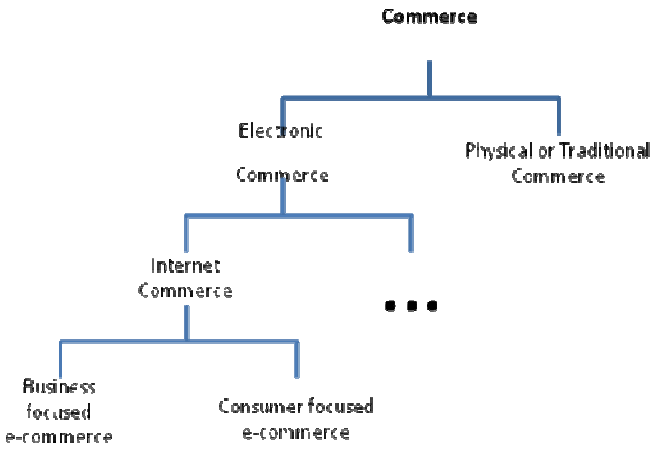
Q.No.1.

a. Give the advantages of e-commerce over physical commerce. 5

Ans: ADVANTAGES OF E-COMMERCE OVER PHYSICAL COMMERCE

E-commerce is bringing about advantages to both consumers and business organizations (Turban et al., 2000; Schneider et al., 2000). For consumers, it is of interest to study the advantages in terms of the buying process, namely search, evaluate, and execute. With e-commerce, consumers can search the global market anytime and anywhere. By using search engines or search agents, consumers can easily compare products in the global market. This allows consumers to evaluate the best possible product efficiently. With certain digital goods such as software, consumers can execute the order conveniently and receive the goods instantly.

Generally speaking, e-commerce is about the sale and purchase of goods or services by electronic means, particularly over the internet. Figure below shows that in broad terms one can distinguish two types of commerce: physical commerce and e-commerce. In a physical or traditional commerce system, transactions take place via contact between humans usually in a physical outlet such as a store. For example, if you want to buy a book, you will go to a physical bookstore and buy the physical book from a salesman. In a pure e-commerce system, transactions take place via electronic means.



In this case, you will access a cyber bookstore and download a digital book from a server computer. These two cases represent the extremes: the traditional

commerce system on one side and the pure e-commerce system on the other. These are many variants and in many cases, e-commerce and physical commerce can complement each other. For example, a physical book is ordered by electronic means and it is sent to you via physical means (Turban et al., 2000). According to Schneider and Perry (2000), e-commerce is more suitable for standard goods, low-value goods, digital goods, and simple services (i.e. intangible goods), whereas traditional commerce is more suitable for nonstandard goods, perishable goods, expensive goods, and extremely low-value goods. Complex products such as cars and nonstandard services are better served by integrating e-commerce and physical commerce.

b. *What are features of internet payment methods?* *5*

Ans: In the physical commerce system as mentioned earlier, we have four main methods of payment, namely

Cash
Credit card
Check
Credit/ Debit
We call these the 4C payment methods.

Following Table compares the 4C payment methods in terms of aforementioned characteristics. Ideally, we need a payment method that is very secure, has a low overhead cost, is transferable, is acceptable, anywhere, and is divisible. In many cases, we prefer to it to be anonymous as well. As you can see from the table, no payment method can satisfy all desired characteristics. This is one of the reasons why we need four different payment methods so as to cater for different requirements. To build a complete e-commerce system, we also need to implement these four payment methods in cyber space.

By using this table write details one by one

Comparison of the payment methods

	Cash	Credit Card	Check	Credit/debit
Anonymity	Yes, in general	No	No	No
Security	Good	Good	Good	Good
Overhead Cost	Lowest, In general	Higher than cash and credit/debit because of the paper work involved	Highest, In general	Low
Transferability	Yes		No	No
Divisibility	Not completely divisible	No	Yes	Yes
Acceptability	Yes in general	Yes in general	No in general it can only be used locally	No in general it can only be used locally

c. *What are the e-business roles and challenges?* 5

Ans: Before solving key issues in B2B e-commerce, it is important to understand the key roles that companies or individuals within companies play. There are four primary roles in B2B e-commerce. Every company plays at least one of them, and many companies play multiple roles.

Suppliers: Businesses that market and sell goods or services directly to business customers through traditional or other sales channels, ideally selling directly to their customers' Web-based procurement systems and electronic marketplaces.

Buyers: Customers and businesses that purchase goods and services directly from suppliers, either through traditional means or electronically through self-service procurement systems, ERP-based procurement applications, and electronic

marketplaces (private or public). Examples of buy-side applications include those from vendors such as SAP, Ariba, Clarus, PeopleSoft, Commerce One, Oracle, and many others.

Market makers: Third-party organizations that run e-marketplaces using Internet technologies to connect multiple buyers with multiple suppliers so that participants can reach new trading partners, conduct e-commerce, and take advantage of Web services such as payment, logistics, and collaboration.

Web service providers: Third-party organizations that provide buyers, e-marketplaces, and suppliers with Web-based services (including payment, authentication, logistics, credit, business registries, and many others) necessary for completing B2B e-commerce transactions and collaboration

Each role has distinct business and technical challenges, but there are some common themes. For buyers, market makers, and Web service providers, the primary issue is liquidity. Success depends on the ability to reach the critical mass of trading partners and transaction volume necessary to provide sufficient return on investment and create a viable, sustainable business.

Suppliers face the difficult challenges of maintaining the ability to sell effectively to all their customers, both in traditional channels and through emerging e-commerce channels, while finding a way to differentiate themselves from the competition in those new electronic environments.

