

Question Paper

E-Business (MB351IT) : October 2007

Section A : Basic Concepts (30 Marks)

- This section consists of questions with serial number 1 - 30.
- Answer all questions.
- Each question carries one mark.
- Maximum time for answering Section A is 30 Minutes.

1. Convergence is a process in which companies change the established boundaries between industries in their attempt to achieve new competitive advantage. Which of the following is **not** a key driver of convergence? [< Answer >](#)
 - (a) Leveraging relationships
 - (b) Deregulation of markets
 - (c) Increasing expectations of customers
 - (d) Competitive imperatives
 - (e) Technology.
2. Which of the following statements is **false** about Electronic Data Interchange? [< Answer >](#)
 - (a) Electronic Data Interchange is the transmission in a standard syntax of unambiguous information of business or strategic significance between computers of independent organizations
 - (b) Electronic Data Interchange helps organizations automate business processes
 - (c) Electronic Data Interchange helps an organization develop boundaryless relationship between partners, suppliers and customers by simplifying the transactions between them
 - (d) Electronic Data Interchange is a quick but expensive method to transmit invoices, purchase orders, custom documents, shipping notices between different firms
 - (e) Electronic Data Interchange is a format upon which data is exchanged in structured documents.
3. Which of the e-business model allows a company to sell their products and services directly to individual consumers? [< Answer >](#)
 - (a) B2B
 - (b) B2C
 - (c) C2B
 - (d) C2C
 - (e) P2P.
4. Which of the following organization was the pioneer in 3G wireless telephony? [< Answer >](#)
 - (a) AT&T
 - (b) FinnAir
 - (c) Alcatel
 - (d) DoCoMo
 - (e) Handspring.
5. Which of the following principles is **not** followed when developing organization culture for conducting e-business? [< Answer >](#)
 - (a) The top management should lead all e-business initiatives
 - (b) E-business systems should use scalable technology
 - (c) An organization should design rewards and incentives that align with e-business goals
 - (d) The sales force should emphasize customer retention instead of just focusing on customer acquisition
 - (e) Short customer life cycles and rapid pace of business growth make speed and agility key factors in the e-business environment.
6. Which of the following is **not** a phase in the evolution of e-marketplaces? [< Answer >](#)
 - (a) Commodity exchanges
 - (b) Value added e-market places
 - (c) Global knowledge exchanges

- (d) Global value trust networks
- (e) Virtual trust networks.

7. Which of the following is a disadvantage of e-cash? [< Answer >](#)

- (a) The transaction is instantaneous, the cost of each transaction is low and a certain degree of anonymity is maintained
- (b) Lack of traceability gives privacy to consumers and spending habits
- (c) Anonymity may encourage criminals and other anti-social elements to use e-cash
- (d) They support low value transactions also
- (e) Proximity is not an issue, the parties can be at any location.

8. Which country is considered to have the most comprehensive cyber law but is not able to enforce them effectively because of loopholes in its legal system? [< Answer >](#)

- (a) Philippines
- (b) Canada
- (c) India
- (d) China
- (e) Singapore.

9. Which of the following is **not** the activity that forms a part of inbound logistics? [< Answer >](#)

- (a) Placement of transport order
- (b) Scheduling
- (c) Delivery appointment
- (d) Receiving goods
- (e) Messaging delivery status.

10. Scalability and availability are two important criteria for evaluating the success of an e-business project. Which of the following statements is/are **false**? [< Answer >](#)

- I. Scalability refers to the time period for which the user has been able to fully utilize the system.
 - II. Availability refers to the ability of a system to increase its capacity to handle more data and information with the increase in number of clients.
 - III. Scalability is enhanced using nTier architecture.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Only (III) above
 - (d) Both (I) and (II) above
 - (e) Both (II) and (III) above.

11. Which of the following statements is **false** about Supply Chain Management? [< Answer >](#)

- (a) Supply Chain Management is a set of processes which helps organizations develop and deliver products
- (b) The strongest barrier to the success of Supply Chain Management is organizational culture
- (c) For successful Supply Chain Management, it is essential that organizations shift from an enterprise-centric to a partnership-centric business model
- (d) Supply Chain Management is a technology decision rather than strategic decision
- (e) An important decision in Supply Chain Management is the choice of new technologies by predicting the capabilities that are likely to be required to service customers in the future.

12. The software programs that change the functions of keys in a keyboard with disastrous consequences is/are [< Answer >](#)

- (a) Viruses
- (b) Logic Bombs
- (c) ANSI Bombs
- (d) Trojans
- (e) Both (c) and (d) above.

13. The verification mechanism that ensures the actual exchange took place using a digital certificate or any other such payment proof is known as [< Answer >](#)

- (a) Non-repudiation
- (b) Time stamping
- (c) Non-refutability
- (d) Privacy
- (e) Authentication.

- (e) Authentication.
14. Which of the following e-commerce standards on Internet refers to a common set of business requirements or a framework for B2B Internet solutions? [< Answer >](#)
- (a) Secure Electronic Transaction
 - (b) Open Buying on Internet
 - (c) One-Time Password Authentication
 - (d) Joint Electronic Payment Initiative
 - (e) Open Financial Exchange.
15. The maintenance of ERP system is done with various tools. Which of the following are tasks of the System administration tool? [< Answer >](#)
- I. It manages the network and systems for ERP.
 - II. It manages the applications when they are being accessed by users.
 - III. It manages inventory and assets, configures software, modifies applications when needed and distributes software.
 - IV. It schedules jobs, monitors events, data output, backup and recovery.
- (a) Both (I) and (II) above
 - (b) Both (I) and (III) above
 - (c) Both (II) and (III) above
 - (d) Both (II) and (IV) above
 - (e) Both (III) and (IV) above.
16. Which of the following business model(s) for infomediaries offer guidance to buyer(s) in fragmented markets by providing information at a single online contact point? [< Answer >](#)
- I. Aggregators.
 - II. Online auctioneers.
 - III. Online exchanges.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Only (III) above
 - (d) Both (I) and (II) above
 - (e) Both (II) and (III) above.
17. Which of the following statements is **false** about Secure Electronic Transaction? [< Answer >](#)
- (a) Secure Electronic Transaction is an industry backed standard developed by MasterCard and Visa
 - (b) Secure Electronic Transaction supports real-time transaction processing
 - (c) Secure Electronic Transaction is applicable to credit card transactions and not debit card transactions
 - (d) The security features of Secure Electronic Transaction are confidentiality, data integrity, client authorization and merchant authentication
 - (e) Secure Electronic Transaction support stored value system.
18. Which of the following statements is/are **true** about e-governance? [< Answer >](#)
- I. E-governance involves Internet technology to deliver public services and information in a convenient, citizen-centric and cost-effective manner.
 - II. E-governance helps in online community which increases public awareness and enables sharing of knowledge.
 - III. A government should have a two-pronged strategy to implement e-governance.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (II) and (III) above
 - (e) All (I), (II) and (III) above.
19. E-cash is a digital cash protocol developed by [< Answer >](#)
- (a) Mondex International
 - (b) DigiCash
 - (c) Beenz
 - (d) IBM
 - (e) CyberCash.

