CHAPTER 7: FLEXIBLE BUDGETS, VARIANCES, AND MANAGEMENT CONTROL: I

*TRUE/FALSE*

1. The master budget is one type of flexible budget.

*Answer*: False

The master budget is a *static* budget.

2. A flexible budget is calculated at the start of the budget period.

*Answer*: False

A flexible budget is calculated at the *end* of the budget period when actual output is known.

3. Information regarding the causes of variances is provided when the master budget is compared with actual results.

*Answer*: False

Little information regarding the causes of variances is provided when the master budget is compared with actual results because you are comparing a budget for one level of activity with actual costs for a different level of activity.

4. A favorable variance results when budgeted revenues exceed actual revenues.

*Answer*: False

An *unfavorable* variance results when budgeted revenues exceed actual revenues.

5. Management by exception is the practice of concentrating on areas not operating as anticipated (such as a cost overrun) and placing less attention on areas operating as anticipated.

*Answer*: True

6. The essence of variance analysis is to capture a departure from what was expected.

*Answer*: True

7. A favorable variance should be ignored by management.

*Answer*: False

Favorable variance investigation may lead to improved production methods, other discoveries for future opportunities, or not be good news at all and adversely affect other variances.

8. An unfavorable variance may be due to poor planning rather than due to inefficiency.

*Answer*: True

9. If budgets contain slack, cost variances will tend to be favorable.

*Answer*: True

10. The only difference between the static budget and flexible budget is that the static budget is prepared using planned output.

*Answer*: True

11. The static-budget variance can be subdivided into the flexible-budget variance and the sales-volume variance.

*Answer*: True

12. The flexible-budget variance may be the result of inaccurate forecasting of units sold.

*Answer*: False

The *sales-volume* variance is the result of inaccurate forecasting of units sold.

13. Decreasing demand for a product may create a favorable sales-volume variance.

*Answer*: False

Decreasing demand for a product may create an *unfavorable* sales-volume variance.

14. An unfavorable variance is conclusive evidence of poor performance.

*Answer*: False

An unfavorable variance suggests further investigation, not conclusive evidence of poor performance.

15. A company would not need to use a flexible budget if it had perfect foresight about actual output units.

*Answer*: True

16. The flexible-budget variance pertaining to revenues is often called a selling-price variance.

*Answer*: True

17. Cost control is the focus of the sales-volume variance.

*Answer*: False

The sales-volume variance is not a measure of cost, but rather a measure of actual output units differing from budgeted output units.

18. Managers generally have more control over efficiency variances than price variances.

*Answer*: True

Efficiency variances are primarily affected by internal factors, whereas price changes may be influenced by market factors.

19. To prepare budgets based on actual data from past periods is preferred since past inefficiencies are excluded.

*Answer*: False

A deficiency of using budgeted input quantity information based on actual quantity data from past periods is that past inefficiencies are included.

20. All budgets are based on standard costs.

*Answer*: False

Budgets may be based on standard costs, actual amounts from last year, or data from other companies.

21. A standard is attainable through efficient operations but allows for normal disruptions such as machine breakdowns and defective production.

*Answer*: True

22. The presumed cause of a material price variance will determine how a company responds.

*Answer*: True

23. The use of high-quality raw materials is likely to result in a favorable efficiency variance and an unfavorable price variance.

*Answer*: True

24. The direct manufacturing labor price variance is likely to be favorable if higher-skilled workers are put on a job.

*Answer*: False

The direct manufacturing labor variance is likely to be unfavorable if higher-skilled workers are put on a job since they are usually also higher paid.

25. Although computed separately, price variances and efficiency variances should not be analyzed separately from each other.

*Answer*: True

26. A favorable variance can be automatically interpreted as “good news.”

*Answer*: False

A favorable variance may not be good news at all because it adversely affects other variances that increase total costs.

27. Variances often affect each other.

*Answer*: True

28. If variance analysis is used for performance evaluation, managers are encouraged to meet targets using creativity and resourcefulness.

*Answer*: False

The most common outcome when variance analysis is used for performance evaluation is that managers seek targets that are easily attainable and avoid targets that require creativity and resourcefulness.

29. For critical items such as product defects, a small variance may prompt investigation.

*Answer*: True

30. A particular variance generally signals one particular problem.

*Answer*: False

There are many potential causes of a single variance.

31. Continuous improvement budgeted costs target price reductions and efficiency improvements.

*Answer*: True

32. Improvement opportunities are easier to identify when products have been on the market for a considerable period of time.

*Answer*: False

Improvement opportunities are easier to identify when products are first produced.

33. It is best to rely totally on financial performance measures rather than using a combination of financial and nonfinancial performance measures.

*Answer*: False

It is best to rely on a combination of financial and nonfinancial performance measures.

34. From the perspective of control, the direct materials price variance should be isolated at the time the direct materials are requisitioned for use.

*Answer*: False

From the perspective of control, the direct materials price variance should be isolated at the earliest possible time, which is at the *time of purchase* not of use.

35. Employees logging in to production floor terminals and other modern technologies greatly facilitate the use of a standard costing system.

*Answer*: True

36. Performance variance analysis can be used in activity-based costing systems.

*Answer*: True

37. Price variances can be calculated for batch-level costs as well as for output unit-level costs.

*Answer*: True

38. Benchmarking is the continuous process of measuring products, services, and activities against the best possible levels of performance, either inside or outside the organization.

*Answer*: True

39. When benchmarking, the best levels of performance are typically found in companies that are totally different.

*Answer*: False

When benchmarking, the best levels of performance are typically found in competing companies or in companies having similar processes

40. One problem with benchmarking is ensuring that numbers are comparable.

*Answer*: True

41. When benchmarking it is best when management accountants simply analyze the costs and allow management to provide the insight as to why the revenues and costs differ between companies.

*Answer*: False

When benchmarking, management accountants are more valuable when they analyze the costs and also provide management with insight as to why the revenues and costs differ between companies.

*MULTIPLE CHOICE*

42. The master budget is

a. a flexible budget.

b. a static budget.

c. developed at the end of the period.

d. based on the actual level of output.

*Answer*: b

43. A flexible budget

a. is another name for management by exception.

b. is developed at the end of the period.

c. is based on the budgeted level of output.

d. provides favorable operating results.

