

Chapter 2: Information Management and IT Architecture

Test Bank

Multiple Choice

1. Applications that collect and combine data (e.g. images, audio, video, location data, social data, and so on) from multiple sources, then organize and use them for some new purpose are called _____.
 - a. 3D data apps
 - b. Mashups
 - c. Data merge or data merger apps
 - d. Multi-source data apps

Answer: B

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

2. The most potentially valuable and challenging type of information is _____—the semi-structured or unstructured content generated by humans from social media, mobile devices, search engines, and sensors as well as texts, images, audio, and video.
 - a. **Human information**
 - b. **Multi-media information**
 - c. **Cultural information**
 - d. Qualitative information

Answer: A

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of information technology

3. The “blueprints” that guide and govern software add-ons, upgrades, hardware, systems, networks, cloud services and other IT are known as _____.
- a. IT plans
 - b. IT architectures
 - c. IT strategies
 - d. IT development

Answer: B

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of information technology

4. IT architectures or enterprise architectures are the terms used to describe _____.
- a. The “blueprints” that guide and govern software add-ons, upgrades, hardware, systems, networks, cloud services and other IT.
 - b. The working parts of both desktop and mobile computing devices.
 - c. Potential job titles of IT professionals responsible for determining how to put new technology into older buildings.
 - d. A new field of study that combines technology and traditional construction or design concepts.

Answer:

Difficulty:

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of information technology

5. _____ deals with how information is stored and organized; and the speed at which it is captured, analyzed, and reported.
- a. Data structure
 - b. Visual data
 - c. Technology management
 - d. **Information management**

Answer: D

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of information technology

6. Fred Meyer, a chain of retail stores in the Pacific Northwest, has a page on their Web site that pulls address, phone number, store hours, and driving distance information from a variety of sources and plots it onto a digital map created by Bing (Microsoft). Consumers can even generate turn by turn instructions for driving to a specific store location. This kind of multi-source, information rich application is called _____.
- a. Cooperative IT integration
 - b. Data merge or data merger
 - c. Synching or a data sync
 - d. A consumer mashup

Answer: D

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

7. _____ combine data from multiple internal and public sources and publishes the results to enterprise portals, dashboards, or the cloud.
- a. Enterprise mashups
 - b. Complex mashup
 - c. Information rich mashup
 - d. Dense mashup

Answer: A

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

8. The overall goal of information management is _____
- a. To reduce costs and maintain high standards of information security by setting strict guidelines for access
 - b. To design and implement a well-planned out IT architecture, policies, and procedures needed to effectively and efficiently support the information and decision needs of an organization.
 - c. To insure compliance with government regulations regarding privacy, security and confidentiality.
 - d. Reduce the size of an organization's workforce and reliance on human employees.

Answer: B

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

9. _____ are ISs that do not have the capability to exchange data with other ISs making timely coordination and communication across functions or departments difficult.
- a. Data warehouses
 - b. Data (or information) silos
 - c. Isolated data vaults
 - d. Traditional information systems

Answer: B

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

10. Most health care organizations are drowning in data, yet cannot get reliable, actionable insights from this data. Information from physician notes, registration forms, discharge summaries, documents and so on often go unused or are difficult for administrators and managers to access. One of the primary reasons cited in your text for this problem is that _____.

- a. Cutbacks in funding for IT departments have reduced their ability to operate effectively
- b. Users lack training and experience with modern software apps
- c. The data is “trapped” in silos
- d. Security policies that are too stringent

Answer: C

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

11. Which of the following was not cited in your text as a primary reason for information inefficiencies – situations where data is not available or being used to create competitive advantages for organizations?

- a. Data is trapped in silos
- b. Information is lost or bypassed
- c. User-fierce formats – apps with poor interfaces or formats that require extra time to figure out or understand
- d. Prohibitive cost of high quality data.

Answer: D

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

12. _____ are metrics that define and measure progress toward organizational goals—and deviations from those goals.
- a. Data analytics
 - b. KPIs - Key performance indicators.
 - c. Strategic metrics
 - d. Operational metrics

Answer: D

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

13. There is an old adage that says “If you can’t measure it, you can’t manage it”. Managers who want to measure and track their organization’s performance will frequently use _____ to evaluate their company’s progress toward goals.
- a. Strategies
 - b. Standardized data
 - c. Key Performance Indicators (KPIs)
 - d. Goal tracking analysis (GTA)

Answer: C

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

14. Stan Marsh is V.P. of sales at Ski Warehouse, a chain of snow sports equipment outlets throughout the rocky mountain and northwest regions of the United States, The company was built over time by purchasing successful independent sporting equipment retailers. Stan now finds it difficult to evaluate some of his store locations because they report their sales figures on a quarterly basis rather than monthly as do the stores in the rest of the company. This is an example of which of the following factors that cause information deficiencies cited in your text?

- a. Lost or bypassed data
- b. User-fierce interfaces
- c. Data silos
- d. Non-standardized data

Answer: D

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

15. Trillings College invested over \$450,000 in a customized learning management system so that professors could put courses online and use the Internet to deliver course content and communications to students. After the first year of use, only 20% of the faculty were using the system. Administrators were frustrated to learn that most faculty found the system difficult to use, they did not understand how to post student grades and assignments to the new platform and that students also had difficulty understanding how to find information on the system. This case is an example of which of the following information deficiency causes cited in your text?

- a. Lost or bypassed data
- b. User-fierce interfaces
- c. Data silos
- d. Non-standardized data

Answer: B

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

16. Mashups that primarily serve business functions such as supporting performance management and reporting, are called _____.

- a. Enterprise mashups
- b. Organizational mashups
- c. Operational mashups
- d. Performance mashups

Answer: A

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Information Technology

17. A common title for the person in charge of an organization's IT is:

- a. IT Project Director
- b. Chief Information Officer (CIO)
- c. Chief Technology Officers (CTO)
- d. Vice-President of Information Services

Answer: A

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB:

18. According to a study by Forrester Research, spending on IT is expected to increase in the near future. Which of the following was not cited as one of the strategic benefits organizations hope to achieve through improved information management?

- a. Improving decision quality
- b. Improves predictions
- c. Reduces risk
- d. Improved brand awareness

Answer: D

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

19. Changes in an organization's storage capability, applications and/or databases should be anticipated as part of _____.

- a. The organization's long-range planning process
- b. An audit of the annual budget
- c. A review of future technology trends
- d. An audit of past technology expenses

Answer: A

Difficulty: Easy

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

20. Which of the following is one of the 4 components of IT Architecture described in your text?

- a. Application architecture
- b. Mobile architecture
- c. Telecommunications architecture
- d. Computing architecture

Answer: A

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

21. Which of the following is one of the 4 components of IT Architecture described in your text?

- a. Collaborative tool architecture
- b. Telecommunications architecture
- c. Wireless architecture
- d. Business architecture

Answer: D

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

22. Which of the following is one of the 4 components of IT Architecture described in your text?

- a. Analytics architecture
- b. Data architecture
- c. Telecommunications architecture
- d. Social technology architecture

Answer: B

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

23. Which of the following is one of the 4 components of IT Architecture described in your text?

- a. Processing architecture
- b. Visualization architecture
- c. Technical architecture
- d. Computing architecture

Answer: C

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

24. A company's business architecture describes _____.

- a. How specific applications are designed and how they interact with each other.
- b. How an enterprise's data stores are organized and accessed.
- c. The hardware and software infrastructure that supports applications and their interactions.
- d. The processes a business uses to meet its goals.