As a result, although it has been relatively easy to convince buyers and market makers of the value of B2B e-commerce, suppliers have been much slower to come around. And, without a critical mass of suppliers, the savings from procurement systems can't be maximized and the liquidity that e-marketplaces require will be impossible to achieve.

d. What are the various online auction related services? *5*

Ans: In many ways, online auctions provide a business opportunity that is perfect for the Web. An auction site can charge both buyers and sellers to participate, and it can sell advertising on its pages. People interested in trading specific items can form a market segment that advertisers will pay extra to reach. Thus the same kind of targeted advertising opportunities that search engine sites generate with their results pages are available to advertisers on auction sites. This combination of revenue-generating characteristics makes it relatively easy to develop online auctions that yield profits early in the life of the project.

One of the Internet's strengths is that it can bring together people who share narrow interests but are geographically dispersed. Online auctions can capitalize on that

ability by either catering to a narrow interest or providing a general auction site that has sections devoted to specific interests.

Online auctions and related activities are not the only new businesses made possible by the Internet. As you learned in earlier chapters, the Internet reduces transaction costs in value chains and offers an efficient means of communication to anyone with an Internet connection. Combining the Internet's transaction cost reduction potential with its role as a facilitator of communication among people, companies have developed two other new approaches to making money on the Internet and the Web: virtual communities and Web portals.

1. Mobile Communications Technology
2. Mobile Business
3. Intelligent Software Agents
4. Virtual Communities
5. Early Web Communities
6. Web Community Consolidation
7. Web Communities in the Second Wave of Electronic Commerce

Q.No 2

a Differentiate between

I) Clint/server approach and mobile agent *5*

Ans. For each difference 2.5 marks

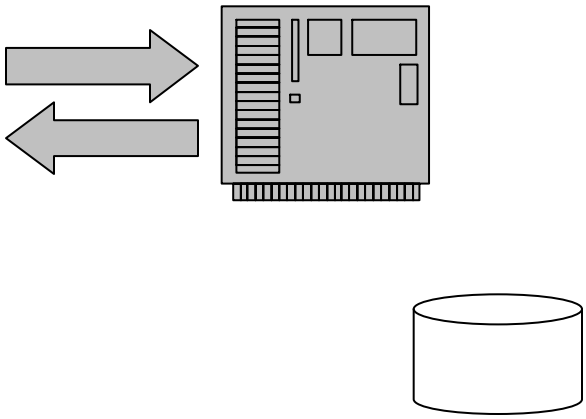
Client/server approach	Mobile-agent-based approach
1. The searching process may be boring because you need to repeat it at many different sites. 2. The search process ties down your resources while you visit each site in turn 3. If the network goes down during the searching process, you may need to start it from the beginning. 4. This is time consuming because you visit the sites only one by one.	1.You need to specify only the requirements and the mobile agent can do the searching for you 2.The search process, if conducted by a mobile agent, frees up your resources. 3.It is less dependent on the network condition as the searching is done at the remote sites by mobile agents. 4.This is more efficient as the search can be preceded in parallel by sending out multiple agents.

Q.No. 2 *b Explain the WAP model and its architecture* *10.*

Ans: Diagram & table 2 marks, WAP model 4 marks & WAP architecture 4 marks.

The WAP model

To enable a WAP device to "talk" to a web server, a "middleman" called the WAP gateway is needed. Technically, it functions as a proxy server situated between the user agent and the web server. Following figure illustrates the basic WAP model for ordering books from our VBS via a WAP device. (e.g. WAP-enabled mobile phone)



WAP architecture

Basically, it consists of six layers as shown in following figure.

Application layer (WAE)
Session Layer (WSP)
Transaction Layer (WTP)
Security Layer (WTLS)
Transport Layer (WDP)
Bearers: GSM, CDMA,CDPD etc.

WAP architecture

Application layer – Wireless Application Environment (WAE)

The WAE provide an environment for developers to create interoperable WAP applications. Generally speaking, it provides the following development components:

WML, WML, Script, and WTA as explained earlier. In addition special components such as images, calendar information, etc. are also provided for facilitating the development work.

Session Layer – Wireless Session Protocol (WSP)

It provides a connection-oriented session service and a connectionless session service to the WAE. The former and the latter operate over the Wireless Transaction Protocol (WTP) and the Wireless Datagram Protocol (WDP), respectively.

Transaction Layer – Wireless Transaction Protocol (WTP)

It is a lightweight transaction protocol mainly for supporting reliable/unreliable one way request messages and reliable two-way request-response messages.

Security Layer – Wireless Transport Layer Security (WTLS)

Based on the Transport Layer Security standard, the WTLS is a security protocol for addressing the security requirements (confidentiality, integrity and authentication) it functions like the SSL protocol.

Transport Layer - Wireless Datagram Protocol (WDP)

It enables the upper layers to operate over different bearer services (e.g. GSM(Global System for Mobile Communication), CDMA (Code Division Multiple Access), CDPD (Cellular Digital Packet Data)) in a uniform manner.

Q.No. 3 a. Explain the important factors in client side programming *10.*

Ans: Introduction part 2 marks & minimum 4 factors are to be necessary each point 2

marks

IMPORTANT FACTORS IN CLIENT-SIDE PROGRAMMING

To carry out client-side programming in e-commerce applications, there are several different ways, which include using HTML, JavaScript, Java Applets, and ActiveX controls. Furthermore, one could also use plug-ins, which are applications of different sorts that are embedded in a web page for performing special functions (e.g. showing animations). In this chapter, we will focus on

HTML because it forms the basis of nearly all the client-side programming techniques.

Data validation is another important factor to be considered when developing a user interface. It can involve several aspects and includes

1. type checking (e.g., integer)
2. range checking (e.g., between two numbers, say n_1 and n_2)
3. sequence checking (e.g., one cannot initiate an event in the past retrospectively)
4. business requirements checking

A study of the literature indicates that the following list of factors would give a comprehensive coverage of the notion of usability. These factors include

1. system feedback
2. consistency
3. error prevention
4. performance/efficiency
5. user like/dislike

1)System feedback: The purpose of system feedback is to inform the users what is going on in the system at any time. A well-designed system should always provide users with appropriate feedback, including immediate system feedback, acknowledgements, follow-ups, and indications that an action request has been carried out.