*Answer*: b

44. Management by exception is the practice of concentrating on

a. the master budget.

b. areas not operating as anticipated.

c. favorable variances.

d. unfavorable variances.

Answer: b

45. A variance is

a. the gap between an actual result and a benchmark amount.

b. the required number of inputs for one standard output.

c. the difference between an actual result and a budgeted amount.

d. the difference between a budgeted amount and a stan­dard amount.

*Answer*: c

46. An unfavorable variance indicates that

a. actual costs are less than budgeted costs.

b. actual revenues exceed budgeted revenues.

c. the actual amount decreased operating income relative to the budgeted amount.

d. all of the above are true.

*Answer*: c

47. A favorable variance indicates that

a. budgeted costs are less than actual costs.

b. actual revenues exceed budgeted revenues.

c. the actual amount decreased operating income relative to the budgeted amount.

d. all of the above are true.

*Answer*: b

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 48 THROUGH 50.

Abernathy Corporation used the following data to evaluate their current operating system. The company sells items for $10 each and used a budgeted selling price of $10 per unit.

Actual Budgeted

Units sold 92,000 units 90,000 units

Variable costs $450,800 $432,000

Fixed costs $ 95,000 $100,000

48. What is the static-budget variance of revenues?

a. $20,000 favorable

b. $20,000 unfavorable

c. $2,000 favorable

d. $2,000 unfavorable

*Answer*: a

(92,000 units x $10) - (90,000 units x $10) = $20,000 F

49. What is the static-budget variance of variable costs?

a. $1,200 favorable

b. $18,800 unfavorable

c. $20,000 favorable

d. $1,200 unfavorable

*Answer*: b

$450,800 - $432,000 = $18,800 U

50. What is the static-budget variance of operating income?

a. $3,800 favorable

b. $3,800 unfavorable

c. $6,200 favorable

d. $6,200 unfavorable

*Answer*: c

## **Actual Static Static-budget**

**Results Budget Variance**

Units sold 92,000 90,000

Revenues $920,000 $900,000 $20,000 F

Variable costs 450,800 432,000 18,800 U

### Contribution margin $469,200 $468,000 $1,200 F

Fixed costs 95,000 100,000 (5,000) F

Operating income $374,200 $368,000 $6,200 F

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 51 THROUGH 53.

Bates Corporation used the following data to evaluate their current operating system. The company sells items for $10 each and used a budgeted selling price of $10 per unit.

Actual Budgeted

Units sold 495,000 units 500,000 units

Variable costs $1,250,000 $1,500,000

Fixed costs $ 925,000 $ 900,000

51. What is the static-budget variance of revenues?

a. $50,000 favorable

b. $50,000 unfavorable

c. $5,000 favorable

d. $5,000 unfavorable

*Answer*: b

(495,000 units x $10) - (500,000 units x $10) = $50,000 U

52. What is the static-budget variance of variable costs?

a. $200,000 favorable

b. $50,000 unfavorable

c. $250,000 favorable

d. $250,000 unfavorable

*Answer*: c

$1,250,000 - $1,500,000= $250,000 F

53. What is the static-budget variance of operating income?

a. $175,000 favorable

b. $195,000 unfavorable

c. $225,000 favorable

d. $325,000 unfavorable

*Answer*: a

## **Actual Static Static-budget**

**Results Budget Variance**

Units sold 495,000 500,000

Revenues $4,950,000 $5,000,000 $(50,000) U

Variable costs 1,250,000 1,500,000 (250,000) F

### Contribution margin $3,700,000 $3,500,000 $200,000 F

Fixed costs 925,000 900,000 25,000 U

Operating income $2,775,000 $2,600,000 $175,000 F

54. Regier Company had planned for operating income of $10 million in the master budget but actually achieved operating income of only $7 million.

a. The static-budget variance for operating income is $3 million favorable.

b. The static-budget variance for operating income is $3 million unfavorable.

c. The flexible-budget variance for operating income is $3 million favorable.

d. The flexible-budget variance for operating income is $3 million unfavorable.

*Answer*: b

55. The flexible budget contains

a. budgeted amounts for actual output.

b. budgeted amounts for planned output.

c. actual costs for actual output.

d. actual costs for planned output.

*Answer*: a

56. The following items are the same for the flexible budget and the master budget EXCEPT

a. the same variable cost per unit.

b. the same total fixed costs.

c. the same units sold.

d. the same sales price per unit.

*Answer*: c

57. The sales-volume variance is due to

a. using a different selling price from that budgeted.

b. inaccurate forecasting of units sold.

c. poor production performance.

d. both (a) and (b).

*Answer*: b

58. An unfavorable sales-volume variance could result from

a. decreased demand for the product.

b. competitors taking market share.

c. customer dissatisfaction with the product.

d. all of the above.

*Answer*: d

59. If a sales-volume variance was caused by poor-quality products, then the \_\_\_\_\_\_\_\_\_\_\_ would be in the best position to explain the variance.

a. production manager

b. sales manager

c. purchasing manager

d. management accountant

*Answer*: a

60. The variance that is BEST for measuring operating performance is the

a. static-budget variance.

b. flexible-budget variance.

c. sales-volume variance.

d. selling-price variance.

*Answer*: b

61. An unfavorable flexible-budget variance for variable costs may be the result of

a. using more input quantities than were budgeted.

b. paying higher prices for inputs than were budgeted.

c. selling output at a higher selling price than budgeted.

d. both (a) and (b).

*Answer*: d

62. An unfavorable variance

a. may suggest investigation is needed.

b. is conclusive evidence of poor performance.

c. demands that standards be recomputed.

d. indicates continuous improvement is needed.

*Answer*: a

63. All of the following are needed to prepare a flexible budget EXCEPT

a. determining the budgeted variable cost per output unit.

b. determining the budgeted fixed costs.

c. determining the actual selling price per unit.

d. determining the actual quantity of output units.

*Answer*: c

64. The variance that LEAST affects cost control is the

a. flexible-budget variance.

b. direct-material-price variance.

c. sales-volume variance.

d. direct manufacturing labor efficiency variance.

*Answer*: c

65. A flexible-budget variance is $800 favorable for unit-related costs. This indicates that

a. costs were $800 more than the master budget.

b. costs were $800 less than for the planned level of activity.

c. costs were $800 more than standard for the achieved level of activity.

d. costs were $800 less than standard for the achieved level of activity.

