

## Chapter 1 - An Introduction to Information Systems in Organizations

### True / False

1. Information is simply a collection of raw facts such as an employee number or the total hours worked in a week.
  - a. True
  - b. False

*ANSWER:* False

2. Data represents real-world things including raw facts such as image and audio data.
  - a. True
  - b. False

*ANSWER:* True

3. A set of random or unrelated tasks performed to achieve a definite outcome is called a process.
  - a. True
  - b. False

*ANSWER:* False

4. The term *data* is used to label raw facts such as height and weight of a patient.
  - a. True
  - b. False

*ANSWER:* True

5. Reengineering and continuous improvement have the same definition.
  - a. True
  - b. False

*ANSWER:* False

6. A sustaining innovation is one that initially provides a lower level of performance than the marketplace has grown to accept.
  - a. True
  - b. False

*ANSWER:* False

7. The concept of a value chain is not significant to organizations unless they manufacture products.
  - a. True
  - b. False

*ANSWER:* False

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8. Over time, disruptive innovation tends to become less attractive to users in a new market.
- a. True
  - b. False

*ANSWER:* False

9. Perceived usefulness and ease of use of a system influence an individual's attitude toward the system.
- a. True
  - b. False

*ANSWER:* True

10. The diffusion of innovation theory states that adoption of any innovation happens all at once for all members of the targeted population.
- a. True
  - b. False

*ANSWER:* False

11. The diffusion of innovation theory can be useful in planning the rollout of a new information system.
- a. True
  - b. False

*ANSWER:* True

12. The activities that lead to getting the right product into the right consumer's hands in the right quantity at the right time at the right cost are known as value chain management.
- a. True
  - b. False

*ANSWER:* False

13. Opportunities in information systems are available to people from different parts of the world.
- a. True
  - b. False

*ANSWER:* True

14. The role of a systems analyst is narrowly defined and seldom involves communications with others.
- a. True
  - b. False

*ANSWER:* False

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15. The information systems operations group is responsible for the day-to-day running of IS hardware to process the organization's information systems workload.

- a. True
- b. False

*ANSWER:* True

16. The successful implementation for change only happens when people accept the need for change and believe that it will improve factors such as productivity and/or customer satisfaction.

- a. True
- b. False

*ANSWER:* True

17. "Adapting" is the second stage in Lewin's Change Model, which involves learning new work methods, behaviors, and systems.

- a. True
- b. False

*ANSWER:* False

18. According to Lewin's Change Model, an organization must deliberately change old habits, learn new work methods, and accept the new work methods as parts of the job.

- a. True
- b. False

*ANSWER:* True

19. Today, many organizations can function and compete effectively without computer-based information systems.

- a. True
- b. False

*ANSWER:* False

20. For someone to be a good CIO, technical ability is the most important characteristic.

- a. True
- b. False

*ANSWER:* False

21. One of the primary roles of a senior IS manager is to communicate with other areas of the organization to determine changing business needs.

- a. True
- b. False

*ANSWER:* True

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22. A feedback mechanism is an optional component of an information system.
- a. True
  - b. False

*ANSWER:* False

23. An organization's technology infrastructure includes all of the hardware, software, databases, networks, people, and procedures that are configured to collect, manipulate, store, and process data into information.
- a. True
  - b. False

*ANSWER:* True

24. Cole has just landed a job as a sales representative in a department store. Nina is teaching him the set of steps he should follow to ring up, take payment for, and bag a purchase for a customer. Cole is learning a procedure.
- a. True
  - b. False

*ANSWER:* True

### Multiple Choice

25. The process of defining relationships among data to create useful information requires \_\_\_\_\_.
- a. an information system
  - b. a formal education
  - c. knowledge
  - d. intuition

*ANSWER:* c

26. A clothing store chain tracks the sale of each product at each location. Managers use this information to calculate the organization's profits, to track inventory needs, and to determine which styles and fabrics are the most popular among its customers. This is an example of quality information that is \_\_\_\_\_.
- a. flexible
  - b. economical
  - c. relevant
  - d. verifiable

*ANSWER:* a

27. The value of information is directly linked to how it helps decision makers achieve their organization's \_\_\_\_\_.
- a. cost/profit target
  - b. goals
  - c. cost reduction initiatives
  - d. customer satisfaction levels

*ANSWER:* b

28. In terms of information systems, Wikipedia would be an example of \_\_\_\_\_.
- a. a personal IS
  - b. a group IS
  - c. an enterprise IS
  - d. an organizational complement

*ANSWER:* b

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29. Which of the following is NOT an organizational complement?

