***Data Analytics for Accounting, 1e* (Richardson)**

**Chapter 1 Data Analytics in Accounting and Business**

1) Data analytics is the process of evaluating data with the purpose of drawing conclusions to address business questions.

Answer: TRUE

Difficulty: 1 Easy

Topic: Define Data Analytics

Learning Objective: 01-01 Define Data Analytics.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

2) The process of data analytics aims to transform raw information into data to create value.

Answer: FALSE

Difficulty: 1 Easy

Topic: Define Data Analytics

Learning Objective: 01-01 Define Data Analytics.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

3) Data analytics has the potential to transform the manner in which companies run their businesses; however, it is not practical in the near future.

Answer: FALSE

Difficulty: 1 Easy

Topic: How Data Analytics Affects Business

Learning Objective: 01-02 Understand why Data Analytics matters to business.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

4) Auditors can use social media to hear what customers are saying about a company and compare this to inventory obsolescence and other estimates.

Answer: TRUE

Difficulty: 2 Medium

Topic: Financial Reporting

Learning Objective: 01-03 Explain why Data Analytics matters to accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

5) Data analytics allows auditors to glean insights that are beneficial to the client, without breaching independence.

Answer: TRUE

Difficulty: 2 Medium

Topic: Auditing

Learning Objective: 01-03 Explain why Data Analytics matters to accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

6) The predictive analytics is an important aspect of data analytics for auditors, but is not applicable for tax accountants.

Answer: FALSE

Difficulty: 1 Easy

Topic: Tax

Learning Objective: 01-03 Explain why Data Analytics matters to accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

7) The I in IMPACT Cycle represents Identify the Question.

Answer: TRUE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

8) The M in IMPACT Cycle represents Master the Data.

Answer: TRUE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

9) The P in IMPACT Cycle represents Predict the Results.

Answer: FALSE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

10) The A in IMPACT Cycle represents Analyze the Data.

Answer: FALSE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

11) The C in IMPACT Cycle represents Continuously Track.

Answer: FALSE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

12) The T in IMPACT Cycle represents Track Outcomes.

Answer: TRUE

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

13) Data normalization can reduce data redundancy and improve data integrity.

Answer: TRUE

Difficulty: 1 Easy

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

14) The IMPACT cycle is iterative, as insights are gained, outcomes are tracked, and new questions are identified.

Answer: TRUE

Difficulty: 1 Easy

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

15) Data analytics professionals estimate that they spend between 25 percent and 70 percent of their time cleaning data so it can be analyzed.

Answer: FALSE

Difficulty: 1 Easy

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

16) Data analysis through data manipulation is performing basic analysis to understand the quality of the underlying data and its ability to address the business question.

Answer: FALSE

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

17) To be proficient in data analysis, accountants need to become data scientists.

Answer: FALSE

Difficulty: 1 Easy

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

18) By developing an analytics mindset, accountants will be able to recognize when and how data analytics can address business questions.

Answer: TRUE

Difficulty: 1 Easy

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

19) While it is important for accountants to clearly articulate the business problem, drawing appropriate conclusions, based on the data, should be left to statisticians.

Answer: FALSE

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

20) Analytic-minded accountants should report results of analysis in an accessible way to each varied decision maker, along with their specific needs.

Answer: TRUE

Difficulty: 1 Easy

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

21) With a goal of giving organizations the information they need to make sound and timely business decisions, data analytics often involves all of the following *except*:

A) technologies.

B) statistics.

C) growth.

D) databases.

Answer: C

Difficulty: 1 Easy

Topic: Define Data Analytics

Learning Objective: 01-01 Define Data Analytics.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

22) Patterns discovered from \_\_\_\_\_\_\_\_ enable businesses to identify opportunities and risks in order to better plan for \_\_\_\_\_\_\_\_.

A) past archives; the future

B) current data; the future

C) current data; today

D) past archives; today

Answer: A

Difficulty: 2 Medium

Topic: How Data Analytics Affects Business

Learning Objective: 01-02 Understand why Data Analytics matters to business.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

23) Which of the following best describes the data analytics skill of descriptive data analysis?