*Answer*: d

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 66 THROUGH 68.

JJ White planned to use $82 of material per unit but actually used $80 of material per unit, and planned to make 1,200 units but actually made 1,000 units.

66. The flexible-budget amount is

a. $80,000.

b. $82,000.

c. $96,000.

d. $98,400.

*Answer*: b

1,000 units x $82 = $82,000

67. The flexible-budget variance is

a. $2,000 favorable.

b. $14,000 unfavorable.

c. $16,400 unfavorable.

d. $2,400 favorable.

*Answer*: a

($80 - $82) x 1,000 = $2,000 F

68. The sales-volume variance is

a. $2,000 favorable.

b. $14,000 unfavorable.

c. $16,400 unfavorable.

d. $2,400 favorable.

*Answer*: c

(1,000 – 1,200) x $82 = $16,400 U

69. Aebi Corporation currently produces cardboard boxes in an automated process. Expected production per month is 20,000 units, direct-material costs are $0.60 per unit, and manufacturing overhead costs are $9,000 per month. Manufacturing overhead is allocated based on units of production. What is the flexible budget for 10,000 and 20,000 units, respectively?

a. $10,500; $16,500

b. $10,500; $21,000

c. $15,000; $21,000

d. none of the above

*Answer*: c

10,000 units 20,000 units

Materials ($0.60) $ 6,000 $12,000

Machinery 9,000 9,000

$15,000 $21,000

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 70 THROUGH 72.

McKenna Incorporated planned to use $24 of material per unit but actually used $25 of material per unit, and planned to make 1,000 units but actually made 1,200 units.

70. The flexible-budget amount is

a. $24,000.

b. $25,000.

c. $28,800.

d. $30,000.

*Answer*: c

1,200 units x $24 = $28,800

71. The flexible-budget variance is

a. $4,800 favorable.

b. $1,200 unfavorable.

c. $5,000 unfavorable.

d. $6,000 favorable.

*Answer*: b

($25 - $24) x 1,200 = $1,200 U

72. The sales-volume variance is

a. $4,800 favorable.

b. $1,200 unfavorable.

c. $5,000 unfavorable.

d. $6,000 favorable.

*Answer*: a

(1,200 – 1,000) x $24 = $4,800 F

73. Hemberger Corporation currently produces baseball caps in an automated process. Expected production per month is 20,000 units, direct material costs are $1.50 per unit, and manufacturing overhead costs are $23,000 per month. Manufacturing overhead is allocated based on units of production. What is the flexible budget for 10,000 and 20,000 units, respectively?

a. $26,500; $41,500

b. $26,500; $53,000

c. $38,000; $53,000

d. none of the above

*Answer*: c

10,000 units 20,000 units

Materials ($1.50) $15,000 $30,000

Machinery 23,000 23,000

$38,000 $53,000

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 74 THROUGH 77.

The actual information pertains to the month of August. As part of the budgeting process Alloway’s Fencing Company developed the following static budget for August. Alloway is in the process of preparing the flexible budget and understanding the results.

**Actual Flexible Static**

**Results Budget Budget**

Sales volume (in units) # 20,000 # 25,000

========

Sales revenues $1,000,000 $ $1,250,000

Variable costs 512,000 $ \_\_\_\_\_\_\_\_\_ 600,000

Contribution margin 488,000 $ 650,000

Fixed costs 458,000 $ \_\_\_\_\_\_\_\_\_ 450,000

Operating profit $ 30,000 $ $ 200,000

74. The flexible budget will report \_\_\_\_\_\_\_\_\_\_ for variable costs.

a. $512,000

b. $600,000

c. $480,000

d. $640,000

*Answer*: c

20,000 units ($600,000/25,000) = $480,000

75. The flexible budget will report \_\_\_\_\_\_\_\_\_\_ for the fixed costs.

a. $458,000

b. $450,000

c. $360,000

d. $572,500

*Answer*: b

$450,000, given in the static budget

76. The flexible-budget variance for variable costs is

a. $32,000 unfavorable.

b. $120,000 unfavorable.

c. $32,000 favorable.

d. $120,000 favorable.

*Answer*: a

$512,000 - (20,000 x $600,000/25,000) = $32,000 U

77. The PRIMARY reason for low operating profits was

a. the variable-cost variance.

b. increased fixed costs.

c. a poor management accounting system.

d. lower sales volume than planned.

*Answer*: d

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 78 THROUGH 82.

Peters’ Company manufacturers tires. Some of the company's data was misplaced. Use the following information to replace the lost data:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Actual  Results | *Flexible-Budget*  *Variances* | Flexible  Budget | *Sales-Volume*  *Variances* | Static  Budget |
| Units  sold | #225,000 |  | #225,000 |  | #206,250 |
| Revenues | $84,160 | $2,000 F | (A) | $2,800 U | (B) |
| Variable  costs | (C) | $400 U | $31,720 | $4,680 F | $36,400 |
| Fixed  costs | $16,560 | $1,720 F | $18,280 | 0 | $18,280 |
| Operating  income | $35,480 | (D) | $32,160 | (E) | $30,280 |

78. What amounts are reported for revenues in the flexible-budget (A) and the static-budget (B), respectively?

a. $82,160; $79,360

b. $82,160; $84,960

c. $84,960; $88,960

d. $84,960; $83,360

*Answer*: b

79. What are the actual variable costs (C)?

a. $36,400

b. $32,120

c. $31,320

d. $27,040

*Answer*: b

80. What is the total flexible-budget variance (D)?

a. $120 unfavorable

b. $0

c. $680 favorable

d. $3,320 favorable

*Answer*: d

81. What is the total sales-volume variance (E)?

a. $7,480 unfavorable

b. $2,800 unfavorable

c. $1,880 favorable

d. $7,480 favorable

*Answer*: c

82. What is the total static-budget variance?

a. $5,200 favorable

b. $3,320 favorable

c. $1,880 unfavorable

d. $1,880 favorable

*Answer*: a

83. The flexible-budget variance for direct cost inputs can be further subdivided into

a. a static-budget variance and a sales-volume variance.

b. a sales-volume variance and an efficiency variance.

c. a price variance and an efficiency variance.

d. a static-budget variance and a price variance.

