

Investment Centers

True/False

1. Some companies present financial and nonfinancial performance measures for various organization units in a single report called the "financial performance scorecard."

2. In designing an accounting-based performance measure, each step is interdependent and the decision maker may proceed through the steps several times before deciding on a performance measure.

3. The timing of feedback depends on the level of management that receives the information and on the complexity of the organization's information technology.

4. There are three basic ingredients in profit making: investment turnover, price margin, and profit analysis.

5. Return on investment highlights the benefits that managers can obtain by reducing their investments in current or fixed assets.

6. Residual income is income plus an imputed interest charge for the investment base.

7. The cost of capital is the interest rate that should be used to compute residual income; however, it should be the cost of capital for the business segment being evaluated in order to reflect the appropriate risk level.

8. The relevant value is the asset measure based on discounted cash-flow estimates.

9. Present value is the cost today of purchasing an asset identical to the one currently held.

10. Comparing the performance of divisions of a multinational company operating in different countries is difficult because of the differences in economic, legal, political, social and cultural environments.



11. One way to achieve greater comparability of historical cost-based ROIs is to restate performance in dollars.

12. The performance evaluation of managers and employees generally affects compensation very little.

13. Good performance measures do not change significantly with the manager's performance but change with factors that are beyond the manager's control.

14. The manager might curtail advertising and maintenance to decrease the current year's ROI when a manager's performance evaluation is based on the return on investment (ROI).

15. Cooperation is not encouraged when team incentives are used and individual incentives are also in place for each team member.

16. The balanced-scorecard approach includes all of the following EXCEPT

- customer satisfaction measures.
- direct materials measures.
- innovation measures.
- time measures.

17. Which of the following is NOT a step in designing an accounting-based performance measure?

- choosing measures for key items
- choosing a variable that represents top management's financial goals
- choosing a target against which to gauge performance
- choosing a variable(s) that represents subunit's financial goals

18. Should an investment be defined as total assets or total assets minus liabilities? This question is considered as part of which step in designing an accounting-based performance measure?

- a. choosing variables that represent top management's financial goals
- b. choosing a variable that represents a subunit's financial goals
- c. choosing definitions of key items
- d. choosing measures of key items

Operating assets	70,000
Net operating income	110,000
Total assets	104,500

19. The level of management AND the sophistication of an organization's technology affect
- a. the amount of financial data that may be stored.
 - b. the timing of feedback.
 - c. the level at which decisions can be made.
 - d. the type of financial analyses that may be performed.

What is the return on investment?

- a. 2.25.
- b. 1.57.
- c. 0.95.
- d. 0.55.

20. Which of the following statements about designing an accounting-based performance measure is TRUE?
- a. The steps may be followed in a random order.
 - b. The issues considered in each step are independent.
 - c. Management's preferences are present during the analyses.
 - d. Behavioral criteria are important when evaluating the steps.

25. All of the following will increase the return on investment EXCEPT

- a. actions that increase revenues.
- b. actions that increase liabilities.
- c. actions that decrease investments.
- d. actions that decrease costs.

21. Which of the following incorporates the amount of investment into a performance measure?
- a. dividend income
 - b. residual income
 - c. return on investment
 - d. both residual income and return on investment

26. Return on investment is equal to

- a. the investment turnover ratio.
- b. the sales ratio divided by the investment turnover ratio.
- c. the sales ratio minus the investment turnover ratio.
- d. the sales ratio times the investment turnover ratio.

22. During the past year, Badger Company had a net income of \$175,000. What is the ROI if the investment is \$25,000?
- a. 0.142
 - b. 2.500
 - c. 5.140
 - d. 7.000

27-32. The top management at Munchie Company, a manufacturer of computer games, is attempting to recover from a flood which destroyed some of their accounting records. The main computer system was also severely damaged. The following information was salvaged:

	Alpha Division	Beta Division	Gamma Division
Sales	\$2,500,000	(a)	\$1,150,000
Net operating income	\$1,500,000	\$650,000	\$ 575,000
Operating assets	(b)	(c)	\$ 766,667
Return on investment	0.25	0.15	(d)
Return on sales	(e)	0.10	0.5
Investment turnover	(f)	(g)	1.5

23. The most popular approach to incorporating the investment base into a performance measure is
- a. income on return.
 - b. opportunity cost.
 - c. return on investment.
 - d. residual income.

27. What were the sales for Beta Division?

- a. \$4,333,333
- b. \$5,952,380
- c. \$6,500,000
- d. \$7,151,800

24. Paymaster Company provided the following information for 19x1.

Revenue	\$200,000
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28. What is the value of the operating assets belonging to the Alpha Division?

