

Test Bank for Spreadsheet Modeling and Decision Analysis 9th Ragsdale

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Chapter 01 Introduction to Modeling and Decision Analysis

1. The essence of decision analysis is
- breaking down complex situations into manageable elements.
 - choosing the best course of action among alternatives.
 - finding the root cause of why something has gone wrong.
 - thinking ahead to avoid negative consequences.

ANSWER: b

2. All of the following are reasons why someone would wish to use a spreadsheet model except
- to implement a computer model.
 - because spreadsheets are convenient.
 - to analyze decision alternatives.
 - because spreadsheets lead to increased opportunities.

ANSWER: d

3. Which of the following fields of study uses computers, statistics, and mathematics to solve business problems?
- Accounting
 - Information systems
 - Business analytics
 - Scientific management

ANSWER: c

4. Anchoring effects occur in decision-making problems when
- decision makers are tied too closely to previous decisions.
 - organizations refuse to consider new alternatives.
 - a seemingly trivial factor serves as a starting point for estimations.
 - a person in a position of authority exerts his or her opinion very forcefully.

ANSWER: c

5. Virtually everyone who uses a spreadsheet today for model building and decision making
- is a practitioner of business analytics.
 - possesses an advanced knowledge of mathematics and computer programming languages.
 - is a CPA.
 - is in a position to influence decision makers.

ANSWER: a

6. Which of the following statements is true of using models in problem solving and decision analysis?
- It is a fairly new idea.
 - It is required in order to find good solutions.
 - It is something virtually everyone has done before.
 - It is tied to the use of computers.

ANSWER: c

7. A road map is an example of a
- mathematical model.

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- b. mental model.
- c. physical model.
- d. visual model.

ANSWER: d

8. The textbook figure shown below of the problem-solving process is an example of a



- a. mental model.
- b. prescriptive model.
- c. graphical model.
- d. visual model.

ANSWER: d

9. Which of the following is most likely to be used when faced with the decision of how to arrange furniture in a room?

- a. Mathematical model
- b. Mental model
- c. Physical model
- d. Visual model

ANSWER: b

10. To illustrate how a complex system will be built, an engineer will likely use a

- a. mathematical model.
- b. mental model.
- c. physical model.
- d. visual model.

ANSWER: d

11. Which of the following is the type of model used throughout this textbook?

- a. Mathematical model
- b. Mental model
- c. Physical model
- d. Visual model

ANSWER: a

12. The best models

- a. accurately reflect relevant characteristics of the real-world object or decision.
- b. are mathematical models.
- c. replicate all aspects of the real-world object or decision.

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- d. replicate the characteristics of a component in isolation from the rest of the system.

ANSWER: a

13. A mathematical model is considered to be valid when
- a. it accurately represents the relevant characteristics of the object or decision.
 - b. it has passed a validation test.
 - c. it replicates all aspects of the object or decision.
 - d. the left- and right-hand sides of expressions are equal.

ANSWER: a

14. All of the following are benefits of modeling except that
- a. modeling delivers needed information on a more timely basis.
 - b. modeling finds the right answers to incorrect or flawed problem statements.
 - c. modeling is helpful in examining things that would be impossible to do in reality.
 - d. modeling is less expensive than implementing several alternative solutions.

ANSWER: b

15. Better decision making using a modeling process is achieved due to the
- a. interaction with the spreadsheet.
 - b. visualization of the system being studied.
 - c. insight gained through the process.
 - d. timeliness of the results obtained.

ANSWER: c

16. The term "mathematics" is used to encompass not only the most familiar elements of math, such as algebra, but also
- a. profit and revenue calculations.
 - b. calculus
 - c. logic.
 - d. expense calculations.

ANSWER: c

17. The specification or description of the relationship between the dependent and independent variables is generally called a
- a. constraint.
 - b. declaration.
 - c. function.
 - d. mathematical model.

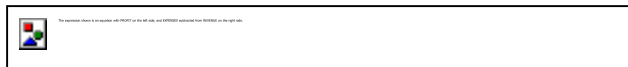
ANSWER: c

18. Variables are termed independent when they satisfy which of the following?
- a. The function value depends upon their values.
 - b. The decision maker has no control over them.
 - c. The variables have no relationship to one another.
 - d. The variable is described as an output of the spreadsheet model.

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ANSWER: a

19. In the following expression, what is the dependent variable?



- a. Profit
- b. Revenue
- c. Expenses
- d. Loss

ANSWER: a

20. In a spreadsheet, input cells correspond conceptually to

- a. dependent variables.
- b. functions.
- c. independent variables.
- d. output cells.

ANSWER: c

21. The categories of modeling techniques include all of the following except

- a. descriptive models.
- b. predictive models.
- c. prescriptive models.
- d. preventive models.