*Answer*: c

84. Budgeted input quantity information may be obtained from

a. actual input quantities used last period.

b. standards developed by your company.

c. data from other companies that have similar processes.

d. all of the above.

*Answer*: d

85. When actual input data from past periods is used to develop a budget

a. past inefficiencies are excluded.

b. expected future changes are incorporated.

c. information is available at a low cost.

d. audited financial information must be used.

*Answer*: c

86. When standards are used to develop a budget

a. past inefficiencies are excluded.

b. benchmarking must also be used.

c. information is available at a low cost.

d. flexible-budget amounts are difficult to determine.

*Answer*: a

87. The term budget indicates

a. that standards have been used to develop the budget.

b. that actual input data from past periods have been used to develop the budget.

c. that engineering studies have been used to develop the budget.

d. planned amounts for a future accounting period.

*Answer*: d

88. A standard input

a. is a carefully determined price, cost, or quantity.

b. is usually expressed on a per unit basis.

c. may be developed using engineering studies.

d. is all of the above.

*Answer*: d

89. Ideal standards

a. assume peak operating conditions.

b. allow for normal machine breakdowns.

c. greatly improve employee motivation and performance.

d. are all of the above.

*Answer*: a

90. A favorable price variance for direct materials indicates that

a. a lower price than planned was paid for materials.

b. a higher price than planned was paid for materials.

c. less material was used during production than planned for actual output.

d. more material was used during production than planned for actual output.

*Answer*: a

91. A favorable efficiency variance for direct manufacturing labor indicates that

a. a lower wage rate than planned was paid for direct labor.

b. a higher wage rate than planned was paid for direct labor.

c. less direct manufacturing labor-hours were used during production than planned for actual output.

d. more direct manufacturing labor-hours were used during production than planned for actual output.

*Answer*: c

92. An unfavorable price variance for direct materials might indicate

a. that the purchasing manager purchased in smaller quantities due to a change to just-in-time inventory methods.

b. congestion due to scheduling problems.

c. that the purchasing manager skillfully negotiated a better purchase price.

d. that the market had an unexpected oversupply of those materials.

*Answer*: a

93. A favorable efficiency variance for direct materials might indicate

a. that lower-quality materials were purchased.

b. an overskilled workforce.

c. poor design of products or processes.

d. a lower-priced supplier was used.

*Answer*: b

94. A favorable price variance for direct manufacturing labor might indicate that

a. employees were paid more than planned.

b. budgeted price standards are too tight.

c. underskilled employees are being hired.

d. an efficient labor force.

*Answer*: c

95. An unfavorable efficiency variance for direct manufacturing labor might indicate that

a. work was efficiently scheduled.

b. machines were not properly maintained.

c. budgeted time standards are too lax.

d. higher-skilled workers were scheduled than planned.

*Answer*: b

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 96 THROUGH 100.

Robb Industries Inc. (RII) developed standard costs for direct material and direct labor. In 2004, RII estimated the following standard costs for one of their major products, the 10-gallon plastic container.

**Budgeted quantity** **Budgeted price**

Direct materials 0.10 pounds $30 per pound

Direct labor 0.05 hours $15 per hour

During June RII produced and sold 5,000 containers using 490 pounds of direct materials at an average cost per pound of $32 and 250 direct manufacturing labor-hours at an average wage of $15.25 per hour.

96. June’s direct material flexible-budget variance is

a. $980 unfavorable.

b. $300 favorable.

c. $680 unfavorable.

d. none of the above.

*Answer*: c

(490 x $32) – (5,000 x 0.10 x $30) = 680 U

97. June’s direct material price variance is

a. $980 unfavorable.

b. $300 favorable.

c. $680 favorable.

d. none of the above.

*Answer*: a

490 ($32 - $30) = 980 U

98. June’s direct material efficiency variance is

a. $980 unfavorable.

b. $300 favorable.

c. $680 favorable.

d. none of the above.

*Answer*: b

$30 (490 – 500) = 300 F

99. June’s direct manufacturing labor price variance is

a. $62.50 unfavorable.

b. $62.50 favorable.

c. $3,811.75 unfavorable.

d. none of the above.

*Answer*: a

250 dlh ($15.25 - $15.00) = $62.50 U

100. June’s direct manufacturing labor efficiency variance is

a. $62.50 unfavorable.

b. $62.50 favorable.

c. $3,811.75 unfavorable.

d. none of the above.

*Answer*: d

[250 dlh - (5,000 x 0.05)] x $15 = Zero

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 101 THROUGH 106.

Sawyer Industries Inc. (SII) developed standard costs for direct material and direct labor. In 2004, SII estimated the following standard costs for one of their major products, the 30-gallon heavy-duty plastic container.

**Budgeted quantity** **Budgeted price**

Direct materials 0.20 pounds $25 per pound

Direct labor 0.10 hours $15 per hour

During July SII produced and sold 10,000 containers using 2,200 pounds of direct materials at an average cost per pound of $24 and 1,050 direct manufacturing labor hours at an average wage of $14.75 per hour.

101. July’s direct material flexible-budget variance is

a. $2,800 unfavorable.

b. $2,200 favorable.

c. $5,000 unfavorable.

d. none of the above.

*Answer*: a

(2200 x $24) – (10,000 x 0.20 x $25) = 2,800 U

102. July’s direct material price variance is

a. $2,800 favorable.

b. $2,200 favorable.

c. $5,000 unfavorable.

d. none of the above.

*Answer*: b

2200 ($24 - $25) = 2,200 F

103. July’s direct material efficiency variance is

a. $2,800 unfavorable.

b. $2,200 favorable.

c. $5,000 unfavorable.

d. none of the above.

*Answer*: c

$25 [2200 – (10,000 x 0.20)] = 5,000 U

104. July’s direct manufacturing labor flexible-budget variance is

a. $750.00 unfavorable.

b. $262.50 favorable.

c. $487.50 unfavorable.

d. none of the above.

*Answer*: c

(1050 x $14.75) - (10,000 x 0.10 x $15) = $487.50 U

105. July’s direct manufacturing labor price variance is

a. $750.00 unfavorable.

b. $262.50 favorable.

c. $487.50 favorable.

d. none of the above.

