. **A) <u>Electronic Value Chain:</u>**

1)Reduced time frame
2)Changed cost structures

B)**Re-engineered Value Chain**:

1)Just-in-time manufacture
2)Quick response supply
3)Efficient document processing

C) <u>Competitive advantage</u>

Chapter 4
Competitive Advantage and Business Strategy

Q. 1 What is meant by competitive advantage?

Ans Competitive advantage is an advantage over competitions gained by offering consumers greater value, either by means lower prices or by providing greater benefits and services that justifies higher prices.

There are two main types of competitive advantage <u>comparative advantage</u> and <u>differential advantage.</u>

<u>Comparative advantage</u> is a firms ability to produce a good or service at lower cost than its competitious.

<u>A differential advantage</u> is created when a firm's products or services differ from its competitors.

Q. 2 What are the strategies that are adopted to gain competitive advantage ?

Ans

1. **Differentiation**:- this strategy is used to attract more customers, this strategy allow you to change a higher price because you are delivering more value to your customers.

This can be done as –

More value – often products or services for same price.

Freebies – free upgrades & coupons for future purchases.

Discounts – includes offering regular sales, coupons etc.

New/first – be the first one to offer something in your location.

Deliver/fast – next day or one hour make it faster than customers think possible.

Before/during/after sales support – provide technical or other support to customers.

Guarantee/warranty – free replacements parts.

2. **Cost leadership**:- this strategy seeks to achieve the position of lowest cost producer in industry as a whole. By producing at lowest cost, the manufacturer can compete on price with every other producer in the industry.

3. **Differentiation focus**:- this strategy works in narrow market. It means the companies focus on smaller segments (niches) of customers rather than entire the cross market.

Companies following focused differentiation strategies produce customized products for small market segments. They can be successful when either the Qualities are too small for industry wide competitors to handle economically, or when the extent of differentiation reQuested is beyond the capabilities of industry wide differentiation. E. g. luxury goods.

4. **Cost focus**:- in this strategy, a lower – cost advantage is given to a small market segment.

For e.g. Ikea company offers home furnishing that has good design, functions and Quality with low prices.

Q. 3 Explain Michael porter fine forces model?

Ans.

Michael porter concept involves relationship between competitors within an industry, potential suppliers, buyers and alternative solutions to the problem being addressed.

It consist of

1. entry of competitors
2. threat of substitutes
3. bargaining power of buyers
4. bargaining power suppliers
5. rivalry among existing players
6. Government

1) **<u>Barriers to entry/ threat of entry:-</u>**

Any firm should be able to enter and exit a market and if free entry and exit expsts, then profit always should be nominal.

But industries always possess high nomial rate & thus inhibit additional rivals from entering the market. These are barriers to entry.

<u>Barriers to entry arise from several sources: -</u>

1. ***Government create barriers***:- role of govt. in a market is to preserve competition through anti – trust actions, govt. also restricts competition through granting of mono polices and through regulation.

2. ***Patents and Proprietary knowledge serve to restrict entry into an industry***:- ideas and knowledge that provides competitive advantages are preventing others from using the knowledge & thus ccreating a barrer to entry.

3. ***Economies of scale***:- the most cost efficient level of production is termed as minimum efficient scale (MES).

This is the point at which unit costs for production are at minimum i.e. the most cost efficient level of market share necessary for low cost entry or cost parity with rivals.

Easy to enter if

- common technology
- little branding

- access to distribution channels

difficulty in brand switching
restricted distribution channels
high scale threshold

2) **Threat of substitutes**

A threat of substitutes exists when a product's damaged is affected by price change of a substitute product.
As more substitutes are available, the demanded becomes more elastic since customers have more alternatives.
For e. g.
The price of aluminum beverage cans is constrained by price of glass bottles, steel cans and plastic containers.

It depends on –

- Quality
- Buyer's willingness to substitute
- Price & performance of substitute
- Cost of switching to substitutes

3) **Bargaining power of buyers:-**

Concentration of buyers, differentiation, Profitability of buyers, role of Quality and service

4) **Bargaining power of suppliers.**

Concentration of suppliers, Branding, Profitability of suppliers, role of Quality and service

5) **Intensity of rivalry depends on:-**

It rivalry among firms in an industry is low, the industry is considered to be disciplined.
In pursuing an advantage over its rivals (competitor), a firm can choose –
1 changing prices
2 improving product differentiation
3 take advantage of relationship with suppliers.