System feedback is characterized by several aspects in particular to address the following issues:

- Where does the error occur (i.e. error localization)?
- If an action is not allowed, does the system give the reason?
- Does the system give prompts on how to proceed?
- Does the system let one know where one is?

- Does the system explain why an action cannot be performed?
    - Does the system acknowledge that an action requested has been carried out?

Inadequate system feedback has several components and these include:

- number of times dialogue/feedback is missing
- number of times dialogue/feedback is unnecessary
- number of times system feedback confuses the user
- number of messages that are irrelevant
- number of actions taken which lead to repeated feedback message

2)Consistency: The interface should be consistent in terms of the look, feel, and behavior throughout the application and with other applications in the same domain. Most guidelines seek to fulfill this important goal. This consistency should be maintained across a variety of issues such as message display methods, color use, key definition, data entry methods, etc. Consistency of the interface has a number of components and these include consistency with respect to the following:

1. Message display methods (prompts, warnings, helps)
2. Color use (entry form, menu and submenu, foreground/background)
3. Keys definition
4. Data entry method
5. Menu, dialogue, and window display methods
6. Menu hierarchy that is consistent with the real world
7. Terminology used is the same as in real life in that domain
8. Menu options have to be consistent with Menu Title

3)Error prevention: Error prevention is an important goal of the design of the client user interface. If the user interface specifically helps the user to avoid making errors, it increases his efficiency.

- Number of errors encountered during task
- Number of wrong key strokes/press causing error messages

- Number of times the same key is pressed without the desired response
- Number of extra key presses that are unnecessary
- Number of times the same error encountered
- Number of steps missing compared with real-world execution

4)Performance/efficiency: Performance or efficiency is a quality of the user interface that determines how effectively or efficiently the user can complete his tasks. Performance and efficiency have a number of components and these are as follows:

1. number of goals/tasks not achieved
2. times taken for task completion
3. unproductive period
4. percentage of tasks not completed

5)Like/dislike: Unlike the aforementioned factors, which characterize the manner in which the user interface facilitates user effectiveness of efficiency, the like/dislike factor measures user preference this essentially indicates the level of satisfaction that the user feels with the system and the user interface.

6)Error recovery: Error recovery is that quality of the system of the user interface which allows the user to exit from a situation that the user did not intend to be in. Users frequently choose the wrong option or enter the wrong data and they are likely to find themselves in an error state from which they need to recover. The manner in which the system facilitates this recovery from error could reduce the time the user spends recovering from this error state. Recovery from error consists of a number of components and these include

- number of times the user has to redo the task
- number of times the user did not continue
- number of actions taken that do not solve the problem
- number of minutes (hours)spent on one error recovery
- percentage of all time spent on error recovery
- number of times the user has to re-robot/start again

In addition to these factors, one also needs to add the following four in the case of client-side programming on the internet, namely

- browser compatibili9ty
- attractiveness
- suitable navigational structure
- a site search engine

Q.No.3. b. *What are the various session tracking techniques, explain with examples* *10.*

Ans: For first five line 2 marks & description of four points are necessary with any suitable example, For each point 2 marks.

Another important requirement in e-commerce applications is "state tracking," or "session tracking." As HTTP is stateless protocol (i.e. it does not keep track of the users state), session tracking and management techniques are required for supporting many e-commerce application functions such as user login and shopping carts. Different types of session tracking techniques for building e-commerce applications are include

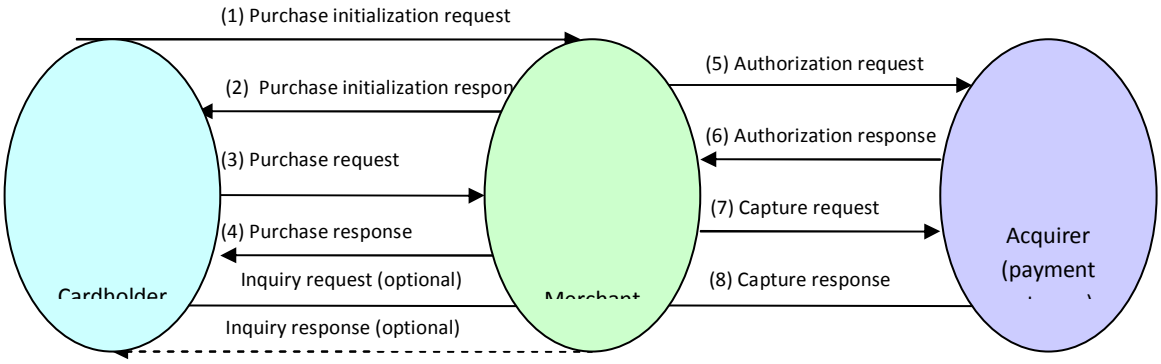
- Hidden form fields
- Cookies
- URL rewriting
- HTTP user authorization

Q.No. 4 *a* *Explain SET protocol in detail* *10.*

Ans: For Diagram 2 marks & description of eight points are necessary with any suitable example, for each point 1 marks.

SET protocol

In general, the SET protocol has four phases: initiation, purchase, authorization, and capture as shown in figure.



General SET information flow

First the cardholder sends a purchase initiation request to the merchant for initializing the payment. Then the merchant returns a response message to the cardholder. In the second phase, the cardholder sends the purchase order together with the payment instruction to the merchant. In the third phase, the merchant obtains the authorization from the issuer via the payment gateway. Finally, the merchant requests a money transfer to its account. Optionally, the cardholder may make an inquiry request to the merchant after the second phase. Upon receiving the inquiry, the merchant will send a response to the cardholder.

