

Flexible Budgets and Performance Analysis



Budget and flexible budgets

The budget is developed before the period begins

However... budgets need to be adjusted to help guiding actual operations and influence the performance evaluation process



Flexible budgets

Sales for the quarter = € 200,000

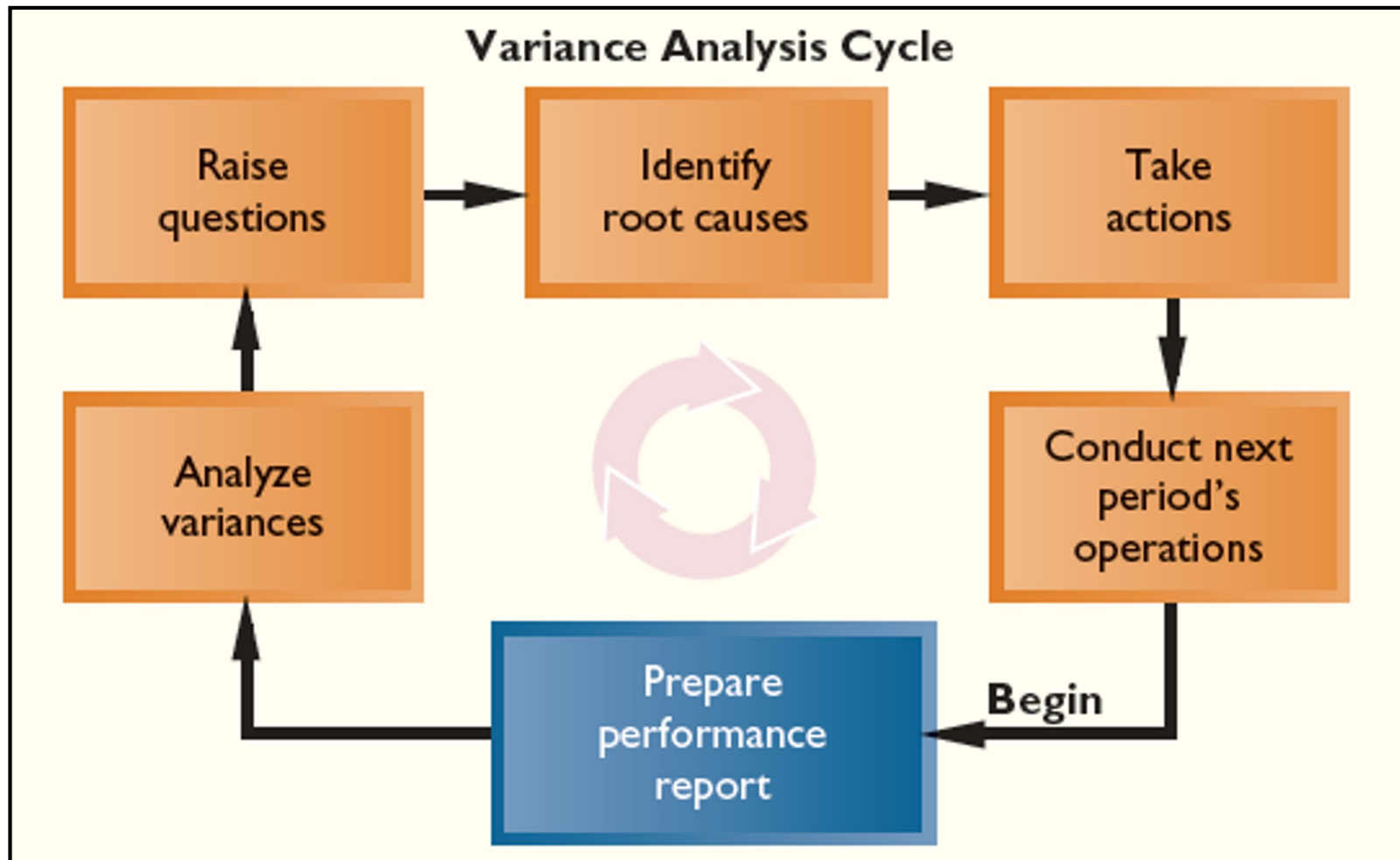
Actual sales for the quarter = € 180.000