The intensity of rivalry is influenced by

1. a large no. of firms increase rivalry because more firms compete for same customers & resources.
2. slow market growth causes firms to fight for market share.
3. low switching cost freely switch from one product to another there is greater struggle to capture customers.
4. low levels of product differentiation

5. high storage cost or highly
perishable products cause a producer to sell goods as soon as possible. If other producers are attempting to unload at the same time, competition for customers intensifies.

Q. 4 What is business strategy?

Ans Strategy is the direction and scope of an organization over the long-term: which achieves advantage for the organization through its configuration of resources within a challenging environment, to meet the needs of markets and to fulfill stakeholder expectations.

The best business strategies must steer a course between the inevitable internal pressure for business continuity and the demands of a rapidly changing world for revolutionary business strategies.

Chapter 5

Inter-organizational Transactions and E– market

Q.1 What is inter-organizational transactions?

Ans The transactions between business to business are called inter-organizational transactions.

Component/ Materials Supplier

Product Supplier

Manufacturer / Retailer

Customer

Business to Business (inter-organisational)

Business to Consumer

Q.2 What is credit Transaction cycle?

Ans. Credit transaction trade cycle

Pre-Sales:

Search – find a supplier

Negotiate – agree terms of trade

Execution:

Order (purchasing procedures)

Delivery (match delivery against order)

Settlement:

Invoice (check against delivery)

Payment

Search

Negotiate

Order

Deliver

Invoice

Payment

After Sales

Pre-Sale

Execution

Settlement

After Sale

After Sales (warrantee, maintenance, etc.)

Repeat – many orders repeat on a daily or weekly basis.

Q.3 Describe e-marketplace models?

Ans There are many different types of e-marketplace based on a range of business models. They can be broadly divided into categories based on the way in which they are operated.

Independent e-marketplace

An independent e-marketplace is usually a business-to-business online platform operated by a third party which is open to buyers or sellers in a particular industry. By registering on an independent e -marketplace, you can access classified ads or reQuests for Quotations or bids in your industry sector. There will typically be some form of payment reQuired to participate.

Buyer-oriented e-marketplace

A buyer-oriented e-marketplace is normally run by a consortium of buyers in order to establish an efficient purchasing environment. If you are looking to purchase, participating in this sort of e-marketplace can help you lower your administrative costs and achieve the best price from suppliers. As a supplier you can use a buyer-oriented e-marketplace to advertise your catalogue to a pool of relevant customers who are looking to buy.

Supplier-oriented e-marketplace

Also known as a supplier directory, this marketplace is set up and operated by a number of suppliers who are seeking to establish an efficient sales channel via the internet to a large number of buyers. They are usually searchable by the product or service being offered.

Supplier directories benefit buyers by providing information about suppliers for markets and regions they may not be familiar with. Sellers can use these types of marketplace to increase their visibility to potential buyers and to get leads.

Vertical and horizontal e-marketplaces

Vertical e-marketplaces provide online access to businesses vertically up and down every segment of a particular industry sector such as automotive, chemical, construction or textiles. Buying or selling using a vertical e - marketplace for your industry sector can increase your operating efficiency and help to decrease supply chain costs, inventories and cycle time.

A horizontal e-marketplace connects buyers and sellers across different industries or regions. You can use a horizontal e-marketplace to purchase indirect products such as office equipment or stationery.

Q.4 What is e – marketing ?

Ans An inter – organizational information system that allows participating buyers and sellers to exchange information about price and product offerings.

Q. 5 What is e–marketing value chain ?

Ans E–marketing maintains the strong relationship between company and customer.

It is like a chain the company acQuires customers, fulfill their needs and offers support and gains their confidence so that they return to it again.

Content :- a customer accesses a website for the content of that site. Initially a customer will want to navigate Quickly to gain a clear understanding of the sites progression to more detailed information.