Having decided to buy something, the cardholder sends a purchase initiation request to the merchant. Among other information, the message contains a local transaction identity (ID) and a nonce N1 for thwarting "replay" attack. Furthermore, the cardholder may send a list of cached certificates (S) so as to inform the merchant that there is no need to include the certificate (s) in the subsequent messages.

Q.No. 4 b. What are the various marketing strategies? 10.

Ans: Four points are there for each points 2 marks.

Marketing Strategies -:

1) Permission-marketing Strategies

Many business would like to send e-mail message to their customers and potential customers to announce new products, new product features ,or sales on existing products. However print and broadcast journalist have severally criticized some companies for sending e-mails messages to customers or potential customers.

Some companies have even faced legal action after sending out mass e-mails. Unsolicited e-mails is often considered to be a spam.

Many business are finding that they can maintain an effective dialogue with their customers by using automated e-mail communication.

Sending one e-mail message to a customer can cost less than one cent if company already has customers e-mail address.

Purchasing e-mail address of persons who have asked to receive specific kinds of e-mail messages will add between few cents and a dollar to cost of each message sent. Another factor is conversion rate. The conversation rate of an advertising method is percentage of recipients who respond to an ad or promotion. Conversion rates on requested e-mail messages range from 10 per cent to over 30 per cent these are much higher than click through rates on banner ads, which are currently under 1 per cent and decreasing.

2) Brand-leveraging strategies -:

Rational branding is not the only way to build brands on the web. One method that is working for well-established websites is to extend their dominant positions to other products and services. Yahoo! Is an excellent example of this strategy. Yahoo! Was one of the first directories on the web. It added a search engine function early in its development and has to continues to parlay its leading position by acquiring other web business and expanding its existing offerings. Then, yahoo! Acquire geocities and Broadcast.com, and entered in to an extensive cross-promotion partnership with number of Fox entertainment and media companies. Yahoo! Continues to lead its two nearest competitors, Excite and Infoseek ,in ad revenue by adding features that web users find useful and that increase the site's valus to advertisers. Amazon's.com expansion from its original book business in to CD's ,videos, and auction is another example of a website leveraging its dominant position by adding features useful to existing customers.

3) Affiliate-marketing Strategies -:

Of course, this leveraging approach only works for firms that already have websites that dominate a particular market. As a website matures, it will be increasingly difficult for new entrants to identify unserved market segments and attain dominance. A tool that many new, low-budget websites are using to generate revenue is affiliate marketing.

In affiliate marketing, one firm's (the affiliate firm's) website includes description, reviews, ratings or other information about a product that is linked to another firm's site that offers the item for sale.

For every visitor who follows a link from affiliate's site to seller's site, the affiliate site receives a commission. The affiliate site also obtains the benefit of selling site's brand in exchange for the referral.

4) Viral-marketing Strategy -:

Traditional marketing strategies have always been developed with an assumption that the company was going to communicate with potential customers directly or through an intermediary that was acting on behalf of company, such as a distributor, retailer, or independent sales organization. Since web expands the type of communication channel available, including customer to customer communication, another marketing approach has become popular on web. Viral marketing relie son existing customers to tell other persons – the company's prospective customers – about product or services they have enjoyed using. Much as affiliate marketing uses websites to spread the word about a company, viral marketing approaches individual customers to do same thing. The number of customers increases much as a virus multiplies, thus the name.

Q.No. 5 *a. What is e-business ? and what are its main characteristics ?* 10.

Ans: For defining & meaning of e-commerce 2 marks & for each characteristics 2 marks.(Minimum 4 characteristics are required)

E-Business can be defined as the conduct of automated business transactions by means of electronic communications networks (e.g. via the Internet and/or possibly private networks) end-to-end. Selling and selling support were the only experiences that companies could reproduce on the Web. Broadening the approach to allow more types of business on the Web created the new term e-Business. E-Business can be defined as the conduct of automated business transactions by means of electronic communications networks (e.g. via the Internet and/or possibly private networks) end-to-end.

Characteristics of e-Business

To emphasize, e-Business is not simply buying and selling but encompasses the exchange of many kinds of information, including online commercial transactions. E-Business is about integrating external company processes with an organization's internal business processes; as such, a variety of core business processes could exploit an e-Business infrastructure. These include among other (van de Putte 2001):

1. Collaborative product development:

This is one of the fastest growing technologies in the engineering manufacturing market, with some form of the solutions being implemented in a range of industries including automotive, aerospace, office equipment, industrial machinery, agricultural

machinery, and construction equipment. Collaborative product development contributes towards making products within a short span of time while maintaining quality and reducing cost. It maximizes the time-to-market benefits of concurrent engineering while maintaining control of product development information. By integrating the design and test cycles of a company's products with the design and test cycles of its suppliers, a company can shorten the complete cycle time of its products. This clearly reduces the total cost of the product cycle, and even more importantly, it reduces the time that is needed to bring products to the marketplace. Collaborative product development solutions offer ERP integration and supply chain management.

2. Collaborative planning, forecasting and replenishment:

This is a process in which manufacturers, distributors, and retailers work together to plan, forecast, and replenish products. In e-Business relationships, collaboration takes the form of sharing information that impacts inventory levels and merchandise flow. Collaboration points include unit sales forecasts, base inventory requirements, manufacturing and logistics lead times, seasonal set schedules, new/remodel store plans, promotional plans to name but a few. The objective behind collaborative planning, forecasting, and replenishment is that the trading partners work from a common forecast or plan in which the retailer, distributor, and manufacturer collect market intelligence on product information, store promotional programs, and share the information times, improve customer service, improve supply chain inventory levels, and lower inventory costs, as well as achieve better control of production planning activities.

3. Procurement and order management:

e-Business has highlighted the importance of procurement as a strategic issue, given that electronic procurement, or e-Procurement, can achieve significant savings and other benefits that impact the customer. To support procurement and order management processes, companies use an integrated electronic ordering process and other online resources to increase efficiencies in their purchasing operations. They achieve cost savings and better service the end-customer by controlling the supply base, negotiating effective buying preferences, and streamlining the entire procurement process.