Delta = (€ 20.000)



Variance Analysis Cycle

to evaluate and improve performance



Management “by exception”

It is used in conjunction with the variance analysis cycle

It is a management approach that compares
actual results to a **budget**,
so significant deviations emerge as exceptions
and are investigated further

Managers are supported in identifying the most relevant
variances (both as amount or as a percentage)

Learning Objective 1

Prepare a planning budget and a flexible budget with one cost driver.

Characteristics of Flexible Budgets ¹

Planning budgets are prepared before the period.

Planning budgets are prepared for a single, **planned level** of activity.

Characteristics of Flexible Budgets ¹

A static planning budget is suitable for planning but is inappropriate for evaluating how well costs are controlled. If the actual level of activity differs from what was planned, it would be misleading to compare actual costs to the static, unchanged planning budget.

Performance evaluation is difficult when actual activity differs from the planned level of activity.

Flexible Budgets

It takes into account how changes in activity affect costs

It estimates revenues and costs given the actual level of activity in the period

If adjustments for the level of activity are not made, it is very difficult to interpret discrepancies between budgeted and actual costs

Characteristics of Flexible Budgets ²

1. May be prepared for any activity level in the relevant range.
2. Show costs that should have been incurred at the actual level of activity, enabling “apples to apples” cost comparison.
3. Help managers control costs.
4. Improve performance evaluation.

Let's look at Larry's Lawn Service.



Deficiencies of the Static Planning Budget

Larry's Lawn Service provides lawn care in a planned community where all lawns are approximately the same size.

At the end of May, Larry prepared his June budget based on mowing 500 lawns.

Since all the lawns are similar in size, Larry felt that the number of lawns mowed in a month would be the best way to measure overall activity for his business.

Deficiencies of the Static Planning Budget

Larry's Planning Budget

Larry's Lawn Service
For the Month Ended June 30

	Revenue/Cost Formulas	Planning Budget
Number of lawns (Q)		<u>500</u>
Revenue	(\$75Q)	\$ <u>37,500</u>
Expenses:		
Wages and salaries	(\$5,000 + \$30Q)	\$ 20,000
Gasoline and supplies	(\$9Q)	4,500
Equipment maintenance	(\$3Q)	1,500
Office and shop utilities	(\$1,000)	1,000
Office and shop rent	(\$2,000)	2,000
Equipment depreciation	(\$2,500)	2,500
Insurance	(\$1,000)	<u>1,000</u>
Total expenses		<u>32,500</u>
Net operating income		\$ <u>5,000</u>

Deficiencies of the Static Planning Budget

Larry's Actual Results

Larry's Lawn Service
For the Month Ended June 30

	Actual Results
Number of lawns (Q)	<u>550</u>
Revenue	\$ <u>43,000</u>
Expenses:	
Wages and salaries	\$ 23,500
Gasoline and supplies	5,100
Equipment maintenance	1,300
Office and shop utilities	950
Office and shop rent	2,000
Equipment depreciation	2,500
Insurance	<u>1,200</u>
Total expenses	<u>36,550</u>
Net operating income	\$ <u>6,450</u>

Deficiencies of the Static Planning Budget

Larry's Actual Results Compared with the Planning Budget

- **F = Favorable variance** that occurs when actual revenue is greater than budgeted revenue.
- **U = Unfavorable variance** that occurs when actual costs are greater than budgeted costs.
- **F = Favorable variance** that occurs when actual costs are less than budgeted costs.