Format:- the selection of data format is crucial.

Acess:- ouline data acess depends on the BW reQuirement.

Q6. What are the advantage of online marketing ?

Ans.

1. It offers bottom line benefits.
2. It save money and help you stretch your marketing budget.
3. It save time and cut steps from the marketing process. The customer easily get desired information of products whenever they want.
4. It is information rich and interactive.
5. It reduces the time and distance barriers that get in the way of conducting business transaction.
6. It gives eQual opportunity to each & every customers.
7. This market is available all the time i.e. 7 * 24 hours.

Chapter 6

EDI & EDI Standards

Q. 1 What is EDI ?

Ans. EDI is electronic data interchange. It is the direct communication of trading messages between computer systems, using national and international telecommunications networks.

Q. 2 What are EDI terminology ?

Ans. A trading partners:- a trading partner is an organization who uses EDI. They are assigned a trading partner ID number which is their generic ―customer number‖ .

If you decided to use EDI, you will register your company with your service provider (VAN) who will provide with a trading partner.

ID number

B VAN:- It is a service provider which stores your EDI mail form your trading partners and transmits your EDI documents to your trading partner‘s mailbox.

C transaction software:- software used to send & service EDI documents within VAN.

Global / DX:- This modules takes the output from the transaction software & creates necessary transactions and also creates files trading partners.

Q. 3 Give the description of EDI architecture ?

Ans. EDI architechture specifies 4 layers:-

1) Semantic (application layer)
2) Standard transaction layer
3) Packing (transport) layer
4) Physical n/w infrastructure layer.

1) **Semantic layer**:- It describes the business application that is driving EDI.

For a procurement application, this translates into reQuests for Quotes, price Quotes, purchase orders, acknoledgements & involves.

The information seen at this layer must be translated from a company specific from to a more generic form so that it can be send to various trading partners, who could be using a varity of software applications at this end.

When a trading partner sends a document, the EDI translation software converts the proprietary format into a standard mutually agreed on by the processing system. When a company receivers the document, their EDI translation software automatically changes the standard format into proprietary format of their document processing software so that company can manipulate the information in whatever way it chooses to.

2. **EDI standards**:- It specify business form structure and it also influence the content at application layer.
   The most two important standards are:-
   - EDIPACT
   - ANSI X12

. **EDI transport layer**:- It corresponds closely with the non-electronic activity of sending a business form from one company A to company B.

The business form could be sent via regular postal service, registered mail, certified mail or private carrier such as united pariel service (UPS) or simply faxed between the companies.

EDI semantic layer	application level services
EDI standard layer	EDIFACT
	ANSI X12
EDI transport layer	e- mail X 435
	Point2point FTP
	www HTTP

4. **Physical layer** :- Dial up lines

Q. 4 How EDI Works?

Ans: The buyer enters order information into the production database, which generates a purchase order on the computer. The order information is then channeled through a number of interface programs.

1. The interface software programs perform edits and checks on the document and direct the order data into predefined EDI intermediate files.
2. The EDI intermediate files contain information in a form that the EDI translation software can read.
3. The translation software is a set of programs that translates the interface file data into a document formatted according to EDI standards that the supplier's computer can recognize.
4. The electronic document now consists of a file that contains the order data in a predefined, recognizable order.
5. The communications software adds appropriate communications protocols to the EDI document in preparation for transmission via telephone lines.

6. Using a modem and telephone line, the buyer transmits the EDI purchase order to a VAN (Value added network).
7. The communications software on the supplier's computer picks up the document from the VAN, interprets and/or converts the communications protocols to open the electronic document.
8. The purchase order is now in a standard, recognizable format in a file and is available to the supplier's computer.
9. The supplier's translation software interprets the documents from the EDI format and places the order information in EDI intermediate file(s).
10. The EDI intermediate files contain the translated purchase order information.
11. The interface programs perform edits and checks before the data is integrated with the supplier's production database.

The application software on the supplier's computer can now process the buyer's order.

Q. 5 What are the benefits of EDI ?

Ans. **Benefits of EDI are:-**

1)Shortened ordering time

Speed of transmission (data arrives in seconds rather than days in postal systems).