ANSWER: d

22. The following spreadsheet model is an example of a

	A	B	C
1			
2			
3	Purchase price	\$32,500	
4	less:		
5	Down payment	\$ 6,500	
6	Trade-in	\$ 4,000	
7	Amount financed	\$22,000	
8			
9	Term of loan	5 years	
10			
11	Annual interest rate	11.25%	
12			
13	Monthly payment	\$481.08	

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14			
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- a. descriptive model.
- b. predictive model.
- c. prescriptive model.
- d. preventive model.

ANSWER: c

23. Solutions to which of the following categories of modeling techniques indicate a course of action to the decision maker?

- a. Descriptive models
- b. Predictive models
- c. Prescriptive models
- d. Preventive models

ANSWER: c

24. In which of the following categories of modeling techniques do the independent variables have unknown or uncertain values or coefficients?

- a. Descriptive models
- b. Predictive models
- c. Prescriptive models
- d. Probabilistic models

ANSWER: a

25. In which of the following categories of modeling techniques are the specifications of the relationships between dependent and independent variables unknown or poorly defined?

- a. Descriptive models
- b. Open models
- c. Predictive models
- d. Prescriptive models

ANSWER: c

26. Which of the following categories of modeling techniques includes optimization techniques?

- a. Capitalistic models
- b. Descriptive models
- c. Predictive models
- d. Prescriptive models

ANSWER: d

27. Which of the following categories of modeling techniques addresses uncertainty in the values of the independent variables?

- a. Descriptive models
- b. Predictive models
- c. Prescriptive models
- d. Scale models

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ANSWER: a

28. Which of the following categories of modeling techniques involves determining the value of a dependent variable based on specific values of independent variables?

- a. Biased models.
- b. Descriptive models.
- c. Predictive models.
- d. Prescriptive models.

ANSWER: c

29. To be effective, a modeler must

- a. be an effective presenter of results.
- b. collect the proper input data for the model.
- c. understand how modeling fits into the entire problem-solving process.
- d. apply the correct modeling technique.

ANSWER: c

30. Identifying the real problems faced by the decision maker

- a. is not important since the decision maker has already defined the problem.
- b. requires insight, some imagination, time and a good bit of detective work.
- c. first requires a well-defined problem statement.
- d. will lead to developing the best model.

ANSWER: b

31. The ultimate goal of the problem identification step of the problem-solving process is

- a. collecting lots of information.
- b. helping the decision maker realize there is a problem.
- c. identifying the root problem(s) causing the mess.
- d. convincing the decision maker the mess is really a problem that can be solved.

ANSWER: c

32. Which step of the problem-solving process is considered the most important?

- a. Identify problem
- b. Analyze model
- c. Test results
- d. Implement solution

ANSWER: a

33. Which of the following steps in the problem-solving process is most likely to incur resistance from people affected by the proposed solution?

- a. Formulate model
- b. Use model to analyze problem
- c. Test results
- d. Implement solution

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ANSWER: d

34. Which of the following statements is true about different modeling techniques that are available to solve managerial decision problems?

- a. The wrong choice of modeling technique is a common source of implementation difficulties.
- b. Managers should develop a strong preference and expertise in one technique to use when faced with problems.
- c. The fundamental characteristics of the problem guide the selection of an appropriate modeling technique.
- d. Most problems faced by managers are fundamentally the same.

ANSWER: c

35. In which step of the problem-solving process is the main focus to generate and evaluate alternatives?

- a. Identify problem
- b. Formulate model
- c. Use model to analyze problem
- d. Test results

ANSWER: c

36. Which of the following is true of "What if?" analysis?

- a. A well-designed spreadsheet facilitates "What if?" analysis.
- b. It is not very useful when working with non-mathematical models.
- c. "What if?" analysis is an efficient optimization technique.
- d. "What if?" analysis is useful in creating a well-defined problem statement.

ANSWER: a

37. Beneficial uses of the testing process include all of the following except:

- a. double checking the validity of the model.
- b. finding that some important assumption has been left out of the model.
- c. giving no new insights into the nature of the problem.
- d. improving solutions after the implementation step.

ANSWER: d

38. Implementing solutions to problems involves people and change. Which of the following is a suggested approach to effectively implement solutions?

- a. Centralizing decision-making authority to those who have specialized training in decision making
- b. Involving anyone affected by the decision in all steps of the problem-solving process
- c. Making decisions according to majority vote
- d. More skillfully communicating management decisions

ANSWER: b

39. Which of the following problem-solving steps is often considered the most difficult?

- a. Identify the problem.
- b. Analyze the model.
- c. Test results.
- d. Implement the solution.

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ANSWER: d

40. If the correct problem is not identified, the best that can be hoped for is
- a. wasted time and effort.
 - b. useful experience in problem definition efforts.
 - c. a descriptive model.
 - d. the right answer to the wrong question.