(e) CyberCash.

20. "An enterprise needs business information for its optimum functioning. Business information includes information required for planning, execution and monitoring production and marketing. It includes raw data and product data for design and engineering". [< Answer >](#)

The discipline which relies on business information is called

- (a) Competitive advantage
- (b) Comparative advantage
- (c) Competitive intelligence
- (d) Collaborative filtering
- (e) Collaborative advantage.

21. Which of the following is **not** an economic issue arising due to the popular use of digital currency? [< Answer >](#)

- (a) Information content of transaction
- (b) Transactional efficiency
- (c) Monetary effects
- (d) Organizational effects
- (e) Contractual effects.

22. Which of the following is **not** an advantage of implementing Enterprise Resource Planning (ERP) system in an organization? [< Answer >](#)

- (a) Lead time reduction
- (b) Punctuality in shipment
- (c) Increase in cycle time
- (d) Enhanced customer satisfaction
- (e) Improved supplier performance.

23. Customer retention is based upon service quality and customer satisfaction. Which of the following are the steps to ensure customer retention? [< Answer >](#)

- I. Define market situation.
- II. Knowledge of customer segmentation.
- III. Knowledge of service needs.
- IV. Implement a segmented service strategy.

- (a) Both (I) and (II) above
- (b) Both (I) and (III) above
- (c) Both (II) and (III) above
- (d) Both (II) and (IV) above
- (e) All (I), (II), (III) and (IV) above.

24. Indus Bank provided Internet banking facility to its customers. Due to some reasons it is not providing all the facilities, which ultimately got negative opinion which results in loss of customers. The Indus Bank is suffering from [< Answer >](#)

- (a) Security risks
- (b) Operational risks
- (c) Financial risks
- (d) Legal risks
- (e) Reputational risks.

25. Which of the following terms in Database Marketing refers to the process of matching product/service offers with customer requirements? [< Answer >](#)

- (a) Targeting
- (b) Tailoring
- (c) Trading
- (d) Tying
- (e) Tapping.

26. The technology/technologies used by modern telemarketing and call centers is/are [< Answer >](#)

- I. Automatic number identification.
- II. Automatic call distribution.
- III. Automatic recorded message.

- (a) Only (I) above
- (b) Only (III) above

- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (II) and (III) above
- (e) All (I), (II) and (III) above.

27. Organizations can be divided into different categories based on the steps they take to tackle the changing business environment. The type(s) of firm(s) who notice the changes that are happening in the market and will take action only if they feel that these changes are long term is/are [< Answer >](#)

- I. Pragmatics.
- II. Conservative companies.
- III. Die-hard skeptic companies.

- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Both (I) and (II) above
- (e) All (I), (II) and (III) above.

28. Security is a prime concern in all e-business transactions. E-business can be conducted by the use of two different payment systems namely stored account and stored value. Which of the following protocols is/are used by Stored Account Payment System (SAPS) does not use cryptography or encryption technology to secure transactions? [< Answer >](#)

- I. First Virtual.
- II. Cyber Cash.
- III. Secure Electronic Transaction.

- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Both (I) and (II) above
- (e) Both (II) and (III) above.

29. The type(s) of relationship(s) that can exist between supply chain partners is/are [< Answer >](#)

- I. Commodity-based relationship.
- II. Strategic relationship.
- III. Go-to-the-market relationship.

- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Both (I) and (II) above
- (e) All (I), (II) and (III) above.

30. In a e-business project, after assessing the scope, the next step is to assess the feasibility of the business case. Which of the following feasibilities is assessed based on cost-benefit analysis? [< Answer >](#)

- (a) Systems feasibility
- (b) Financial feasibility
- (c) Technical feasibility
- (d) Operational feasibility
- (e) Organizational feasibility.

END OF SECTION A

Section B : Caselets (50 Marks)

- This section consists of questions with serial number 1 – 6.
- Answer **all** questions.
- Marks are indicated against each question.
- Detailed explanations should form part of your answer.
- Do not spend more than 110 - 120 minutes on Section B.

Caselet 1

Read the caselet carefully and answer the following questions:

1. If you are in the role of a consultant to GM, explain how you would go about Enterprise Architecture Planning in order to avoid failures in ERP implementation. [< Answer >](#)
(8 marks)
2. GM's internal investigation team found number of causes of ERP migration failure. So, in order to overcome the causes, what success factors do you propose? Explain. [< Answer >](#)
(12 marks)
3. Was installing an enterprise system the right solution for GM? Explain. [< Answer >](#)
(9 marks)
4. What approaches are available to GM for ERP implementation? Suggest the best suitable approach where risks can be easily controlled. [< Answer >](#)
(5 marks)

ERP Implementation Failure

In August 2004, General Motors (GM) announced that its revenues for the third quarter ended July 31, 2004 from its Enterprise Servers and Storage (ESS) segment had gone down by 5% to \$3.4 bn, as compared to the same quarter the previous year. The company attributed this revenue shortfall mainly to the problems faced in migrating to a centralized ERP system at one of its North American divisions. The total financial impact of the failure including backlogs and lost revenue was pegged at \$160 mn, more than five times the cost of implementing ERP project.

Industry analysts raised questions as to GM's credibility as a consultant for SAP ERP implementations because implementation of an ERP solution is a strategic matter. In the role of a consultant, GM's primary responsibility was to prevent exactly such execution problems on which it had faltered. Its 'Adaptive Enterprise' concept focused on the use of IT to help companies adapt to change in a quick and effective way. The failure demonstrated the adverse financial and business impact of poor ERP implementation for an IT company.

GM conducted an internal investigation to review the causes of failure of ERP project. The report revealed that the major problem did not relate to the SAP software, but to execution related issues. It was found that the technical glitches were small, but the contingency planning for the ERP project implementation had left many issues unaddressed. GM claimed that the data modeling problems between the new SAP software and the legacy system involved were of a minor nature and that it did not hold SAP responsible for the failure. Joshua Hreenbaum, consultant at Enterprise Application Consulting commented it as a debacle said, "It's surprising that good software could take a company down like this. It doesn't get more embarrassing than that".

GM's products were known for excellent quality and reasonable prices. GM had a highly decentralized organization structure and every business unit independently designed, marketed and manufactured its own products. In 1992, GM witnesses huge increase in sales volumes of its products from resellers and direct-customers. In light of this, GM decided to reorganize its business processes to manage its complex manufacturing and logistics operations efficiently. The company planned to phase out its numerous legacy systems and replace them with SAP R/3 as the standard ERP solution worldwide.