A posted order …

print **Customer**

envelope

post room

postal service

supplier

post room

key-into order processing system **Supplier**

… **say 7 days between two large**

organisations An EDI order …

Customer EDI transmission **Supplier**
… one day, one hour, as Quick as you like

2) Cutting costs
a)Stationery
b)Postage
c)Staff:
- order entry
- invoice matching
- payment checking

d)the principle saving is staff costs – staff savings can be very significant

3) Accurate invoicing
automatic matching to orders
elimination of queries and delays

4) Accuracy of data (no re-keying of data into a system is required eliminating the human error factor at the receiving end.)

5) Replaces much of the paper handling at both ends.

6) Improved problem resolution and customer service:- EDI can minimize the time companies spend to identify and resolve inter business problems.
EDI can improve customer service by enabling the Quick transfer of business documents and a marked decrease in errors.

7) Expanded customer / supplier base – many large manufacturers and retailers with the necessary things are ordering their suppliers to institute an EDI program.

8) Competitive edge – because EDI makes you attractive to deal with form yours customers point of view and ypu are in their eyes cheaper and more efficient to deal with than a comp editor trading on paper, your costs will be lower because you will reQuire less manpower to process orders, delivers or payments.

Q. 6 What are EDI standards ?
Ans EDI standards are very broad and general because they have to meet the need of all businesses.
<u>EDI share a common structure:-</u>

1. Transaction set is equivalent to business document, such as purchase order. Each transaction set is made up of data segments.

2. Data segments are logical groups of data elements that together convey information, such as invoice terms, shipping information or purchase order line.

3. Data elements are individual fields, such as purchase order number, Quantity on order, unit price.

<u>The need for EDI standards:-</u>

EDI provides on electronic linkage between two trading partners. To send documents electronically to each other, firms must agree on a specific data format and technical environment.

<u>EDI standards and initiatives:-</u>

<u>National standards:-</u>

1. **ODETTE:-** an EDI format developed for European motor industry. ODETTE stands for organization for data exchange by tele transmission in Europe.

2. **TRADACOMS:-** it is UK national standard, which is developed by ANA (Article number association) in 1982.
   ANSI ASC X12 (American national standards – X12) – X12 is a standard that defines many different types of documents, student loan applications, injury and illness supports and shipment and billing notices.

   <u>International standards –</u>

   EDIFACT – (Electronic data interchange for administration, commerce and transport) was developed during 1990's with a subset of EANCOM, which is the most widely used dialect of EDIFACT in international retail and distribution sector.

   UN/EDIFACT – (United nations/electronic data interchange for administration commerce and transport) is an international set of EDI standards that are published by united nations trade data interchange (UNIDID).

Chapter 7

VAN & EDI implementation

Q.1 What are the steps of EDI Implementation ?

Ans. The following is a generalized list of major points for consideration when undertaking an EDI project:

1. Obtain commitment from all areas of management.

Involvement from all impacted departments is essential. Each department should be included in the analysis, testing and implementation to validate the testing and to ensure that the resulting system meets the objectives.

2. Establish a plan

Develop a work plan that identifies the tasks reQuired and provides initial time estimates. This plan should also provide a direction of what type of documents you wish to trade.

3. Establish a Project team

The team should establish a responsibility list for each identified task. The deliverables from each task should be defined. The team should consist of representatives from all affected areas.

4. Establish EDI Business Contacts

These people are essential when working with other companies to ensure that the business needs are met.

5. Establish EDI Technical Contacts

These people will work in concert with the EDI Business Contacts and your Trading Partners to ensure that the stated process flows as expected.

6. Review Internal Systems and Business Procedures

A through current system analysis should be done. The present process that creates the business documents and the flow of the documents should be recorded. The next step is to determine how EDI should be integrated into existing systems.

7. Conduct a Trading Partner Survey

This survey will provide you with a listing of your potential trading partners:

EDI Experience and knowledge
Network providers (or direct connections using the Internet)
Documents traded or planned
Degree of integration of EDI into their applications.