Answer: D

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

25. A company's application architecture describes _____.

- a. How specific applications are designed and how they interact with each other.
- b. How an enterprise's data stores are organized and accessed.
- c. The hardware and software infrastructure that supports applications and their interactions.
- d. The process a business uses to meet its goals.

Answer: A

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

26. A company's data architecture describes _____.

- a. The technical specifications for various types of computing devices.
- b. How specific applications are designed and how they interact with each other.
- c. How an enterprise's data stores are organized and accessed.
- d. The hardware and software infrastructure that supports applications and their interactions.

Answer: C

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

27. A company's technical architecture describes _____.

- a. The process a business uses to meet its goals.
- b. How specific applications are designed and how they interact with each other.
- c. How an enterprise's data stores are organized and accessed.
- d. The hardware and software infrastructure that supports applications and their interactions.

Answer: D

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

28. Which of the following is not cited by your text as a way to measure the success of IT architecture?

- a. Profitability and Return on Investment (ROI)
- b. Technology Lifespan - how long a technology or application lasts before it is replaced by something better
- c. Customer satisfaction
- d. Employee Turnover

Answer: B

Difficulty: Hard

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

29. A(n) _____ is a vision of the future IT architecture that evolves *in advance of it being achieved*.

- a. **Potential IT architecture**
- b. **Impending IT architecture**
- c. Target IT architecture
- d. Planned IT architecture

Answer: C

Difficulty: Hard

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

30. A _____, consisting of short- and long-term strategies, is necessary for managing the change from baseline IT architecture to target IT architecture.

- a. Strategic Technology Audit (STA)
- b. Sequencing plan
- c. Roll-out blueprint
- d. Computing strategy

Answer: B

Difficulty: Hard

Section Ref: 2.2 IT Architecture

AACSB: Information Technology

31. Your textbook differentiates the terms “data”, “information” and “knowledge”. With regard to a customer satisfaction application for the automobile industry, which of the following is an example of data?

- a. The ability to create a program that provides rewards for dealerships with high levels of customer satisfaction and corrective action plans for dealerships that have low levels of satisfaction.
- b. The Web-based application that collects and stores records of customer satisfaction surveys and allows dealerships to view their data.
- c. Reports that summarize ratings for a specific dealership including a calculation of the average rating across all survey questions and a calculation of summary statistics for groups of questions that correspond to important dimensions such as dealership staff, satisfaction with product, quality of service and so on.
- d. Records containing numerical ratings from customer surveys completed online after each visit to a dealership.

Answer: D

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

32. Your textbook differentiates the terms “data”, “information” and “knowledge”. With regard to a customer satisfaction application for the automobile industry, which of the following is an example of information?

- a. The ability to create a program that provides rewards for dealerships with high levels of customer satisfaction and corrective action plans for dealerships that have low levels of satisfaction.
- b. The Web-based application that collects and stores records of customer satisfaction surveys and allows dealerships to view their data.
- c. Reports that summarize ratings for a specific dealership including a calculation of the average rating across all survey questions and a calculation of summary statistics for groups of questions that correspond to important dimensions such as dealership staff, satisfaction with product, quality of service and so on.
- d. Records containing numerical ratings from customer surveys completed online after each visit to a dealership.

Answer: C

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

33. Your textbook differentiates the terms “data”, “information” and “knowledge”. With regard to a customer satisfaction application for the automobile industry, which of the following is an example of knowledge?

- a. The ability to create a program that provides rewards for dealerships with high levels of customer satisfaction and corrective action plans for dealerships that have low levels of satisfaction.
- b. The Web-based application that collects and stores records of customer satisfaction surveys and allows dealerships to view their data.
- c. Reports that summarize ratings for a specific dealership including a calculation of the average rating across all survey questions and a calculation of summary statistics for groups of questions that correspond to important dimensions such as dealership staff, satisfaction with product, quality of service and so on.
- d. Records containing numerical ratings from customer surveys completed online after each visit to a dealership.

Answer: A

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

34. Your textbook differentiates the terms “data”, “information” and “knowledge”. With regard to a customer satisfaction application for the automobile industry, which of the following is an example of a database?

- a. The ability to create a program that provides rewards for dealerships with high levels of customer satisfaction and corrective action plans for dealerships that have low levels of satisfaction.
- b. The Web-based application that collects and stores records of customer satisfaction surveys and allows dealerships to view their data.
- c. Reports that summarize ratings for a specific dealership including a calculation of the average rating across all survey questions and a calculation of summary statistics for groups of questions that correspond to important dimensions such as dealership staff, satisfaction with product, quality of service and so on.
- d. Records containing numerical ratings from customer surveys completed online after each visit to a dealership.

Answer: B

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

35. The collection of computing systems used by an organization is called _____.

- a. IT architecture or Enterprise architecture
- b. **Information technology (IT)** or an Information System (IS)
- c. A network
- d. The Internet

Answer: B

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

36. Which of the following is not a component of the Input-Processing-Output (IPO) model of an Information System?

- a. Upgrading software and/or hardware according to a strategic plan
- b. Storage – saving data and information so that it can be accessed in the future
- c. Working with information –changing, calculating, or manipulating
- d. Communicating – Sending results, providing feedback

Answer: A

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

37. Data from sales orders, payroll, accounting, financial, marketing, purchasing, inventory control, and so forth are processed by a combination of hardware and software called _____ Processing Systems.

- a. Financial (FPS)
- b. Enterprise (EPS)
- c. Transaction (TPS)
- d. Monetary (MPS)

Answer: C

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

38. Transactions are typically processed, A) all together for a defined time window (e.g. end of a day, shift or other time period) or B) processed as each transaction occurs. The first method (A) of processing is called:

- a. Group processing
- b. Periodic processing
- c. Cluster processing
- d. Batch processing

Answer: D

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

39. Transactions are typically processed, A) all together for a defined time window (e.g. end of a day, shift or other time period) or B) processed as each transaction occurs. The second method (B) of processing is called:

- a. Swift processing
- b. Rapid processing
- c. Real-time processing
- d. Instantaneous processing

Answer: C

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

40. Organizations strive to maintain _____ by validating data - detecting and eliminating obvious errors and omissions, because the more efficiently and thoroughly an organization gathers, stores, processes, retrieves and uses its data, the more productive it is.

- a. Ethical standards
- b. High levels of data quality
- c. Internal standards
- d. Transaction costs

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

41. A general purpose Information System (IS) designed to provide reports to managers for tracking operations, monitoring and control is called a(n):

- a. Monitoring Information System (MIS)
- b. Management Information System (MIS)
- c. Multi-function Information System (MIS)
- d. Marketing Information System (MIS)

Answer: B

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

42. A company's MIS is used to generate different kinds of reports to managers. What kind of reports are created or run according to a pre-set schedule (e.g. daily, weekly, or monthly) and distributed via email or internal company websites (called intranets)?

- a. Exception reports
- b. Ad hoc reports
- c. Periodic reports
- d. Management reports

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

43. A company's MIS is used to generate different kinds of reports to managers. What kind of reports are created or run only when something is outside the norm because some unusual event or deviation has occurred?