SAP R/3 Implementation:

The goals set for this Business Process Reengineering (BPR) initiative were: Shorter lead and delivery times, Cost savings and Establishment of a global distribution system. The group worked on the implementation of Finance modules on a global scale. Sales and Distribution (SD) module was implemented as a part of the pilot project. GM wanted to implement R/3 software to function as a large distributed application system covering all relevant business processes throughout the world. By December 1998, GM had completed its major deployment and migration to SAP R/3 system. The implementation of SAP Sales Configuration Engine enabled e-commerce capabilities for selling and configuring products on GM's direct-to-customer e-commerce website.

GM undertook further incremental deployments of upgraded version of SAP R/3 as business needs changed.

ERP Migration failure:

In December 2003, Gills Bouchard became the CIO of global operations at GM and held responsible for supply chain and ERP software implementations. In January 2004, he held a meeting with key operational leaders to create a new organizational model aimed to merge the business and IT groups at both regional and country level. The migration of Industry Standard Server (ISS) division was also simultaneously completed in May 2004. GM aimed at reducing its 35 ERP systems implemented worldwide to four ERP code bases along with a reduction in application from 3500 to 1500. GM framed the contingency plan to include both the technical and business aspects. As soon as project went live in June 2004, migration problems began to surface. The project team had not been able to adequately comprehend the business repercussions of the data integration problem.

The internal investigation team found number of causes of the ERP migration failure:

- Project team constitution
- Poor planning and improper testing
- Inadequate implantation support/training

The Learning

GM had spent huge amounts of money in speeding up delayed orders. Every implementation warrants a fresh approach and if it's not mapped out on details, it might miss its objectives. ERP essentially involved a business change in many divisions of an organization and, therefore, there could be no standard approach to its implementation. The planning ought to consider the business aspects along with the technical aspects. A major issue was the inadequacy of existing business processes. Business contingency planning was still playing second fiddle to IT project management. Business evolution of ERP was more about project management rather than software tools. A rollback plan was impossible to implement because the huge scale of orders would not allow the time and resources to maintain and reconcile orders between the two systems. The disaster could have been prevented not by trying to eliminate every possibility for error in a major IT system migration, which is virtually impossible, but by taking a much broader view of the impact that these projects can have planned for a manual back-up. The fiasco also emphasized the need to integrate business and technology. GM should strive to remove the barriers to create effective cross-functional processes and teams that were truly integrated. Above all, they ought to encourage dialogue which will motivate employees to have a focused approach and help in early identification and rectification of problems. In January 2005, GM once again was in the news for its product ordering problems. It was planning to implement SAP based ordering system in its PC business under the project code-named Genesis but once again a real-time ordering mechanism was being forced into a system not capable of handling it. They were trying to cram a legacy shipping system into a real-time ordering system. The legacy stuff just doesn't work the way it needs to. In view of the constantly changing business environment and business needs, a long-term goal of an ERP solution is needed for seamless integration and flexibility in operations.

END OF CASELET 1

Caselet 2

Read the caselet carefully and answer the following questions:

5. In order to reduce the misuse of credit card usage on the Internet, explain how Secure Socket Layer (SSL) technology facilitates and provides end-to-end secure data transmission to Syscon International. [< Answer >](#)

(8 marks)

6. Public Key Infrastructure (PKI) ensures the security of communication and transfer of critical information through the Internet. Mention some of the major PKI products. [< Answer >](#)

(8 marks)

Syscon International

Globalization is a noteworthy factor behind the increased attention being paid to privacy. The origins of data protection can be traced to classical western notions of an individual's right to privacy and the right to freedom of expression. The belief in protecting an individual's identity and individuality is of paramount importance in some societies.

Legislatures all over the world have taken notice and tried to minimize the invasion of privacy. It is important to state that laws vary significantly among countries world wide with respect to protection of citizens' privacy. There are few federal laws in the United States that make it mandatory for websites to protect the privacy of online users. Of two such important laws in the US, one deals with the financial/banking industry, in which "opt-out" information must be provided to consumers and the other deals with protecting the privacy of children. It is expected that a growing number of countries will adopt privacy laws to foster e-commerce. In India, The fundamental rights, as engrained in the Constitution of protecting an individual's privacy and his freedom of expression. The law of privacy, therefore, endeavors to balance these two competing freedoms. A citizen's right to privacy is implicit in his right to life and liberty guaranteed under Article 21 of the Constitution, but is subject to restrictions on the basis of compelling public interest. As regards the state-led initiatives in India, Andhra Pradesh has proposed a "Data Processing (Special Contracts) Act". This initiative is the first of its kind in the country and a move that will comfort overseas clients as to the privacy

concerns over the processing of private data by third-party service players in the state. Most overseas clients protect the personal data being processed in India by their preferred providers through the traditional contract route.

Protection afforded to personal data in India may not be considered adequate, as compared to the global standards set by various governments and institutions across the globe. However, there are distinct differences in the concept of privacy that we understand in India vis-à-vis the approach of the Western countries. The Indian society and culture is one of openness and the concept of protecting one's identity from society is rather alien. However, this is not the position in Western nations, where personally identifiable data has been widely used to target minorities, fight wars, used for telemarketing purposes, committing financial frauds and scandals, and so on. However, some market players in India have already started misusing the general openness of the Indian society to market credit cards, sell personal information, send spam mails, conduct illegal background checks on persons, etc. This environment led internet as an insecure channel for message transmission and the technology used to provide secure channel over the web used was Secure Socket Layer (SSL).

Will Technology Provide the Privacy Solution?

Currently, the only way consumers can stop the collection of their personal data is to opt-out, i.e., find the Web page where they can ask the data collector to stop the collection. However, many sites do not collect the data themselves; they hire companies like "DoubleClick" to do that for them. Consumers then have to find that third party's site and opt-out. To do so, they have to know the third party and many consumers are not aware of the third party's role. No one is eager to inform the public about this either. As stated earlier, you can also configure the browser to reject cookies. While this sounds like a good option, it often is impractical. Most cookie-hungry sites are designed to disallow you from browsing further if your computer does not accept cookies. It is a conundrum. To overcome this, Public Key Infrastructure (PKI) ensures the security of communication and transfer of critical information through the Internet. DC\$1000, a program originally called "Carnivore", is an e-mail sniffing software that captures data packets passing through Internet Service Providers (ISPs) to process credit card transactions. This is done by an emerging standard for secure credit card transactions on the Internet. It supports real-time transaction processing.

In the global market various kinds of software are available for Syscon International. For example, Zero-Knowledge Systems Inc. is providing "privacy and security" software, which consists of Anti-Virus, Anti-Spam, Pop-Up Blocker, Firewall, Parental Control and WebSecure. It prevents tracking of your online activities and surfing habits, blocks malicious scripts from the Web pages you visit, shields your IP address and personal information so you can surf anonymously by using 128-bit encryption, neutralizes cookies and active content and removes annoying ads to help speed your Internet connection. ZipLip is a program that encrypts and "shreds" electronic mail. The ZipLip Secure Messaging Suite provides full spectrum of secure messaging solutions enabling any full service institution to securely deliver to all possible touch points. It simply secures delivery and replies, automates registration and authenticates external users, maintain audit trails for all secure mails, enable secure communications among staff, vendors, customers, partners, etc.