This point is critical if possible you want to start your EDI program with a trading partner who has as much as experience as possible with EDI, documents that you are sending and have a commitment to continued working with you in the future

8. Decide on EDI Translation Software

Great choice of deciding to go with the experts at SoftCare and our fully featured EDI Management System, Trade Link.

9. Decide on EDI Integration provider

You can utilize your existing I.S. providers to implement EDI or you can use Soft Cares ? Solution team to help in any facet of the implementation of EDI. Our experienced staff has helped in the integration of hundreds of EDI systems.

10. Review data contained in the documents to be exchanged

A review of the data to be transmitted and received is essential to ensure that integration will proceed normally.

11. Decide on a Network Provider

Recently many EDI Hubs (such as Wal*Mart) have insisted on direct EDI communications over the Internet using the AS2 communications protocol. While many of your trading partners will use this protocol, there are many EDI trading hubs that still reQuire a connection using an EDI VAN?s. Suppliers of these VAN services have standard contracts and commercial price lists. The timing of this decision should be made early, as it will influence many of the future decisions that you will make. As there are various services available from Network providers it is important to determine what services are to be purchased. Your SoftCare Solutions group contact can help you with the decision on which network and how to communicate to that network to get your company the best Return on Investment.

12. Code and Test Interface to in-house systems.

The maximum benefit of EDI is derived from integration of information so that information can flow directly in/out of in-house systems without human intervention. TradeLink has many tools such as the TradeLink XMapper to help you with this interface.

13. Implementation of your Translation software

We have already installed TradeLink, in the next few days we will be configuring it to send and receive data to/from your pilot trading partner.

14. Implement and test the network connection with the translation software

This process will test the connection to the network provider or directly using the Internet from the translation software's scripts.

15. Conduct system testing with the "pilot" Vendor

The purpose of this is to verify the sending and receiving of transmissions from your "pilot" vendor. This allows data to be processed to determine if any changes are necessary. Extensive testing should be done prior to implementation. Most companies conduct parallel testing with EDI and paper documents until they are sure that the information received meets their needs.

16. Decide on a production cutover date

Develop a signoff document that includes all the participants in the project.

17. Implementation

It is recommended that you collect data during the first few months to use to access what savings/costs your company is experiencing. This information is useful for your management and future trading partners.

18. Post Implementation Review

Review the results after six months to determine if the planned benefits/costs meet the actual benefits/costs.

Q. 2 What is EDI security?

Ans The types of security controls networks should have are crucial when your organization adopts EDI as you and your trading partners are entrusting some of your most crucial and confidential data to the network.

Securing an EDI system is much like securing any kind of computer network with this difference : EDI extends to more than one company. Not only must organizations make sure their system is secure, but their trading partners must all do the same.

A full EDI security system should include three levels of security:

(1) Network level security

This level of security basically screens users accessing a particular network. With a set of account/user identification codes coupled with the corresponding passwords, authorized users will be able to log into the network and to perform transactions (that is, sending and receiving of EDI messages) across the network. This level of security ensures that users not registered in the EDI network are not able to gain access to its facilities.

(2) Application level securiy

This level of security is usually controlled by the individual front-end EDI application (or software).

In any given EDI application or software, there might be some data you are not allowed to see, some you can see but not alter, some to which you can add information and some where you can change existing information. Application level security makes use of passwords to admit different catagories of users to the different levels of application to which they can gain access. For example, a clerical staff may only be given authority to key in data in an electronic purchase order but not the authority to send the EDI document to the supplier. A higher level managerial staff may hold a password which allows him to view the data keyed in by the clerical staff,

make the necessary corrections and send the document out.

A system administrator is usually appointed to oversee the EDI application to maintain a system that both identifies the data and monitors which password holders shall be given and to decide on the kind of access to the system.

(3) Message level security

Message level security can also be put in place to combat unauthorized disclosure of message content, non-bona fide messages, duplication, loss or replay of messages, deletion of messages and repudiation of message responsibility by its sender or its receiver. To counter these, EDIFACT has in place several methods of message-level security:

(i) Encryption

The idea of data encryption is that data, whether on screen or as ASCII within a computer system, can be totally enciphered by a transmission process, and on receipt by an authorized user can be reconstituted into its original format.