4. ***Operations and logistics:***

Logistics, as defined by the Council of Logistics Management, "is that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customers' requirements." To make this happen, transportation, distribution, warehousing, purchasing, and order management functions must work together. Logistics in the e-Business era is about collaboration – the sharing of critical and timely data on the movement of goods as they flow from raw material all the way to the end-user. Operations and logistics processes are based on open

communication between network of trading partners, where integrated processes and technology are essential for high performance logistics operations. These solutions help manage the logistics process between buyers and suppliers, while eliminating costly discrepancies between purchase order, sales order, and shipping information. By eradicating these variances and inconsistencies improvements in the supply chain may result from the elimination of missed shipments and shipment discrepancies, and the reduction of inventory carrying costs for the customer. At the same time this increases customer satisfaction through improved delivery reliability and improved efficiencies in receiving operations.

Q.No. 5. *b.* What are the benefits and limitations of e-business? 10.

Ans: For benefits 5 marks & for limitations 5 marks

Benefits of e-business:

There is a wide range of potential benefits motivating today's enterprises to undertake e-Business initiatives.

1. Improved operational efficiency and productivity
2. Reduction in operating costs and costs of goods and services
3. Improved competitive position
4. Penetration into new markets through new channels
5. Improved communications, information, and knowledge sharing
6. Harmonization and standardization of processes
7. Improved internal information access
8. Improved relationships with suppliers and improved customer service

Limitations of e-business

- Managing multiple selling channels, based on various technologies, protocols, data
- formats and standard business processes;
- Having the ability to take multiple types of orders once customers have decided to
- conduct e-Business-enabled order management through the various selling channels;
- Having the ability to differentiate and customize products and services from other
- suppliers, and offering them through the various selling channels;
- Having the ability to adapt and grow the e-Business without incurring dramatic
- technology changes, organizational restructurings, and sweeping changes in their
- business processes or radical new investments.

The emergence of e-Business impacts organizations in various ways. Some of the key characteristics of e-Business are the speed at which transactions can occur, the ability to connect multiple parties at the same time, the ability to gather and manipulate information in new ways, and the absence of traditional business tools such as paper forms and face-to-face retail contact. E-business impacts more than just the sales side of

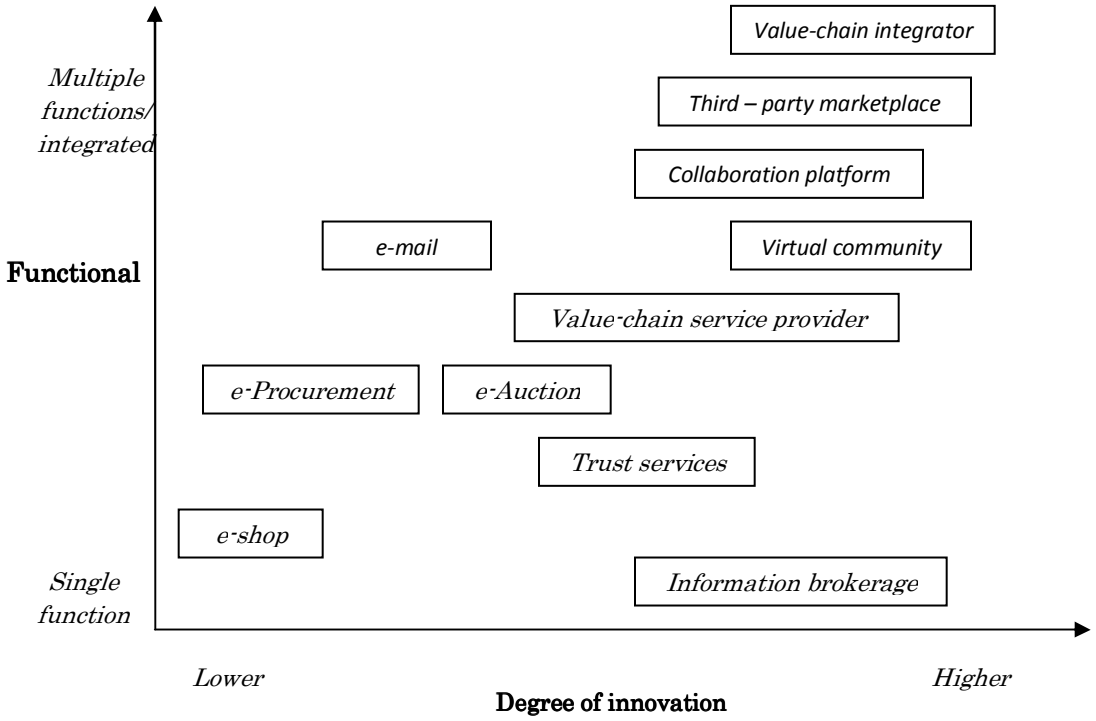
business. Electronic connectivity not only improve efficiencies across the full value chain, but also has the power to transform the traditional business models entirely.

Q.No. 6. *a. Explain any three types of business models in e-business.* *10.*

Ans: For three diagrams 4 marks each description 2 marks

1. Internet – enabled business models

A number of authors have attempted to categorize the e-Business field based on increasing functionality, innovation, integration, and value, and have defined families of business models that rely on Internet trading technologies (Timmers 1999). This has resulted in identifying ten different types of business models that are facilitated by the Internet and are based on an analysis of Porter's value chain. All of these elements are relevant for both business-to-business and business-to-consumer environments.