Nowadays, some new technological solutions are emerging. The most noteworthy is the World Wide Web Consortium's (W3C) "Platform for Privacy Preferences (P3P)" standard. The P3P is a standardized method for websites to encode their privacy policies in a computer-readable format. P3P advocates claim that, with such tools, users can control the use of their personal information more easily. For example, if a site wants to collect data for marketing, under the standard, the user should receive a warning and option to leave. Users will also see warnings when encountering sites without privacy statements. Such software tools are designed to give Internet users more control over the amount of personal information they disclose online. Microsoft's Internet Explorer 6 browser was the first consumer software to incorporate P3P. But P3P will only work if websites voluntarily participate. So, Jeffrey Rothfeder asserts, "As a simmering undercurrent to the privacy discussions, the US stubborn stance against exporting strong encryption software unless American security agencies are allowed access to the keys has added to worries in Europe that some US companies are using data surveillance technology for industrial espionage, giving them an unfair advantage in bidding for lucrative industrial and defense contracts and data protection issue". Hence, the US government has adopted Security instruments like Digital certificates and Digital signatures and allowed its own citizens to use such encryption schemes.

END OF CASELET 2

END OF SECTION B

Section C : Applied Theory (20 Marks)

- This section consists of questions with serial number 7 - 8.
- Answer **all** questions.
- Marks are indicated against each question.
- Do not spend more than 25 -30 minutes on section C.

7. Transferring a business into an e-business model requires the formulation of a strategy and a framework for applying the strategy. In this context explain the components included in the formulation of an e-business

[< Answer >](#)

(10 marks)

8. Discuss the components of Selling Chain Management Applications.

[< Answer >](#)

(10 marks)

END OF SECTION C

END OF QUESTION PAPER

Suggested Answers E-Business (MB351IT) : October 2007

Section A : Basic Concepts

1. Answer : (a) [< TOP >](#)
Reason : Except (a) all other options are the drivers of convergence and they are technology, deregulation of markets, increasing expectations of customers and competitive imperatives. Leveraging relationships is one of the convergence strategies. So option (a) is the answer.
2. Answer : (d) [< TOP >](#)
Reason : Except (d) all other statements are true. Electronic Data Interchange is a quick, inexpensive and relatively safe method to transmit invoices, purchase orders, custom documents, and shipping notices between different firms. So (d) is the correct option.
3. Answer : (b) [< TOP >](#)
Reason : B2C e-business model allows a company to sell their products and services directly to individual consumers. So option (b) is the answer.
4. Answer : (d) [< TOP >](#)
Reason : DoCoMo was the pioneer of 3G wireless telephony. So (d) is the correct option.
5. Answer : (b) [< TOP >](#)
Reason : Except (b) all other options are the principles followed to develop organization culture which is conducive for conducting e-business. E-business systems should use scalable technology is a guideline for building well designed architecture. So option (b) is the answer.
6. Answer : (e) [< TOP >](#)
Reason : except (e) all others are the phase in the evolution of e-marketplaces. The evolution of e-marketplaces consists of four major phases. These phases are commodity exchanges, value-added e-marketplaces, global knowledge exchanges and global value trust networks. value trust networks is **not** a phase in evolution of e-marketplaces. So option (e) is the correct option.
7. Answer : (c) [< TOP >](#)
Reason : Except (c) all other options are the advantages of e-cash. Anonymity may encourage criminals and other anti-social element to use e-cash is the disadvantage of e-cash. So (c) is the correct option.
8. Answer : (a) [< TOP >](#)
Reason : Philippines is considered to have the most comprehensive cyber law but it is not able to enforce them effectively because of loopholes in the legal system. So (a) is the correct option.
9. Answer : (e) [< TOP >](#)
Reason : Except (e) all other options are the activities that form a part of inbound logistics. Messaging delivery status is the activity that comes under outbound logistics. So (e) is the correct option.

10. Answer : (d) [< TOP >](#)
Reason : Availability refers to the time period for which the user has been able to fully utilize the system and Scalability refers to the ability of a system to increase its capacity to handle more data and information with the increase in number of clients. The third statement is true. So (d) is the correct option.
11. Answer : (d) [< TOP >](#)
Reason : Except (d) all other statements are true. Supply Chain Management is a strategic decision rather than a technology decision. So (d) is the correct option.
12. Answer : (c) [< TOP >](#)
Reason : Software programs that change the functions of keys in a keyboard with disastrous consequences are known as ANSI Bombs. Logic Bombs are software programs that are able to corrupt data at a particular time or under specified conditions. Trojans are programs that are encrypted to look like normal software but have hidden destructive capabilities. So (c) is the correct option.
13. Answer : (c) [< TOP >](#)
Reason : The verification mechanism that ensures that actual exchange took place using a digital certificate or any other such payment proof is known as Non-refutability.
The time of transaction is recorded and this is especially relevant to submission of requests for proposals and adherence to deadlines is Time stamping.
Users cannot deny their commitment to any transaction is called Non-repudiation.
Information access is restricted to authorized users and systems is Privacy.
No individual or organization can fake someone's identity is Authentication.
So (c) is the correct option.
14. Answer : (b) [< TOP >](#)
Reason : Open Buying on Internet refers to a common set of business requirements or a framework for B2B Internet solutions. So (b) is the correct option.
15. Answer : (b) [< TOP >](#)
Reason : System administration tool: It manages the network and systems for ERP. It manages inventory and assets, configures software, modifies applications when needed, and distributes software.
Use-management tool: It schedules jobs, monitors events, data output, backup and recovery. It manages the applications when they are being accessed by users.
Service management tools: These help the management monitor the performance of various ERP applications. These tools need to be powerful as they have to analyze thousands of transactions that occur simultaneously in an ERP system.
So option (b) is answer.
16. Answer : (a) [< TOP >](#)
Reason : Aggregators offer guidance to buyers in fragmented markets by providing information at a single online contact point. So (a) is the correct option.
17. Answer : (e) [< TOP >](#)
Reason : Except (e) all other statements are true. Secure Electronic Transaction does not support stored value system. So (e) is the correct option.
18. Answer : (e) [< TOP >](#)
Reason : The statements E-governance involves Internet technology to deliver public services and information in a convenient, citizen-centric and cost-effective manner, E-governance helps in online community which increases public awareness and enables sharing of knowledge and A government should have a two-pronged strategy to implement e-governance are true. So (e) is the correct option.
19. Answer : (b) [< TOP >](#)
Reason : E-cash is a digital cash protocol developed by the firm DigiCash.
Mondex International developed smart cards
Beenz is a web site which helps people spend money over Internet.

Digital micro payment system was proposed by IBM

The US firm CyberCash allows customers to convert the money in their bank account to CyberCoins.