This method of security is used to ensure confidentiality of contents and protects against unauthorized reading, copying or disclosure of message content.

(ii) Message authentication

Message authentication, or a MAC (Message Authentication Code), can be applied to a whole message or only part of a message.

The idea behind the MAC process is to ensure that only authorized senders and receivers correspond and that no one is impersonating another correspondent.

(iii) Message sequence numbers

Message seQuence numbers are used to protect against duplication, addition, deletion, loss or replay of a message.

(iv) Hashing

Hashing is a technique used to protect against modification of data.

Message content integrity can be achieved by the sender including with the message an integrity control value (or known as hash value). The receiver of the message computes the integrity control value of the data actually received using the corresponding algorithms and parameters and compares the result with the value received.

(v) Digital signatures

Digital signatures protects the sender of a message from the receiver's denial of having received the message. The use of digital signatures can also protect the receiver of a message from the sender's denial of having sent the message.

Protection can be achieved by the sender by including a digital signature with the transmitted message. A digital signature is obtained by encrypting, with an asymmetric algorithm. The digital signature can be verified by using the public key which corresponds to the secret key used to create it. This public key may be included with the interchange agreement signed by the parties.

Protection can be achieved by the receiver sending an acknowledgement which includes a digital signature based on the data in the original message. The acknowledgement takes the form of a service message from the receiver to the sender.

The use of digital signatures provides not only non-repudiation of origin and receipt, but also message content integrity and origin authentication.

Chapter 8

Technical design, high level design and detail design

Q.1 What are engineering steps of web e-process?

Ans. Web E-process is the engineering step. This step is basically the collection of two sub steps: Non-Technical Design, and Technical Design, which are performed in parallel to each other.

Q.2 What is non-technical design?

Ans. The first step performed in this step sequence of engineering activity is the non-technical design. This design activity is performed by the non-technical members of the Web E-team this step also consists of two types:

1) Content Design and Production.

Q.3 What is technical design?

Ans. Second step performed in parallel of non-technical design in the engineering activity is the technical design work which is performed by the technical members of the Web E-team. The technical members of the Web E-team can be Web engine

Q.4 What are technical elements?

Ans

1) Design Principles
2) Golden Rules
3) Design Patterns
4) Templates

Q.5 What are types of architectural design?

Ans

1) Linear structures
2) Grid Structures
3) Hierarchical Structures
4) Networked or Pure Web structures

Q.6 What is linear structure?

Ans. Linear Structures are the structures in which web pages are linearly connected or related to each other. These are associated with each other in a sequence.

1. Simple Linear: - In this web page has single linear sequence.
2. Linear with optical flow: -In such type of structures, a linearly defined sequence is followed but some options are also included at some places.
3. Linear with Diversions: - These types of structures are wore complex ones than the previous ones. In these type of structures, some diversions are also included among the web pages.

Q.7 What is grid structure?

Ans. These are an architectural category that can be applied when web application content can be organized categorically in two. A typographic **grid** is a two-dimensional structure made up of a series of intersecting vertical and horizontal axes used to structure content.

Q.8 What is hierarchical structure?

Ans. It is also known as tree structures. It allows the flow of control horizontally, across vertical branches of the structure.

Q.9 What is networked of pure web structures?

Ans. In such type of structures, architectural components or web pages are designed in a manner so that they may pass control virtually to each other web page in the system.

Q.10 What are design Patterns?

Ans. Designs Patterns are applied at 3 levels: -

a) Architectural b) Component c) hypertext

Architectural & component level design pattern are used for data processing functionality of the applications, whereas the hypertext level design patterns are used for navigation features.

Q. 11 Name the type of design patterns?

Ans 1) Cycle

2) Web ring
3) Contour
4) Mirror world
5) Counterpoint
6) Sieve
7) Neighborhoods.

Q.12 What is detailed design?

Ans. The detailed design is related of O.S.

The aim of detailed design is to furnish a description of a system that achieves the goals of conceptual system design requirements. This description consists of drawings, flowcharts, equipment & personal specifications, procedures, support tasks, specification of information files and organization and operating manuals required to run the system.

Q.13 What are the three ways to get early feedback on the viability of the system?