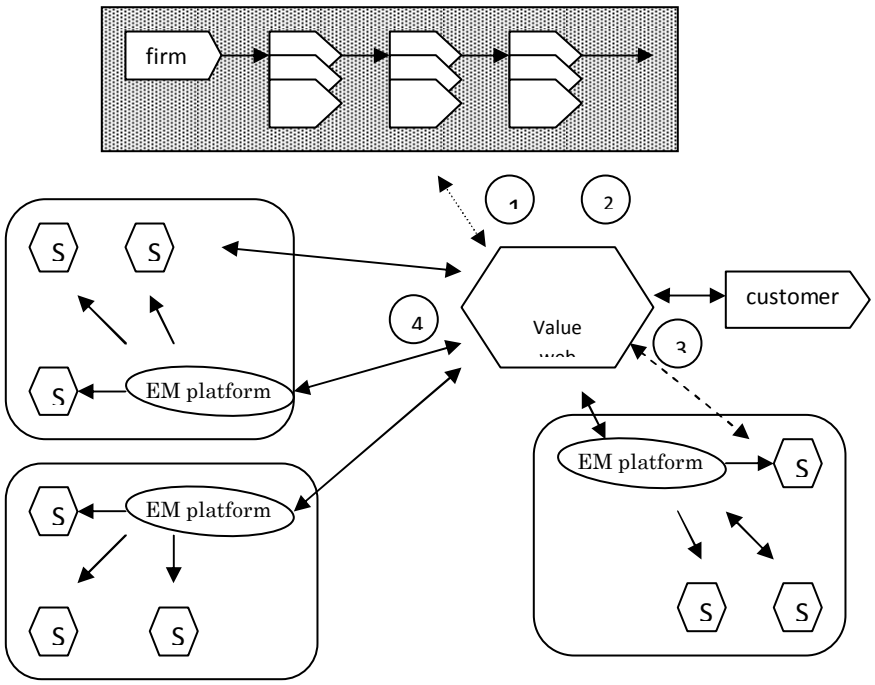
Classification of Internet-based Business Model (Timmers 1999)

Above fig. illustrates how the Internet-based models are classified according to the degree of innovation and functional integration involved. The first dimension

of innovation ranges from basically applying the Internet to replace a traditional way of doing business to more innovative business models. The second dimension of functional integration ranges from business models that encompass one function, such as an e-shop, to a business model that fully integrates multiple functions.

2. Value Web business models

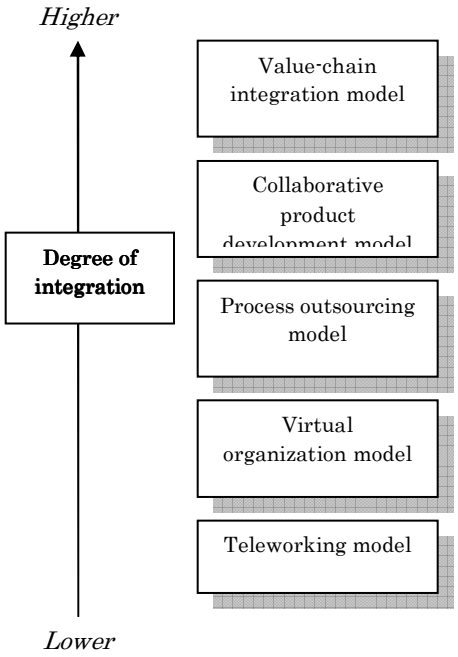
In this doctoral thesis, Selz (Selz 1999) proposes a framework for business models, which he calls the 'value Web' (see following fig.) He states this framework "….is assuredly not a recipe for success, but a preliminary conception of an emerging form of a fluid and flexible organization". The value Web model consists of several key building blocks; markets, hierarchies, networks, information technology and new-old business models. For the purposes of this chapter we introduce brief definitions of markets, hierarchies, and networks to facilitate understanding of the material that follows.



The value Web Business Model (Selz 1999)

3. The e-Business-enabled business models

The family of e-Business-enabled business models is a classification scheme of business models that is especially valid for business-to-business contexts (Papazoglou 2000). In it, five representative business model types are distinguished. These are typical of most common modern IT-based business organizations engaging in e-business. These are the teleworking model, the virtual organization model, the process outsourcing model, the collaborative product development model, and the value chain integration model. This family of e-business-enabled models considers the degree of integration between collaborating enterprises. A low degree of integration indicates that a small number of core business processes are integrated between networked organizations, while a higher degree of integration indicates that a multitude of core business processes are integrated in a meaningful way and can flow seamlessly between networked organizations. This situation is depicted in following figure.



The family of e-Business-enabled Business Models

Teleworking model: this model involves large numbers of individuals or groups collaborating with assistance of networking and communication technologies.

Virtual organization model: effective contracting for complementary capabilities through a network of suppliers and subcontractors is a characteristic of the virtual organization model.

Process outsourcing model: this model the logical consequence of companies beginning to realize they can interact with their customers, partners, and suppliers, and leverage knowledge in addition to undertaking transactions.

Collaborative product development model: this model concerns itself with the need to coordinate product development activities that involve multiple companies or organizational units.

Value chain integration model: if Internet technology is used to improve communication and collaboration between all supply chain parties, the value chain integration model is followed.

Q.No. 6 *b. Explain the strategic planning process in detail* *10.*

Ans: **For Introduction 2 marks, for diagram 1.5 marks & detail explanation 6.5 marks**

Organizations employ strategic planning as a way to move toward their desired future position. Strategic planning is the process of developing and implementing plans to reach goals and objectives. Strategic planning more than anything else is what gives direction to an organization.