So (b) is the correct option.

20. Answer : (c) [< TOP >](#)
Reason : An enterprise needs business information for its optimum functioning. Business information includes information required for planning, execution and monitoring production and marketing. It includes raw data and product data for design and engineering. The discipline which relies on business information is called Competitive intelligence. Competitive intelligence is the discipline which relies on business information that is collected from a company's in-house marketing department, information brokers and government institutions like trade promotion organizations and department of statistics. So (c) is the correct option.
21. Answer : (e) [< TOP >](#)
Reason : Except (e) all other options, Information content of transaction, Transactional efficiency, Monetary effects and Organizational effects are economic issues. Contractual effect is **not** an economic issue arising due to the popular use of digital currency. So (e) is the correct option.
22. Answer : (c) [< TOP >](#)
Reason : The advantages of implementing ERP system in an organization are reduction in cycle time, lead time reduction, punctuality in shipment, enhanced customer satisfaction, improved supplier performance and flexibility and reduction in quality, cost etc. So option (c) is the answer.
23. Answer : (e) [< TOP >](#)
Reason : The steps to ensure customer retention are Define market situation, Knowledge of customer segmentation, Knowledge of service needs and Implement a segmented service strategy. So option (e) is answer.
24. Answer : (e) [< TOP >](#)
Reason : Reputational risk is the risk of getting significant negative opinion, which may result in loss of funding or customers. So option (e) is the answer.
25. Answer : (b) [< TOP >](#)
Reason : Tailoring in Database Marketing refers to the process of matching products/services offers with customer requirements. So (b) is the correct option.
26. Answer : (e) [< TOP >](#)
Reason : The technologies used by modern telemarketing and call centers are Automatic number identification, Automatic call distribution and Automatic recorded message . So (e) is the correct option.
27. Answer : (a) [< TOP >](#)
Reason : In e-business design, the type of firm who notice the changes that are happening in the market and will take action only if they feel that these changes are long term are known as Pragmatics. So (a) is the correct option.
28. Answer : (a) [< TOP >](#)
Reason : First Virtual protocol used by Stored Account Payment System (SAPS) does not use cryptography or encryption technology to secure transactions. So (a) is the correct option.
29. Answer : (e) [< TOP >](#)
Reason : The types of relationships that can exist between supply chain partners are Commodity based relationship, Strategic relationship and Go-to-the-market relationship. So (e) is the correct option.
30. Answer : (b) [< TOP >](#)
Reason : Financial feasibility is assessed based on cost-benefit analysis. Organizational feasibility relates to acceptability of e-business case. Technical feasibility refers to availability of technological infrastructure. So (b) is the correct option.

Section B : Caselets

1. As a consultant to GM, Enterprise Architecture Planning in order to avoid failures in ERP implementation is described below:

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ENTERPRISE ARCHITECTURE PLANNING

The implementation of an ERP solution in an organization is a strategic matter. In the absence of proper planning, ERP applications may fail and may turn even profit making companies into loss making companies. It should be ensured that there is a perfect fit between the ERP application and the organization's requirements.

Developing architecture for the ERP system is one of the first activities in an ERP project. The architecture should cover all the business processes in the organization. It should take into consideration all the interconnections and interdependencies of the business functions. The goals, objectives and strategies of the organization also form the basis for the development of ERP architecture.

It is essential that the architecture is derived from a holistic analysis of organization. This implies that a data view or a function view alone cannot be adopted for developing the ERP architecture, but an integrated process view is the only way an effective architecture can be developed. The organization view looks at all the departments and the people working in it. It can be represented by an organization chart. The process (control) view integrates all the three views as depicted in the Figure below.

By adopting the process view, the management can develop an architecture specifying all the functional modules required in an ERP package. The architecture helps the management determine whether a particular package serves the organization's requirements and thus forms the basis for successful ERP package selection and implementation. Thus, developing a well-defined ERP architecture prior to the installation of the system ensures that the ERP system supports the business processes as intended.

Figure – Process Control View – An Integrated View of Business Process

2. GM's internal investigation team found number of causes of the ERP migration failure such as

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- Project team constitution
- Poor planning and improper testing
- Inadequate support/training

In order to overcome the causes, the success factors I propose are explained below:

Project team constitution: After developing the project plan, I began to identify team members that will be involved in the project. Selecting and retaining the right people for any project improves the chances of a successful outcome. They must have correct skill sets required for the project. Understanding and executing this point is key to any implementation, but even more relevant on an ERP project. Because many tasks are very compressed, there is very little opportunity to make up errors in team selection. If a project manager is given all the resources needed, but they are not the right resources, the project manager is just as much trouble as if he or she had none. Just as a homebuilder will need many resources to build a house, the house does not get built by having all plumbers as resources. Likewise, having fifteen really good JAVA developers on the team does not mean that the project will be completed any faster than with ten developers who work together routinely and just completed a project similar to the proposed one. Another essential point is assuring successful individual and team performance on the project. The "right people" means more than just talented individuals; individuals must work well together as a team. Candidates should certainly have the ability to change respond to the ever-changing needs of the business, but most importantly, they should be team-oriented, receptive to working with the team, not just for the team. They should be trustworthy. Trustworthy in that if they say will be done on time, they will finish on time. Developing strategies to facilitate strong individual and team performance will greatly increase project success.

Setting up the Project Team Architecture: The next step in planning is setting up the project team architecture. (A project may or may not include all of these team members depending upon the type of implementation).

- Project board
- Stakeholders and users
- Project manager
- Project team
- Technical lead
- Business analyst
- Training lead
- Test lead

Identifying and Documenting Key Skill Requirements: After the project organizational chart is complete, the task of identifying key skills and requirements begins. The project manager should start by taking each of the roles identified to complete a task and then define each task in general detail.

Identifying Project Stakeholder: Stakeholders come from many different forms. Some may say that external clients are stakeholders, others may identify internal customers as stakeholders and still others may identify a completely different group of people as stakeholders on a given project.

As the project charter is developed, identifying who will be responsible to authorize time, cost and quality changes on the project is critical to success. To maintain the balance of the triple constraint, the project manager must identify which stakeholders may or may not be willing to compromise one or any of those constraints. The take away for the project manager is to make sure they know who “owns” functionality and who is “responsible” for functionality.

Communication is at the heart of many project successes or failures. Acquiring fundamental communication skills will help the project manager to manage project expectation in amore effective way. The more proficient in communications, the smoother a project will flow from beginning to end. How information is organized, maintained and disseminated will have a significant impact upon the success of the implementation. It's a challenge to provide enough information to keep everyone on track and moving in the same direction without overloading or boring them.

All projects face differences in what the client or end user wants and ultimately is delivered. To avoid these types of issues, the project manager must know how to translate the requirements (or wishes) of the stakeholders into a process or feature that can be measured as part of the projects success. By taking this approach to stakeholder requirements, the risk of not meeting the expectations of the stakeholders diminishes considerably. Having requirements as measurable components facilitates many other phases of the project.

