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Using MIS, 13e (Kroenke/Boyle)
Chapter 1 The Importance of MIS

1) _____ states that the number of transistors per square inch on an integrated chip doubles every 18 months.

- A) Nielsen's Law
- B) Faraday's Law
- C) Moore's Law
- D) Newton's Law

Answer: C

Diff: 1 Page Ref: 6

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

2) _____ states that network connection speeds for high-end users will increase by 50 percent per year.

- A) Nielsen's Law
- B) Kryder's Law
- C) Moore's Law
- D) Bell's Law

Answer: A

Diff: 2 Page Ref: 7

AACSB: Information Technology

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Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

3) Which of the following ratios has fallen as a result of Moore's Law?

- A) price/performance
- B) demand/supply
- C) profit/loss
- D) debt/equity

Answer: A

Diff: 1 Page Ref: 6

AACSB: Information Technology

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Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

4) In 1972, computer scientist _____ recognized that digital devices would change the world as they evolved and became widely used.

- A) Gordon Bell
- B) Robert Metcalfe
- C) Gordon Moore
- D) Jakob Nielsen

Answer: A

Diff: 1 Page Ref: 5

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

5) _____ states that the value of a network is equal to the square of the number of users connected to it.

- A) Moore's Law
- B) Metcalfe's Law
- C) Bell's Law
- D) Nielsen's Law

Answer: B

Diff: 1 Page Ref: 7

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

6) Google's Project Loon is a major effort to _____.

- A) decrease the size of storage devices, while increasing their capacity
- B) facilitate the use of Internet on submarines, while they are submerged
- C) promote the use of virtual machines, that operate on voice command
- D) bring Internet access to everyone using a network of inflated balloons

Answer: D

Diff: 2 Page Ref: 7

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

7) A primary metric for social media companies is _____.

- A) revenue
- B) the number of monthly active users
- C) the number of ads shown to users
- D) the total number of users

Answer: B

Diff: 1 Page Ref: 7

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

8) _____ states the storage density on magnetic disks is increasing at an exponential rate.

- A) Nielsen's Law
- B) Faraday's Law
- C) Moore's Law
- D) Kryder's Law

Answer: D

Diff: 1 Page Ref: 7

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

9) The Information Age is a period in history where the production, distribution, and control of information is the primary driver of the economy.

Answer: TRUE

Diff: 1 Page Ref: 5

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

10) The Digital Revolution was the conversion from mechanical and analog devices to digital devices.

Answer: TRUE

Diff: 2 Page Ref: 5

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

11) The hottest jobs are found in marketing companies.

Answer: FALSE

Diff: 1 Page Ref: 5

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

12) Discuss the Digital Revolution.

Answer: The Digital Revolution was the conversion from mechanical and analog devices to digital devices. This shift to digital devices meant monumental changes for companies, individuals, and the society as a whole. The problem was, people couldn't really understand how, or even why, this shift was going to affect them. Much like people today, they based their future projections on past events. They knew factories, bureaucracies, mass production, and operational efficiency. But this knowledge didn't prepare them for the changes that were coming. The Digital Revolution didn't just mean that new "digital" equipment was replacing old mechanical, or analog, equipment. These new digital devices could now be connected to other digital devices and share data among themselves. They could also work faster as processor speed increased.

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AACSB: Information Technology

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

13) State Nielsen's Law. What is the implication of Nielsen's Law for managers?

Answer: According to Nielsen's Law, "network connection speeds for high-end users will increase by 50 percent per year." Because of this law, the types of services and applications that can be provided over networks (i.e. the Internet) have changed radically. Therefore, it is important for managers to realize that, because of Nielsen's Law, networks will become faster, new companies, new products, and new platforms will emerge.

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AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-1: Why is introduction to MIS the most important class in the business school?

Classification: Concept

14) _____ is(are) most likely to be outsourced to the lowest bidder.

- A) The ability to experiment
- B) Routine skills
- C) The ability to collaborate
- D) Abstract reasoning skills

Answer: B

Diff: 2 Page Ref: 9

AACSB: Analytical Thinking

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

15) Abstract reasoning is the ability to _____.

- A) develop ideas and plans with others when performing tasks
- B) make and manipulate models
- C) act quickly on a problem
- D) provide and receive critical feedback

Answer: B

Diff: 1 Page Ref: 10

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

16) _____ is the ability to model the components of a system, to connect the inputs and outputs among those components into a sensible whole that reflects the structure and dynamics of the phenomenon observed.

- A) Abstract reasoning
- B) Systems thinking
- C) Collaboration
- D) Experimentation

Answer: B

Diff: 1 Page Ref: 10

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

17) _____ is defined as making a reasoned analysis of an opportunity, envisioning potential solutions, evaluating those possibilities, and developing the most promising ones, consistent with the resources one has.