ANSWER: d

41. Chapter 1 discussed all of the following except
- a. how models of decision problems differ in a number of important characteristics.
 - b. how spreadsheet modeling and analysis fit into the problem-solving process.
 - c. how spreadsheet models of decision problems can be used to analyze the consequences of possible courses of action.
 - d. how to implement a problem formulation as a spreadsheet model.

ANSWER: d

42. All of the following are CEO alternatives to start the OR/MS collaboration process except
- a. require the OR/MS group to save their yearly salary in every study.
 - b. use OR/MS personnel as consultants.
 - c. hire some OR/MS professionals and give them a problem to work.
 - d. institute more participation from OR analysts.

ANSWER: a

43. The main point brought forward in the Chapter 1 "The World of Business Analytics" case reading is that
- a. at a cocktail party, it is more efficient to divide the dip into several bowls and place them around the room.
 - b. competitive rivalry between IS and OR/MS groups can be turned to advantage when tackling business process re-engineering projects.
 - c. information system analysts trained in management science can help turn ordinary information systems into money-saving decision-support systems.
 - d. OR/MS professionals lack communication skills and tend to focus on "rigor without relevance".

ANSWER: c

44. Which of the following statements is not true about the relationship between OR/MS and IS professionals?
- a. OR/MS analysts need IS professionals' data for their models.
 - b. OR/MS analysts need to take many of the IS customers.
 - c. The IS professional cannot use OR/MS tools in their applications.
 - d. The IS tools can start to recommend solutions using OR/MS skills.

ANSWER: d

45. The goal of the modeling approach to problem solving is to
- a. help individuals make good decisions.
 - b. ensure optimality of decisions.
 - c. determine a set of optimal decisions.

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- d. determine feasibility of decisions.

ANSWER: a

46. A situation when decision quality is good and the resulting outcome quality is good is referred to as
- a. pure luck.
 - b. deserved success.
 - c. dumb luck.
 - d. poetic justice.

ANSWER: b

47. A factor that plays a role in determining whether a good or bad outcome occurs is called
- a. luck.
 - b. intuition.
 - c. certainty.
 - d. predictability.

ANSWER: a

48. Consistently using a structured, model-based process to make decisions
- a. should produce good outcomes more frequently.
 - b. is less effective than making decisions in a haphazard manner.
 - c. is evidence that luck plays an important role in decision making.
 - d. always leads to well-deserved success in managerial decision making.

ANSWER: a

49. A purely rational decision maker should
- a. always select optimal action.
 - b. disregard the consequences of his or her choices.
 - c. consistently select the same alternative, regardless of how the problem is framed.
 - d. allow emotions to influence the decision.

ANSWER: c

50. Two of the effects associated with decision problems are
- a. anchoring and framing.
 - b. anchoring and loading.
 - c. framing and complacency.
 - d. anchoring and luck.

ANSWER: a

51. Anchoring occurs when
- a. a trivial factor is used as a starting point for estimations in a decision-making problem.
 - b. a difficult factor is incorporated in a problem.
 - c. an easy solution is obtained to a difficult problem.
 - d. obtaining a solution is trivial.

ANSWER: a

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52. Framing effects refer to

- a. how difficult a decision is.
- b. how a decision maker views the alternatives in a decision problem.
- c. whether a software program can be used to obtain an optimal solution to a decision problem.
- d. how structured the decision problem is.

ANSWER: b

53. In the model $Y = f(X1, X2)$, Y is called a(n)

- a. dependent variable.
- b. independent variable.
- c. confounded variable.
- d. convoluted variable.

ANSWER: a

54. In the model $Y = f(X1, X2)$, X1 is called a(n)

- a. independent variable.
- b. dependent variable.
- c. confounded variable.
- d. convoluted variable.

ANSWER: a

55. A valid model

- a. accurately represents a decision problem being studied.
- b. produces an optimal solution.
- c. produces a good solution.
- d. produces a feasible solution.

ANSWER: a

56. In a decision-making framework, poetic justice refers to a situation when which of the following occur?

- a. Good decision quality and good outcome quality
- b. Good decision quality and bad outcome quality
- c. Bad decision quality and good outcome quality
- d. Bad decision quality and bad outcome quality

ANSWER: d

57. A situation when decision quality is good and the resulting outcome quality is bad is referred to as

- a. pure luck.
- b. deserved success.
- c. bad luck.
- d. poetic justice.

ANSWER: c

58. A situation when decision quality is bad and the resulting outcome quality is bad is referred to as

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- a. pure luck.
- b. deserved success.
- c. bad luck.
- d. poetic justice.

ANSWER: d

59. A situation when decision quality is bad and the resulting outcome quality is good is referred to as

- a. dumb luck.
- b. deserved success.
- c. bad luck.
- d. poetic justice.