- a. well-trained workers
- b. system support
- c. new decision rights
- d. familiar processes

*ANSWER:* d

30. To keep information beyond reach of unauthorized users is to keep the information \_\_\_\_\_.

- a. secure
- b. economical
- c. simple
- d. verifiable

*ANSWER:* a

31. Harrison works at a nationally known grocery store chain. He is analyzing sales data from the past five years to determine which low-selling products should be discontinued. Harrison is most likely a(n) \_\_\_\_\_.

- a. data scientist
- b. end user
- c. knowledge worker
- d. top executive

*ANSWER:* a

32. Providing value to a \_\_\_\_\_ is the primary goal of any organization.

- a. stakeholder
- b. product
- c. competitor
- d. service

*ANSWER:* a

33. In a manufacturing organization, the supply chain is a key value chain whose primary activities include all of the following EXCEPT:

- a. inbound logistics
- b. finance and accounting
- c. marketing and sales
- d. customer service

*ANSWER:* b

34. The idea of \_\_\_\_\_ is a form of innovation that constantly seeks ways to improve business processes and add value to products and services.

- a. reengineering
- b. process redesign
- c. disruptive change
- d. continuous improvement

*ANSWER:* d

35. The performance levels of radically new 'high-tech' products usually improve with newer versions. Such types of products are known as

- a. sustaining innovations
- b. continuous improvement
- c. disruptive innovations
- d. business reengineering

*ANSWER:* c

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36. Which of the following theories explains how a new idea or product gains acceptance and spreads through a specific population or subset of an organization?
- a. diffusion of innovation theory
  - b. contingency theory
  - c. public choice theory
  - d. two-factor theory

*ANSWER:* a

37. In a supply chain, \_\_\_\_\_ involve the transformation, movement, and storage of supplies and raw materials.
- a. virtual flows
  - b. matrix flows
  - c. information flows
  - d. physical flows

*ANSWER:* d

38. \_\_\_\_\_ is a visa program that allows skilled employees from foreign lands into the United States.
- a. L-1B
  - b. H-1B
  - c. 4F
  - d. G-5

*ANSWER:* b

39. \_\_\_\_\_ are responsible for running and maintaining information system equipment and also for scheduling, hardware maintenance, and preparing input and output.
- a. Data-entry operators
  - b. System operators
  - c. Web operators
  - d. Local area network operators

*ANSWER:* b

40. \_\_\_\_\_ encompasses all the activities required to get the right product into the right consumer's hands in the right quantity at the right time and at the right cost, from acquisition of raw materials through customer delivery.
- a. Supply chain management
  - b. Value chain management
  - c. Inventory management
  - d. Customer management

*ANSWER:* a

41. Suppose you are assigned to manage a virtual team. Which of the following will you NOT do?
- a. define goals, and set expectations
  - b. be aware of team members cultural sensitivity
  - c. ensure the team members are familiar with each other at a personal level
  - d. hold team meetings regularly - whether the team members like it or not

*ANSWER:* d

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42. Suppose, you need to advise someone about getting a certification. Which of the following will be appropriate advice?
- a. Getting certification is a sure way of improving your income
  - b. Certifications are vendor-specific
  - c. Certifications are the same as courses offered at universities
  - d. You need a college degree before you can take a certification exam

*ANSWER:* b

43. All of the following are positive driving forces that influence change according to Lewin's Theory of Force Field Analysis, EXCEPT:
- a. beliefs
  - b. past performance
  - c. expectations
  - d. cultural norms

*ANSWER:* b

44. According to the diffusion innovation theory, \_\_\_\_\_ are the risk takers, always the first to try new products and ideas.
- a. early majority
  - b. late majority
  - c. early adopters
  - d. innovators

*ANSWER:* d

45. Which of the following is NOT one of the four main components in Leavitt's Diamond?
- a. people
  - b. systems
  - c. tasks
  - d. technology

*ANSWER:* b

46. Positive outcomes of continuous improvement include \_\_\_\_\_.
- a. increased customer loyalty
  - b. increased customer satisfaction
  - c. protection against competitors
  - d. all of these

*ANSWER:* d

47. According to Lewin and Schein's 3-stage model of organizational change, which of the following tasks would be found in the 'unfreezing' stage?
- a. Monitor progress against success criteria
  - b. Establish controls to ensure change is occurring
  - c. Establish processes and systems to institutionalize change
  - d. Assign leaders and implementation team

*ANSWER:* d

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48. Suppose you work at a business unit that has group of people who would rather wait to try a new technique. They listen to and follow the opinion leaders. They would be classified as the \_\_\_\_\_.
- a. innovators
  - b. early adopters
  - c. early majority
  - d. late majority