- A) Troubleshooting
- B) Abstract reasoning
- C) Problem-solving
- D) Experimentation

Answer: D

Diff: 1 Page Ref: 11

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

18) _____ is the single most important skill for effective collaboration.

- A) Being nice
- B) Experimentation
- C) Being able to connect the inputs with the outputs
- D) Giving and receiving feedback

Answer: D

Diff: 2 Page Ref: 11

AACSB: Analytical Thinking

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

19) The mismatch between the high level of tech skills demanded by employers and the low level of tech skills held by employees is called _____.

- A) the technology skills gap
- B) the digital divide
- C) under demand training
- D) systems thinking

Answer: A

Diff: 1 Page Ref: 12

AACSB: Analytical Thinking

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

20) A person's strong abstract reasoning skills won't be able to easily construct models.

Answer: FALSE

Diff: 1 Page Ref: 10

AACSB: Analytical Thinking

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

21) What job prospects are available for professionals who know how to use information systems (ISs)?

Answer: Information systems and computer technology provide job and wage benefits beyond just IS professionals. As the price of computer technology plummets, the value of jobs that benefit from it increases dramatically. For example, plentiful, high-paying jobs are available to business professionals who know how to use information systems to improve business process quality, or those who know how to interpret data mining results for improved marketing, or those who know how to use emerging technology like 3D printing to create new products and address new markets.

Diff: 3 Page Ref: 13

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

22) Explain the four nonroutine cognitive skills that are key to a successful career today.

Answer: The four nonroutine cognitive skills identified as critical for organizations in the current scenario are as follows:

(1) Abstract reasoning—the ability to make and manipulate models.

(2) Systems thinking—the ability to model the components of a system, to connect the inputs and outputs among those components into a sensible whole that reflects the structure and dynamics of the phenomenon observed.

(3) Collaboration—the activity of two or more people working together to achieve a common goal, result, or work product.

(4) Ability to experiment—making a reasoned analysis of an opportunity, envisioning potential solutions, evaluating those possibilities, and developing the most promising ones, consistent with the resources you have.

Diff: 3 Page Ref: 10-11

AACSB: Information Technology

Course LO: Explain how IS can be used to gain and sustain competitive advantage

Learning Objective: Q1-2: How will MIS affect you?

Classification: Concept

23) Which of the following is an example of computer hardware?

A) a monitor

B) a browser

C) a spreadsheet

D) an operating system

Answer: A

Diff: 1 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

24) Word is an example of the _____ component of an information system.

- A) software
- B) hardware
- C) tangible
- D) physical

Answer: A

Diff: 2 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Application

25) The method used to start a program is part of the _____ component in the five-component framework.

- A) hardware
- B) software
- C) people
- D) procedures

Answer: D

Diff: 2 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Application

26) Noel creates a table listing the number of students in his biology class, their names, ages, and phone numbers. His table is an example of the _____ component of an information system.

- A) program
- B) data
- C) information
- D) hardware

Answer: B

Diff: 2 Page Ref: 14

AACSB: Reflective Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Application

27) The _____ component of the five-component framework of an information system includes individuals who maintain the data and support the networks of computers.

- A) procedural
- B) people
- C) data
- D) networking

Answer: B

Diff: 1 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

28) Which of the following statements is TRUE of business users who administer the development of information systems?

- A) It is mandatory that they hold a degree in database management.
- B) They should take an active role in the system's development.
- C) They should refrain from specifying the system's requirements.
- D) When the system fails, they must refrain from performing tasks related to system recovery.

Answer: B

Diff: 2 Page Ref: 15

AACSB: Information Technology

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-3: What is MIS?

Classification: Concept

29) All of the following are examples of ancillary functions you may be asked to do in your department as a user of information systems (IS) except _____.

- A) create a database
- B) protect the security of the system
- C) back up data
- D) perform tasks while the system is down

Answer: A

Diff: 2 Page Ref: 15

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

30) According to the five-component framework, the five components of an information system are present in every information system.

Answer: TRUE

Diff: 1 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

31) Social networking has only four of the components in the Five-component framework.

Answer: FALSE

Diff: 1 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

32) Define the terms system, information system, and management information system.

Answer: A system is a group of components that interact to achieve some purpose. An information system (IS) is a group of components that interact to produce information. A management information system is defined as a system that helps organizations achieve their strategies.

Diff: 2 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

33) List and briefly explain the five-component model of an information system with examples.