A) recognize what is meant by data quality, be it completeness, reliability or validity

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) demonstrate ability to sort, rearrange, merge, and reconfigure data in a manner that allows enhanced analysis

D) comprehend the process needed to clean and prepare the data before analysis

Answer: B

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

24) Which of the following best describes the data analytics skill of data quality?

A) recognize what is meant by data quality, be it completeness, reliability or validity

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) demonstrate the ability to sort, rearrange, merge, and reconfigure data in a manner that allows enhanced analysis

D) comprehend the process needed to clean and prepare the data before analysis

Answer: A

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

25) Which of the following best describes the data analytics skill of data analysis through data manipulation?

A) recognize what is meant by data quality, be it completeness, reliability or validity

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) demonstrate the ability to sort, rearrange, merge, and reconfigure data in a manner that allows enhanced analysis

D) comprehend the process needed to clean and prepare the data before analysis

Answer: C

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

26) Which of the following best describes the data analytics skill of data scrubbing and data preparation?

A) recognize what is meant by data quality, be it completeness, reliability or validity

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) demonstrate ability to sort, rearrange, merge and reconfigure data in a manner that allows enhanced analysis

D) comprehend the process needed to clean and prepare the data before analysis

Answer: D

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

27) Which of the following best describes the data analytics skill of developing an analytics mindset?

A) recognize when and how data analytics can address business questions

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) recognize what is meant by data quality, be it completeness, reliability or validity

D) comprehend the process needed to clean and prepare the data before analysis

Answer: A

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

28) Which of the following best describes the data analytics skill of data visualization and data reporting?

A) recognize when and how data analytics can address business questions

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) recognize what is meant by data quality, be it completeness, reliability or validity

D) report results of analysis in an accessible way to each varied decision maker and their specific needs

Answer: D

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

29) Which of the following best describes the data analytics skill of defining and addressing problems through statistical data analysis?

A) recognize what is meant by data quality, be it completeness, reliability or validity

B) perform basic analysis to understand the quality of the underlying data and its ability to address the business question

C) demonstrate ability to sort, rearrange, merge and reconfigure data in a manner that allows enhanced analysis

D) identify and implement an approach that will use statistical data analysis to draw conclusions and make recommendations on a timely basis

Answer: D

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

30) While accountants don't need to become data scientists, they must know how to do the following *except*?

A) Clearly articulate the business problem the company is facing

B) Communicate with the data scientists about specific data needs and understand the underlying quality of the data

C) Build a data repository

D) Comprehend the process needed to clean and prepare the data before analysis

Answer: C

Difficulty: 2 Medium

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

31) Which approach to data analytics attempts to estimate or predict, for each unit, the numerical value of some variable using some type of statistical model?

A) Similarity matching.

B) Classification.

C) Data reduction.

D) Regression.

Answer: D

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

32) Which approach to data analytics attempts to assign each unit (or individual) in a population into a few categories?

A) Similarity matching.

B) Classification.

C) Data reduction.

D) Regression

Answer: B

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

33) Which approach to data analytics attempts to characterize the typical behavior of an individual, group or population by generating summary statistics about the data?

A) Similarity matching.

B) Profiling.

C) Data reduction.

D) Regression.

Answer: B

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

34) Which approach to data analytics attempts to reduce the amount of information that needs to be considered to focus on the most critical items?

A) Similarity matching.

B) Profiling.

C) Data reduction.

D) Regression.

Answer: C

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

35) Which of the following best describes the classification approach to data analytics?

A) An attempt to assign each unit (or individual) in a population into a few categories.

B) An attempt to identify similar individuals based on data known about them.

C) An attempt to divide individuals into groups in a useful or meaningful way.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: A

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

36) Which of the following best describes the clustering approach to data analytics?

A) An attempt to assign each unit (or individual) in a population into a few categories.

B) An attempt to identify similar individuals based on data known about them.

C) An attempt to divide individuals into groups in a useful or meaningful way.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: C

Difficulty: 3 Hard

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

37) Which of the following best describes the similarity matching approach to data analytics?

A) An attempt to assign each unit (or individual) in a population into a few categories.

B) An attempt to identify similar individuals based on data known about them.