*ANSWER:* c

49. You might be an information systems worker if you \_\_\_\_\_.
- a. prefer a slow-paced environment, where technology rarely changes
  - b. prefer to work only on the computer and are not interested in the business
  - c. enjoy learning new techniques and enjoy working with people
  - d. are good in book-keeping, like an accountant

*ANSWER:* c

50. In most large organizations, the IS department is divided into the following functions \_\_\_\_\_.
- a. operations and development
  - b. operations, development, and support
  - c. operations and support
  - d. systems, operations, and development

*ANSWER:* b

51. Important functions of the chief information officer include
- a. employing an IS department's equipment and staff to help the organization reach its goals
  - b. monitoring the financial considerations of the IS department, such as return on investment
  - c. ensuring the organization complies with laws and regulations
  - d. all of these

*ANSWER:* d

52. In a large IS organization, the professional who is responsible for maintaining the security and integrity of the organization's systems and data is \_\_\_\_\_.
- a. the data center manager
  - b. the data security manager
  - c. the system security operator
  - d. the information systems security analyst

*ANSWER:* d

53. Which of the following is NOT a task typically associated with the systems analyst role?
- a. conveying system requirements to software developers and network architects
  - b. troubleshooting problems after implementation
  - c. collaborating with others to build a software product from scratch
  - d. choosing and configuring hardware and software

*ANSWER:* c

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54. One method an IS professional might use to find a new job would be \_\_\_\_\_.
- a. seeking referrals from colleagues, friends, and family members
  - b. searching and applying for open positions on Internet job sites
  - c. networking through an IS professionals' organization
  - d. all of these

*ANSWER:* d

55. Which of the following is NOT one of the functions of a computer-based information system?
- a. collect data
  - b. store data
  - c. apply data
  - d. process data

*ANSWER:* c

56. Calligraph Publishing Inc.'s information system allows its customers to access the system to retrieve information on new releases, inventory levels, and more. This must be a \_\_\_\_\_.
- a. personal IS
  - b. group IS
  - c. enterprise IS
  - d. none of these answers

*ANSWER:* c

### Completion

57. \_\_\_\_\_ is the awareness and understanding of a set of information and the ways that information can be made useful to support a specific task or reach a decision.

*ANSWER:* Knowledge

58. For each type of IS (personal, group, enterprise), there are \_\_\_\_\_ that must be in place to ensure successful implementation and use of the system.

*ANSWER:* organizational complements

59. An information system that improves the productivity of individual users in performing stand-alone tasks is called a(n) \_\_\_\_\_.

*ANSWER:* personal IS

60. A manufacturing facility has a series of activities that converts the raw materials into valuable products. Such a series of activities make up the organization's \_\_\_\_\_ chain.

*ANSWER:* value

61. A(n) \_\_\_\_\_ is a group of individuals whose members are distributed geographically, but who collaborate and complete work through the use of information systems technology.

*ANSWER:* virtual team

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62. In any organization, \_\_\_\_\_ such as raw materials, labor, facilities, equipment, and knowledge, are needed to transform them to outputs in a way that increases the input's value.

*ANSWER:* inputs

63. The radical redesign of business processes, organizational structures, information systems, and values of an organization to achieve a breakthrough in business results is known as \_\_\_\_\_.

*ANSWER:* reengineering

64. \_\_\_\_\_ is a theory that proposes that every organizational system is made up of four main components—people, tasks, structure, and technology—with an interaction among the four components so that any change in one of these elements will necessitate a change in the other three elements.

*ANSWER:* Leavitt's diamond

65. The attitude towards using an information system depends on its perceived ease-of-use and perceived \_\_\_\_\_.

*ANSWER:* usefulness

66. In the technology acceptance model (TAM), \_\_\_\_\_ is defined as the degree to which individuals believe that use of the system will improve their performance.

*ANSWER:* perceived usefulness

67. Sarah, as the head of a business division, wants to set up a network access account for a new employee. She should call the \_\_\_\_\_ to get this done.

*ANSWER:* LAN administrator or  
Network administrator

68. A(n) \_\_\_\_\_ is a professional in a developmental group of an information systems department who assists in choosing and configuring hardware and software, matching technology to users' needs, monitoring and testing the system in operation, and troubleshooting problems after implementation.

*ANSWER:* systems analyst

69. \_\_\_\_\_ design and set up databases to meet an organization's needs.

*ANSWER:* Database administrators  
DBAs  
database administrators

70. The \_\_\_\_\_ group of a typical information systems organization is responsible for the day-to-day running of IS hardware to process the organization's information systems workload.