- a. \$4,333,333
- b. \$6,000,000
- c. \$6,500,000
- d. \$7,151,800

29 What is the value of the operating assets belonging to the Beta Division?
 a. \$4,333,333 b. \$5,952,380 c. \$6,500,000 d. \$7,151,800

30. What is the Gamma Division's return on investment?
 a. 0.25 b. 0.42 c. 0.60 d. 0.75

31. What is the Alpha Division's return on sales?
 a. 0.25 b. 0.42 c. 0.60 d. 0.75

32. What are the respective investment turnover ratios for the Alpha and Beta Divisions?
 a. 0.42; 1.50 b. 0.60; 0.75 c. 0.75; 0.60 d. 1.50; 0.42

33. Operation ABC has total assets of \$500,000. The operating income for the year was \$200,000. What is the residual income if there is a 10 percent imputed interest charge?
 a. \$150,000 b. \$200,000 c. \$250,000 d. \$480,000

34. Which of the following performance measures is more likely to promote goal congruence?
 a. inventory turnover b. marginal income
 c. residual income d. return on investment

35. Berger Publishing has two divisions, which operate autonomously. Their results for 19x1 were as follows:

	St. Louis	Kansas City
Sales	\$5,000,000	\$6,000,000
Contribution margin	2,500,000	3,000,000
Operating income	2,000,000	3,500,000
Investment base	6,500,000	7,500,000

The company's desired rate of return is 15%.

What are the respective return-on-investment ratios for the St. Louis and Kansas City divisions?

- a. 0.04; 0.58 b. 0.31; 0.47
 c. 0.38; 0.40 d. 0.77; 1.25

36. What are the respective residual incomes for the St. Louis and Kansas City divisions?

- a. \$ 975,000; \$1,125,000 b. \$1,025,000; \$1,125,000
 c. \$1,025,000; \$2,375,000 d. \$2,375,000; \$1,025,000

37. Which division has the best return on investment and which division has the best residual income figure, respectively?

- a. St. Louis, St. Louis b. St. Louis, Kansas City
 c. Kansas City, Kansas City d. Kansas City, St. Louis

38. The asset measure based on discounted cash-flow estimates is the
 a. asset value. b. book value. c. net-cash value. d. present value.

39. Alarm Systems Company manufactures burglar alarms. The existing facility has a useful life of 10 years, expected net cash inflows of \$6,000,000 each year, and an expected terminal disposal price of \$3,000,000. The required rate of return is 12 percent. What is the present value of the operation?

- a. \$966,000 b. \$32,934,000
 c. \$33,900,000 d. \$34,866,000

40. The cost today of purchasing an asset identical to the one currently held is called

- a. an actual cost. b. a current cost. c. a dual cost. d. a fixed cost.

41-44. Ruth Cleaning Products manufactures home cleaning products. The company has two divisions, Bleach and Commet. Because of different accounting methods and inflation rates, the company is considering multiple evaluation measures. The following information is provided for 19x1:

	Assets		Income	
	Book value	Current value	Book value	Current value
Bleach	\$225,000	\$300,000	\$150,000	\$155,000
Commet	450,000	250,000	100,000	105,000

The company is currently using a required rate of return of 15 percent.

41. What are Bleach's and Commet's return on investment based on book values, respectively?

- a. 0.22; 0.67
c. 0.52; 0.42

- b. 0.42; 0.52
d. 0.67; 0.22

42. What are Bleach's and Commet's return on investment based on current values, respectively?

- a. 0.22; 0.67 b. 0.42; 0.52 c. 0.52; 0.42 d. 0.67; 0.22

43. What are Bleach's and Commet's residual incomes, based on book values, respectively?

- a. \$116,250; \$ 32,500
c. \$ 67,500; \$110,000
- b. \$110,000; \$ 67,500
d. \$ 37,500; \$116,250

44. What are Bleach's and Commet's residual incomes, based on current values, respectively?

- a. \$116,250; \$ 37,500
c. \$ 67,500; \$110,000
- b. \$110,000; \$ 67,500
d. \$ 37,500; \$116,250

45. How well does the performance measure capture the manager's ability to influence the desired results? This question is often asked when

- a. managers are highly motivated.
b. there is little control over manager's performance.
c. determining the intensity of incentives for manager performance.
d. management has control over the performance measure results.

46. The absence of good performance measures restricts the owner's ability to motivate managers through

- a. rewards for products.
c. monetary rewards.
- b. performance-based incentives.
d. compensation.

47. The benefits of tying performance measures more closely to a manager's efforts encourage the use of

- a. financial measures.
c. nonfinancial and financial measures.
- b. nonfinancial measures.
d. performance input measures.

48. The Auto Division of Fran Corporation has \$250,000 in profits, while the Transportation Division has \$500,000. Based on this information, which unit would have a better rate of return?

- a. Auto Division
b. Fran Corporation

c. Transportation Division

d. Insufficient information given to determine a preliminary decision.

52. In order to compute return on investment ratios for segments of a business, which of the following must occur?

- a. All investment costs must be pooled and divided according to the number of segments in the business.
b. Corporate assets must be allocated appropriately to each responsible segment.
c. Total revenues must be allocated according to the number of segments calculating the return on investment.
d. Divide total costs evenly throughout the organization.