C) An attempt to divide individuals into groups in a useful or meaningful way.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: B

Difficulty: 3 Hard

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

38) Which of the following best describes the regression approach to data analytics?

A) An attempt to estimate or predict, for each unit, the numerical value of some variable using some type of statistical model.

B) An attempt to predict a relationship between two data items.

C) An attempt to divide individuals into groups in a useful or meaningful way.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: A

Difficulty: 3 Hard

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

39) Which of the following best describes the co-occurrence grouping approach to data analytics?

A) An attempt to characterize the typical behavior of an individual, group or population by generating summary statistics about the data.

B) An attempt to predict a relationship between two data items.

C) An attempt to reduce the amount of information that needs to be considered to focus on the most critical items.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: D

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

40) Which of the following best describes the link prediction approach to data analytics?

A) An attempt to characterize the typical behavior of an individual, group or population by generating summary statistics about the data.

B) An attempt to predict a relationship between two data items.

C) An attempt to reduce the amount of information that needs to be considered to focus on the most critical items.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: B

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

41) Which of the following best describes the profiling approach to data analytics?

A) An attempt to characterize the typical behavior of an individual, group or population by generating summary statistics about the data.

B) An attempt to predict a relationship between two data items.

C) An attempt to reduce the amount of information that needs to be considered to focus on the most critical items.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: A

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

42) Which of the following best describes the data reduction approach to data analytics?

A) An attempt to characterize the typical behavior of an individual, group or population by generating summary statistics about the data.

B) An attempt to predict a relationship between two data items.

C) An attempt to reduce the amount of information that needs to be considered to focus on the most critical items.

D) An attempt to discover associations between individuals based on transactions involving them.

Answer: C

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

43) Which approach to data analytics attempts to discover associations between individuals based on transactions involving them?

A) Similarity matching.

B) Clustering.

C) Co-occurrence grouping.

D) Link prediction.

Answer: C

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

44) Which approach to data analytics attempts to identify similar individuals based on data known about them?

A) Similarity matching.

B) Clustering.

C) Co-occurrence grouping.

D) Link prediction.

Answer: A

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

45) Which approach to data analytics attempts to predict a relationship between two data items?

A) Similarity matching.

B) Clustering.

C) Co-occurrence grouping.

D) Link prediction.

Answer: D

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

46) Which approach to data analytics attempts to divide individuals into groups in a useful or meaningful way?

A) Similarity matching.

B) Clustering.

C) Co-occurrence grouping.

D) Link prediction.

Answer: B

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

47) The impact cycle includes all the following processes *except*:

A) Communicate insights.

B) Perform test plan.

C) Analyze the data.

D) Track outcomes.

Answer: C

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

48) The impact cycle includes all the following processes *except*:

A) Identify the questions.

B) Address and refine results.

C) Communicate insights.

D) Continuously track.

Answer: D

Difficulty: 1 Easy

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

49) The impact cycle includes all the following processes *except*:

A) Identify the questions.

B) Address and refine results.

C) Track outcomes.

D) Predict the results.

Answer: D

Difficulty: 2 Medium

Topic: The Data Analytics Process Using the Impact Cycle

Learning Objective: 01-04 Describe the Data Analytics Process Using the IMPACT Cycle.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

50) One of the most important aspects of data analytics that impacts tax is:

A) predictive analytics.

B) co-occurrence grouping

C) similarity matching.

D) data quality.

Answer: A

Difficulty: 2 Medium

Topic: Tax

Learning Objective: 01-03 Explain why Data Analytics matters to accountants.

Bloom's: Apply

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

51) List and describe the eight (8) different approaches to data analytics.

Answer: Answers may vary slightly!

• Classification — An attempt to assign each unit (or individual) in a population into a few categories

• Regression — An attempt to estimate or predict, for each unit, the numerical value of some variable using some type of statistical model.

• Similarity matching — An attempt to identify similar individuals based on data known about them.

• Clustering — An attempt to divide individuals (like customers) into groups (or clusters) in a useful or meaningful way.

• Co-occurrence grouping — An attempt to discover associations between individuals based on transactions involving them.