Deficiencies of the Static Planning Budget ₄

Larry's Actual Results Compared with the Planning Budget

Larry's Lawn Service
For the Month Ended June 30

	Revenue/Cost Formulas	Actual Results	Planning Budget	Variances
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Gasoline and supplies	(\$9Q)	5,100	4,500	
Equipment maintenance	(\$3Q)	1,300	1,500	
Office and shop utilities	(\$1,000)	950	1,000	
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F: favorable
U: unfavorable

Deficiencies of the Static Planning Budget ₄

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Equipment depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	<u>1,200</u>	<u>1,000</u>	<u>200 U</u>
Total expenses		<u>36,550</u>	<u>32,500</u>	<u>4,050 U</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 5,000</u>	<u>\$ 1,450 F</u>

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U: unfavorable

Deficiencies of the Static Planning Budget

Larry's Actual Results Compared with the Planning Budget

- Since these variances are **unfavorable**, has Larry done a poor job controlling costs?
- Since these variances are **favorable**, has Larry done a good job controlling costs?

Deficiencies of the Static Planning Budget

At this point, we cannot answer this question because the **actual level of activity is greater than the planned level of activity.**

Therefore, actual variable costs are likely to be higher than planned variable costs regardless of Larry's managerial efficiency.

Deficiencies of the Static Planning Budget₈

The relevant question is . . .

“How much of the cost variances are due to higher activity, and how much are due to cost control?”

To answer the question, we need to **flex** the planning budget to accommodate the actual level of activity.

How a Flexible Budget Works ¹

To flex a budget, we need to know that:

- **Total variable** costs **change** in direct proportion to changes in activity.
- **Total fixed** costs remain **unchanged** within the relevant range.

Quick Check 1

What should the total wages and salaries cost be in a flexible budget for 600 lawns?

- a. \$18,000.
- b. \$20,000.
- c. \$23,000.
- d. \$25,000.

Quick Check 1a

What should the total wages and salaries cost be in a flexible budget for 600 lawns?

- a. \$18,000.
- b. \$20,000.
- c. Answer: \$23,000.
- d. \$25,000.

Total wages and salaries cost

$$= \$5,000 + (\$30 \text{ per lawn} \times 600 \text{ lawns})$$

$$= \$5,000 + \$18,000 = \$23,000$$

How a Flexible Budget Works ²

Let's prepare a
flexible budget
for Larry's Lawn Service.

*This shows what the revenues and
costs should have been given the
actual level of activity*

Preparing a Flexible Budget

Larry's Flexible Budget

Larry's Lawn Service
For the Month Ended June 30

	Revenue/Cost Formulas	Flexible Budget
Number of lawns (Q)		<u>550</u>
Revenue	(\$75Q)	<u>\$ 41,250</u>
Expenses:		
Wages and salaries	(\$5,000 + \$30Q)	\$ 21,500
Gasoline and supplies	(\$9Q)	4,950
Equipment maintenance	(\$3Q)	1,650
Office and shop utilities	(\$1,000)	1,000
Office and shop rent	(\$2,000)	2,000
Equipment depreciation	(\$2,500)	2,500
Insurance	(\$1,000)	<u>1,000</u>
Total expenses		<u>34,600</u>
Net operating income		<u>\$ 6,650</u>

\$75 × 550 lawns = \$41,250

Given the actual number lawns, the profit should have been higher (actual = \$ 6,450 vs \$6,650)...
What are the causes of these discrepancies?

Learning Objective 2

**Calculate and interpret
activity variances.**

*“What impact did the change in activity have on our
revenues, costs, and profit?”*

Activity Variances ¹

An **activity variance** arises solely due to the difference in the actual level of activity and the level of activity included in the planning budget.

Flexible budget - what should have happened at the actual level of activity

Planning budget - what should have happened at the budgeted level of activity.

The differences between the flexible budget and the planning budget show what should have happened solely because the actual level of activity differed from what had been expected.

Activity Variances ₂

Let's use **flexible** budgeting concepts to compute activity variances for Larry's Lawn Service.

