

Q.1 a. Describe the three dimensions of information systems.**Answer:**

An information system represents a combination of management, organization, and technology elements. The management dimension of information systems involves leadership, strategy, and management behavior. The technology dimension consists of computer hardware, software, data management technology and networking/telecommunications technology, including the internet. The organization dimension of information systems involves the organization's hierarchy, functional specialties, business processes, culture, and political interest groups.

b. What are the challenges posed by strategic information systems and management solutions?**Answer:**

Implementing strategic systems often requires extensive organizational change and a transition from one sociotechnical level to another. Such changes are called strategic transitions and are often difficult and painful to achieve. Moreover, not all strategic systems are profitable, and they can be expensive to build. Many strategic information systems are easily copied by other firms so that strategic advantage is not always sustainable. A strategic systems analysis is helpful.

c. Describe the tools and technologies for providing information from databases to improve business performance and decision making.**Answer:**

Powerful tools are available to analyze and access the information in databases. A data warehouse consolidates current and historical data from many different operational systems in a central database designed for reporting and analysis. Data warehouses support multidimensional data analysis, also known as online analytical processing (OLAP). OLAP represents relationships among data as a multidimensional structure, which can be visualized as cubes of data and cubes within cubes of data, enabling more sophisticated data analysis. Data mining analyzes large pools of data, including the contents of data warehouses, to find patterns and rules that can be used to predict future behavior and guide decision making. Conventional databases can be linked via middleware to the Web or a Web interface to facilitate user access to an organization's internal data.

d. Why information systems need special protection from destruction, error and abuse?**Answer:**

With data concentrated into electronic form and many procedures invisible through automation, computerized information systems are vulnerable to destruction, misuse, error, fraud, and hardware or software failures. Corporate systems using the Internet are especially vulnerable because the Internet is designed to be an open system and makes internal corporate systems more vulnerable to actions from outsiders. Hackers can unleash denial-of-service (DoS) attacks or penetrate corporate networks, causing serious system disruptions. Wi-Fi networks easily can be penetrated by intruders using sniffer programs to obtain an address to access the resources of the network. Computer viruses and worms can spread rampantly from system to system, clogging computer memory or destroying programs and data. Software presents problems because software bugs may be impossible to eliminate and because software vulnerabilities can be exploited by hackers and malicious software. End users can introduce errors.

e. Elaborate in brief, how internet technology has changed value propositions and business models?

Answer:

The internet radically reduces the cost of creating, sending, and storing information while making that information more widely available. Information is not limited to traditional physical methods of delivery. This unbundling of information from traditional value chain channels is having a disruptive effect on old business models, and it is creating new business models. Some of the traditional channels for exchanging product information have become unnecessary and uneconomical, and business models based on the coupling of information with products and services may no longer be necessary.

The internet can help companies create and capture profits in new ways by adding extra value to existing products and services or by providing the foundation for new products and services. Many different business models for electronic commerce on the Internet have emerged, including virtual storefronts, information brokers, transaction brokers, Net marketplaces, content providers, online service providers, virtual communities, and portals. Business models that take advantage of the Internet's capabilities for communication, community-building capabilities, and digital goods distribution have become especially prominent.

f. How executive support system help senior managers make better decisions?

Answer:

Executive support systems (ESS) help senior managers with unstructured problems that occur at the strategic level of the firm. ESS provides data from both internal and external sources and provides a generalized computing and communication environment that can be focused and applied to a changing array of problems. ESS help senior executives monitor firm performance, spot problems, identify opportunities, and forecast trends. These systems can filter out extraneous details for high-level overviews, or they can drill down to provide senior managers with detailed transaction data if required. ESS take advantage of firmwide data provided by enterprise systems.

ESS help senior managers analyze, compare, and highlight trends so that the managers may more easily monitor organizational performance or identify strategic problems and opportunities. They are very useful for environmental scanning, providing business intelligence to help management detect strategic threats or opportunities from the organization's environment. ESS can increase the span of control of senior management, allowing them to oversee more people with fewer resources.

g. What are the issues and technical alternatives to be considered when developing international information systems? (7×4)

Answer:

Implementing a global system requires an implementation strategy that considers both business design and technology platforms. Typically, global systems have evolved without a conscious plan. The remedy is to define a small subset of core business processes and focus on building systems that could support processes. Tactically, you will have to co-opt widely dispersed foreign units to participate in the development and operation of these systems, being careful to maintain overall control.