- a. Exception reports
- b. Ad hoc reports
- c. Periodic reports
- d. Management reports

Answer: A

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

44. A company's MIS is used to generate different kinds of reports to managers. What kind of reports are unplanned reports and generated on request to learn more about a situation, problem, or opportunity? They are often generated to a screen or printed on an as needed basis
- a. Exception reports
 - b. Ad hoc reports
 - c. Periodic reports
 - d. Management reports

Answer: B

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

45. Managers use software applications that help them make decisions that would otherwise take a lot of time to figure out. For instance, these tools can help figure out if a customer qualifies for an auto loan or should receive additional credit. Interactive applications that support managerial decision making are called _____.
- a. Data System Support (DSS)
 - b. Demand Structures Support (DSS)
 - c. Decision Situation Structures (DSS)
 - d. Decision Support Systems (DSS)

Answer: D

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

46. Which of the following was not identified in your text as an important characteristic of a DSS?

- a. An easy-to-use interactive interface
- b. Customized by company IT professionals to fit the specific needs of the organization
- c. Models or formulas that enable sensitivity analysis, *what if* analysis, goal seeking, and risk analysis
- d. Data from multiple sources—internal and external sources plus data added by the decision maker who may have insights relevant to the decision situation.

Answer: B

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

47. According to your text, what is the key factor that differentiates an MIS from a DSS?

- a. A DSS contains models that use information to make decisions.
- b. A DSS is often Web-based, whereas an MIS is restricted to company computers for security reasons.
- c. A DSS consists of software and hardware, whereas an MIS is only software apps.
- d. A DSS is only a software app, whereas an MIS consists of hardware and software.

Answer: A

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

48. Jay Garcia is a marketing manager at Fire Mouth, a new hot sauce manufacturer. He is using his company's DSS to determine the best price for a new brand of hot sauce called "Fires of Hell". He inputs figures about his costs, price and desired profit and then checks to see what the application tells him his sales volume would need to be based on those factors. As he works on the problem, he changes his assumptions about the input factors and notes how those changes impact the predicted sales volume. Jay is conducting a(n):

- a. Input-Output analysis
- b. Factor analysis
- c. Goal seeking analysis
- d. What-if-analysis

Answer: D

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

49. Jackson Stiles is a marketing manager for Rose City Hardware, a privately owned hardware store in Portland, OR. His boss has told him to make sure each product earns at least a 25% profit margin after all costs are accounted for. When new products come into the store, Jackson enters information to his store's DSS about the product, shipping and promotional costs associated with carrying the product. The DSS then calculates a target price based on this information. Jackson is using the DSS to conduct a _____.

- a. Input-Output analysis
- b. Factor analysis
- c. Goal seeking analysis
- d. What-if-analysis

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

50. Given the huge number of transactions, the data in databases are constantly in use and/or undergoing change. This characteristic of databases, referred to as _____, **makes** it impossible to use them for complex decision making and problem-solving tasks.

- a. Instability
- b. Variability
- c. Insufficient Accuracy
- d. Volatility

Answer: D

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

51. Data in databases are constantly in use or undergoing changes. As a result, it is impossible to use them for complex decision making or problem solving tasks. Which of the following was identified in your text as an appropriate solution to this problem?

- a. Set aside specific time windows each day for halting data changes or new inputs to the database so that decision making or problem solving applications can use the data.
- b. Conduct decision making or problem solving tasks prior to transferring data to the database.
- c. Use the database data anyway since the results are better than not conducting any decision or problem solving analysis at all.
- d. Extract, transform and load database data into a data warehouse where it can be formatted for further analysis.

Answer: D

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

52. According to your text, an Information System (IS) is part of an organizational culture that consists of:

- a. IS, market demands, technology
- b. IS, the company, competitors
- c. IS, business processes, people
- d. IS, company policies, legal regulations

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

53. The mass migration of users from PCs to mobile devices has expanded ISs beyond the organization and made _____ practically irrelevant.

- a. Computers
- b. People
- c. Location
- d. Telephones

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

54. The company 1-800-Contacts transformed and disrupted the way people buy contact lenses. Call center managers and sales representatives require real-time information about product availability, sales person performance, customer satisfaction, and so on. To accomplish this, the company IT department created _____ reporting tools to deliver information to managers and sales reps. quickly.

- a. Mobile
- b. Statistical
- c. Decision Support
- d. Dashboard

Answer: D

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

55. Which of the following is not considered part of an organization's IT infrastructure?

- a. Hardware
- b. Software
- c. Networks and communication facilities, including the Internet and intranets
- d. Equipment Suppliers and Vendors

Answer: D

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

56. Which of the following is not considered part of an organization's IT infrastructure?

- a. Networks and communication facilities, including the Internet and intranets
- b. Research analysts
- c. Databases and data workers
- d. Information management personnel

Answer: B

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

57. Examples of _____ include data storage and computing hardware that are accessed via the Internet instead of being company-owned and on-site in a data center.

- a. Transaction Processing Systems
- b. DSS
- c. Cloud computing
- d. Real-time reporting systems

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

58. When making decisions about how to acquire any of the components of the IT infrastructure, certain characteristics must be considered. One characteristic is dependability, which means:

- a. **The component will contribute to the** infrastructures ability to meet availability, reliability, and scalability requirements of the company's information systems (TPS,MIS, DSS, etc.) and applications.
- b. **The component will positively contribute to the** task of implementing, maintaining, using and supporting the hardware and software that are required to deliver dependable applications.
- c. **The component will contribute to the** ability to scale up the infrastructure when additional application capacity is needed, or conversely, scale down to save money when capacity is not needed.
- d. **It makes financial sense to invest in the component and that there is a good chance it will provide a positive return on investment.**

Answer: A

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

59. When making decisions about how to acquire any of the components of the IT infrastructure, certain characteristics must be considered. One characteristic is manageability, which means:

- a. **The component will contribute to the** infrastructures ability to meet availability, reliability, and scalability requirements of the company's information systems (TPS,MIS, DSS, etc.) and applications.
- b. **The component will positively contribute to the** task of implementing, maintaining, using and supporting the hardware and software that are required to deliver dependable applications.
- c. **The component will contribute to the** ability to scale up the infrastructure when additional application capacity is needed, or conversely, scale down to save money when capacity is not needed.
- d. **It makes financial sense to invest in the component and that there is a good chance it will provide a positive return on investment.**

Answer: B

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

60. When making decisions about how to acquire any of the components of the IT infrastructure, certain characteristics must be considered. One characteristic is adaptability, which means:

- a. **The component will contribute to the** infrastructures ability to meet availability, reliability, and scalability requirements of the company's information systems (TPS,MIS, DSS, etc.) and applications.
- b. **The component will positively contribute to the** task of implementing, maintaining, using and supporting the hardware and software that are required to deliver dependable applications.
- c. **The component will contribute to the** ability to scale up the infrastructure when additional application capacity is needed, or conversely, scale down to save money when capacity is not needed.
- d. **It makes financial sense to invest in the component and that there is a good chance it will provide a positive return on investment.**

Answer: C

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

61. When making decisions about how to acquire any of the components of the IT infrastructure, certain characteristics must be considered. One characteristic is affordability, which means:

- a. **The component will contribute to the** infrastructures ability to meet availability, reliability, and scalability requirements of the company's information systems (TPS,MIS, DSS, etc.) and applications.
- b. **The component will positively contribute to the** task of implementing, maintaining, using and supporting the hardware and software that are required to deliver dependable applications.
- c. **The component will contribute to the** ability to scale up the infrastructure when additional application capacity is needed, or conversely, scale down to save money when capacity is not needed.
- d. **It makes financial sense to invest in the component and that there is a good chance it will provide a positive return on investment.**

Answer: D

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Information Technology

62. Jared Vargas is a sales manager at a large company. He and his employees use a number of cloud based applications such as salesforce.com and Google Apps. The company decided to use these apps instead of purchasing apps that would run from their own computers or servers, reducing the cost and complexity associated with their use. Apps like these are known as:

- a. Virtual Enterprise Apps.
- b. Enterprise Systems
- c. Software as a Service (SaaS)
- d. Mobile Apps

Answer: C

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

63. In an effort to free themselves from the burden of deploying, provisioning and updating software apps, many companies are turning to _____.