Activity Variances

Larry's Flexible Budget Compared with the Planning Budget

Larry's Lawn Service
For the Month Ended June 30

	Revenue/ Cost Formulas	Flexible Budget	Planning Budget	Activity Variances
Number of lawns (Q)		<u>550</u>	<u>500</u>	
Revenue	(\$75Q)	<u>\$ 41,250</u>	<u>\$ 37,500</u>	<u>\$ 3,750 F</u>
Expenses:				
Wages and salaries	(\$5,000 + \$30Q)	\$ 21,500	\$ 20,000	\$ 1,500 U
Gasoline and supplies	(\$9Q)	4,950	4,500	450 U
Equipment maintenance	(\$3Q)	1,650	1,500	150 U
Office and shop utilities	(\$1,000)	1,000	1,000	-
Office and shop rent	(\$2,000)	2,000	2,000	-
Equipment depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	<u>1,000</u>	<u>1,000</u>	<u>-</u>
Total expenses		<u>34,600</u>	<u>32,500</u>	<u>2,100 U</u>
Net operating income		<u>\$ 6,650</u>	<u>\$ 5,000</u>	<u>\$ 1,650 F</u>

Activity Variances ⁴

Larry's Flexible Budget Compared with the Planning Budget

Larry's Lawn Service
For the Month Ended June 30

Activity and revenue increase by 10%, but net operating income increases by more than 10% due to the presence of fixed costs.

	Revenue/ Cost Formulas	Flexible Budget	Planning Budget	Activity Variances
Number of lawns (Q)		<u>550</u>	<u>500</u>	
Revenue	(\$75Q)	\$ <u>41,250</u>	\$ <u>37,500</u>	\$ <u>3,750 F</u>
Expenses:				
Wages and salaries	(\$5,000 + \$30Q)	\$ 21,500	\$ 20,000	\$ 1,500 U
Gasoline and supplies	(\$9Q)	4,950	4,500	450 U
Equipment maintenance	(\$3Q)	1,650	1,500	150 U
Office and shop utilities	(\$1,000)	1,000	1,000	-

Activity Variances ⁵

Larry's Flexible Budget Compared with the Planning Budget

Larry's Lawn Service
For the Month Ended June 30

	Revenue/ Cost Formulas	Flexible Budget	Planning Budget	Activity Variances
Office and shop rent	(\$2,000)	2,000	2,000	-
Equipment depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	<u>1,000</u>	<u>1,000</u>	<u>-</u>
Total expenses		<u>34,600</u>	<u>32,500</u>	<u>2,100 U</u>
Net operating income		<u>\$ 6,650</u>	<u>\$ 5,000</u>	<u>\$ 1,650 F</u>

Exercise:

Flexible Budgets and Activity Variances

Jake's Roof Repair has provided the following data concerning its costs:

	<i>Fixed Cost per Month</i>	<i>Cost per Repair-Hour</i>
Wages and salaries	\$ 23,200	\$ 16.30
Parts and supplies		\$ 8.60
Equipment depreciation	\$ 1,600	\$ 0.40
Truck operating expenses	\$ 6,400	\$ 1.70
Rent	\$ 3,480	
Administrative expenses	\$ 4,500	\$ 0.80

Exercise:

Flexible Budgets and Activity Variances

	Fixed Cost per Month	Cost per Repair-Hour
Wages and salaries	\$ 23,200	\$ 16.30
Parts and supplies		\$ 8.60
Equipment depreciation	\$ 1,600	\$ 0.40
Truck operating expenses	\$ 6,400	\$ 1.70
Rent	\$ 3,480	
Administrative expenses	\$ 4,500	\$ 0.80

For example, wages and salaries should be \$23,200 plus \$16.30 per repair-hour. The company expected to **work 2,800 repair-hours** in May, but actually worked **2,900 repair-hours**. The company expects its sales to be \$44.50 per repair-hour.

Required:

Compute the company's activity variances for May.