Answer: The five components described in the model are: computer hardware, software, data, procedures, and people. These five components are present in every information system, from the simplest to the most complex. For example, when one uses a computer to write a class report, he/she is using hardware (the computer, storage disk, keyboard, and monitor), software (Word, WordPerfect, or some other word-processing program), data (the words, sentences, and paragraphs in the report), procedures (the methods used to start the program, enter the report, print it, and save and back up the file), and people (the user).

Diff: 3 Page Ref: 14

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Concept

34) What is the difference between information systems (IS) and information technology (IT)?

Answer: An information system (IS) is an assembly of hardware, software, data, procedures, and people that produces information. In contrast, information technology (IT) refers to the products, methods, inventions, and standards used for the purpose of producing information.

Diff: 2 Page Ref: 14

AACSB: Information Technology; Reflective Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-3: What is MIS?

Classification: Application

35) According to the five-component model of information systems, the _____ component provides instructions for the people who use information systems.

- A) software
- B) data
- C) hardware
- D) procedure

Answer: D

Diff: 1 Page Ref: 15

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

36) In the five-component model, the process of automation is a process of moving work from _____.

- A) processes to procedures
- B) procedures to people
- C) the digital mode to the analog mode
- D) the human side to the computer side

Answer: D

Diff: 1 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

37) The hardware components of an information system will act as a(n) _____.

- A) bridge between the computer side and the human side
- B) actor on the human side
- C) instruction on the computer side
- D) actor on the computer side

Answer: D

Diff: 2 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

38) The _____ component in the five-component model of information systems is considered a bridge that connects the computer side and the human side.

- A) software
- B) procedure
- C) data
- D) hardware

Answer: C

Diff: 1 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

39) Which of the following pairs of components constitutes the human side of information systems?

- A) software and procedures
- B) software and people
- C) people and procedures
- D) hardware and people

Answer: C

Diff: 1 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

40) Which of the following is an example of a low-tech information system?

- A) an inventory tracking system that stores millions of records and produces reports every 24 hours
- B) a file of email addresses stored in an email program
- C) a customer support system that keeps track of product issues
- D) a decision support system that analyzes multiple variables

Answer: B

Diff: 2 Page Ref: 17

AACSB: Information Technology; Analytical Thinking

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

41) Which of the following would be the most disruptive to an organization when implementing an information system?

- A) installing new hardware components
- B) creating new databases
- C) developing new programs
- D) changing reporting relationships

Answer: D

Diff: 2 Page Ref: 18

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

42) You cannot increase your basic IQ, but you can increase the quality of your _____.

- A) thinking
- B) procedures
- C) life
- D) habits

Answer: A

Diff: 2 Page Ref: 17

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

43) The five-component framework can be used when assessing the scope of _____.

- A) new systems
- B) hiring new people
- C) life
- D) habits

Answer: A

Diff: 2 Page Ref: 17

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

44) According to the five-component model of information systems, the data and software components of information systems are capable of performing actions.

Answer: FALSE

Diff: 2 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

45) In the five-component model of an information system, data is the bridge between the computer and the human sides.

Answer: TRUE

Diff: 1 Page Ref: 16

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

46) The lower the amount of work to be moved from the human side to the computer side of an information system, the higher is the complexity of that system.

Answer: FALSE

Diff: 2 Page Ref: 16

AACSB: Information Technology

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

47) Obtaining or developing new programs is more difficult than ordering additional hardware.

Answer: TRUE

Diff: 2 Page Ref: 18

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

48) Only humans produce information.

Answer: TRUE

Diff: 1 Page Ref: 17

AACSB: Information Technology

Course LO: Discuss the key issues involved in managing the components of IT infrastructure

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

49) Which is the most important component of an information system? Why?

Answer: People are part of every information system that they use. The user's mind and thinking are not merely a component of the information systems they use; they are the most important component. This is so because, even if users have the perfect information system, if they do not know what to do with the data that it produces, they are wasting both their time and money. The quality of users' thinking is what determines the quality of the information that is produced.

Diff: 2 Page Ref: 17

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

50) Explain how the five components of an information system are arranged in terms of ease of change and organizational disruption.

Answer: The five components of the information systems framework are: computer hardware, software, data, procedures, and people. The five components are arranged in order of ease of change and the amount of organizational disruption. It is usually a simple matter to order new hardware and install it. Obtaining or developing new programs is more difficult. Creating new databases or changing the structure of existing databases is still more difficult. Changing procedures, requiring people to work in new ways, is even more difficult. Finally, changing personnel responsibilities and reporting relationships and hiring and terminating employees are both very difficult and very disruptive to an organization.

Diff: 2 Page Ref: 18

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-4: How can you use the five-component model?

Classification: Concept

51) Which of the following is considered to be information rather than data?