- a. Software solutions manufactured in China or other countries where labor is cheaper.
- b. Enterprise cloud computing solutions
- c. Software suites (e.g. Microsoft Office)
- d. Custom software developed internally

Answer: B

Difficulty: Easy

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

64. Companies or government agencies that need greater security and data confidentiality set up their own clouds on servers that they own. These are called _____.

- a. Secure clouds
- b. Protected clouds
- c. Enterprise clouds
- d. Private clouds

Answer: D

Difficulty: Easy

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

65. The financial benefit of cloud computing solutions is a reduction in IT costs. The greatest strategic advantage of cloud computing solutions is probably they _____.

- a. Increase agility and ability to quickly implement IT for competitive advantage.
- b. Are typically easier for employees to use because of superior interfaces.
- c. Are more secure than traditional software apps.
- d. Typically contain more features and/or functionality than traditional software apps.

Answer: A

Difficulty: Easy

Section Ref: 2.4 Cloud Computing and Services

AACSB: Reflective Thinking

66. While cloud computing offers many benefits, companies should be aware that moving to cloud based solutions on a wide scale will _____.

- a. Require greater numbers of IT professionals to support the strategy.
- b. Create greater reliance on outside consultants or contract employees.
- c. Require a dramatic increase in training or re-training expenses.
- d. Require increased bandwidth and place greater emphasis on maintaining the organization's network or wide area network (WAN)

Answer: D

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

67. As companies move toward implementing cloud computing solutions on a wide scale, certain strategic questions need to be considered. Which of the following was not a strategic question identified in your text?

- a. Which workloads should be exported to the cloud?
- b. The impact of cloud computing on the company's market share and brand image.
- c. How to resolve issues of privacy and security as things move out to the cloud?
- d. How departments or business units will get new IT resources. Should they help themselves, or should IT remain a gatekeeper?

Answer: B

Difficulty: Hard

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

68. Companies that outsource projects to the cloud should pay particular attention to the _____ which serves as the formal or informal contract or agreement defining the relationships between them and a vendor (supplier of cloud services).

- a. Service-level agreement (SLA)
- b. Defined services agreement (DSA)
- c. Vendor policy terms (VPT) statement
- d. Purchase contract (PC)

Answer: A

Difficulty: Hard

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

69. Which of the following was described in your text as a potential disadvantage to using cloud computing services?

- a. With cloud computing, it may be more difficult to get to the root of performance problems, like the unplanned outages that sometimes occur with Google's Gmail or Workday's human resources apps.
- b. Requires greater numbers of IT professionals to support the strategy.
- c. Requires greater reliance on outside consultants or contract employees.
- d. Employees might over use applications, leading to higher costs.

Answer: A

Difficulty: Hard

Section Ref: 2.4 Cloud Computing and Services

AACSB: Information Technology

70. _____ is a technique that creates a virtualization layer and multiple virtual machines (VM) that run on a single physical machine.

- a. Cloud computing
- b. **Virtualization**
- c. Multi-tasking
- d. Computing optimization

Answer: B

Difficulty: Easy

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Information Technology

71. Computer hardware had been designed to run a single operating system (OS) and a single app, leaving most computers vastly underutilized. One solution to optimizing the use of computing resources is use one physical machine and specialized software to create multiple _____.

- a. Cloud based desktops
- b. Simulated desktops
- c. Replicated workstations
- d. Virtual machines (VM)

Answer: D

Difficulty: Easy

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Information Technology

72. The software applications that convert a single physical machine into multiple virtual machines is referred to as _____.

- a. Simulation software
- b. The replication module
- c. The virtualization layer
- d. Virtual software

Answer: D

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Information Technology

73. Virtualization separates business applications and data from hardware resources. Which of the following was not a type of virtualization described in your text?

- a. *Storage virtualization* is the pooling of physical storage from multiple network storage devices into what appears to be a single storage device that is managed from a central console.
- b. *Network virtualization* combines the available resources in a network by splitting the network load into manageable parts, each of which can be assigned (or reassigned) to a particular server on the network.
- c. *Hardware virtualization* is the use of software to emulate hardware or a total computer environment other than the one the software is actually running in.
- d. *Cloud virtualization* combines Software as a Service apps from multiple clouds into a single virtual cloud for a seamless computing experience.

Answer: D

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Information Technology

74. Which of the following is not listed in your text as one of the benefits of virtualization?

- a. Energy efficient – up to 95% reduction in energy use per server
- b. Reduces cost of servers and makes more efficient use of data storage
- c. Reduces total cost of ownership – a VM costs 75% less to operate than a physical server over 3 year period
- d. Easier to implement and simpler to operate than a physical server

Answer: D

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Information Technology

True/False

1. **Mashups** are applications that collect and combine data from multiple public sources and then organize them through a browser-user interface to create a new application.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

2. The most potentially valuable type of information for managers comes from large collections of transaction records which can be analyzed for patterns of financial performance.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of information technology

3. Despite all the information flowing through companies, executives, managers, and workers throughout the organization often struggle to find the information they need to make sound decisions or do their jobs.

Answer: True

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

4. Thanks to the wide availability of computers, mobile devices and ISs, information flowing through companies is almost always available to executives, managers, and workers throughout the organization who no longer have to struggle to find the information they need to make sound decisions or do their jobs.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

5. Despite the growth of social data, images and web documents, modern IT professionals must continue to place primary emphasis on management of structured, high quality data.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

6. CIOs must ensure data security and compliance with continually evolving regulatory requirements, such as the Sarbanes-Oxley Act, the USA PATRIOT Act, and the Health Insurance Portability and Accountability Act (HIPAA).

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

7. The “blueprints” that guide and govern software add-ons, upgrades, hardware, systems, networks, cloud services and other IT are known as IT architectures.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

8. IT architectures or enterprise architectures are the terms used to describe the working parts of both desktop and mobile computing devices.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

9. The term “data structures” refers to the speed at which data it is captured, analyzed, and reported.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

10. The term “Information Management” refers to how information is stored and organized; and the speed at which it is captured, analyzed, and reported.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

11. Many retailers have a page on their website that pulls address, store hours and graphical map information from different sources and combines it in one place to create an app that helps customers find directions to their store locations. Apps like the one in this example are called consumer mashups.

Answer: True

Difficulty:

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

12. Apps that combine data from multiple internal and public sources and publishes the results to enterprise portals, dashboards, or the cloud are commonly referred to as “complex mashups”.