53-54. Brandorf Company has two sources of funds A long-term debt with a market and book value of \$9 million issued at an interest rate of 10 percent, and equity capital that has a market value of \$6 million (book value of \$2 million). Brandorf Company has profit centers in the following locations, with the following operating incomes, total assets, and total liabilities. The cost of equity capital is 15 percent, while the tax rate is 30 percent.

	Current Operating Income	Assets	Liabilities
Chicago	\$ 480,000	\$2,000,000	\$100,000
Des Moines	\$ 600,000	\$4,000,000	\$300,000
Kansas City	\$1,020,000	\$6,000,000	\$600,000

53. What is EVA for Chicago?

- a. \$142,200 b. \$ 42,600 c. \$163,200 d. \$480,000

54. What is EVA for Des Moines?

- a. \$142,200 b. \$ 42,600 c. \$163,200 d. \$200,000

55. Which of the following statements is FALSE?

- a. The economic, legal, political, social and cultural environments do not differ across countries.
b. Governments in some countries may impose controls and limit selling prices of a company's products.

- c. Availability of materials and skilled labor may differ significantly across countries.
- d. Divisions operating in different countries keep score of their performance in different currencies.

56. Which of the following statements is TRUE relative to performance evaluations?

- a. managers should be evaluated for the whole organization's performance
- b. managers should be evaluated on things they can affect
- c. sales people cannot completely control the level of sales
- d. managers should not be evaluated on the things they can affect if the factors are not completely controllable

57. Measurement of one group's performance against the best possible level of performance exhibited by another group, either inside or outside the organization, is known as

- a. teamwork analysis.
- b. performance-variation analysis.
- c. comparative analysis.
- d. benchmarking.

15. True

16. b

17. d

18. c

19. b

20. c

21. d

22. d $\$175,000 / \$25,000 = 7$

23. c

24. b $\$110,000 / \$70,000 = 1.57$

25. b

26. d

27. c $0.10 = \$650,000 / X$

$X = \$6,500,000$

28. b $\$1,500,000 / 0.25 = \$6,000,000$

29. a $1.5 = \$6,500,000 / x;$

$x = \$4,333,333$

30. d $0.5 \times 1.5 = 0.75$

31. c $\$1,500,000 / \$2,500,000$

$= 0.60$

32. a

Alpha: $0.25 / 0.60 = 0.42$

Beta: $0.15 = 0.10 \times IT$

$IT = 1.5$

33. a $\$200,000 - (\$500,000 \times 0.10) = \$150,000$

34. c

35. b

St. Louis:

$2,000,000 / 6,500,000 = 0.31$

Kansas City:

$3,500,000 / 7,500,000 = 0.47$

36. c

Income base

St. Louis
 $\$6,500,000$

Kansas City
 $\$7,500,000$

Minimum rate

$\times 0.15$

$\times 0.15$

Minimum return

$\$ 975,000$

$\$1,125,000$

Income

$\$2,000,000$

$\$3,500,000$

Minimum return

$975,000$

$1,125,000$

Residual Income

$\$ 1,025,000$

$\$2,375,000$

Answers

1. False

2. True

3. True

4. False

5. False

6. False

7. True

8. False

9. False

10. True

11. True

12. False

13. False

14. False

37.c

38.d

39.d

$$\$6,000,000 \times 5.650 =$$

$$\$3,000,000 \times 0.322 =$$

$$\$33,900,000$$

$$966,000$$

$$\$34,866,000$$

40.b

41.d Book value ROI:

$$\text{Bleach: } \$150,000 / \$225,000 = 0.67$$

$$\text{Commet: } \$100,000 / \$450,000 = 0.22$$

42.c Current ROI:

$$\text{Bleach: } \$155,000 / \$300,000 = 0.52$$

$$\text{Commet: } \$105,000 / \$250,000 = 0.42$$

43.a Book value RI:

$$\text{Bleach: } \$150,000 - (\$225,000 \times 0.15) = \$116,250$$

$$\text{Commet: } \$100,000 - (\$450,000 \times 0.15) = \$32,500$$

44.b Current value ROI:

$$\text{Bleach: } \$155,000 - (\$300,000 \times 0.15) = \$110,000$$

$$\text{Commet: } \$105,000 - (\$250,000 \times 0.15) = \$67,500$$

45.c

46.b

47.b

48.d

52.b

$$53.a \text{ WACC} = [(0.07 \times \$9,000,000) + (0.15 \times 0.7 \times \$6,000,000)] / \$15,000,000 = 10.2\%$$

$$\text{Chicago (EVA)} = (\$480,000 \times 0.7) - [0.102 \times (2,000,000 - \$100,000)] = \$142,200$$

$$54.b \text{ WACC} = [(0.07 \times \$9,000,000) + (0.15 \times 0.7 \times \$6,000,000)] / \$15,000,000 = 10.2\%$$

$$\text{Des Moines (EVA)} = (\$600,000 \times 0.7) - [0.102 \times (\$4,000,000 - \$300,000)] = \$42,600$$

55.a

56.b

57.d