The main hardware and telecommunications issues are systems integration and connectivity. The choices for integration are to go either with a proprietary architecture or with open systems technology. Global networks are extremely difficult to build and operate. Firms can build their own global networks or they can create global networks based on the Internet (intranets or virtual

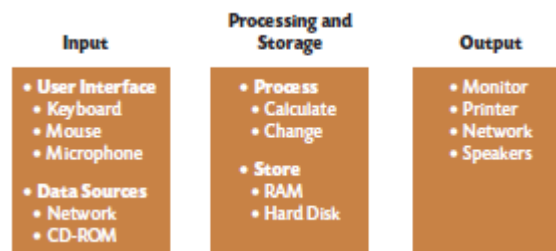
private networks). The main software issue concerns building interfaces to existing systems and selecting applications that can work with multiple cultural, language, and organizational frameworks.

Q.2 a. Describe the building blocks of an information system. What business objectives are supported by Information Systems? (8)

Answer:

An **information system (IS)** collects, processes, stores, analyzes, and distributes information for a specific purpose or objective. Basic functions of an IS are shown in Figure below and described below.

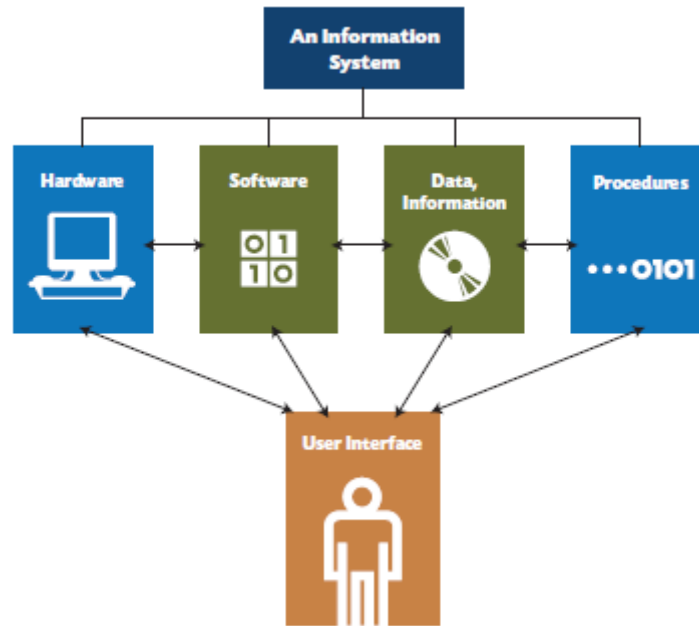
- **Input.** Data and information about business transactions are captured or collected by point-of-sale (POS) scanners and Web sites and received by other input devices.
- **Processing.** Data is transformed, converted, and analyzed for storage or transfer to an output device.
- **Output.** Data, information, reports, and so on are distributed to digital screens or hardcopy (paper), sent as audio, or transferred to other ISs via communication networks.
- **Feedback.** A feedback mechanism monitors and controls operations.



Four basic function of an Information System

The collection of computing systems used by an organization is termed **information technology (IT)**. IT, in its narrow definition, refers to the technological side of an information system. Often the term *information technology* is used interchangeably with *information system*. In this book, we use the term *IT* in its broadest sense— to describe an organization’s collection of information systems, their users, and the management that oversees them. For the most part, the terms *IT* and *IS* are considered to be the same thing.

An IS uses computer technology and networks to perform some or all of its tasks. As you read in the opening section, IS can be as small as a smartphone with a software app that can snap tags to load a Web site. Or it may include several thousand computers of various types, scanners, printers, and other devices connected to databases via wired and wireless telecommunication networks. Basic components of ISs are shown in Figure below.



Components of information System

- *Hardware* is a set of devices such as processor, monitor, keyboard, and printer. Graphical user interfaces, which are called GUI, accept data and information that are then processed by central processing units (CPUs), stored in databases, and displayed on screens.
- *Software* is a set of applications (apps) or programs that instruct the hardware to process data or other inputs such as voice commands.
- *Data* is an essential part processed by the system and, if needed, stored in a database or other storage system.
- A *network* is a telecommunication system connecting hardware that is wired, wireless, or a combination.
- *Procedures* are the set of instructions about how to combine the above components in order to process information and generate the desired output.
- *People* are those individuals who work with the system, interface with it, or use its output.