*Answer*: b

1050 dlh ($14.75 - $15.00) = $262.50 F

106. July’s direct manufacturing labor efficiency variance is

a. $750.00 unfavorable.

b. $262.50 favorable.

c. $487.50 favorable.

d. none of the above.

*Answer*: a

[1050 dlh - (10,000 x 0.10)] x $15 = 750 U

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 107 THROUGH 110.

These questions refer to flexible-budget variance formulas with the following descriptions for the variables: A = Actual; B = Budgeted; P = Price; Q = Quantity.

107. The best label for the formula (AQ – BQ) BP is the

a. efficiency variance.

b. price variance.

c. total flexible-budget variance.

e. spending variance.

*Answer*: a

108. The best label for the formula (AP – BP) AQ is the

a. efficiency variance.

b. price variance.

c. total flexible-budget variance.

d. spending variance.

*Answer*: b

109. The best label for the formula [(AP)(AQ)– (BP)(AQ)] is the

a. efficiency variance.

b. price variance.

c. total flexible-budget variance.

d. spending variance.

*Answer*: b

110. The best label for the formula [(AP)(AQ)– (BP)(BQ)] is the

a. efficiency variance.

b. price variance.

c. total flexible-budget variance.

d. spending variance.

*Answer*: c

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 111 THROUGH 113.

Ruben’s Camera Shop has prepared the following flexible budget for September and is in the process of interpreting the variances. **F** denotes a favorable variance and **U** denotes an unfavorable variance.

**Flexible ------------Variances-------------**

**Budget Price Efficiency**

Material A $20,000 $1,000**F** $3,000**U**

Material B 30,000 500**U** 1,500**F**

Direct manufacturing labor 40,000 500**U** 2,500**F**

111. The MOST likely explanation of the above variances for Material A is that

a. a lower price than expected was paid for Material A.

b. higher-quality raw materials were used than were planned.

d. the company used a higher-priced supplier.

d. Material A used during September was $2,000 less than expected.

*Answer*: a

112. The actual amount spent for Material B was

a. $28,000.

b. $29,000.

c. $30,000.

d. $31,000.

*Answer*: b

$30,000 + 500 U – 1,500 F = $29,000

113. The MOST likely explanation of the above direct manufacturing labor variances is that

a. the average wage rate paid to employees was less than expected.

b. employees did not work as efficiently as expected to accomplish the job.

c. the company may have assigned more experienced employees this month than originally planned.

d. management may have a problem with budget slack and be using lax standards for both labor-wage rates and expected efficiency.

*Answer*: c

THE FOLLOWING INFORMATION APPLIES TO QUESTIONS 114 THROUGH 116.

Hector’s Camera Shop has prepared the following flexible budget for September and is in the process of interpreting the variances. **F** denotes a favorable variance and **U** denotes an unfavorable variance.

**Flexible ------------Variances-------------**

**Budget Price Efficiency**

Material A $20,000 $1,000**U** $1,200**F**

Material B 30,000 500**F** 800**U**

Material C 40,000 1,400**U** 1,000**F**

114. The actual amount spent for Material A was

a. $18,800.

b. $20,200.

c. $19,800.

d. $21,000.

*Answer*: c

$20,000 + 1,000 U - 1,200 F = $19,800

115. The actual amount spent for Material B was

a. $29,700.

b. $30,800.

c. $30,500.

d. $30,300.

*Answer*: d

$30,000 – 500 F + 800 U = $30,300

116. The explanation that lower-quality materials were purchased is MOST likely for

a. Material A.

b. Material B.

c. Material C.

d. both Material A and C.

*Answer*: b

117. A purchasing manager’s performance is BEST evaluated using the

a. direct materials price variance.

b. direct materials flexible-budget variance.

c. direct manufacturing labor flexible-budget variance.

d. affect the manager’s action has on total costs for the entire company.

*Answer*: d

118. One of the primary reasons for using cost variances is

a. they diagnose the cause of a problem and what should be done to correct it.

b. for superiors to communicate expectations to lower-level employees.

c. to administer appropriate disciplinary action.

d. for financial control of operating activities and understanding why variances arise.

*Answer*: d

119. A favorable cost variance of significant magnitude

a. is the result of good planning.

b. if investigated, may lead to improved production methods.

c. indicates management does not need to be concerned about lax standards.

d. does not need to be investigated.

*Answer*: b

120. The variances that should be investigated by management include

a. only unfavorable variances.

b. only favorable variances.

c. all variances, both favorable and unfavorable.

d. both favorable and unfavorable variances considered significant in amount for the company.

*Answer*: d

121. Typically, managers have the LEAST control over

a. the direct material price variance.

b. the direct material efficiency variance.

c. machine maintenance.

d. the scheduling of production.

*Answer*: a

122. If manufacturing machines are breaking down more than expected, this will contribute to

a. a favorable direct manufacturing labor price variance.

b. an unfavorable direct manufacturing labor price variance.

c. a favorable direct manufacturing labor efficiency variance.

d. an unfavorable direct manufacturing labor efficiency variance.

*Answer*: d

123. A single variance

a. signals the cause of a problem.

b. should be evaluated in isolation from other variances.

c. may be the result of many different problems.

d. should be used for performance evaluation.

*Answer*: c

124. Variance analysis should be used

a. to understand why variances arise.

b. as the sole source of information for performance evaluation.

c. to punish employees that do not meet standards.

d. to encourage employees to focus on meeting standards.

*Answer*: a

125. Variances should be investigated

a. when they are kept below a certain amount.

b. when there is a small variance for critical items such as product defects.

c. even though the cost of investigation exceeds the benefit.

d. when there is an in-control occurrence.

*Answer*: b

126. When continuous improvement budgeted costing is implemented, cost reductions can result from

a. price reductions.

b. reducing materials waste.

c. producing products faster and more efficiently.

d. all of the above.

*Answer*: d

127. Nonfinancial performance measures

a. are usually used in combination with financial measures for control purposes.

b. are used to evaluate overall cost efficiency.

c. allow managers to make informed tradeoffs.

d. are often the sole basis of a manager’s performance evaluations.

*Answer*: a

128. Unfavorable direct material price variances are

a. always credits.

b. always debits.

c. credited to the Materials Control account.

d. credited to the Accounts Payable Control account.