- A) a list of property prices in a neighborhood
- B) the return on investment of an advertising campaign
- C) the total number of students in a school
- D) the price of a company's shares on a given day

Answer: B

Diff: 2 Page Ref: 18

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

52) Which of the following is a common description of information?

- A) collection of unprocessed data
- B) unbiased, unrelated data
- C) knowledge derived from data
- D) list of recorded facts or figures

Answer: C

Diff: 1 Page Ref: 18

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

53) Which of the following best describes data?

- A) information presented in a meaningful context
- B) processed information
- C) recorded facts or figures
- D) knowledge derived from facts or figures
- E) the ability to use knowledge

Answer: C

Diff: 1 Page Ref: 18

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

54) _____ skills determine the ability to conceive information from data.

- A) Cognitive
- B) Abstract reasoning
- C) Symbolic thinking
- D) Experimentation

Answer: A

Diff: 2 Page Ref: 19

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

55) Data becomes information when it is presented in a meaningful context.

Answer: TRUE

Diff: 1 Page Ref: 18

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

56) The statement that the average computer network architect makes \$98,430, is information.

Answer: TRUE

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AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Application

57) Discuss the common definitions of information.

Answer: The most common definition of information is that information is knowledge derived from data, whereas data is defined as recorded facts or figures. Another common definition is that information is data presented in a meaningful context. A third definition of information that one often hears is that information is processed data, or sometimes, information is data processed by summing, ordering, averaging, grouping, comparing, or other similar operations. The fundamental idea of this definition is that individuals do something to data to produce information.

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AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

58) Explain the relation between data and information.

Answer: The relation between data and information can be understood with the help of a graph. The graph is data that humans perceive, and from that perception conceive information. In short, if it's on a piece of paper or on a digital screen, it's data. If it's in the mind of a human, it's information. The quality of thinking, or ability to conceive information from data, is determined by one's cognitive skills. The data is just the data; the information conceived from it is the value that one adds to the information system. People have different perceptions and points of view, not surprisingly, then, they will conceive different information from the same data.

Diff: 3 Page Ref: 18

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-5: What is information?

Classification: Concept

59) Which of the following is a critical characteristic of good information?

- A) abundance of details
- B) accuracy
- C) inexpensive
- D) ease of creation

Answer: B

Diff: 1 Page Ref: 19

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

60) Which of the following statements is TRUE of good information?

- A) Good information should go well beyond the scope of the purpose for which it is generated.
- B) Information should be relevant to the subject, not necessarily to the context.
- C) Good information should be based on correct and complete data.
- D) Good information is only received from sources that provide data for free.

Answer: C

Diff: 2 Page Ref: 19

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

61) In the context of information systems, which of the following statements is TRUE of data characteristics?

- A) Data generated should be in excess of what is required.
- B) An appropriate relationship should exist between the cost of data and its value.
- C) Data should be relevant to the context, not necessarily to the subject.
- D) Freely available data is always accurate and timely.

Answer: B

Diff: 2 Page Ref: 20-21

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

62) Kevin is the manager over the southern part of the country. The administrative assistant provided him a report for the northern part of the country. Kevin thanked his assistant but noted the data was _____ because he only requested the report for his region.

- A) not accurate
- B) created too early
- C) not sufficient
- D) not relevant

Answer: D

Diff: 1 Page Ref: 20

AACSB: Analytical Thinking

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

63) Which of the following is the least critical aspect of good information?

- A) data accuracy
- B) timeliness of data
- C) additional data
- D) relevance of data

Answer: C

Diff: 3 Page Ref: 19

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

64) The marketing director asks James to bring her the sales data from the last quarter; however, he misunderstood and brought her sales data from 2010. The information is not useful because it is not _____.

- A) timely
- B) worth the cost
- C) necessary
- D) crucial

Answer: A

Diff: 2 Page Ref: 20

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

65) As you go higher in management the more data you will be given, but your time will be limited so you will have to _____ some of the data.

- A) ignore
- B) sort
- C) manipulate
- D) add to

Answer: A

Diff: 2 Page Ref: 20

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

66) A good information system is one that provides the users with more information than what is required.

Answer: FALSE

Diff: 2 Page Ref: 21

AACSB: Information Technology

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

67) Data is free.

Answer: FALSE

Diff: 1 Page Ref: 20

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

68) Information systems should be subject to the same financial analyses as other assets.

Answer: TRUE

Diff: 1 Page Ref: 21

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

69) What are the five characteristics of good data?

Answer: The five characteristics of data are as follows:

(1) Accurate—Good information is based on correct and complete data, and it has been processed correctly as expected.

(2) Timely—Good data is produced in time for its intended use.