Information System capabilities support these business objectives:

- Improve productivity (productivity is a measurement or the ratio of inputs to outputs)
- Reduce costs and waste
- Improve the ability to make informed decisions
- Facilitate collaboration
- Enhance customer relationships
- Develop new analytic capabilities
- Provide feedback on performance

b. Explain the different classes of Information System Applications. (10)

Answer:

There are five different classes of information system applications which serve the needs of different users.

1. **Transaction processing systems** are information system applications that capture and process data about business transactions. It can either respond to business transactions such as orders, time cards or payments etc. or initiate transactions such as invoices, paychecks or receipts, or possibly both. Also, transaction processing can respond to both external events (such as processing orders from customers) and internal events (generating production orders).
One dimension of transaction processing system, data maintenance, provides for custodial updates to stored data. For example the system must provide for the ability to add and delete *customers* and *products*, as well as to change specific facts such as *customer address* etc. Business process redesign (BPR) is the study, analysis and redesign of fundamental business processes to reduce costs and / or improve value added to the business.
Examples of transaction processing system includes “Airline reservations”, “hotel check-in / check-out”, “Invoicing or billing”, “Payroll” etc.
2. **Management information system** is an information system application that provides for management-oriented reporting. These reports are usually generated on a predetermined schedule and appear in a prearranged format. Management information systems can present detailed information, summary information, and exception information. Detailed information is used for operations management as well as regulatory requirements. Summary information consolidates raw data to quickly indicated trends and possible problems. Exception information filters data to report exceptions to some rule or criteria. Examples of management information system includes “Budget forecasting and analysis”, “Financial reporting”, “Inventory reporting”, “Sales forecasting” etc.
3. **Decision support system** is an information system application that provides its user with decision-oriented information whenever a decision-making situation arises. When applied to executive managers, these systems are sometimes called executive information system (EIS). A decision support system does not typically make decisions or solve problems. Decision support systems are concerned with providing useful information to support the decision process. In particular, decision supports systems are usually designed to support unstructured decisions, i.e. those decision-making situations that cannot be predicted. In general, a DSS provides one or more of the following types of support to the decision maker:
 - Identification of problems or decision-making opportunities.
 - Identification of possible solutions or decisions.
 - Access to information needed to solve a problem or make a decision.
 - Analysis of possible decisions or of variables that affect a decision. Sometimes this is called “what if” analysis.
 - Simulation of possible solutions and their likely results.
4. **Expert systems** are an extension of the decision support system. An expert system is a programmed decision-making information system that captures and reproduces the knowledge and expertise of an expert problem solver or decision maker and then simulates the thinking or actions of that expert. These expert systems often possess knowledge and expertise that cannot be easily be duplicated or replaced in all organizations. Expert systems are implemented with artificial intelligence technology that captures, stores, and provides access to the reasoning of the experts. Experts system

requires data and information but is unique in their requirement of storing rules (called heuristics) that simulates the reasoning of the experts who use data and information.

5. **Office automation system** is more than word processing and spreadsheet applications. Office automation systems support the wide range of business office activities that provide for improved work flow and communications between workers, regardless of whether or not those workers are located in the same office. Office automation system is more concerned with getting all relevant information to those who need it. Office automation functions include word processing, electronic messages, work group computing facsimile processing etc.

Office automation systems are designed to support both individuals and work groups. Personal information systems are those systems that are designed to meet the needs of a single user. They are designed to boost an individual's productivity. Work group information systems are those designed to meet the needs of a work group. They are designed to boost the group's productivity.