*ANSWER:* operations

71. \_\_\_\_\_ convert a program design developed by a systems analyst or software developer using one of many computer languages.

*ANSWER:* Programmers  
programmers

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72. \_\_\_\_\_ is a process for testing skills and knowledge, which results in a statement by the certifying authority that confirms an individual is capable of performing particular tasks.

*ANSWER:* Certification  
certification

73. Process redesign, which is also known as \_\_\_\_\_, involves the radical redesign of business processes, organizational structures, information systems, and values.

*ANSWER:* business process reengineering

74. "Kaizen" is the Japanese word for \_\_\_\_\_.

*ANSWER:* continuous improvement

75. The \_\_\_\_\_ theory was developed by E.M. Rogers to explain how a new idea or product gains acceptance and diffuses (or spreads) through a specific population or subset of an organization.

*ANSWER:* diffusion of innovation

76. The first stage of Lewin's change model, \_\_\_\_\_, means ceasing old habits and creating a climate that is receptive to change.

*ANSWER:* unfreezing

77. According to Leavitt's theory, \_\_\_\_\_ in one aspect of the information system element will necessitate changes in other elements also.

*ANSWER:* change

78. Laptops are a good example of \_\_\_\_\_ because they are gradually displacing desktop computers due to new and better performance characteristics.

*ANSWER:* disruptive innovation

79. Of the five categories of innovation adopters, \_\_\_\_\_ are always the first to try new products and ideas.

*ANSWER:* innovators

80. \_\_\_\_\_ is the term used to describe the information systems and solutions built and deployed by departments other than the information systems department.

*ANSWER:* Shadow IT  
shadow IT  
Shadow Information Technology  
shadow information technology

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### Essay

81. Briefly distinguish among data, information, and knowledge.

*ANSWER:* Data consists of raw facts, such as employee number or total hours worked in a week, an inventory part number, or the number of units produced on a production line.  
Information is a collection of facts organized and processed so that they have additional value beyond the value of individual facts. For example, a sales manager may want individual sales data summarized to see the total sales for the month. Providing information to customers can also help companies increase revenues and profits.  
Knowledge is the awareness and understanding of a set of information and the ways that information can be made useful to support a specific task or reach a decision. Having knowledge means understanding relationships in information.

82. Define the term value chain and briefly discuss the purpose of the supply chain component in a manufacturing organization.

*ANSWER:* The value chain is a series (chain) of activities that an organization performs to transform inputs into outputs in such a way that the value of the input is increased. In a manufacturing organization, the supply chain is a key value chain whose primary activities include inbound logistics, operations, outbound logistics, marketing and sales, and service. These primary activities are directly concerned with the creation and/or delivery of the product or service. There are also four main areas of support activities, including technology infrastructure, human resource management, accounting and finance, and procurement.

83. Explain the difference between sustaining and disruptive innovation.

*ANSWER:* Sustaining innovation results in enhancements to existing products, services, and ways of operating. Such innovations are important as they enable an organization to continually increase profits, lower costs, and gain market share. A disruptive innovation is one that initially provides a lower level of performance than the marketplace has grown to accept. Over time, however, the disruptive innovation is improved to provide some new performance characteristics and becomes more attractive to users in a new market. As it continues to improve and begins to provide a higher level of performance, it eventually displaces the former product or way of doing things.

84. Discuss the roles, functions, and careers in information systems (IS).

*ANSWER:* Information systems (IS) offer many exciting and rewarding careers. Professionals with careers in information systems can work in an IS department or outside a traditional IS department as Web developers, computer programmers, systems analysts, computer operators, and many other positions. There are also opportunities for IS professionals in the public sector. In addition to technical skills, IS professionals need skills in written and verbal communication, an understanding of organizations and the way they operate, and the ability to work with people and in groups. Most medium to large organizations manage information resources through an IS department. In smaller businesses, one or more people might manage information resources, with support from outsourced services.

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85. Describe both of Lewin's theories—change model and force field analysis—and explain how they are related.

*ANSWER:* Lewin's change model proposes that organizational change goes through three stages: Unfreezing, which means ceasing old habits and creating a climate that is receptive to change; moving, which involves learning new work methods, behaviors, and systems; and refreezing, which involves reinforcing changes to make the new process accepted. Lewin went on to identify two types of forces that can influence these stages, which are explained in his theory of force field analysis. Driving (positive) forces are beliefs, expectations, and cultural norms that encourage change, while restraining (negative) forces make change difficult to accept or implement.