Ans. These are: -

1) Modeling
2) Simulation
3) Test-Planning

Q.14 How many steps SDLC have?

Ans. 1) Requirements 2) Design 3) Coding 4) Implementation

Q.15 What is high level design?

Ans. The purpose of HDL is to add the necessary detail to the current project description to represent a suitable model for coding.

Q.16 What is the use of HDL?

Ans 1) It presents all of the design aspects and defines them in detail.
2) Describe the user-interface.
3) Describe the hardware & software interface.
4) Describe the performance reQuirements.
5) Include desin features and architecture.

Chapter 9

Testing, Implementation & Maintenance

Q.1 What is Quality Assurance?

Ans Quality Assurance is the review of software products and related documents completeness, correctness, reliability and maintainability.

Q.2 How the Quality Assurance can be done?

Ans It can be done by:-

1. Testing
2. Verification and Validation.

Q.3 What is testing?

Ans Testing is generally done at two levels- testing of individual modules and Testing of the entire system.

It is always a good practice to test the system at many different levels at various intervals, i.e. sub-systems, program modules as work progresses & finally the system as a whole.

Q.4 What is testing strategies?

Ans There are two types of testing strategies

1. **Code testing**: - It examines the logic of the program.
2. **Specification Testing**: - In this case, analyst examines the program Specification and then detects what the program should do & how it should perform under various conditions.

Q.5 What are the type of test data?

Ans There are two different sources of test data: -

1. **Live Test Data**: - Live test data are those that are actually extracted from organization files. It shows how the system will perform on typical data.

2. **Artificial Data**: - These are used for test purposes. They are to generated to test all combinations of formats and values.

Q.6 What is unit testing?

Ans. It involves the tests carried out on modules/program testing. It focuses on modules to locate errors.

Q.7 What is System Testing?

Ans It is done after, unit testing of a program is done.

It is actually a series of different tests whose primary purpose is to fully exercise the computer based system. Although each test has a different purpose, all work verify that system elements have been properly integrated and perform allocated functions.

It is used to remove errors at software-hardware interface.

Q.8 What is Recovery testing?

Ans. Many computers-based systems must recover from faults and resume processing within a pre-specified time.

Recovery testing is software test that forces the software to fail in varieties of ways and verifies that recovery is properly performed.

Q.9 What is performance time test?

Ans. Performance testing is designed to test the run-time performance of software within the context of an integrated system.

It occurs throughout all steps in the testing process.

It coupled with stress testing & coupled with both hardware and software testing.

It is conducted prior to implementation to determine how long it takes to receive a response to a inQuiry, make a backup copy of file, or send a transmission& receive a response.

Q.10 What is peak load test?

Ans. It is used to determine weather the system will handle the volume of activities that occur when the system is at peak of its processing demand.

Q.11 What is storage testing?

Ans. This test is to be carried out to determine the capacity of the system to store transaction data on a desk or in other files.

What is procedure testing?

This type of testing detects what is not mentioned in the documentation & Also errors in them.

Q.12

Ans.

Q .13 What is conversion?

Ans. Conversion is the process of changing from information system to the new or modified one.

Q.14 What are the types of conversion?

Ans. There are 4 types of conversion:-

1. Parallel conversion
2. Direct cutover
3. Pilot system
4. Phase-In –Method.

Q.15 What is parallel conversion?

Ans. In this case, old system and new system run at same time. This is most secure method of converting from an old system to a new or modified one.

Q.16 What is direct cut-over?

Ans. It means that on a specified date. The old system is dropped and the new system is put into use.

Q.17 What is pilot system?

Ans. In this method a working version of the system is implemented in one part of the organization. In this, users are piloting a new system and the changes can be made to improve the system.

Q.18 What is Phase-In-Method?

Ans. It is used when it is not possible to install a new system throughout the organization all at once.

Only one phase of the system is implemented at a time. The file conversions, personnel, or arrival of eQuipment may not take place all at once.

Q.19 What is conversion plan?

Ans. This plan should be formulated in consultation with the uses. The conversion plan includes a description of all activities that must occur to implement the new system and put it into operation.

Q.20 What is documentation?