• Profiling — An attempt to characterize the "typical" behavior of an individual, group or population by generating summary statistics about the data (including mean, standard deviations, etc.).

• Link prediction — An attempt to predict a relationship between two data items.

• Data reduction - A data approach that attempts to reduce the amount of information that needs to be considered to focus on the most critical items (i.e., highest cost, highest risk, largest impact, etc.).

Difficulty: 3 Hard

Topic: Definition of Accounting Information Systems, Attributes of Useful Information

Learning Objective: 01-01 Define an accounting information system and explain characteristics of useful information.

Bloom's: Understand

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

52) List and explain four (4) of the seven (7) data analytic skills needed by analytic-minded accountants:

Answer: Answers will vary but should include some of these items.

• Developing an analytics mindset - recognize when and how data analytics can address business questions

• Data scrubbing and data preparation — comprehend the process needed to clean and prepare the data before analysis

• Data quality — recognize what is meant by data quality, be it completeness, reliability or validity

• Descriptive data analysis — perform basic analysis to understand the quality of the underlying data and its ability to address the business question

• Data analysis through data manipulation — demonstrate ability to sort, rearrange, merge and reconfigure data in a manner that allows enhanced analysis.

• Defining and addressing problems through statistical data analysis — identify and implement an approach that will use statistical data analysis to draw conclusions and make recommendations on a timely basis

• Data visualization and data reporting — report results of analysis in an accessible way to each varied decision maker and their specific needs

Difficulty: 3 Hard

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Remember

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

53) As more and more data is available, some would argue that the role of accounting is changing. While accountants don't need to become data scientists, they must develop a base level skill set. Whether they are the Director of Tax for Hewlett Packard or their external auditor, which basic skills are needed by an analytic-minded accountant?

Answer: Answers will vary!

• Clearly articulate the business problem the company is facing,

• Communicate with the data scientists about specific data needs and understand the underlying quality of the data.

• Draw appropriate conclusions to the business problem based on the data and make recommendations on a timely basis, and

• Present their results to individual members of management (CEOs, audit managers, etc.) in an accessible manner to each member.

Difficulty: 3 Hard

Topic: Data-Analytic Skills Needed by Analytic-Minded Accountants

Learning Objective: 01-05 Describe the Skills Needed by Accountants.

Bloom's: Analyze

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

54) What is the regression approach? How might the regression approach be used in auditing?

Answer: Answers will vary! Regression is an attempt to estimate or predict, for each unit, the numerical value of some variable using some type of statistical model. Given a balance of total accounts receivable held by a client, auditors can use a regression analysis to estimate the appropriate level of allowance for doubtful accounts for bad debts.

Difficulty: 3 Hard

Topic: AIS and Internal Business Processes

Learning Objective: 01-06 Describe how AIS assists the firm's internal business processes.

Bloom's: Analyze

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making

55) Assume that you have just started a new job as a credit manager for a Fortune 500 company. Using the IMPACT Cycle, explain the process. For each step in the cycle, provide examples and state the information/data you would need to make a credit worthiness decision.

Answer: Answers will vary! A potential answer might include:

|  |  |
| --- | --- |
| Process: | Example or Information need: |
| Identify the Question | Who is the customer?  What is the credit amount requested?  What are the terms of payment?  How is their financial performance, relative to their competitors? |
| Master the Data | What is their:  • Liquidity ratio,  • Effectiveness or turnover ratios,  • Financial leverage ratios,  • Profitability ratios,  • Ratios of debt service. |
| Perform Test Plan | Possible approaches  • Regression  • Profiling  • Data reduction |
| Address and Refine Results | • Examine correlations  • Request additional data  • Discuss with colleagues  • Rerun analysis |
| Communicate Insights | Provide answer (yes/no) to customer. If yes, provide amount of credit limit and payment terms. |
| Track Outcomes | • Monitor customer aging and payment trends  • Revisit as necessary |

Difficulty: 3 Hard

Topic: Hands-On Example of the Impact Model

Learning Objective: 01-06 Describe how AIS assists the firm's internal business processes.

Bloom's: Analyze

AACSB: Reflective Thinking

AICPA: BB Industry; FN Decision Making