Q.3 a. Describe the various management issues related to Information system. (8)

Answer:

Different management issues are as follows:

1. **Recognizing opportunities for using IT and Web-based systems for strategic advantage and threats associated with not using them.** These opportunities and threats are highlighted and discussed throughout the book.
2. **Who will build, operate, and maintain the information systems?** This is a critical issue because management wants to minimize the cost of IT while maximizing its benefits. Some alternatives are to use cloud computing, to use software-as-a-service (SaaS) models, to outsource IT activities, and to divide the remaining work between the IS department and the end users.
3. **How much IT?** This is a critical issue related to IT planning. IT does not come free, but *not* having it may be much costlier.
4. **What social networking activities should be pursued?** This is an explosive topic and covered extensively in Chapter 8.
5. **How important is IT?** In some cases, IT is the only approach that can help organizations. As time passes, the *comparative advantage* of IT increases.
6. **Globalization** Global competition impacts most companies. At the same time, globalization creates opportunities, ranging from selling and buying products and services online in foreign markets to conducting joint ventures or investing in them. IT supports communications, collaboration, and discovery of information regarding all of the above.
7. **Ethics and social issues** The implementation of IT involves ethical and social issues that are constantly changing due to new developments in technologies and environments.

b. What do you mean by information system prototyping? What are its benefits and limitations? List and describe the steps in the prototyping process. (3+3+4)

Answer:

Prototyping consists of building an experimental system rapidly and inexpensively for end users to evaluate. By interacting with the prototype, users can get a better idea of their information requirements. The prototype endorsed by the users can be used as a template to create the final system.

The prototype is a working version of an information system or part of the system, but it is meant to be only a preliminary model. Once operational, the prototype will be further refined until it

conforms precisely to users requirements. Once the design has been finalized, the prototype can be converted to a polished production system.

Advantages and disadvantages of Prototyping

Prototyping is most useful when there is some uncertainty about requirements or design solutions and often used for designing an information system's end-user interface (the part of the system with which end user interact). Because prototyping encourages intense end-user involvement throughout the systems development life cycle, it is more likely to produce systems that fulfill user requirements.

However, rapid prototyping can gloss over essential steps in system developments. If the completed prototype works reasonable well, management may not see the need for reprogramming, redesign, or full documentation and testing to build a polished production system. Some of these hastily constructed systems may not easily accommodate large quantities or a large number of users in a production environment.

Steps in Prototyping

The four-step model of the prototyping process consists of the following:

- 1) Identify the user's basic requirements: The system designer (usually an information systems specialist) works with the user only long enough to capture the user's basic information needs.
- 2) Develop an initial prototype: The system designer creates a working prototype quickly, using tools for rapidly generating software.
- 3) Use the prototype: The user is encouraged to work with the system to determine how well the prototype meets his or her needs and to make suggestions for improving the prototype.
- 4) Revise and enhance the prototype: The system builder notes all changes the user requests and refines the prototype accordingly. After the prototype has been revised, the cycle returns to step 3. Steps 3 and 4 are repeated until the user is satisfied.

Q.4 a. What are the roles of information policy and data administration in information management? (6)

Answer:

An **information policy** specifies the organization's rules for sharing, disseminating, acquiring, standardizing, classifying, and inventorying information. An information policy lays out specific procedures and accountabilities, identifying which users and organizational units can share information, where information can be distributed, and who is responsible for updating and maintaining the information. For example, a typical information policy would specify that only selected member of the payroll and human resource department would have the right to change and view sensitive employee data, such as an employee's salary or social security number, and that these departments are responsible for making sure that such employee data are accurate.

If you are in a small business, the information policy would be established and implemented by the owners or managers. In a large organization, managing and planning for information as a corporate resource often requires a formal data administration function. **Data administration** is responsible for the specific policies and procedures through which data can be managed as an organizational resource. These responsibilities include developing information policy, planning

for data, overseeing logical database design and data dictionary development, and monitoring how information systems specialists and end-user groups use data.

b. Define and give three examples of an unintentional threat to information system. (6)

Answer:

Unintentional threats fall into three major categories: human errors, environmental hazards, and computer system failures.

- **Human errors** can occur in the design of the hardware or information system. They can also occur during programming, testing, or data entry. Not changing default passwords on a firewall or failing to manage patches create security holes. Human errors also include untrained or unaware users responding to phishing or ignoring security procedures. Human errors contribute to the majority of internal control and infosec problems.
- **Environmental hazards** include volcanoes, earthquakes, blizzards, floods, power failures or strong fluctuations, fires (the most common hazard), defective air conditioning, explosions, radioactive fallout, and water-cooling-system failures. In addition to the primary damage, computer resources can be damaged by side effects, such as smoke and water. Such hazards may disrupt normal computer operations and result in long waiting periods and exorbitant costs while computer programs and data files are re-created.
- **Computer systems failures** can occur as the result of poor manufacturing, defective materials, and outdated or poorly maintained networks (recall the network crash at LAX airport). Unintentional malfunctions can also happen for other reasons, ranging from lack of experience to inadequate testing.