Most strategic planning methodologies are based on a situation, target, and path process:

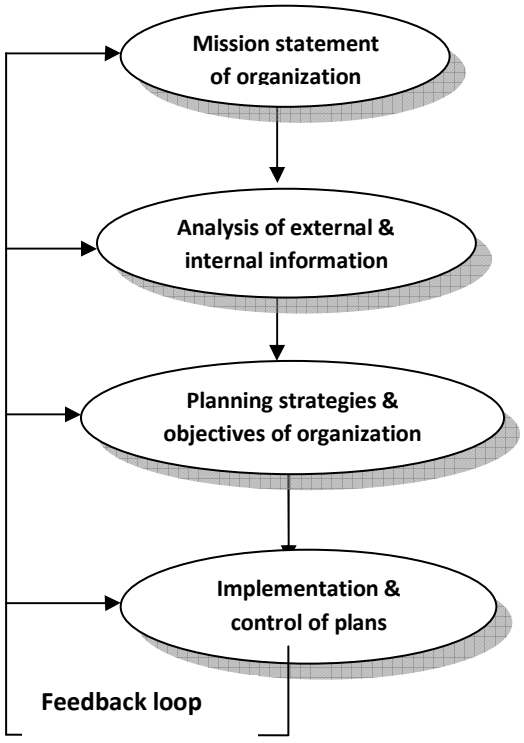
- Situation – where a company is right now and how did it get there?
- Target – where does a company want to be?
- Path - how can it get there?

In general terms, the basic approach to strategic planning requires an industrial organization approach that is based on economic theory and deals with issues such as competitive rivalry, resource allocation, economies of scale. Its basic assumptions focus on rationality, self-interested behavior, and profit maximization.

The strategic planning process involves a sequence of steps taken by management to develop new plans, modify existing plans that may require revision, and discontinue plans that are no longer justified functionally or financially (Canzer 2003).

The strategic planning process requires first the establishment and then the maintenance of a plan of action that everyone in the organization is expected to follow.

The strategic planning process has four key elements: mission statement, strategic analysis, strategic choice, and strategy implementation (Johnson 1999). Following fig. illustrates activity flow as new strategic plans are developed and existing plans are monitored, modified, and possibly replaced if they are no longer considered a good match with current conditions or management objectives. After an organization's mission statement is established, analysis of relevant information succeeds and leads to the development of strategic plans and their subsequent implementation by the organization. Feedback links assure the continuous incorporation of new information at all steps of the strategic planning process.



The Strategic Planning Process (Canzer 2003)

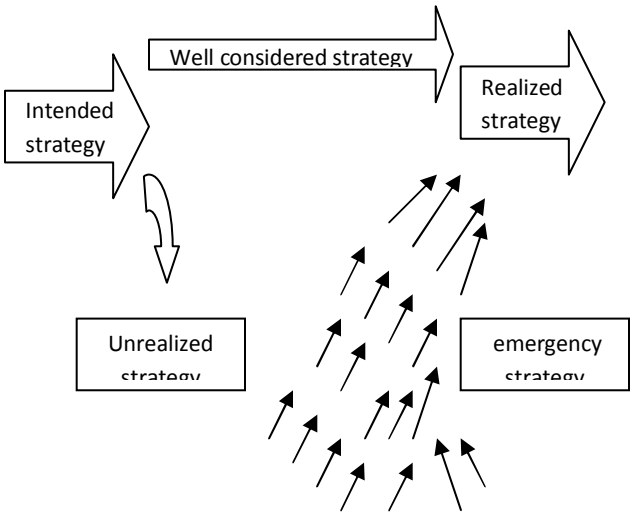
The strategic planning process starts with the establishment of the organizations mission statement, which is a basic description detailing the fundamental purpose of the organizations existence and encompasses strategy development, including determination of the organizations vision and objectives. It is developed at the

highest level of the organizations management and ownership structure, and is fairly stable over longer periods of time, while providing a general sense of direction for all decision making within the firm.

Strategic analysis involves situation analysis, internal resource assessment, and evaluation of stakeholders' expectations. It will include environmental scanning, industry or market research, competitor analysis, analysis of marketplace structure, and relationships with trading partners and suppliers, and customer marketing research.

Strategic choice is based on the strategic analysis and consists of three parts: Generation of strategic options, highlighting possible courses of action, evaluation of strategic options on their relative merits, and selection of strategy, which is the selection of those options that the organization will pursue.

Implementation relates to the actual tasks that must be executed in order to realize a plan and translates strategy into action. It includes monitoring, adjustment, control as well as a feedback that can direct useful information to the various levels of the organization that are involved ion the ongoing planning process.



Forms of strategy (Mintzberg 1994)

The above discussion assumes that strategies are purposefully designed action plans leading to a consistent pattern of actions and so to consistent behavior over time. With this assumption comes the supposition that all actions today are the result of a purposeful planning activity somewhere in the past, so-called intended strategies.

Q.No. 7 *Write a short note on (Any Two)* *20.*

a. *Advertising on WEB*

Ans: Meaning 3 marks, explanation 7 marks

Currently a number of advanced technologies are emerging to complement the existing technologies in providing more sophisticated e-commerce services. Current e-commerce systems are based on a client-server architecture. While this architecture is simple to use, it may not be effective in certain situations. Mobile agents are mobile software programs that can move across the internet for performing specific tasks autonomously. Due to their flexibility and mobile function, they can complement the existing client/server-based system to provide more advanced e-commerce services (e.g. product searching).

Currently, most e-commerce applications can be accessed only via a fixed terminal. It is expected that the current WEB (Web-based Electronic Business) will evolve to become the MEB* (Mobile Electronic Business) (i.e. by turning the W upside down to become the M). At the moment, the enabling technology for realizing the MEB is the Wireless Application Protocol (WAP). It allows users to access internet services in general, and mobile commerce services in particular, through portable terminals. In the current e-commerce system, nearly all web pages are created using HTML. A more general and powerful markup language called extensible Markup Language (XML) has been developed in recent years. In general, HTML uses "tags" for formatting data (i.e. it tells the web browser how the data should be formatted or displayed). In contrast, XML allows users to define different tags in order to convey the meaning of the data. Hence, XML has significant advantages over HTML, in particular to facilitate B2B transactions such as to support internet-based EDI. To explore the full potential of e-commerce, data mining techniques can be used to turn data into information and information into knowledge.