Poor planning and improper testing: Regardless of the project type, scope or duration, there are certain basic issues that must be addressed when considering deployment of a project. Projects will be most successful if these elements are managed in a proactive fashion. The topics of schedule management and real-time deliverables as they apply to project manager. To accomplish these goals, one of the first project documents that must be completed when the initial planning begins is a project charter or project initiation plan. ERP projects have a tendency to grow as they mature. When bringing an idea to reality, it will usually take on a different look than the original vision. The project charter will help to measure success by providing a firm baseline measurement to review at any given point in the project. The project charter is the one document that should refer to throughput the entire project as a reminder of the project objectives what was agreed to and by whom. One of the outputs from this plan should be smaller, high-level plan that identifies the high-level milestones that need to be reached. The intent is to capture the larger tasks that need to be completed on the project and identify deliverables (or output) and owners of those tasks. The high-level view can then be used as the foundation data for a Work Breakdown Structure (WBS). A WBS is a tool for defining the hierarchical breakdown and work in a project. It is developed by identifying the highest level of work in the project.

Risk and uncertainty always accompany the decision to proceed with a project because the project activities and outcomes are planned for the future. The sheer duration and complexity of most projects virtually assure that problems will occur and need to be managed. As a project manager, you are responsible for all aspects of the project including those that are largely out of your control. Going into a project with a “can-do” attitude may support team spirit at the outset but when the project begins to fall apart and reality sets in, the team will become frustrated, the customer will be unhappy and project manager will regret not having taken a hard and realistic look ahead at what could go wrong.

Testing is one area that a project manager must focus upon to ensure the integrity of the system as well as the system performance. Consideration should be given to what type of testing methodology will be used, what type of testing tools will be used and how will the project manager analyze the results when complete? There are several levels of tests required for a User Acceptance Test Plan and the procedures for developing a User Acceptance test Plan.

I suggest a user acceptance test plan and is described below:

To develop a User Acceptance Test Plan for a specific application, the Application Manager must first plan the tests based upon the initial application project documentation. By researching the purpose of the development work and the degree to which the development work will affect the rest of the application, the test planner can then begin to create .e scripts for testing. (A test script includes the individual test steps to be executed in order to verify an application is working as expected.) The development of a User Acceptance Test Plan involves four steps.

1. Developing the procedures and instructions for testing
2. Developing the necessary test scripts
3. Reporting any defects
4. Retesting any fixes

Inadequate support/training: Training is a primarily organizational Information and Communication

Technology diffusion factor because it helps users understand how to best use and adopt ICT applications. Training is essential factor in ERP success during the implantation stage. Users need time to actively participate during training program. It is also necessary to provide technical support for solving problems and applications. For example, manual such as “quick reference guide” can provide an understanding of how ERP works. Training helps in innovation attributes such as relative advantage, compatibility, trial and experiment, observability and an innovation being perceived to be superior to the process being replaced.

3. For small and medium size organizations it is not wise to go for an ERP system. The reason is ERP systems are so complex. These systems are expensive and testing and training will often get cut for budgetary reasons. The important thing is that implementation of an ERP system will take several years. Moreover, the employees need to become accustomed to new ways of doing business and customers and suppliers may need to change their business processes. ERP projects often result in a negative return-on-investment (ROI) in the beginning years.

In the caselet, GM announced that its revenues for the third quarter ended July 31, 2004 from its Enterprise Servers and Storage (ESS) segment had gone down by 5% to \$3.4 bn, as compared to the same quarter the previous year. The company attributed this revenue shortfall mainly to the problems faced in migrating to a centralized ERP system at one of its North American divisions. The total financial impact of the failure including backlogs and lost revenue was pegged at \$160 mn, more than five times the cost of implementing ERP project.

The migration of Industry Standard Server (ISS) division was also simultaneously completed in May 2004. HP aimed at reducing its 35 ERP systems implemented worldwide to four ERP code bases along with a reduction in application from 3500 to 1500. GM framed the contingency plan to include both the technical and business aspects. As soon as project went live in June 2004, migration problems began to surface. The project team had not been able to adequately comprehend the business repercussions of the data integration problem.

So installation of an ERP system could not find the right solution for GM to become a global force.

4. GM can implement ERP system using two approaches- the Big Bang approach and the phased approach. In Big Bang approach, all modules of the ERP package are implemented at one go in whole organization. This approach forces employees to cope with change quickly and thus speeds up the pace of change bringing about the desired benefits in short span of time.

In Phased approach, ERP implementation project is divided in to logical phases and phases are implemented one at a time. Each phase focuses on a particular key area and progressing to next phase. At the end of the project, the system is tested to ensure that all the modules of the system are integrated.

Phased approach is best suitable because risks can be more easily controlled with this approach.

5. **In order to reduce the misuse credit card usage on the Internet, Secure Socket Layer (SSL) technology is used and provides end-to-end secure data transmission and how Secure Socket Layer (SSL) technology works is described below:**

SSL provides end-to-end secure data transmission between web server and the web client. The SSL performs two functions - it authenticates the web sites and ensures secure data transmission between the web server and the client. It achieves this either by using symmetric encryption or asymmetric encryption. In symmetric encryption, a key called ‘the private key’ is used both for encrypting and decrypting data. The key used for encrypting is called the public key and the one used to decrypt is called the private key. For symmetric encryption to work, the sender and receiver should share the secret key. This is possible only when the sender and receiver know each other. In asymmetric encryption, two separate keys are used to encrypt and decrypt data. The public key is shared with the other person and the private key is known only to the person who decrypts the data. So, the private key will remain a secret while the public key will be known to both the parties. Asymmetric encryption authenticates the client/server by providing a secure private key to be shared between strangers and giving secure digital signatures. For example, when a customer wants to buy a book from an online book store, the customer will like the transaction to be secure and confidential. A secure connection is initiated by the client by sending a “hello client” message by the client’s browsers. It consists of a suite of secure protocols that the browser supports and the browser generates a random challenge string. This random challenge string is used at the closing of the initialization and check whether a secure connection is established. The set of protocols contains the key exchange algorithm that is used to ensure the confidentiality of the transaction and hashing algorithm for maintaining data integrity. Prior to establishing a secure connection, the SSL authenticates the server **as shown in the figure below**. The server will respond with a “server hello” message to the client hello message that it received earlier. This is an indication that the server supports the protocol requested by the client and generates a random connection identifier. This random connection identifier will be used to find out if a secure connection has been established or not.