(3) Relevant—Good data is relevant both to the context and to the subject.

(4) Just barely sufficient—Good data is sufficient for the purpose for which it is generated, but just barely so.

(5) Worth its cost—For good data to be worth its cost, there must be an appropriate relationship between the cost of data and its value.

Diff: 2 Page Ref: 19-21

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

70) Explain why data accuracy is crucial to the success of an information system.

Answer: Good information is conceived from accurate, correct, and complete data that has been processed correctly as expected. The IS function can develop a bad reputation in the organization if a system is known to produce inaccurate data. In such a case, the information system becomes a waste of time and money as users develop workarounds to avoid the inaccurate data.

Diff: 3 Page Ref: 19-20

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

71) Explain the concept of "just barely sufficient" data.

Answer: Data needs to be sufficient for the purpose for which it is generated, but just barely so. We are inundated with data; one of the critical decisions that each of us has to make each day is what data to ignore. The higher one rises into management, the more data one will be given, and because there is only so much time, the more data one will need to ignore. So, data should be sufficient, but just barely.

Diff: 2 Page Ref: 20

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-6: What are the necessary data characteristics?

Classification: Concept

72) Which of the following statements is TRUE about the changes and developments foreseen by the year 2034?

A) Smartphones may fade away.

B) Desktop and portable computers will increase in popularity.

C) Processing image data would be difficult.

D) Mobile devices would have to be charged multiple times a day.

Answer: A

Diff: 1 Page Ref: 21

AACSB: Analytical Thinking

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-7: What to expect in 2034?

Classification: Concept

73) By 2034, your data will be safer and more private.

Answer: FALSE

Diff: 1 Page Ref: 21

AACSB: Information Technology

Course LO: Describe different methods of managing IS security

Learning Objective: Q1-7: What to expect in 2034?

Classification: Concept

74) In the year 2034, you may be able to turn off your smart bulbs by pointing at them.

Answer: TRUE

Diff: 1 Page Ref: 21

AACSB: Analytical Thinking

Course LO: Discuss the role of information systems in supporting business processes

Learning Objective: Q1-7: What to expect in 2034?

Classification: Concept

75) What are some potential downsides of advances in technology in the future?

Answer: By 2034, privacy may be increasingly difficult to maintain. Your data will be collected by new kinds of apps, flowing through the cloud, and be packaged for sale by companies providing "free" services. Social relationships may suffer as well. We may become less connected to people as we become more connected to systems.

Diff: 3 Page Ref: 21

AACSB: Information Technology

Course LO: Describe the components of an information system (IS)

Learning Objective: Q1-7: What to expect in 2034?

Classification: Concept

1. The Importance of MIS

LEARNING OBJECTIVES

- Q1-1 Why is Introduction to MIS the most important class in the business school?
- Q1-2 How will MIS affect you?
- Q1-3 What is MIS?
- Q1-4 How can you use the five-component model?
- Q1-5 What is information?
- Q1-6 What are the necessary data characteristics?
- Q1-7 What to expect in 2034?

CHAPTER OUTLINE

- Q1-1 Why is Introduction to MIS the most important class in the business school?
 - The Digital Revolution
 - Evolving Capabilities
 - Moore's Law
 - Metcalfe's Law
 - Other Forces Pushing Digital Change
 - This Is the Most Important Class in the School of Business
- Q1-2 How Will MIS Affect You?
 - How Can You Attain Job Security?
 - How Can Intro to MIS Help You Learn Nonroutine Cognitive Skills?
 - Abstract Reasoning
 - Critical Thinking
 - Systems Thinking
 - Creativity
 - Ability to Experiment
 - Collaboration
 - Jobs
 - What Is the Bottom Line?
- Q1-3 What Is MIS?
 - Components of an Information System
 - Management and Use of Information Systems
 - Achieving Strategies
- Q1-4 How Can You Use the Five-Component Model?
 - The Most Important Component—You
 - All Components Must Work
 - High-Tech Versus Low-Tech Information Systems
 - Understanding the Scope of New Information Systems
 - Components Ordered by Difficulty and Disruption
- Q1-5 What is Information?
 - Definitions Vary

- Where Is Information?
- Q1-6 What Are the Necessary Data Characteristics?
- Accurate
 - Timely
 - Relevant
 - Just Barely Sufficient
 - Worth Its Cost
- Q1-7 What to Expect in 2034?

Case Study 1

Pluralsight

1-10. Go to <http://pluralsight.com> and search for a course you might be interested in taking. What is attractive to you about online versus traditional training?