Q.No. 7 *b. SOA*

Ans: What is SOA-2 marks, Use of SOA 2 marks, Explanation 6 marks

Service Oriented Architecture(SOA)

To build integration-ready applications the web service model relies on the service-oriented architecture (SOA). The term service-oriented architecture signifies the way that Web services are described and organized so that dynamic, automated discovery and use of network – available services can take place. This architectural approach is particularly applicable when multiple applications running on varied technologies and platforms need to communicate with each other.

SOA is a logical way of designing a software to provide services to either end-user applications or other services distributed in a network through published and discoverable interfaces. The basic SOA defines an interaction between software agents as an exchange of messages between service requesters and service providers. Clients are software agents that request the execution of a service. Providers are software agents that provide the service. Agents can be simultaneously both service clients and providers. Providers are responsible for publishing a description of the services they provide. Clients must be able to find the descriptions of the services they require and must be able to bind to them.

Q.No. 7. c. Role of middleware technology in e-business.

Ans Brief lines about middleware technology 3 marks & detail explanation 7 marks

Middleware encompasses various technologies and products that facilitate theavailability of backend network resources (e.g., databases) for frontend applications. Middleware components also include software that triggers backend applications to achieve end-to-end automation of business processes (e.g., chaining the order-entry business process with inventory and distribution processes). Middleware technologies facilitate integration with backend enterprise services that range from simple cases of information repositories to complex ERP applications (e.g., SAP R/3, Peoplesoft). An example in this case would be an e-commerce–based ordering system that interfaces with a production scheduling system that, in turn, ties-in to inventory, distribution, and shipping systems.

E-commerce computing added more technologies and services to the middleware category. The primary reasons for this were the increase in the number of tiers that fall between the information appliances and the backend services and applications. Another reason was that the increase in the number of clients in e-commerce computing and the distribution of backend servicesacross various networks required specialized network and application services.The popularity of building modular programs had decoupled these services from application programs and pushed them to the middleware pack. With these trends, middleware has come to encompass various products, technologies, and services, some of which include:

• Access gateways;

• Database interfaces;

• Network and communication interfaces;

• Application interfaces to facilitate interoperability between distributed

applications;

• Network/application services (e.g., security services, directory services, transaction services);

• Computer telephony integration (CTI) software;

• Middle-tier business logic implemented using traditional software technologies and programming languages or object frameworks such as Enterprise Java Beans (EJBs);

• Application execution services such as those that support large numbers

of users, fault tolerance, workload balancing, session and state manage-

ment, multithreading, accessing multiple resources, and others.

Q.No. 7 *d. Cloud computing:*

Ans **For Introduction 2 marks, why cloud computing 2 marks , cloud server 1 mark, Architecture Diagram 1 mark & description 4 marks**

Cloud computing is a general term for anything that involves delivering hosted services over the Internet. These services are broadly divided into three categories:

1) Infrastructure-as-a-Service (IaaS),
2) Platform-as-a-Service (PaaS) and
3) Software-as-a-Service (SaaS).

The name cloud computing was inspired by the cloud symbol that's often used to represent the Internet in flow charts and diagrams. A cloud service has three distinct characteristics that differentiate it from traditional hosting. It is sold on demand, typically by the minute or the hour; it is elastic -- a user can have as much or as little of a service as they want at any given time; and the service is fully managed by the provider (the consumer needs nothing but a personal computer and Internet access). Significant innovations in virtualization and distributed computing, as well as improved access to high-speed Internet and a weak economy, have accelerated interest in cloud computing.

 # Why Cloud Computing?

In order to benefit the most from cloud computing, developers must be able to refactor their applications so that they can best use the architectural and deployment paradigms that cloud computing supports.

1)Reduce run time and response time
2)Minimize infrastructure risk
3)Lower cost of entry
4)Increased pace of innovation

Cloud Servers

The *servers* layer consists of computer hardware and/or computer software products that are specifically designed for the delivery of cloud services.

 # Architecture of Cloud Computing

Cloud architecture, the systems architecture of the software systems involved in the delivery of *cloud computing*, comprises hardware and software designed by a *cloud architect* who typically works for a *cloud integrator*. It typically involves multiple *cloud components* communicating with each other over application programming interfaces, usually web services.

This closely resembles the Unix philosophy of having multiple programs each doing one thing well and working together over universal interfaces. Complexity is controlled and the resulting systems are more manageable than their monolithic counterparts.

Cloud architecture extends to the client, where web browsers and/or software applications access *cloud applications*.

Cloud storage architecture is loosely coupled, often assiduously avoiding the use of centralized metadata servers which can become bottlenecks. This enables the data nodes to scale into the hundreds, each independently delivering data to applications or users.

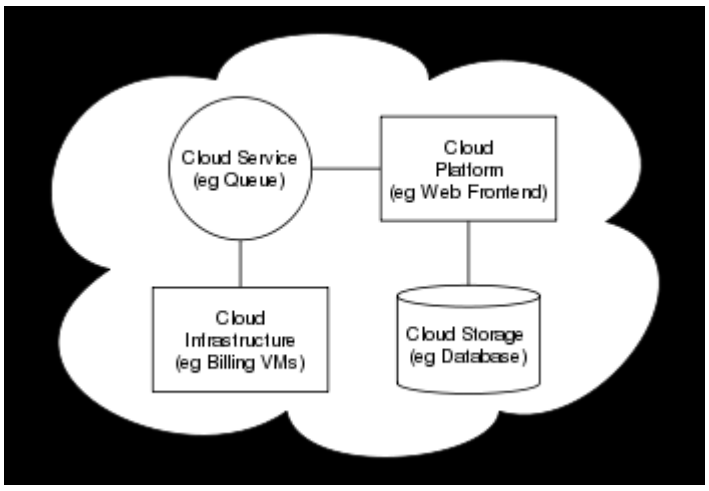


Fig Cloud architecture