Answer: False

Difficulty:

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

13. Data (or information) silos are ISs that do not have the capability to exchange data with other ISs making timely coordination and communication across functions or departments difficult.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

14. The overall goal of information management is to reduce costs and maintain high standards of information security by setting strict guidelines for access.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

15. The overall goal of information management is to design and implement a well-planned out IT architecture, policies, and procedures needed to effectively and efficiently support the information and decision needs of an organization.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

16. One way for larger companies to effectively manage information across an organization is to require each division or business unit to implement and manage its own IS because unit managers understand their information needs better than people in other parts of the organization.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

17. Most health care organizations are drowning in data, yet cannot get reliable, actionable insights from this data. Information from physician notes, registration forms, discharge summaries, documents and so on often go unused or are difficult for administrators and managers to access because the information is trapped in data silos.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

18. According to your text, the number one reason for information inefficiencies is the prohibitive cost of high quality data.

Answer: False

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

19. KPIs or key performance indicators are metrics that define and measure progress toward organizational goals—and deviations from those goals.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

20. Managers who want to measure and track their organization's performance will frequently use Goal Tracking Analysis (GTA) to evaluate their company's progress toward goals.

Answer: False

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

21. When two departments or divisions are unable to share information because of different data file formats or other incompatibilities, the problem is referred to as "Lost or bypassed data".

Answer: False

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

22. When employees resist using new software applications because they are difficult to use or cause frustration, the problem is referred to as "user-fierce interfaces".

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

23. Mashups that primarily serve business functions such as helping managers assess organizational performance and creating reports are called enterprise mashups.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

24. A common title for the person in charge of an organization's IT is IT Project Director.

Answer: False

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB:

25. A common title for the person in charge of an organization's IT is Chief Information Officer (CIO)

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB:

26. According to a study by Forrester Research, spending on IT is expected to increase in the near future due to organizations' need to improve decision quality, improve predictions and reduce risk.

Answer: True

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

27. To maintain a balance between costs and benefits, it is advised that managers generally add storage, applications and/or databases to the Information System on an "as needed" basis.

Answer: False

Difficulty: Medium

Section Ref: 2.2 IT Architecture

AACSB: Use of Information Technology

28. Because of the time it takes to plan, develop and implement new storage, applications and/or databases, it is advised that managers do not add these components to the Information System on an “as needed” basis. Instead, changes should be part of a long-range planning process.

Answer: True

Difficulty: Easy

Section Ref: 2.2 IT Architecture

AACSB: Use of Information Technology

29. What-if analysis refers to a process of changing assumptions or data in a model to see how the changes impact the predicted outcome.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

30. When conducting a **goal seeking analysis**, the decision maker has a specific outcome in mind and needs to figure out how that outcome can be achieved and whether achieving the outcome is feasible.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

31. Telecommunications, wireless technology and collaborative tools are all key components of IT architecture.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

32. Application architecture and business architecture are considered key components of IT architecture.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

33. Data architecture and technical architecture are considered key components of IT architecture.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

34. A company's business architecture describes the processes a business uses to meet its goals.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

35. A company's application architecture describes the hardware and software infrastructure that supports applications and their interactions.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

36. A company's data architecture describes how specific applications are designed and how they interact with each other.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

37. A company's technical architecture describes the hardware and software infrastructure that supports applications and their interactions.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

38. The success of an organization's IT architecture can be measured, in part, by things like customer satisfaction and employee turnover.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

39. IT managers need to be forward thinking when it comes to planning for the organizations IT needs in the future. The future IT architecture that evolves in advance of it being achieved is referred to as the "target IT architecture".

Answer: True

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

40. The plan for managing the change from baseline IT architecture to target IT architecture is typically called a Strategic Technology Audit (STA).

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

41. The plan for managing the change from baseline IT architecture to target IT architecture is typically called a sequencing plan.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

42. Your textbook differentiates the terms "data", "information" and "knowledge". With regard to a customer satisfaction application for the automobile industry, an example of data would be records containing numerical ratings from customer surveys.

Answer: True

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

43. Your textbook differentiates the terms “data”, “information” and “knowledge”. **Information** is data that has been processed, organized, or put into context so that it has meaning and value to the person receiving it.

Answer: True

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

44. Your textbook differentiates the terms “data”, “information” and “knowledge”. **Knowledge** consists of data and/or information that have been processed, organized, and put into context to be meaningful, and to convey understanding, experience, accumulated learning, and expertise as they apply to a current problem or activity.

Answer: True

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

45. Your textbook differentiates the terms “data”, “information” and “knowledge”. Information is derived or calculated from data, whereas knowledge is something based on human intuition and may provide insights more powerful than those based on data and information.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

46. The collection of computing systems used by an organization is called systems architecture.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

47. The collection of computing systems used by an organization is called Information Technology (IT) or an Information System (IS).

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

48. Data from sales orders, payroll, accounting, financial, marketing, purchasing, inventory control, and so forth are processed by a combination of hardware and software called Financial Processing Systems (FPS).

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

49. Data from sales orders, payroll, accounting, financial, marketing, purchasing, inventory control, and so forth are processed by a combination of hardware and software called Transaction Processing Systems (TPS).

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

50. When transactions are typically processed all together for a defined time window (e.g. end of a day, shift or other time period), it is called “batch processing”.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

51. When transactions are typically processed as each transaction occurs, it is called “real-time processing”.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

52. When transactions are typically processed all together for a defined time window (e.g. end of a day, shift or other time period), it is called “cluster processing”.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

53. When transactions are typically processed as each transaction occurs, it is called “instantaneous processing”.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

54. Organizations strive to maintain high data quality by validating data - detecting and eliminating obvious errors and omissions, because the more efficiently and thoroughly an organization gathers, stores, processes, retrieves and uses its data, the more productive it is.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

55. A Management Information System (MIS) is a general purpose IS designed to provide reports to managers for tracking operations, monitoring and control.

Answer: True

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

56. A Decision Support System (DSS) is a general purpose IS designed to provide reports to managers for tracking operations, monitoring and control.

Answer: False

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

57. A Decision Support System (DSS) is an interactive application that aids managers in making decisions that would otherwise require a great deal of time to figure out.

Answer: True

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

58. The central feature of a DSS is a model or formula that enables sensitivity analysis, what-if analysis, goal seeking and/or risk analysis.

Answer: True

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

59. The critical difference between a DSS and an MIS is that a DSS is often Web-based, whereas an MIS is restricted to company computers for security reasons.

Answer: False

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

60. The critical difference between a DSS and an MIS is that a DSS is only a software app, whereas an MIS consists of both hardware and software.

Answer: False

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

61. The functional difference between a DSS and an MIS is that a DSS contains models that use information to make decisions while an MIS is used to create reports from data.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

62. Given the huge number of transactions, the data in databases are constantly in use and/or undergoing change. This characteristic of databases, referred to as variability.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

63. Because data in databases are constantly in use or undergoing changes, data must be extracted, transformed and loaded into a data warehouse prior to use in complex decision making or problem solving tasks.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

64. According to your text, an Information System (IS) is part of an organizational culture that consists of the IS, business processes, and people.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

65. According to your text, an Information System (IS) is part of an organizational culture that consists of the IS, company policies, and legal regulations.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

66. According to your text, an Information System (IS) is part of an organizational culture that consists of the IS, market demands, technology.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

67. The mass migration of users from PCs to mobile devices has expanded ISs beyond the organization and made location practically irrelevant.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

68. The mass migration of users from PCs to mobile devices has expanded ISs beyond the organization and made human employees increasingly irrelevant.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

69. Managers use “dashboards” to receive and monitor information in real or almost real-time.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

70. Managers use “dashboards” to monitor employees by viewing them at their workstations via live video feed.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

71. Hardware, software and networks are all considered parts of an organization’s IT infrastructure.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

72. Databases and data workers, information management personnel and networks are all considered parts of an organization's IT infrastructure.