Student answers will vary in terms of the course that they find interesting. Attractive features of online training versus traditional classroom training include the convenience and flexibility of taking a lesson/course when time allows. (LO: 1, Learning Outcome: Describe the effects of e-commerce on the modern business world, AACSB: Analytic Skills)

1-11. What advice would you give executives at Pluralsight if they wanted to grow their business? How could they increase revenues?

Pluralsight has traditionally focused on corporate training. Students might be more familiar with an academic environment and might suggest that Pluralsight establish programs with universities so that students could take courses to supplement their traditional coursework at a reduced rate. Possibly some companies could be lined up to help pay the subscription rate, since the students should be more able to provide needed skills to those companies when they graduate. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Analytic Skills)

1-12. Why would corporate clients be interested in online technology training for their internal employees? How would they benefit from paying Pluralsight for training?

Technical skill requirements are constantly changing, and employee skills constantly need to be updated. Paying for skills training from Pluralsight is probably much more cost-effective for a company than trying to provide the training in-house. Pluralsight is a training outsourcer and if their training quality is good, the company is much better off obtaining the training this way. (LO: 1, Learning Outcome: Discuss the role of information systems in supporting business processes, AACSB: Analytic Skills)

1-13. Why is there a technology skills gap? Why do employers have the need for highly skilled workers, and why do too few workers have these skills?

It is difficult for a traditional college or university to include every type of technology skill in its curriculum, so graduates will not necessarily know every type of technology an employer requires. In addition, skills required evolve quickly and employees need to be updated and retrained on new technologies. (LO: 2, Learning Outcome: Discuss the role of information systems in supporting business processes, AACSB: Analytic Skills)

- 1-14. *How might a traditional university benefit from a partnership with Pluralsight? Why might some universities see such a partnership as a threat to their existence, while others might see it as a great opportunity?*

Universities could benefit from a partnership with Pluralsight in several ways. One, a university's IT staff would undoubtedly benefit from access to these training courses. Two, faculty members in certain fields might like to enhance their own knowledge and skills. Finally, students might like to supplement their more traditional classes with training that is more skills-focused, such as those offered in Pluralsight courses. Many universities would not fear this partnership because their courses are not focused only on technical skills but more on conceptual knowledge. Colleges and universities that do offer focused skills training might find this partnership a little threatening if students preferred the Pluralsight online courses to the traditional university offerings. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Reflective Thinking)

- 1-15. *Suppose you were considering buying stock in Pluralsight. What types of threats might Pluralsight face in the future? Could a large tech company mimic its business model and threaten its profitability? How could Pluralsight defend against this type of competition?*

Like any company today, there are constant competitive threats. An example of a threat that could disrupt Pluralsight is the rapid growth of cloud computing. A major cloud computing provider, such as Amazon, could launch a skills training business geared toward all its cloud computing environments and tools that would be far superior to Pluralsight's. Pluralsight could defend against this by establishing a partnership with Amazon to provide Amazon's cloud computing skills training. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Reflective Thinking)

So What?

IoTrends

1. *People often use the terms Web and Internet interchangeably, but they are not the same. Do your best to define each and identify exactly how they are different.*

Student answers will vary, but a good explanation can be found at the website

<https://www.geeksforgeeks.org/whats-difference-internet-web/#:~:text=The%20Internet%20is%20a%20global,on%20top%20of%20that%20in%20infrastructure>. It states: "The Internet is a global network of networks while the Web,

also referred formally as World Wide Web (www) is collection of information which is accessed via the Internet. Another way to look at this difference is: The Internet is infrastructure while the Web is service on top of that infrastructure.”

2. *The article talks about Web 1.0 and Web 2.0. You may be wondering if Web 2.0 is the end of the line. What do you think—will there be a Web 3.0, and if so, what would it entail?*

Student responses will vary, but should cover some ideas and concepts that are not already part of Web 1.0 or Web 2.0 specifically.

3. *While IoT is clearly having an impact on businesses (e.g., tracking manufacturing using sensors in production lines) and cities (e.g., tracking traffic flows, lighting, public transportation), how has IoT impacted your life? Do you have any IoT devices in your apartment or home? If not, which IoT devices would you be interested in owning?*

Student answers will vary, but some devices could include Amazon Echo, Google Nest, and similar devices.

4. *Do you think IoT devices feature the newest and most advanced security measures, or could there be potential security risks from using IoT devices?*

Student answers will vary, but should point out that often times upon release new products do not have all their security holes covered so users should be aware and proceed with caution.

Security Guide

PASSWORDS AND PASSWORD ETIQUETTE

1. *Here is a line from Shakespeare's Macbeth: "Tomorrow, and tomorrow, and tomorrow, creeps in this petty pace." Explain how to use these lines to create a password. How could you add numbers and special characters to the password in a way that you will be able to remember?*

There are several correct ways to create a password from this line. One way might be to take the first letters from each word. The password would then be "tatatcitpp." You could then capitalize a couple of the letters and add in special characters or numbers. The resulting password could be "T&2morrow&tcitPP." This would be a very secure password.