c. Briefly discuss some of the key strengths of using the internet for businesses. (6)

Answer:

Key strengths of using the internet for business are as follows:

- (i) 24 × 7 operation: Round the clock operation is an expensive proposition in the brick-and-mortar world, while it is natural in the 'click and conquer' world.
- (ii) Global reach: The net being inherently global, reaching global customers is relatively easy on the net compared to the world of bricks.
- (iii) Cost of acquiring, serving and relationing customers: It is relatively cheaper to acquire new customers over the net; thanks to 24 × 7 operation and its global reach. Through innovative tools of 'push' technology, it is so possible to retain customer's loyalty with minimum investments.
- (iv) An extended enterprise is easy to build: In today's world, every enterprise is part of the 'connected economy' as such, you need to extend your enterprise all the way to your supplier and business partners. Internet provides an effective way in this regard.
- (v) Disintermediation: using internet, one can directly approach the customers and supplier, ignoring the middle man and in this process reducing the cost also.
- (vi) Improved customer service to your clients: It results in higher satisfaction and more sales.
- (vii) Power to provide the 'best of both the worlds': It benefits in traditional business side by side with the internet tools.
- (viii) A technology based customer interface:
- (ix) The customer controls the interaction.
- (x) Knowledge of customer behavior.
- (xi) Network economics.

Q.5 a. Name and describe the principle technologies and tools that support communication and electronic business. (10)

Answer:

Following are the principle technologies and tools used for communication and coordination:

- **E-mail:** E-mail enables messages to be exchanged from computer to computer, eliminating costly long-distance telephone charges while expediting communication among different parts of organization. E-mail software has capabilities for routing messages to multiple recipients, forwarding messages, and attaching text documents or multimedia files to messages. Although some organizations operate their own internal electronic mail systems, a great deal of e-mail today is sent through the Internet.
- **Instant messaging:** It is a type of chat service that enables participants to create their own private channels. The instant messaging system alerts the user whenever someone on his or her private list is online so that the user can initiate a chat session with other individuals. Instant messaging systems for consumers include Yahoo! Messenger, Windows Live Messenger, AOL Instant Messenger. Companies concerned with securities are building proprietary instant messaging systems with tools such as Lotus Sametime. Instant messaging has migrated to cell phones and wireless handhelds.
- **Usenet:** Usenet newsgroup are worldwide discussion groups posted on Internet electronic bulletin boards on which people share information and ideas on a defined topic, such as radiology or rock bands. Anyone can post messages on these bulletin boards for others to read. Many thousands of groups exist that discuss almost all conceivable topics.
- **Groupware:** Groupware provides capabilities for supporting enterprise-wide communication and collaborative work. Individuals, teams, and workgroups at different locations in the organization use groupware for writing and commenting on group projects, sharing ideas and documents, conducting electronic meetings, tracking the status of tasks and projects, scheduling, and sending e-mail. Any group member can review the ideas of other group members at any time and add to them, or an individual can post a document for others to comment on or edit. Commercial groupware products, such as Lotus Notes and OpenText's LiveLink, are internet based. Microsoft Office Groove is an interesting groupware tool based on peer-to-peer technology that enables people to work directly with other people over the Internet without going through central server sharing files, conversations, and project documents.
- **Internet conferencing:** A growing number of companies are using internet conferencing tools to stage meetings, conferences, and presentations online. Web conferencing and collaboration software provide virtual conference tables for participants to view and modify documents and slides, write or draw on an electronic whiteboard, or share their thoughts and comments using chat or voice conferencing. The current generation of such tools from Lotus, Microsoft, and WebEx work through a standard web browser. Web videoconferencing tools enable meeting participants equipped with web cameras to see and talk to each other using their PCs and web browsers. These forms of electronic conferencing are growing in popularity because they reduce the need for face-to-face meetings, saving travel time and cost.
- **Internet telephony:** Internet telephony enables companies to use Internet technology for telephone voice transmission over the Internet or private networks. Voice over IP (VoIP) technology uses the internet protocol to deliver voice information in digital form using packet switching, avoiding the tolls charged by local and long-distance telephone networks. Calls that would ordinarily be transmitted over public telephone networks

would travel over the corporate network based on the Internet protocol, or the public Internet. IP telephony calls can be made and received with a desktop computer equipped with a microphone and speakers or with a VoIP-enabled telephone.

b. What is Business Process reengineering? What are the five steps in redesigning business processes? (3+5)

Answer:

Business process redesign can be defined as the analysis and design of work flows and processes within and between organizations. Information technology – the capabilities offered by computers, software, and telecommunications – is a key factor in making business process redesign possible.