Ans. Documentation or Procedure manuals explain how the system is designed and operates. Access to procedure manuals is necessary for new people learning the system, as well as a reminder to those who use the program infreQuently.

Q.21 What is analysis review?

Ans. This is conducted to examine the functional specifications of the system, which is prepared after the analysis phase of SDLC.

Q.22 What is design review?

Ans. It focuses on design specification for meeting previously identified system requirements.

The information supplied about the design prior to session can be communicated using structured charts, n-s flowcharts screen designs, input formats, output formats, document layouts.

Q.23 What is code review?

Ans. A code review is a structural walkthrough conducted to examine the program code developed in a system along with documentation.

Q.24 What is post-implementation review?

Ans. After the system is implemented and conversion is complete, a review of system is usually conducted by users and analysts alike. It is a formal process to determine how well the system is working, how it has been accepted, and whether adjustments are needed.

Q.25 What is structured walk through and formal technical reviews?

Ans. It is a planned review of a system or its software by persons involved in the development effort. The purpose is to find areas where improvement can be made in system or development process.

Case Study

How Stuff Works e Commerce Site

How Stuff Works is a media and e-learning company that presents material explaining how various devices work. It originally started as a personal Web site that provided free information, grew to become very popular, received venture capital and became incorporated. The business makes money through selling advertising and product sales. Questions you may have include:

- How did the site get popular?
- How did the business get started?
- How do they make money?

This lesson will answer those questions.

Popular site

The How Stuff Works Web site is among the top 500 sites in the United States. It became popular through appealing content, word-of-mouth advertising and good media coverage.

Started as labor of love

Marshall Brain created the How Stuff Works Web site by doing something he was interested in.

Brain has a BS degree in electrical engineering, a Masters degree in computer science. He had been president of a software development firm and had written 10 books. At the time he started this Web site, he was teaching computer science at North Carolina State University.

Since he was always fascinated in how things work and seeking to provide materials to teenagers with similar interests, he put together a Web site of articles explaining the operation of various devices in January 1998. He published an email newsletter, and by June 1998, 700 people had subscribed.

Media coverage

By the summer of 1999, the How Stuff Works site started to get some media attention. This may have been as a result of press releases, a local newspaper covering things in the area or an article on new sites on the Internet. It is not certain how the media attention was generated for this site.

Increasing rapidly

By December 1998 the site was getting over 94,000 visitors a month. Its popularity was increasing at a great rate due to the publicity, as well as the word-of-mouth referrals. Certainly, the site was a well-done product that fulfilled the need or interest of the viewers.

Business plan

Brain and Fregenal created a business plan, describing what they hope to accomplish and their financial model, which showed how they will make and spend money. It also contained predictions of the number of visitors the site expected each month.

Their plan to gain revenue was from:

1. Ads and sponsorships
2. Sales of products, including How Stuff Works branded products

Purchases and hiring

With this money, they purchased equipment, rented space, formed a management team, hired 35 employees, launched an advertising campaign and started various projects.

They also have a Board of Directors of executives who meet monthly to discuss the progress of the company.

Because of the increased Internet traffic to the site, the company purchased their own servers and other necessary equipment to keep the site running smoothly.

Making money

How Stuff Works Inc. has a number of revenue-making ventures.

Books

They have How Stuff Works books, with two books for sale, published by Hungry Minds (publisher of the Dummies series of books).

TV and radio clips

The company is also selling one-minute video clips of Marshall Brain explaining how things work to TV stations. Marshall Brain also has syndicated one-minute radio vignettes that they sell through Cox Radio Syndication. Both of these features also advertise the site.

Business site

They has a business spin-off called HowBizWorks.com, as well as one aimed at fitness.

Newspaper articles

Finally, they syndicate articles to newspapers, magazines and Web sites, including The Los Angeles Times, USA Today Online, and Plant Engineering.

Summary

How Stuff Works started as a labor of love by Marshall Brain. Since it apparently filled a need or satisfied an interest, it became very popular. Good media coverage certainly helped spread the word. Brain formed a company and then received venture capital to turn the enterprise into a working corporation. The business is selling numerous items under the How Stuff Works brand.