ANSWER: a

60. In a decision-making framework, dumb luck refers to a situation when which of these occur?

- a. Good decision quality and good outcome quality
- b. Good decision quality and bad outcome quality
- c. Bad decision quality and good outcome quality
- d. Bad decision quality and bad outcome quality

ANSWER: c

61. In a decision-making framework, deserved success refers to a situation when which of the following occur?

- a. Good decision quality and good outcome quality
- b. Good decision quality and bad outcome quality
- c. Bad decision quality and good outcome quality
- d. Bad decision quality and bad outcome quality

ANSWER: a

62. In a decision-making framework, bad luck refers to a situation when which of the following occur?

- a. Good decision quality and good outcome quality
- b. Good decision quality and bad outcome quality
- c. Bad decision quality and good outcome quality
- d. Bad decision quality and bad outcome quality

ANSWER: b

63. In which step of the problem-solving process is the concept of "probortunity" introduced?

- a. Identify problem
- b. Formulate model
- c. Use model to analyze problem
- d. Test results

ANSWER: a

64. In order to be useful to a decision maker, decision problems need to be

- a. valid.
- b. analyzed.

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- c. complicated.
- d. tested.

ANSWER: a

65. Business analytics focuses on
- a. testing and implementing results.
 - b. formulating analytical models.
 - c. using models to analyze problems.
 - d. identifying and leveraging business opportunities.

ANSWER: d

66. Business opportunities can be viewed and formulated as
- a. decision problems.
 - b. analytical models.
 - c. empirical models.
 - d. testing tools.

ANSWER: a

67. The notion that every problem is also an opportunity is reflected in the term
- a. probortunity.
 - b. formulation.
 - c. simulation.
 - d. business opportunity.

ANSWER: a

68. The words "opportunity" and "problem" are
- a. disjoint.
 - b. used interchangeably.
 - c. mutually exclusive.
 - d. complementary.

ANSWER: b

69. Mathematical modeling approaches
- a. are a subset of the total problem-solving process.
 - b. cover the entire spectrum of decision support approaches.
 - c. are exhaustive.
 - d. are complementary.

ANSWER: a

70. "Probortunity" is
- a. the first step in the problem-solving process.
 - b. a decision support method.
 - c. part of testing results.
 - d. part of solution implementation.

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ANSWER: a

71. If results testing produces unsatisfactory results,
- a. the problem-solving process requires new formulation and implementation.
 - b. minor adjustments should be made to the existing model.
 - c. the solution algorithm should be checked.
 - d. testing should be repeated.

ANSWER: a

72. Which of the following provide the most convenient, flexible, and useful way for businesspeople to implement and analyze computer models?

- a. Smartboards
- b. 3D printers
- c. Graphing calculators
- d. Electronic spreadsheets

ANSWER: d

73. A mathematical model uses mathematical relationships to represent

- a. a visual solution.
- b. the rate of change between two variables.
- c. a decision problem.
- d. predictions for the future.

ANSWER: c

74. Because they simplify reality, models are generally helpful in examining things that would be

- a. inexpensive to do in reality.
- b. impossible to do in reality.
- c. easily done in reality.
- d. quickly done in reality.

ANSWER: b

75. In spreadsheet modeling of a problem,

- a. there is no relation between a mathematical equation and the spreadsheet.
- b. there is no direct correspondence between a mathematical equation and the spreadsheet.
- c. there is a direct correspondence between a mathematical equation and the spreadsheet.
- d. there is very little correspondence between a mathematical equation and the spreadsheet.

ANSWER: c

76. The end result of the problem-identification step is a(n)

- a. well-defined statement of the problem.
- b. feasible solution to enact.
- c. prediction for the related outcome.
- d. implementation plan.

ANSWER: a

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77. Errors in human judgment often arise because of what type of effects associated with decision problems?

- a. Bolstering and basing
- b. Tying and building
- c. Overestimation and underestimation
- d. Anchoring and framing

ANSWER: d

78. Which of the following types of effects relates to how a decision maker views or perceives the alternatives in a decision problem?

- a. Anchoring
- b. Framing
- c. Underestimating
- d. Modeling

ANSWER: b

79. Which of the following types of effects arises when a seemingly trivial factor serves as a starting point for estimations in a decision-making problem?

- a. Anchoring
- b. Framing
- c. Underestimating
- d. Modeling

ANSWER: a

80. When building a model, it is often _____ to analyze decision problems using a model than carrying out the decision in reality.

- a. a longer process
- b. more expensive
- c. less expensive
- d. more difficult

ANSWER: c

81. Independent variables are represented as which type of cells in a spreadsheet model?

- a. Dependent cells
- b. Formula cells
- c. Input cells
- d. Output cells

ANSWER: c