Answer: True

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

73. Equipment suppliers and vendors, research analysts and mobile devices are all considered part of an organization's IT infrastructure.

Answer: False

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

74. Software as a service (SaaS) apps are typically purchased and installed directly on an organization's computers or servers and maintained by the organization's IT personnel.

Answer: False

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

75. Software as a service (SaaS) apps are typically accessed over a network using a Web browser (no hardware or software to install) and paid for by a fixed subscription fee or on a per-use basis.

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

76. Cloud computing solutions are growing in popularity with organizations because they reduce the burden of deploying, provisioning and updating software apps.

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

77. Companies or government agencies that need greater security and data confidentiality set up their own clouds on servers that they own. These are called “protected clouds”.

Answer: False

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

78. Companies or government agencies that need greater security and data confidentiality set up their own clouds on servers that they own. These are called “private clouds”.

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

79. The greatest strategic advantage of cloud computing solutions is that they are typically more secure than traditional software apps.

Answer: False

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

80. The greatest strategic advantage of cloud computing solutions is that they increase an organization’s agility and ability to quickly implement IT for competitive advantage.

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Reflective Thinking

81. Cloud computing solutions typically require increased bandwidth and place greater emphasis on maintaining the organization’s network or wide area network (WAN).

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

82. Cloud computing solutions typically require less bandwidth and place fewer demands on the organization's network or wide area network (WAN), reducing the risk of "downtime".

Answer: False

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

83. Service-level agreements (SLA) serve as the formal or informal contract or agreement defining the relationships between an organization and a vendor (supplier of cloud services).

Answer: True

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

84. Virtualization is a technique that creates a virtualization layer and multiple virtual machines (VM) that run on a single physical machine.

Answer: True

Difficulty: Easy

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

85. Virtual machines (VM) are specialized apps for designing and testing 3 Dimensional products such as trucks, cars and mechanical devices.

Answer: False

Difficulty: Easy

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

86. The software applications that convert a single physical machine into multiple virtual machines is referred to as "The Virtualization Layer".

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

87. *Storage virtualization* is the pooling of physical storage from multiple network storage devices into what appears to be a single storage device that is managed from a central console.

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

88. *Network virtualization* combines the available resources in a network by splitting the network load into manageable parts, each of which can be assigned (or reassigned) to a particular server on the network.

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

89. *Hardware virtualization* is the use of software to emulate hardware or a total computer environment other than the one the software is actually running in.

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

90. *Storage virtualization* combines the available resources in a network by splitting the network load into manageable parts, each of which can be assigned (or reassigned) to a particular server on the network.

Answer: False

Difficulty: Hard

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

91. *Network virtualization* is the use of software to emulate hardware or a total computer environment other than the one the software is actually running in.

Answer: False

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

92. A key benefit of virtualization is energy efficiency – up to a 95% reduction in energy use per server.

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

93. A key benefit of virtualization is a reduction in the total cost of ownership – a VM costs 75% less to operate than a physical server over a 3 year period.

Answer: True

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

94. A key benefit of virtualization is simplicity – a virtual server is easier to implement and operate than a physical server.

Answer: False

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

Short Answer

1. _____ are applications that collect and combine data from multiple public sources and then organize them through a browser-user interface to create a new application.

Answer: **Mashups or Consumer mashups**

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

2. CIOs must ensure data security and compliance with continually evolving regulatory requirements, such as _____ (Name at least 2 laws or regulations)

Answer: Possible answers: Sarbanes-Oxley Act, Basel III, the Computer Fraud and Abuse Act (CFAA), the USA PATRIOT Act, or the Health Insurance Portability and Accountability Act (HIPAA).

Difficulty: Hard

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

3. The “blueprints” that guide and govern software add-ons, upgrades, hardware, systems, networks, cloud services and other IT are known as _____.

Answer: IT architectures

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

4. The term _____ refers to how information is stored and organized; and the speed at which it is captured, analyzed, and reported.

Answer: Information Management

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

5. Many retailers have a page on their website that pulls address, store hours and graphical map information from different sources and combines it in one place to create an app that helps customers find directions to their store locations. Apps like the one in this example are called _____.

Answer: Consumer mashups

Difficulty:

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

6. _____ are ISs that do not have the capability to exchange data with other ISs making timely coordination and communication across functions or departments difficult.

Answer: Data (or information) silos

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

7. The overall goal of _____ is to design and implement a well-planned out IT architecture, policies, and procedures needed to effectively and efficiently support the information and decision needs of an organization.

Answer: Information management

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

8. Most health care organizations are drowning in data, yet cannot get reliable, actionable insights from this data. Information from physician notes, registration forms, discharge summaries, documents and so on often go unused or are difficult for administrators and managers to access because the information is trapped in _____.

Answer: Data silos

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

9. _____ are metrics that define and measure progress toward organizational goals—and deviations from those goals.

Answer: KPIs or key performance indicators

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

10. When two departments or divisions are unable to share information because of different data file formats or other incompatibilities, the problem is referred to as _____.

Answer: Non-standardized data formats

Difficulty: Medium

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

11. When employees resist using new software applications because they are difficult to use or cause frustration, the problem is referred to as _____.

Answer: User-fierce interfaces.

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

12. Mashups that primarily serve business functions such as helping managers assess organizational performance and creating reports are called _____ mashups.

Answer: Enterprise

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Use of Information Technology

13. A common title for the person in charge of an organization's IT is _____.

Answer: Chief Information Officer (CIO)

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB:

14. According to a study by Forrester Research, spending on IT is expected to _____ in the near future due to organizations' need to improve decision quality, improve predictions and reduce risk.

Answer: Increase

Difficulty: Easy

Section Ref: 2.1 Information Management in the 2010s

AACSB: Reflective Thinking

15. Because of the time it takes to plan, develop and implement new storage, applications and/or databases, it is advised that managers do not add these components to the Information System on an "as needed" basis. Instead, changes should be part of a _____.

Answer: Long-range planning process

Difficulty: Easy

Section Ref: 2.2 IT Architecture

AACSB: Use of Information Technology

16. _____ refers to a process of changing assumptions or data in a model to see how the changes impact the predicted outcome.

Answer: What-if analysis

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

17. When conducting a _____, the decision maker has a specific outcome in mind and needs to figure out how that outcome can be achieved and whether achieving the outcome is feasible.

Answer: **goal seeking analysis**

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

18. Application architecture and business architecture are considered key components of _____.

Answer: IT architecture

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

19. Data architecture and technical architecture are considered key components of _____.

Answer: IT architecture

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

20. A company's _____ architecture describes the processes a business uses to meet its goals.

Answer: Business

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

21. A company's _____ architecture describes the hardware and software infrastructure that supports applications and their interactions.

Answer: Technical

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

22. A company's _____ architecture describes how specific applications are designed and how they interact with each other.

Answer: Application

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

23. A company's _____ architecture describes how an enterprise's data stores are organized and accessed.

Answer: Data

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

24. IT managers need to be forward thinking when it comes to planning for the organizations IT needs in the future. The future IT architecture that evolves in advance of it being achieved is referred to as the _____.