2. *List two different phrases that you can use to create a strong password. Show the password created by each.*

There will be many correct answers to this question. Using a passphrase to create a password is done by using the first letters in the phrase, then changing some of the letters by substituting in special characters, numbers, or changes of case. For example, the phrase, "I never count my chickens before the eggs have hatched!" could create the password "iNcmCHKNSb4t3ggsHH!" This would be a great password.

3. *One of the problems of life in the cyberworld is that we all are required to have multiple passwords—one for work or school, one for bank accounts, another for eBay or other auction sites, and so forth. Of course, it is better to use different passwords for each. But in that case, you have to remember three or four different passwords. Think of different phrases you can use to create a memorable, strong password for each of these different accounts. Relate the phrase to the purpose of the account. Show the passwords for each.*

There will be many correct answers to this question. For example, a passphrase for a university account may look something like, “I will graduate from state university before 2020 or bust!” This could yield a password that would look like “IwgfSUB42020ORB!”

4. *Explain the proper behavior when you are using your computer and you need to enter, for some valid reason, another person's password.*

In this case, say to the other person, “We need your password,” and then get out of your chair, offer your keyboard to the other person, and look away while she enters the password. Among professionals working in organizations that take security seriously, this little “do-si-do” move—one person getting out of the way so another person can enter her password—is common and accepted.

5. *Explain the proper behavior when someone else is using her computer and that person needs to enter your password for a valid reason.*

If someone asks for your password, do not give it out. Instead, get up, go over to that person's machine, and enter your own password yourself. Stay present while your password is in use, and ensure that your account is logged out at the end of the activity. No one should mind or be offended in any way when you do this. It is the mark of a professional.

The sections on Career Guide, Ethics Guide and Ask an AI are missing.

No “Using Your Knowledge” section.

Collaboration Exercise 1

This chapter discussed why collaboration is a key skill for maintaining job security. In this exercise, you will build a collaboration IS and then use that IS to answer the questions below in a collaborative fashion. You might want to read the four questions below before you build your IS.

Until you answer question 1-5, you'll have to make do with email or face-to-face meetings. Once you've answered that question, use your communication method to answer question 1-6. Once you've answered question 1-6, use your communication method and your content-sharing method to answer question 1-7. Then use the full IS to answer questions 1-8 and 1-9.

1-5 Build a communication method:

- a. *Meet with your team and decide how you want to meet in the future.*
Student decisions will vary. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)
- b. *From the discussion in step a, list the requirements for your communication system.*
Student answers will vary. Expect students to include requirements in terms of ease of use, availability, and features that support the way the team wants to work. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)
- c. *Select and implement a communication tool. It could be Skype, Google Meet, Zoom, or Skype for Business.*
Student choices will vary depending on their decision in step b above. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)
- d. *Write procedures for the team to use when utilizing your new communication tool.*
Student answers will vary. Look for students to include procedures regarding meeting notifications, tardiness and missing meetings, and designating a team member to send out reminders. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

1-6 Build a content-sharing method:

- a. *Meet with your team and decide the types of content that you will be creating.*
Student answers will vary. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)
- b. *Decide as a team whether you want to process your content using desktop applications or cloud-based applications. Choose the applications you want to use.*
Student answers will vary. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)
- c. *Decide as a team the server you will use to share your content. You can use Google Drive, Microsoft OneDrive, Microsoft SharePoint, or some other server.*
Student answers will vary. Student decisions will depend in part on the availability of tools, such as SharePoint, in their environment. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

d. *Implement your content-sharing server.*

No specific answer; a task to be performed by students. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

e. *Write procedures for the team to use when sharing content.*

Student answers will vary. Look for students to include procedures regarding responding to requests to edit, timeliness of responses, and expectations for participating in content review. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

1-7 Build a task management method:

a. *Meet with your team and decide how you want to manage tasks. Determine the task data that you want to store on your task list.*

Student answers will vary. Check to see that the task data listed by the team is complete, and includes at least: a task name, task description, task assignment, task due date, task check-out and check-in, and priority. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

b. *Decide as a team the tool and server you will use for sharing your tasks. You can use Google Drive, Microsoft OneDrive, Microsoft SharePoint, or some other facility.*

Student decisions will depend in part on the availability of tools, such as SharePoint, in their environment. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

c. *Implement the tool and server in step a.*

No specific answer; a task to be performed by students. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

d. *Write procedures for the team to use when managing tasks.*

Student answers will vary. Look for students to include procedures regarding task creation, task assignment, priority setting, check-out and check-in, and meeting deadlines. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

1-8 Nonroutine skills:

a. *Define **abstract reasoning** and explain why it is an important skill for business professionals. Give three other examples of abstractions commonly used in*

business.