*Answer*: b

129. Favorable direct manufacturing labor efficiency variances are

a. always credits.

b. always debits.

c. debited to the Work-in-Process Control account.

d. debited to the Wages Payable Control account.

*Answer*: a

130. From the perspective of control, the direct materials efficiency variance should be isolated at the time of

a. purchase.

b. use.

c. completion of the entire product.

d. sale of the product.

*Answer*: b

131. Standard costing systems are a useful tool when using

a. just-in-time systems.

b. total quality management.

c. computer-integrated manufacturing systems.

d. all of the above.

*Answer*: d

132. Performance variance analysis can be calculated for

a. output unit-level costs.

b. batch-level costs.

c. product-sustaining costs.

d. all of the above.

*Answer*: d

133. A favorable efficiency variance for material-handling labor-hours per batch could result from

a. inefficient production-floor layouts compared to those expected when preparing the budget.

b. materials-handling labor having to wait when picking up materials.

c. well-trained and experienced material-handling employees.

d. lower wages than planned for material-handling labor.

*Answer*: c

134. The process by which a company's products or services are measured relative to the best possible levels of performance is known as

a. efficiency.

b. benchmarking.

c. a standard costing system.

d. variance analysis.

*Answer*: b

135. When benchmarking,

a. the best levels of performance are usually found in companies that are within different industries.

b. finding appropriate benchmarks is a minor issue.

c. comparisons can highlight areas for better future cost management.

d. both (a) and (c) are true.

*Answer*: c

136. Ensuring benchmark numbers are comparable can be difficult because differences can exist across companies with

a. overall company strategy.

b. depreciation methods.

c. inventory methods.

d. all of the above.

*Answer*: d

137. When benchmarking, management accountants are MOST valuable when they

a. present differences in the benchmarking data to management.

b. highlight differences in the benchmarking data to management.

c. provide insight into why costs or revenues differ across companies.

d. provide complex mathematical analysis.

*Answer*: c

*EXERCISES AND PROBLEMS*

138. The president of the company, Gregory Peters, has come to you for help. Use the following data to prepare a flexible budget for possible sales/production levels of 10,000, 11,000, and 12,000 units. Show the contribution margin at each activity level.

Sales price $24 per unit

Variable costs:

Manufacturing $12 per unit

Administrative $ 3 per unit

Selling $ 1 per unit

Fixed costs:

Manufacturing $60,000

Administrative $20,000

Answer:

**Flexible Budget for Various Levels**

**of Sales/Production Activity**

Units 10,000 11,000 12,000

Sales $240,000 $264,000 $288,000

Variable costs:

Manufacturing 120,000 132,000 144,000

Administrative 30,000 33,000 36,000

Selling 10,000 11,000 12,000

Total variable costs 160,000 176,000 192,000

Contribution margin 80,000 88,000 96,000

Fixed costs:

Manufacturing 60,000 60,000 60,000

Administrative 20,000 20,000 20,000

Operating income/(loss) $ -0- $ 8,000 $ 16,000

139. Strauss Table Company manufactures tables for schools. The 20x4 operating budget is based on sales of 20,000 units at $100 per table. Operating income is anticipated to be $120,000. Budgeted variable costs are $64 per unit, while fixed costs total $600,000.

Actual income for 20x4 was a surprising $354,000 on actual sales of 21,000 units at $104 each. Actual variable costs were $60 per unit and fixed costs totaled $570,000.

**Required:**

Prepare a variance analysis report with both flexible-budget and sales-volume variances.

Answer:

Strauss Table Company

Variance Analysis

**Actual Flexible Flexible Sales-Volume Static**

**Results Variances Budget Variances Budget**

Units sold 21,000 21,000 20,000

Sales $2,184,000 $84,000 F $2,100,000 $100,000 F $2,000,000

Variable costs 1,260,000 84,000 F 1,344,000 64,000 U 1,280,000

Contribution margin $924,000 $168,000 F $756,000 $36,000 F $720,000

Fixed costs 570,000 30,000 F 600,000 0 600,000

Operating income $354,000 $198,000 F $156,000 $36,000 F $120,000

Total flexible-budget variance = $198,000 favorable.

Total sales-volume variance = $36,000 favorable.

140. Nicholas Company manufacturers TVs. Some of the company's data was misplaced. Use the following information to replace the lost data:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Analysis | **Actual**  **Results** | **Flexible**  **Variances** | **Flexible**  **Budget** | **Sales-Volume**  **Variances** | **Static**  **Budget** |
| **Units Sold** | 112,500 |  | 112,500 |  | 103,125 |
| **Revenues** | $42,080 | $1,000 F | (A) | $1,400 U | (B) |
| **Variable Costs** | (C) | $200 U | $15,860 | $2,340 F | $18,200 |
| **Fixed Costs** | $8,280 | $860 F | $9,140 |  | $9,140 |
| **Operating Income** | $17,740 | (D) | $16,080 | (E) | $15,140 |

**Required:**

: a. What are the respective flexible-budget revenues?

b. What are the static-budget revenues?

c. What are the actual variable costs?

d. What is the total flexible-budget variance?

e. What is the total sales-volume variance?

f. What is the total static-budget variance?

Answer:

a. $42,080 - 1,000 = $41,080

b. $41,080 + 1,400 = $42,480

c. $15,860 + $200 = $16,060

d. $17,740 - $16,080 = $1,660 favorable

e. $2,340 favorable + $1,400 unfavorable = $940 favorable

f. $17,740 - $15,140 = $2,600 favorable

141. Madzinga’s Draperies manufactures curtains. A certain window requires the following:

Direct materials standard 10 square yards at $5 per yard

Direct manufacturing labor standard 5 hours at $10

During the second quarter, the company made 1,500 curtains and used 14,000 square yards of fabric costing $68,600. Direct labor totaled 7,600 hours for $79,800.

**Required:**

a. Compute the direct materials price and efficiency variances for the quarter.

b. Compute the direct manufacturing labor price and efficiency variances for the quarter.

Answer:

a. Direct materials variances:

Actual unit cost = $68,600/14,000 square yard

= $4.90 per square yard

Price variance = 14,000 x ($5.00 - $4.90)

= $1,400 favorable

Efficiency variance = $5.00 x (14,000 - (1,500 x 10))

= $5,000 favorable

b. Direct manufacturing labor variances:

Actual labor rate = $79,800/7,600

= $10.50 per hour

Price variance = 7,600 x ($10.50 - $10.00)

= $3,800 unfavorable

Efficiency variance = $10.00 x (7,600 - 7,500)

= $1,000 unfavorable

142. The following data for the Alma Company pertain to the production of 1,000 urns during August.

Direct Materials (all materials purchased were used):

Standard cost: $6.00 per pound of urn.