Solution:

Flexible Budgets and Activity Variances

Jake's Roof Repair Activity Variances For the Month Ended May 31

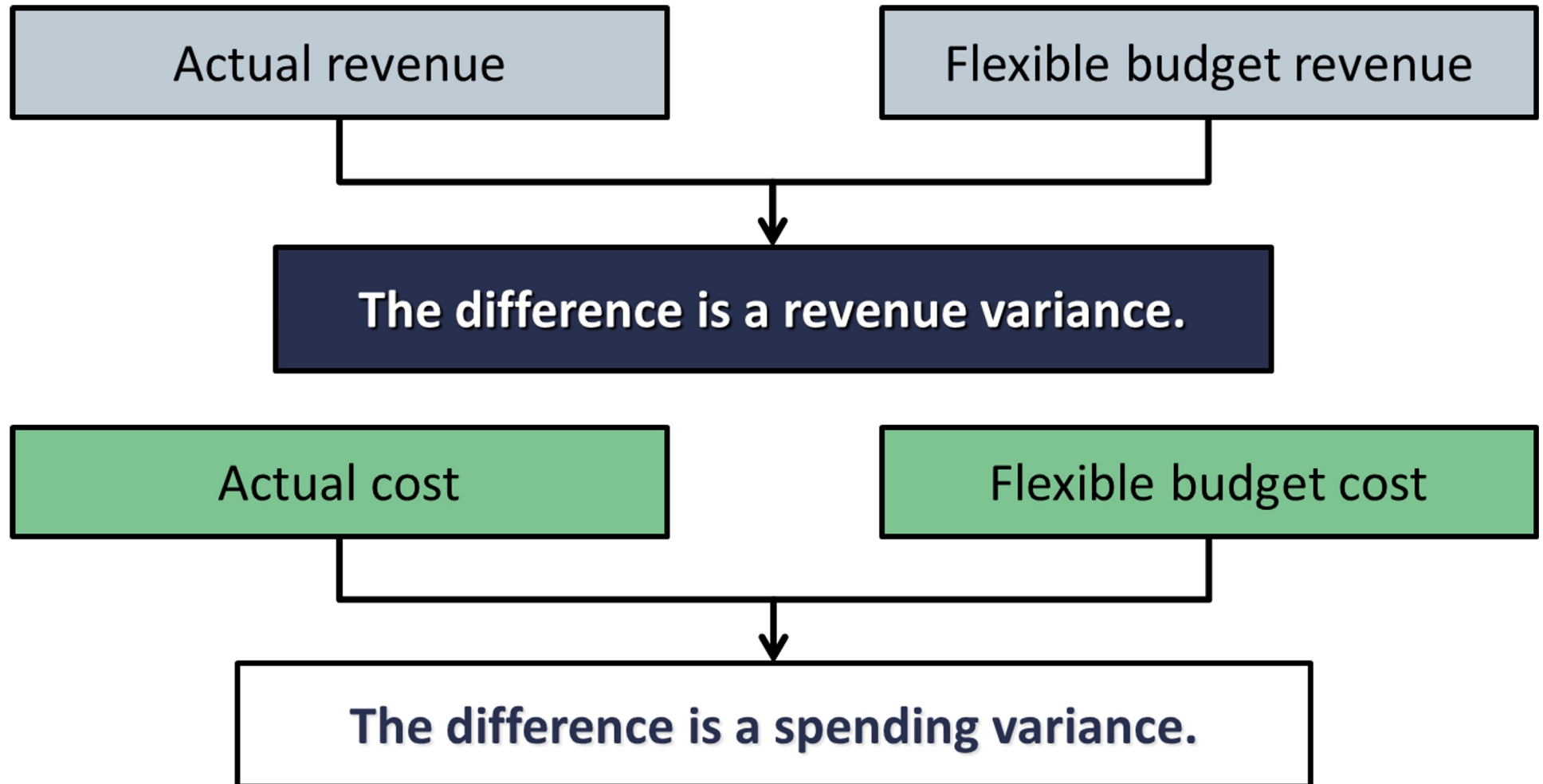
	Flexible Budget	Planning Budget	Activity Variances	
Repair-hours (q)	2,900	2,800		
Revenue ($\$44.50q$)	\$ 129,050	\$ 124,600	\$ 4,450	F
Expenses:				
Wages and salaries ($\$23,200 + \$16.30q$)	70,470	68,840	1,630	U
Parts and supplies ($\$8.60q$)	24,940	24,080	860	U
Equipment depreciation ($\$1,600 + \$0.40q$)	2,760	2,720	40	U
Truck operating expenses ($\$6,400 + \$1.70q$)	11,330	11,160	170	U
Rent ($\$3,480$)	3,480	3,480	0	None
Administrative expenses ($\$4,500 + \$0.80q$)	6,820	6,740	80	U
Total expense	119,800	117,020	2,780	U
Net operating income	\$ 9,250	\$ 7,580	\$ 1,670	F