Abstract reasoning is the ability to construct and use a model or representation. Being able to construct a model or representation of a complex situation through abstract reasoning is an important skill for business professionals, who frequently must make decisions in uncertain and highly complex situations. This is a highly marketable skill. Student answers will vary, but some examples of abstractions used in business include a list of items in inventory and their quantity on hand, project plans, budgets, and business process models. (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

- b. Define **critical thinking** and explain why it is an important skill for business professionals. Give an example of how critical thinking would be necessary when starting a small business.

Critical thinking is the ability to analyze facts using rational thinking to form a judgment that will achieve a satisfactory result. Business professionals need to think critically about the potential uses for or risks associated with new technologies, for example. Student answers will vary, but answers may focus on the in-depth analysis of circumstances around a potential business decision utilizing data and logic.

- c. Define **systems thinking** and explain why it is an important skill for business professionals. Give three other examples of the use of systems thinking with regard to the consequences of Bell's Law, Moore's Law, or Metcalfe's Law. Systems thinking involves identifying and modeling the components of a system and connecting the inputs and outputs among those components into a sensible whole, one that explains the phenomenon observed. This is an important skill because business people must be able to identify and understand the relationships among the elements involved in a complex situation. Regarding examples, student answers will vary. Bell's Law, for example, states that digital devices will evolve so quickly that they will enable new platforms, programming environments, industries, networks, and information systems every 10 years. Right now, smartphones and tablet devices are predominant platforms for consumers, but how will that evolve and what does that mean for current smartphone/tablet providers? Will smart watches finally catch on, or some other "wearable" product? (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)
- d. Define **creativity** and explain why it is an important skill for business professionals. Why would creativity be important for a person trying to understand how to use ChatGPT in their organization?

Creativity is the ability to generate new ideas or alternatives that can be used to solve unique problems. It can come in many forms but in the context of business, it's about finding new ways of solving problems. Student answers will vary, but answers to the second part of the question should focus on the importance of looking at tools and problems in new ways.

- e. Define **experimentation** and explain why it is an important skill for business professionals. How does the fear of failure influence your willingness to engage in experimentation?

Experimentation involves creating and testing promising new alternatives, consistent with available resources. In today's demanding business environment, new ideas will be essential to success, and business people must overcome their fear of failure and pursue new approaches rationally. If any of the group members respond to a suggested process with the comment, "that will never work," they may be reflecting their fear of failure. Unwillingness to try a new way of doing things may be an accurate assessment that the approach is unworkable, but it could also be an unwillingness to work in a new way. (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

- f. Define **collaboration** and explain why it is an important skill for business professionals. Is the work product of your team better than any one of you could have done separately? If not, your collaboration is ineffective. If that is the case, explain why.

Collaboration is the ability to work productively with others when developing ideas and plans. A good collaboration results in a final product that is superior to one that would be developed by a person working alone. Regarding student teams, the students' answers will vary. It is likely that students have not spent enough time and effort reviewing and evaluating each other's ideas and improving the work product. Often student groups are satisfied with whatever is contributed and little attention is paid to critique and refinement. (LO: 2, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

1-9 Job security:

- a. State the text's definition of **job security**.

The text defines job security as "a marketable skill and the courage to use it." The text also argues that marketable skills are no longer specific task-related skills, but rather "strong nonroutine cognitive skills." (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

- b. Evaluate the text's definition of job security. Is it effective? If you think not, offer a better definition of job security.

It is likely that students will be dismayed that the more traditional task-oriented skills they are learning (e.g., computer programming, accounting) will not provide them with job security. That is probably contrary to the message they receive from their parents and grandparents. However, this definition of *job security* should cause the students to think critically about what they are getting from their college education and may cause them to think differently about their experiences in college. (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

- c. *As a team, do you agree that improving your skills on the four dimensions in Collaboration Exercise Questions will increase your job security?*

Student answers will vary, but we hope that thinking about these dimensions will change their attitudes about what comprises marketable skills and how to work to develop them. (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

- d. *Do you think technical skills (accounting proficiency, financial analysis proficiency, etc.) provide job security? Why or why not? Do you think you would have answered this question differently in 2010? Why or why not?*

Technical skills are not irrelevant to job security, but they are not sufficient to guarantee job security. This circumstance is very different than in 2010, when technical skills probably were sufficient to get and keep a decent job. (LO: 2, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)