Total actual cost: $5,600.

Standard cost allowed for units produced was $6,000.

Materials efficiency variance was $120 unfavorable.

Direct Manufacturing Labor:

Standard cost is 2 urns per hour at $24.00 per hour.

Actual cost per hour was $24.50.

Labor efficiency variance was $336 favorable.

Required:

a. What is standard direct material amount per urn?

b. What is the direct material price variance?

c. What is the total actual cost of direct manufacturing labor?

d. What is the labor price variance for direct manufacturing labor?

Answer:

a. Standard cost per urn = $6,000/1,000

= $6.00 per urn

Standard number of pounds per urn = $6.00/$6.00

= 1.0 pound per urn

b. Materials price variance = Total variance - efficiency variance

= ($5,600 - 6,000) - $120 unfavorable

= $520 favorable

c. Total standard labor cost of actual hours = ((1,000/2) x $24) - $336

= $11,664

Actual hours = $11,664/24 = 486 hours

Total actual costs = 486 x $24.50 = $11,907

d. Labor price variance = $11,907 - $11,664

= $243 unfavorable

143. The following data for the telephone company pertain to the production of 450 rolls of telephone wire during June. Selected items are omitted because the costing records were lost in a windstorm.

Direct Materials (All materials purchased were used.)

Standard cost per roll: a pounds at $4.00 per pound.

Total actual cost: b pounds costing $9,600.

Standard cost allowed for units produced was $9,000.

Materials price variance: c .

Materials efficiency variance was $80 unfavorable.

Direct Manufacturing Labor

Standard cost is 3 hours per roll at $8.00 per hour.

Actual cost per hour was $8.25.

Total actual cost: d .

Labor price variance: e .

Labor efficiency variance was $400 unfavorable.

**Required:**

Compute the missing elements in the report represented by the lettered items.

Answer:

a. Standard cost per roll = $9,000/450 = $20.00

Standard number of pounds per roll = $20/$4 = 5 pounds per roll

b. Actual pounds = ($9,000 + $80)/$4 = 2,270 pounds

c. Materials price variance = $9,600 - ($9,000 + $80)

= $520 unfavorable

d. Total standard labor cost of actual hours = (450 x 3 x $8) + $400 = $11,200

Actual hours = $11,200/$8 = 1,400

Total actual cost = 1,400 x $8.25 = $11,550

e. Labor price variance = $11,550 - $11,200 = $350 unfavorable

144. Littrell Company produces chairs and has determined the following direct cost categories and budgeted amounts:

**Standard Inputs Standard Cost**

**Category for 1 output per input**

Direct Materials 1.00 $7.50

Direct Labor 0.30 9.00

Direct Marketing 0.50 3.00

Actual performance for the company is shown below:

Actual output: (in units) 4,000

Direct Materials:

Materials costs $30,225

Input purchased and used 3,900

Actual price per input $7.75

Direct Manufacturing Labor:

Labor costs $11,470

Labor-hours of input 1,240

Actual price per hour $9.25

Direct Marketing Labor:

Labor costs $5,880

Labor-hours of input 2,100

Actual price per hour $2.80

**Required:**

a. What is the combined total of the flexible-budget variances?

b. What is the price variance of the direct materials?

c. What is the price variance of the direct manufacturing labor and the direct marketing labor, respectively?

d. What is the efficiency variance for direct materials?

e. What are the efficiency variances for direct manufacturing labor and direct marketing labor, respectively?

Answer:

a. **Actual Results** **Flexible Budget** **Variances**

Direct materials $30,225 $30,000 $225 U

Direct manufacturing labor 11,470 10,800 670 U

Direct marketing labor 5,880 6,000 120 F

$47,575 $46,800 $775 U

b. ($7.75 - $7.50) x (3,900) = $975 unfavorable

c. Manufacturing Labor ($9.25 - $9.00) x 1,240 = $310 unfavorable

Marketing Labor ($2.80 - $3.00) x 2,100 = $420 favorable

d. [3,900 - (4,000 units x 1.00)] x $7.50 = $750 favorable

e. Manufacturing Labor = [1,240 hours - (4,000 x 0.30 hours)] x $9.00 = $360 unfavorable

Marketing Labor = [2,100 hours - (4,000 x 0.50 hours)] x $3.00 = $300.00 unfavorable

145. Coffey Company maintains a very large direct materials inventory because of critical demands placed upon it for rush orders from large hospi­tals. Item A contains hard-to-get material Y. Currently, the standard cost of material Y is $2.00 per gram. During February, 22,000 grams were purchased for $2.10 per gram, while only 20,000 grams were used in production. There was no beginning inventory of material Y.

**Required:**

a. Determine the direct materials price variance, assuming that all materials costs are the responsibility of the materials purchasing manager.

b. Determine the direct materials price variance, assuming that all materials costs are the responsibility of the production manager.

c. Discuss the issues involved in determining the price variance at the point of purchase versus the point of consumption.

Answer:

a. Material price variance = 22,000 x ($2.10 - $2.00)

= $2,200 unfavorable

b. Material price variance = 20,000 x ($2.10 - $2.00)

= $2,000 unfavorable

c. Measuring the price variance at the time of materials purchased is desirable in situations where the amount of materials purchased varies substantially from the amount used during the period. Failure to measure the price variance based on materials purchased could result in a substantial delay in determining that a price change occurred.

Also, if the purchasing manager is to be held accountable for his/her purchasing activities, it is appropriate to have the materi­als price variances computed at the time of purchase so the manager can include the variances on his/her monthly report. This encourages the purchasing manager to be more responsible for the activities under his/her control. It provides a closer relationship between responsi­bility and authority and becomes a relevant performance measure.