Five steps in redesigning business processes with IT

1. **Develop business vision and process objectives:** Business objectives are time and cost reductions as well as quality improvement. These objectives should be quantified (e.g., we will increase productivity by 40 percent) and prioritized.
2. **Identify processes to be redesigned:** It is important to identify critical or bottleneck processes. Two approaches for doing so are the exhaustive approach and the high-impact approach. In the exhaustive approach, management identifies all the business processes and prioritizes them. In the high-impact approach, management selects candidate processes by asking, What is broken? The exhaustive approach can be quite time-consuming, while the high-impact approach focuses on the most critical items.
3. **Understand and measure existing processes:** It is important to understand the problems of the current system. Since a baseline is needed in order to measure the outcomes of the redesigned process, the time, cost, and outcomes of the current process must be defined before the reengineering effort begins.
4. **Identify IT levers:** The range of opportunities and ideas for using information technology to support business processes can be investigated and expanded through brainstorming. Participants in this process should be functional-area specialists, information systems professionals, and managers representing various units that could be potentially affected by the process.
5. **Design and build a prototype of the process:** A prototype of the reengineering process should be implemented. The prototype should be designed to satisfy the original process-design objectives. Experience gained from implementing the prototype will offer some new ideas and will contribute to an iterative approach to developing a new technology-supported process.

Q.6 a. “IT has made an impact on society” comment on this statement by illustrating positive and negative impacts of IT on People. (5+5)

Answer:

b. Describe some of the qualitative benefits of decision support systems. (8)

Answer:

Investments in decision support systems technology, development efforts, and support are growing substantially. Because new versions of decision support system are constantly evolving, their costs are difficult to quantify. Measuring the benefits of decision support systems also is difficult because many of these benefits are qualitative. Some of these benefits are follows:

- **The ability to examine more alternatives:** Spreadsheet tools make it possible to analyze alternative ways of allocating resources in a business and to visualize the impact of these options on cash flow. Scenarios that would have taken days to construct and analyze can be viewed in minutes.
- **The ability to achieve a better understanding of the business:** A decision support system can help managers analyze the long-range impact of a new marketing venture or a potential acquisition decision in a reasonable time, making it possible to foresee possible pitfalls and to avoid future problems.
- **The ability to respond quickly to unexpected situations:** Confronted with new tax legislation, many companies have to analyze the impact of new requirements on profitability. Without decision support systems tools, this type of analysis would be time-consuming and limited. With decision support system, businesses can construct new models and quickly adapt them to changes in business policy and market share.
- **The ability to carry out ad hoc types of reporting and analysis:** Many managers want to ask questions of existing databases and to pull out data relevant to current business operations. For example, a marketing manager can extract data on sales of a new product line to department store customers in Northeast within minutes, rather than waiting for a monthly report that overaggregates these sales data and fails to highlight important market trends.
- **The ability to provide timely information for control of ongoing operations:** Information from a decision support system, for example, can provide a better picture of detailed expenses by company, by division, and by department. A report of energy expenses, broken down by division, enables managers to spot deviations from prior years more quickly and to take remedial action to conserve resources.
- **The ability to save time and costs:** If a manager takes five hours to make a budget forecast using a spreadsheet when this analysis would have taken 20 hours to complete using a calculator, the time-effectiveness of accomplishing this task improves substantially. The ability to perform what-if analyses improves the quality of a budget forecast.
- **The ability to make better decisions:** Decision support systems allow managers to consider issues and alternatives that they may not have explored before. Increased depth and sophistication of analysis are possible. Decision support systems help managers explore complex issues, such as marketing strategy and personnel productivity, using relevant data analysis. Access to these data gives managers an opportunity to make better-informed decisions and to substantiate the decisions they have made.