Answer: Target IT architecture

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

25. The plan for managing the change from baseline IT architecture to target IT architecture is typically called a _____ plan.

Answer: Sequencing

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

26. Your textbook differentiates the terms “data”, “information” and “knowledge”. _____ is data that has been processed, organized, or put into context so that it has meaning and value to the person receiving it.

Answer: Information

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

27. The collection of computing systems used by an organization is called _____.

Answer: Information Technology (IT) or an Information System (IS).

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

28. Data from sales orders, payroll, accounting, financial, marketing, purchasing, inventory control, and so forth are processed by a combination of hardware and software called _____.

Answer: Transaction Processing Systems (TPS)

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

29. When transactions are typically processed all together for a defined time window (e.g. end of a day, shift or other time period), it is called _____.

Answer: Batch processing

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

30. When transactions are typically processed as each transaction occurs, it is called _____.

Answer: Real-time processing

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

31. A _____ is a general purpose IS designed to provide reports to managers for tracking operations, monitoring and control.

Answer: Management Information System (MIS)

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

32. A _____ is an interactive application that aids managers in making decisions that would otherwise require a great deal of time to figure out.

Answer: Decision Support System (DSS)

Difficulty: Easy

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

33. The central feature of a _____ is a model or formula that enables sensitivity analysis, what-if analysis, goal seeking and/or risk analysis.

Answer: Decision Support System (DSS)

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

34. The functional difference between a DSS and an MIS is that a DSS contains models that use information to make decisions while an MIS is used to create _____ from data.

Answer: Reports

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

35. Given the huge number of transactions, the data in databases are constantly in use and/or undergoing change. This characteristic of databases, referred to as _____.

Answer: Variability

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

36. Because data in databases are constantly in use or undergoing changes, data must be extracted, transformed and loaded into a _____ prior to use in complex decision making or problem solving tasks.

Answer: data warehouse

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

37. According to your text, an Information System (IS) is part of an organizational culture that consists of the IS, business processes, and _____.

Answer: People

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

38. The mass migration of users from PCs to mobile devices has expanded ISs beyond the organization and made _____ practically irrelevant.

Answer: Location

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

39. _____ apps are typically accessed over a network using a Web browser (no hardware or software to install) and paid for by a fixed subscription fee or on a per-use basis.

Answer: Software as a service (SaaS)

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

40. _____ solutions are growing in popularity with organizations because they reduce the burden of deploying, provisioning and updating software apps.

Answer: Cloud computing

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

41. Companies or government agencies that need greater security and data confidentiality set up their own clouds on servers that they own. These are called _____.

Answer: Private clouds

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

42. The greatest strategic advantage of cloud computing solutions is that they increase an organization's _____ and ability to quickly implement IT for competitive advantage.

Answer: Agility

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Reflective Thinking

43. Cloud computing solutions typically require increased bandwidth and place greater emphasis on maintaining the organization's _____.

Answer: Network or wide area network (WAN)

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

44. _____ serve as the formal or informal contract or agreement defining the relationships between an organization and a vendor (supplier of cloud services).

Answer: Service-level agreements (SLA)

Difficulty: Medium

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

45. _____ is a technique that creates a virtualization layer and multiple virtual machines (VM) that run on a single physical machine.

Answer: Virtualization

Difficulty: Easy

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

46. The software applications that convert a single physical machine into multiple virtual machines is referred to as _____.

Answer: The Virtualization Layer

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

47. _____ *virtualization* is the pooling of physical storage from multiple network storage devices into what appears to be a single storage device that is managed from a central console.

Answer: *Storage*

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

48. _____ *virtualization* combines the available resources in a network by splitting the network load into manageable parts, each of which can be assigned (or reassigned) to a particular server on the network.

Answer: *Network*

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

49. _____ *virtualization* is the use of software to emulate hardware or a total computer environment other than the one the software is actually running in.

Answer: *Hardware*

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

50. Two key benefits of virtualization are _____ efficiency and a reduction in the total cost of ownership

Answer: *Energy*

Difficulty: Medium

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

Essay Questions

1. What is a data (or information) silo? What are the primary causes of data silos and why are they an impediment to effective organizational operations?

Answer:

Data (or information) silos are ISs that do not have the capability to exchange data with other ISs making timely coordination and communication across functions or departments difficult. Data silos exist when:

- there's no overall IT architecture to guide IS investments,
- poor data coordination, and
- poor communication across the organization regarding information strategy

Data silos support a single function, and as a result, do not support an organization's cross-functional needs.

Difficulty: Hard

Section Ref: 1.1 IT and Management Opportunities and Challenges

AACSB: Reflective Thinking

2. The following factors are listed in your text as the primary causes of information deficiencies.

- Data Silos
- Lost or Bypassed Data
- Non-standardized Data
- User-Fierce Interfaces
- IT is a moving target

Define and give an example of each. Briefly explain why these factors are problematic.

Answer:

- Data Silos – ISs that contain data that is not accessible by other ISs in the organization. In effect, data become “trapped” in data silos.
- Lost or Bypassed Data – Data can get lost in transit from one IS to another or data might fail to get captured in the first place because of inadequately tuned data collection systems.
- Non-standardized Data – Deficiencies can occur when various units in a company format data differently. For instance, one division might report weekly gross sales revenues per product line and another division reports monthly net sales per product. These situations can make data analysis and comparisons difficult or impossible and increase the risk of errors.

- User-Fierce Interfaces - Poorly designed interfaces or formats that require extra time and effort to figure out increase the risk of errors from misunderstanding the data or ignoring it.
- IT is a moving target - The information that decision makers want keeps changing—and changes faster than ISs can respond to because of the first four reasons in this list. For instance, many companies are unable to sufficiently track social media activity (e.g. tweets, YouTube hits, Facebook “likes” and so on) because traditional ISs were designed prior to the emergence of social media. Furthermore, managers are reluctant to invest in applications that track social activity because they can be expensive and difficult to evaluate in terms of return on investment, validity, functionality, and so on.

Difficulty: Medium

Section Ref: 1.1 IT and Management Opportunities and Challenges

AACSB: Reflective Thinking

3. Explain how an organization’s baseline architecture, sequencing plan, and target architecture related? (In your answer, be sure to define each.) Why should the organization’s target architecture never be achieved?

Answer:

Baseline architecture – the current IT architecture in an organization.

Sequencing plan – a plan that outlines the short- and long-term strategies for managing the change from baseline to target architecture

Target IT architecture - a vision of the organization’s future IT architecture that evolves in advance of it being achieved

By definition, the target IT architecture is never actually achieved because it is always moving forward of the current (baseline) architecture. IT professionals aid their organizations by looking ahead to ongoing developments in technology and finding ways these advances might be adapted to the unique needs and challenges faced by the organization.

Difficulty: Hard

Section Ref: 1.2 IT Architecture

AACSB: Reflective Thinking

4. Your textbook differentiates the terms data, information and knowledge. Imagine that a national chain of grocery stores regularly administers customer satisfaction surveys and uses these to evaluate the performance of individual store locations. Briefly give an example or description of the data, information and knowledge that would result from these surveys.

Answer:

Data – The “data” in this example would be the ratings and/or comments from the surveys stored in a computer file and available for analysis.

Information – The “information” in this example would come from reports that summarize an analysis of the data. For instance, the report might contain a calculation of average ratings, a summary of comments, as well as a description of the implications or conclusions that can be made based on the analysis.