*Objectives*: 4, 5

146. During February the Lungren Manufacturing Company's costing system reported several variances that the production manager was surprised to see. Most of the company's monthly variances are under $125, even though they may be either favorable or unfavorable. The following information is for the manufacture of garden gates, its only product:

1. Direct materials price variance, $800 unfavorable.

2. Direct materials efficiency variance, $1,800 favorable.

3. Direct manufacturing labor price variance, $4,000 favorable.

4. Direct manufacturing labor efficiency variance, $600 unfavorable.

**Required:**

a. Provide the manager with some ideas as to what may have caused the price variances.

b. What may have caused the efficiency variances?

Answer:

a. Direct materials' unfavorable price variance may have been caused by: (1) paying a higher price than the standard for the period, (2) changing to a new vendor, or (3) buying higher-quality materials.

Direct manufacturing labor's favorable price variance may have been caused by: (1) changing the work force by hiring lower-paid employees, (2) changing the mix of skilled and unskilled workers, or (3) not giving pay raises as high as anticipated when the standards were set for the year.

b. Direct materials' favorable efficiency variance may have been caused by: (1) employees/machinery working more efficiency and having less scrap and waste materials, (2) buying better-quality materials, or (3) changing the production process.

Direct manufacturing labor's unfavorable efficiency variance may have been caused by: (1) poor working conditions, (2) changes in the production process (learning something new initially takes longer), (3) different types of direct materials to work with, or (4) poor attitudes on behalf of the workers.

147. Mayberry Company had the following journal entries recorded for the end of June. Unfortunately, the company's only accountant quit on July 10 and the president is at a loss as to the company's performance for the month of June.

Materials Control $150,000

Direct Materials Price Variance $ 5,000

Accounts Payable Control 145,000

Work-in-Process Control 60,000

Direct Materials Efficiency Variance 4,000

Materials Control 64,000

Work-in-Process Control 425,000

Direct Manufacturing Labor Price Variance 7,500

Direct Manufacturing Labor Efficiency Variance 9,000

Wages Payable Control 423,500

**Required:**

a. What kind of performance did the company have for June? Explain each variance.

b. Why is Direct Materials given in two entries?

Answer:

a. The first entry is for materials purchases. The credit entry indicates a favorable variance. This could be an indicator that the purchasing agent did a good job or he/she bought inferior goods.

Production was not as lucky in June. The debit entry for materials efficiency indicates that more materials were used than should have been under the operating plans for the month.

For labor, the price was unfavorable, while the efficiency was favorable. This could have been caused by using higher-priced workers who were, in fact, better workers. Of course, there are many other possible causes.

b. Recoding variances for direct materials is completed with two separate entries since the price variance is isolated at the point of purchase, while the efficiency variance is isolated at the point of use.

*Objectives*: 5, 6

148. Waddell Productions makes separate journal entries for all cost account­ing related activities. It uses a standard cost system for all manufacturing items. For the month of June, the following activities have taken place:

Direct Manufacturing Materials Purchased $300,000

Direct Manufacturing Materials Used 250,000

Direct Materials Price Variance 10,000 unfavorable

(at time of purchase)

Direct Materials Efficiency Variance 15,000 favorable

Direct Manufacturing Labor Price Variance 6,000 favorable

Direct Manufacturing Labor Efficiency Variance 4,000 favorable

Direct Manufacturing Labor Payable 170,000

**Required:**

Record the necessary journal entries to close the accounts for the month.

Answer:

Materials Control $300,000

Direct Manufacturing Materials Price Variance 10,000

Accounts Payable Control $310,000

Work-in-Process Control $265,000

Direct Materials Efficiency Variance $15,000

Materials Control 250,000

Work-in-Process Control $180,000

Direct Manufacturing Labor Price Variance $6,000

Direct Manufacturing Labor Efficiency Variance 4,000

Wages Payable Control 170,000

149. Tyson’s Hardware uses a flexible budget to develop planning information for its warehouse operations. For 20x3, the company anticipated that it would have 96,000 sales units for 664 customer shipments. Average storage bin usage for various inventories was estimated to be 200 per day. The costs and cost drivers were determined to be as follows:

**Item Fixed Variable Cost driver**

Product handling $10,000 $1.25 per 100 units

Storage 3.00 per storage bin

Utilities 1,000 1.50 per 100 units

Shipping clerks 1,000 1.00 per shipment

Supplies 0.50 per shipment

During the year, the warehouse processed 90,000 units for 600 customer shipments. The workers used 225 storage bins on average each day to sort, store, and process goods for shipment. The actual costs for 20x3 were:

**Item Actual costs**

Product handling $10,900

Storage 465

Utilities 2,020

Shipping clerks 1,400

Supplies 340

**Required:**

a. Prepare a static budget for 20x3with static-budget variances.

b. Prepare a flexible budget for 20x3with flexible-budget variances.

Answer:

a. Tyson’s Hardware -- Static Budget with Variances -- 20x3

**Static**

**Actual Budget Variances**

Product handling $10,900 $11,200 $300 F

Storage 465 600 135 F

Utilities 2,020 2,440 420 F

Shipping clerks 1,400 1,664 264 F

Supplies 340 332 8 U

Total $15,125 $16,236 $1,111 F

b. Tyson’s Hardware -- Flexible Budget with Variances -- 20x3

**Flexible**

**Actual Budget Variances**

Product handling $10,900 $11,125 $225 F

Storage 465 675 210 F

Utilities 2,020 2,350 330 F

Shipping clerks 1,400 1,600 200 F

Supplies 340 300 40 U

Total $15,125 $16,050 $925 F

*CRITICAL THINKING*

150. Describe the purpose of variance analysis.

Answer:

Variance analysis should help the company learn about what happened and how to perform better and should not be a tool in playing the “blame game.”

151. Give at least three good reasons why a favorable price variance for direct materials might be reported.

Answer: Any three of the following:

a. The purchasing manager skillfully negotiated a better purchase price.

b. The purchasing manager changed to a lower-priced supplier.

c. The purchasing manager purchased in larger quantities resulting in quantity discounts.

d. The purchasing manager changed to lower-quality materials.

e. An unexpected industry oversupply resulted in decreased prices for materials.

f. Budgeted purchase prices were not carefully set.

152. Give at least three good reasons why an unfavorable efficiency variance for direct manufacturing labor might be reported.

Answer: Any three of the following.

a. More lower-skilled workers were scheduled than planned.

b. Work was inefficiently scheduled.

c. Machines were not properly maintained.

d. Budgeted time standards are too tight.