It is essential that the merchant's digital certificate is endorsed by a Certification Authority (CA). Subsequently, the client compares the digital signature on the server’s certificate with the public key of the CA which is stored in the browser of the CA. The endorsed merchants’ certificates are signed using the CAs private key. The endorsement is verified by the browser which compares the digital signatures with the CA’s public key. After the completion of the authentication process, the browser generates a secret key that will be shared by the client and

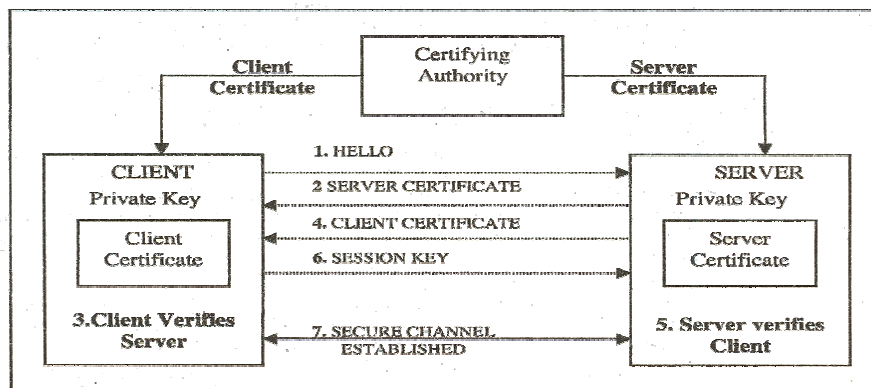
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the server. This secret key shall be used for generating key for symmetric encryption and data integrity. From here on, there is no need for asymmetric encryption.

Figure-How SSL Works



6. Some of the major PKI products include:

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Entrust: Entrust PKI is a customizable, scalable product that supports high level Application Programming Interfaces(APIs) and provides robust security to many commercial applications. It allows vendors of commercial applications to integrate PKI quickly and easily into their products.

Baltimore: Baltimore UniCERT is the PKI system for the authentication of digital signatures. It is a unique system that can be used as in-house software, outsourced managed service or a combination of both. It has developed advanced security tool kits for XML and wireless, SSL and S/MIME. It also sells third party products like HSMs, OCSP responders, Smart cards and firewall products like Valicert, CyberGuard and AEP systems.

Verisign: Verisign offers PKI and digital signature solutions to enterprises, websites and consumers and help them in secure communication and transfer of data over the Internet and private networks. Verisign distributes its PKI products through its regional account executives, global affiliates and resellers.

Xcert: Xcert offers Internet based PKI solutions for Application Service Providers (ASP), telecom, healthcare and financial services industries. Secure communication and transactions are facilitated using digital certificates and directory services. It also offers a framework for authenticating secure access to confidential, personal architecture that can be implemented immediately and managed internally. Since it is built on a standards based model, it is scalable, interoperable and extensible. The company also offers support to customers for product differentiation.

TrustPoint: The Trustpoint PKI product provides a total, extensible PKI solution that can be used by businesses to implement and manage PKI solutions. It seamlessly integrates the wired and wireless digital certificates.

Section C: Applied Theory

7. Knowledge Building

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Knowledge building is the primary step in e-business transformation. This helps in finding out ways in which the customers' tastes and preferences have changed and what needs to be done to enhance their shopping experience. To increase the market share of the company, the management should deliver the services according to the customer needs and their priorities.

Knowledge building helps in strategy formulation. It needs a lot of data and information. These facts and data are used to justify a strategic step. Without the data and accurate analysis of the environment, there is a probability that the management might formulate right strategy for wrong problem. The overall strategy design may also become obsolete due to technological developments. If the assumptions of the management are wrong, the strategy formulated will go awry. The data and information archived in a company's database should address changing customer preferences, customer value and relationships, technology, supply chain trends, competition and predicted moves of its competitors. For identifying the key opportunities that exist, the data has to be analyzed and segregated. It helps in the decision-making process. To make better decisions, the firm should employ a business intelligence process. This involves generating a sequence of systems and trying to find answers to the business problem so that the company can formulate a strategy for the future.

Know the customers

Organizations usually feel that they know the customers and their preferences. They should be able to categorize the customers and analyze their patterns. For example, the discount brokerage firm Charles Schwab categorizes its customers as follows:

Life goal planners: Those who need a stable financial service provider. They are interested in technical analysis.

They only need tools for planning and optimization of portfolios.

Serious investors: They need high quality information, investment tools and research which will help them decide what to buy or invest in.

Hyperactive traders: These customers trade very frequently. They need low cost trading, simple interface and fast execution.

One stop shoppers: They want a range of financial products like stock trading, mutual funds, credit cards, bill payment, etc. Trading for all these products should be simple. By understanding the business segments, firms will be able to formulate a strategy according to customer needs. The customer buying behavior has to be evaluated and the firm should know what customers are expecting. Customers usually have got two types of needs-spoken and unspoken. The success of the company results in gauging the unspoken needs of the customer. Organizations should understand their real customers, their expectations and what they value.

Shift in customer priorities

Priorities of customers keep changing. Therefore companies should keep track of the changes in industry trends and customer preferences. The companies, that are slow to respond to the changing customer preferences, will lose out to the competition. They should ask themselves what kind of customers they will have in the future and work backwards. New business opportunities are created due to changing customer priorities. Organizations need to cater to the unspoken needs of customers in order to develop an advantage over their competitors. The customers' value proposition should be known to the organization and it should have a clear vision of its position in the new economy and marketplace.

Target customer

Organizations should understand the customers, their priorities, and constantly lookout for a new set of target customers. They should examine whether they can add value to the customers by moving a step along the value chain.

Adding value to the target customers

Organizations should think how they can create value to customers with the help of new technological developments. Amazon.com, which pioneered the online selling concept, is a good example. It has made book purchase very easy with the use of the Internet. Buyers get a review of the book, a snapshot of the contents of the book, door delivery and other offers. Thus Amazon.com is able to create value to its customers.

Becoming the customers' first choice

Organizations should not only create value to their customers but also delight their customers with unexpected services, promotions, schemes, incentives, etc. This will command the loyalty of the customers. It is for this reason that airline carriers have introduced loyalty programs.

Product delivery to the customer

The delivery of the product or finished good to the customer also plays a role in retaining the customer. If a good product doesn't reach the intended person, it will not be a success.

Understanding the environment and industry trends

Analysis of business environment is necessary for planning for future needs and getting a broader perspective for the development of a structural foundation for e-business. This helps in taking a fresh look at

- i. The way the business environment is changing
- ii. The critical industry and customer issues that are to be defined
- iii. The positioning of a firm in the industry.

Analysis helps organizations identify the trends in the business and study the impact of these trends. The key economic, political, social and technological trends are identified by scanning an environment.

Understanding technology trends

Firms that compete in the market should understand the new trends in technology and adapt to them quickly. Many companies invest in different e-business ventures to experiment and hedge risks. The management should devise a transition plan for the organization. They need to take only calculated risks and should not put everything at risk for a single technology.

Priorities in the supply chain

The partners who deal with an organization should be coordinated across the supply chain for better results and cost control. The enterprise should take stock of its present capabilities, the expectations of the upstream suppliers and what needs to be done for better delivery of value to the customers. Organizations should identify critical operations in the supply chains, which can affect customer value. The important points to be taken care of are:

- What is the competitors' cycle time in comparison of the firm's?
- How can the firm streamline the relationships between the suppliers and customers for faster service?
- What is the firm's lead-time and how can it be reduced?