Knowledge – “Knowledge” in this example would exist when managers use the information from the surveys, along with information from other sources or past experience and apply it to some action. For instance, management may decide to create a bonus plan that rewards store managers with high customer satisfaction ratings or put new managers in charge of stores with low customer satisfaction ratings. They may develop a strategic plan designed to help all stores reach a target level of customer satisfaction.

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Reflective Thinking

5. Data captured by a Transaction Processing System (TPS) are processed and stored in a database, and then is available for use by other systems. Processing of transactions is done in one of two modes. Briefly identify and describe each mode and explain the strengths and weaknesses of each.

Answer:

-Batch processing: A TPS in batch processing mode collects all transaction for a day, shift, or other time period, and then processes the data and updates the data stores. Payroll processing done weekly or bi-weekly is an example of batch mode.

-Online transaction processing (OLTP) or real-time processing: The TPS processes each transaction as it occurs, which is what is meant by the term *real-time processing*.

Batch processing costs less than real-time processing. A disadvantage is that the lag in processing that occurs in batch mode can cause errors or poor decisions because data are not updated immediately, in real time. For instance, if seat assignments are not updated immediately when customers make airline reservations, multiple customers could potentially end up booking the same seat and the problem would not be discovered until later when all of the transactions are processed in batch.

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

6. Describe the key difference between a Decision Support System and a Management Information System. (In your answer, be sure to describe the purpose of each kind of app.) Illustrate the difference between these two kinds of apps by describing how a bank might use them in its mortgage business.

Answer:

A DSS is designed to aid managers in decision making. The general purpose of an MIS is to create reports from data. The key thing that differentiates these two kinds of apps is that a DSS is based on a model (or formula) that identifies the kind of information required (inputs) and results in a decision (output).

For example, a bank loan officer might use a DSS to enter information about a customer's income, credit rating, available cash and the amount of the loan (inputs) to reach a decision about whether or not to make the loan. The bank might use an MIS to generate a report showing how many loans have been made in a month, the average size of the loan, the average income and credit ratings of customers, and so on.

Difficulty: Hard

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

7. When making decisions about how to acquire hardware, software, or any other components of the IT Infrastructure, the following four characteristics of an IT infrastructure need to be considered:

- **Dependable**
- **Manageable**
- **Adaptable**
- **Affordable**

Define each of these characteristics and explain why they should be considered when making changes to the IT Infrastructure.

Answer:

Dependable. Dependability means that the infrastructure meets availability, reliability, and scalability requirements of the company's information systems (TPS, MIS, DSS, etc.) and applications. Applications inherit their dependability from the IT infrastructure. That is, the dependability of applications is limited by (is only as good as) the dependability of the IT architecture.

Manageable. IT infrastructure determines the complexity of managing the hardware and software that are required to deliver dependable applications. If the IT architecture is low in manageability, it may lead to poor performance and failure to accomplish goals.

Adaptable. When additional application capacity is needed, organizations must be able to scale up the infrastructure as needed. Conversely, when demand declines, the organization may need to reduce capacity to bring expenses in line with its needs.

Affordable. Most organizations are looking for IT solutions that increase efficiency - increasing productivity while spending less money. IT managers should always be prepared to demonstrate how technology contributes to an organization's overall business goals in a cost effective manner.

Difficulty: Medium

Section Ref: 2.3 Information Systems and IT Infrastructure

AACSB: Use of Information Technology

8. When making decisions about how to acquire hardware, software, or any other components of the IT Infrastructure, the following four characteristics of an IT infrastructure need to be considered:

- **Dependable**
- **Manageable**
- **Adaptable**
- **Affordable**

Evaluate cloud computing solutions on each of these four criteria and explain why it has become an increasingly attractive option for many organizations.

Answer:

- **Dependable** – Cloud computing is generally perceived as dependable, but dependability is a potential area of vulnerability. The success of cloud computing solutions is highly dependent on the availability of the company's network, Internet bandwidth, and the reliability of the provider's servers (among other things). If any of these components fails, then the clouds based apps become unavailable until the problem is fixed. This could cause significant problems if the cloud based app is mission critical.

- **Manageable.** – Cloud computing is attractive to companies in terms of manageability because most of the burden for manageability (e.g. installing, maintaining, upgrading, etc.) are handled by the vendor or application provider.
- **Adaptable.** – Cloud computing is attractive to companies in terms of adaptability because capacity (e.g. number of users with access to the app) can be adjusted (increased or decreased) almost immediately. Making these kinds of changes is very easy compared to traditional solutions that had to be physically installed on company computers or servers by IT employees.
- **Affordable.** – Cloud computing is attractive to companies in terms of affordability because expenses are directly related to the level of use. Initial investments in software and installations costs are quite low compared to traditional software solutions which frees up financial resources for other uses.

Conclusion: Because cloud computing solutions are generally superior to traditional software solutions on three of the four criteria, organizations have increased their adoption of this technology.

Difficulty: Hard

Section Ref: 2.4 Cloud Computing and Services

AACSB: Use of Information Technology

9. Briefly describe three key benefits of virtualization described in your textbook.

Answer:

- **Energy-efficiency.** **Virtualization** minimizes energy consumed running and cooling servers in the data center—up a 95 percent reduction in energy use per server.
- **Scalability and load balancing.** Virtualization provides load balancing to handle the demand for requests to the site. The VMware infrastructure automatically distributes the load across a cluster of physical servers to ensure the maximum performance of all running VMs.
- **Total cost of ownership.** Because virtualization reduces the number of physical servers required, reduces the amount of space taken up by servers and saves energy costs, over a three-year lifecycle, a VM costs approximately 75 percent less to operate than a physical server.

Difficulty: Hard

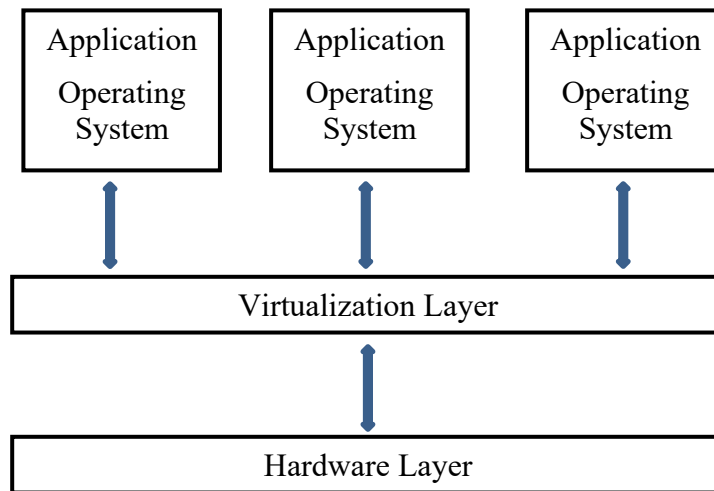
Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology

10. Briefly define virtualization. Draw a simple diagram of how virtualization is used to create virtual machines. Your diagram should include: an application layer, a virtualization layer and a hardware layer.

Answer:

Virtualization is a technique that creates a virtualization layer and multiple virtual machines (VM) to run on a single physical machine. The virtualization layer makes it possible for each VM to share the resources of the hardware.



Difficulty: Hard

Section Ref: 2.5 Virtualization and VM (Virtual Machines)

AACSB: Use of Information Technology