Q.7 a. Evaluate the business benefits of using intelligent techniques for knowledge management. (9)

Answer:

Artificial intelligence lacks the flexibility, breadth, and generality of human intelligence, but it can be used to capture, codify, and extend organizational knowledge. Businesses can use artificial intelligence to help them capture and preserve tacit knowledge; for knowledge discovery; to generate solutions to specific problems that are too massive and complex to be analyzed by human beings on their own; and to help firms search for and filter information.

Expert systems capture tacit knowledge from a limited domain of human expertise and express that knowledge in the form of rules. The strategy to search through the knowledge base, called the inference engine, can use either forward or backward chaining. Expert systems are most useful

for problems of classification or diagnosis. Case-based reasoning represents organizational knowledge as a database of case that can be continually expanded and refined. When the user encounters a new case, the system searches for the similar cases, finds the closest fit, and applies the solutions of the old case to the new case. The new case is stored with successful solutions in the case database.

Fuzzy logic is a software technology for expressing knowledge in the form of rules that use approximate or subjective values. Fuzzy logic has been used for controlling physical devices and is starting to be used for limited decision-making applications.

Neural networks consist of hardware and software that attempt to mimic the thought processes of the human brain. Neural networks are notable for their ability to learn and to recognize patterns that cannot be easily described by humans. They are being used in science, medicine, and business primarily to discriminate patterns in massive amounts of data.

Genetic algorithms develop solutions to particular problems using genetically based processes such as fitness, crossover, and mutation. Genetic algorithms are beginning to be applied to problems involving optimization, product design, and monitoring industrial systems where many alternatives or variables must be evaluated to generate an optimal solution.

Intelligent agents are software programs with built-in or learned knowledge bases that carry out specific, repetitive, and predictable tasks for an individual user, business process, or software application. Intelligent agents can be programmed to navigate through large amounts of data to locate useful information and in some cases act on that information on behalf of the user.

b. Explain the four major strategies for global business and organizational structure while developing international information systems. (9)

Answer:

Four main global strategies form the basis for global firms organizational structure. These are domestic exporter, multinational, franchiser, and transnational. Each of these strategies is pursued with a specific business organizational structure.

The **domestic exporter** strategy is characterized by heavy centralization of corporate activities in the home country of origin. Nearly all international companies begin this way, and some move on to other forms. Production, finance/accounting, sales/marketing, human resources, and strategic management are set up to optimize resources in the home country. International sales are sometimes dispersed using agency agreements or subsidiaries, but even here foreign marketing is totally reliant on the domestic home base for marketing themes and strategies. Caterpillar Corporation and other heavy capital-equipment manufactures fall into this category of firm.

The **multinational strategy** concentrates financial management and control out of a central home base while decentralizing production sales, and marketing operations to units in other countries. The products and services on sale in different countries are adapted to suit local market conditions. The organization becomes a far-flung confederation of production and marketing facilities in different countries.

Franchisers are an interesting mix of old and new. On the one hand, the products created, designed, financed, and initially produced in the home country, but for product-specific reasons must rely heavily on foreign personnel for further production, marketing, and human resources. Food franchisers such as McDonalds, and KFC fit this pattern. McDonalds created a new form of fast-food chain in the United States and continues to rely largely on the United States for inspiration of new products, strategic management, and financing.

Transnational firms are the stateless, truly globally managed firms that may represent a larger part of international business in the future. Transnational firms have no single national headquarters but instead have many regional headquarters and perhaps a world headquarters. In a **transnational** strategy, nearly all the value-adding activities are managed from a global perspective without reference to national borders, optimizing sources of supply and demand wherever they appear, and taking advantage of any local competitive advantages. Transnational firms take the globe, not the home country, as their frame of reference. The governance of these firms has been likened to a federal structure in which there is a strong central management core of decision making, but considerable dispersal of power and financial muscle throughout the global divisions.

Information technology and improvements in global telecommunications are giving international firms more flexibility to shape their global strategies. Protectionism and a need to serve local markets better encourage companies to disperse production facilities and at least become multinational. At the same time, the drive to achieve economies of scale and take advantage of short-term local advantage moves transnationals toward a global management perspective and a concentration of power and authority. Hence, there are forces of decentralization and dispersal, as well as forces of centralization and global coordination.

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