- What is the average inventory level for finished goods, work in progress and raw materials?
- Is the firm using the warehouse optimally?
- Is the firm using the appropriate channels for selling and marketing its products?

The future supply chains will have shrinking product life cycles, intense competition and seamless flow of information. Therefore, to remain competitive in the future, companies have to think ahead of the existing traditional supply chain curve.

Understanding the competitors

A firm does not have a threat from a competitor who does business like everyone else. It has a threat from the competitor who does the business differently and keeps on adding value to the customers. Most organizations have wrong assumptions about their competitors' capabilities. The strategists in an organization analyze the competitors on the basis of their past behavior and presume that competitors will show historical patterns of behavior. Organizations are under threat from competitors who try to make the existing business model obsolete by inventing new business models.

Capability Evaluation

Organizations should assess their core competencies and capabilities for doing business in the future. Knowing its capabilities and limitations helps an organization develop an action plan for the future.

Evaluation of internal capabilities of a firm

An assessment of the internal capabilities of a firm is extremely useful for future business models. The firm should examine its strengths and weaknesses and know how well it will be able to face the competition and fulfill customer expectations. Before taking the plunge into the e-business arena, a firm should know its readiness, the prevalent environment and its vulnerabilities and risks. It should prepare itself to adapt to changing situations. Emerging technologies and new developments should be integrated with the existing business model and enterprise architecture. The business objective of a company should be aligned with the application infrastructure.

Identification of the capabilities and resources requirement

For success in an e-business venture, there must be alignment between an organization's vision and capabilities. The requirements for making the vision a reality are obtained by capability assessment. The different functions should also be linked together. For the formulation of final functional strategies, each sub function should change to deliver the best possible services. Organizations need to have the skills required to develop enterprise architecture. Enterprise architecture helps organizations plan and coordinate different activities so that organization objectives can be achieved with optimum resource utilization. Most organizations have stand-alone systems without interconnectivity. Usually new applications are added without integrating them with the existing ones, thus making the architecture unstable. Therefore, guidelines should be provided about how the project teams have to integrate new architecture to achieve the information technology goals of the enterprise.

Developing E-Business Design

After collecting all the data, information, etc. and analyzing it, the next logical step is to define the e-business design. The enterprise should make sure that when a new model is designed, it maximizes the customer value and is profitable.

Selection of an E-Business design

There are different types of e-business designs, which are adopted by different companies to suit their respective business models. Some of these are:

- **Category Killer** - They find out a unique customer need and cater to it using the Internet as a medium. They are the market leaders in their respective segments.
- **Channel Reconfiguration** - These companies service the customers by taking orders and making sales over the Internet thus making it an additional channel. Distribution and marketing channels are supplemented by this design.
- **Transaction Intermediary** - Purchases are processed through the Internet. This consists of searching, comparing, selecting and paying online.
- **Infomediary** - The search cost is reduced using the Internet and information needed for large purchases are collected with the help of a unified process.
- **Self-Service Innovator** - These companies invent a new suite, which can be used by the customer's employees directly. This gives a direct and personalized experience to the employees.
- **Supply Chain Innovator** - All partners in the supply chain are integrated using the Internet to improve operating efficiency.
- **Channel Mastery** - The Internet is used as a sales and service channel which complements the call centers.

E-Business design refinement

A firm should have a thorough understanding of the problems and the issues that may arise regarding the chosen e-

business design. The issues that can be considered are:

- **Target customer** - Organizations need to be very clear in selecting the customers they are going to target. They need to understand their requirements, the ability of the firm to fulfill their expectations, etc.
- **Customer experience** - The firm should be able offer the customers unIque experiences which its competitors can not offer.
- **Customer capture** - The firm should find ways to retain its customers.
- **Scope of design** - A firm must examine the activities which need to be performed in-house and those which need to be out-sourced.
- **Ease of doing business** - A firm must incorporate different applications which will make doing business with the firm easy and make it a wonderful experience to the customers.
- **Organizational systems** - A firm has to identify its readiness to incorporate the solutions for critical issues.

Clarification of the different levers

A firm should be able to identify its strength in the marketplace and leverage upon this strength for competitive advantage. The following will help a firm have an edge over its competitors:

- The products that have superior functionality and appeal.
- The market channels those are responsive, convenient and informative.
- Consumer oriented service and support.
- Brand building and image positioning for greater appeal.
- Products priced competitively.

A firm should have focus on its core strength and be able to differentiate it from the competitors.

8. The components of Selling Chain Management Applications are:

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Integrated selling system: This acts like a virtual salesperson. It conducts online dialogue with users, analyzes their needs, suggests alternatives, helps customers configure products to meet their requirements, delivers quotes, receives orders and ensures the correctness of orders.

Channel management: Selling chain applications offer customized sites for channel partners and online stores for corporate customers. These enable corporate customers to access customized product information, account information, technical advice and online interaction with customer service representatives. The channel partners can manage online business without having any technical expertise.

Configuration: Selling chain applications make configuration solutions available at all points of sale via the web and enable customers to select products that best suit their needs. Moreover, the online orders eliminate errors in order-delivery by avoiding manual reentry of orders. The online configuration thus enhances customization, simplifies product updates, shortens sales cycles, reduces the cost of product configuration and order delivery, and improves customer satisfaction.

Dynamic pricing: Selling chain applications offer analysis tools that help organizations determine the most and least profitable customer segments. The organizations can thus offer channel- and customer-specific discounts and adjustments. The analysis tools also help organizations determine prices according to changes in inventory, supply and demand situations, and customer profiles, and thus optimize their pricing strategies.

Order management: It automates the entire order acquisition process from purchase request through approval and payment to order fulfillment, and enhances the speed, accuracy and reliability of the order management system of the organization. If a customer places an order for different products that are available with different suppliers, the order is automatically split into sub-orders and routed to different suppliers, but the customer is given a consolidated bill.

Content management: It helps companies manage organization-wide business content including product catalogs, images, company news, events, policies and procedures in a systematic way. The organization can instantly disseminate updated business information to its partners, customers or any other party in its business transactions.

Personalized internet selling: It enables companies to maintain profiles of users analyze their preferences and purchasing behavior and personalize marketing strategies.

Sales opportunity management: Organizations have to interact with customers through multiple channels like salespeople, call center, distributors, web sites and portals. Opportunity management solutions co-ordinate all the channels, record the interactions and generate leads. They also provide the tools to convert a lead into a sale They help the company customize product information and route it to the lead through an appropriate sales channel.

Incentive management solutions: They help companies in designing effective incentive programs that motivate salespeople and channel partners to sell products in the desired manner. They also optimize the allocation of products and territories (high-end products and strategic territories are allotted to efficient partners/salespeople).

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