Learning Objective 3

Calculate and interpret revenue and spending variances.

“How well did we control our revenues, our costs, and our profit?”

Key Terminology



Key words....

REVENUE VARIANCE

- If actual revenue exceeds what the revenue should have been, the variance is labeled favorable.
- If actual revenue is less than what the revenue should have been, the variance is labeled unfavorable.
- The revenue variance is favorable if the average selling price is greater than expected; it is unfavorable if the average selling price is less than expected

Key words....

SPENDING VARIANCE

- If the actual cost is greater than what the cost should have been, the variance is labeled as unfavorable.
- If the actual cost is less than what the cost should have been, the variance is labeled as favorable.

Revenue and Spending Variances ¹

Now let's use **flexible** budgeting concepts to compute revenue and spending variances for Larry's Lawn Service.

Revenue and Spending Variances ²

Larry's Flexible Budget Compared with the Actual Results

Larry's Lawn Service
For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Flexible Budget	Revenue and Spending Variances
Number of lawns (Q)		<u>550</u>	<u>550</u>	
Revenue	(\$75Q)	<u>\$ 43,000</u>	<u>\$ 41,250</u>	<u>\$ 1,750 F</u>
Expenses:				
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 21,500	\$ 2,000 U
Gasoline and supplies	(\$9Q)	5,100	4,950	150 U
Equipment maintenance	(\$3Q)	1,300	1,650	350 F
Office and shop utilities	(\$1,000)	950	1,000	50 F
Office and shop rent	(\$2,000)	2,000	2,000	-
Equipment depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	<u>1,200</u>	<u>1,000</u>	<u>200 U</u>
Total expenses		<u>36,550</u>	<u>34,600</u>	<u>1,950 U</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 6,650</u>	<u>\$ 200 U</u>

\$1,750 favorable revenue variance

Revenue and Spending Variances ³

Larry's Flexible Budget Compared with the Actual Results

Larry's Lawn Service
For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Flexible Budget	Revenue and Spending Variances
Number of lawns (Q)		<u>550</u>	<u>550</u>	
Revenue	(\$75Q)	<u>\$ 43,000</u>	<u>\$ 41,250</u>	<u>\$ 1,750 F</u>
Expenses:				
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 21,500	\$ 2,000 U
Gasoline and supplies	(\$9Q)	5,100	4,950	150 U
Equipment maintenance	(\$3Q)	1,300	1,650	350 F
Office and shop utilities	(\$1,000)	950	1,000	50 F
Office and shop rent	(\$2,000)	2,000	2,000	-
Equipment depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	<u>1,200</u>	<u>1,000</u>	<u>200 U</u>
Total expenses		<u>36,550</u>	<u>34,600</u>	<u>1,950 U</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 6,650</u>	<u>\$ 200 U</u>

Spending variances

Learning Objective 4

Prepare a performance report with one cost driver that combines activity variances and revenue and spending variances.

A Performance Report Combining Activity and Revenue and Spending Variances ¹

Now let's use **flexible budgeting concepts to combine the revenue and spending variances reports for Larry's Lawn Service.**

A Performance Report Combining Activity and Revenue and Spending Variances ²

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	(1) Actual Results	Revenue and Spending Variances (1) – (2)	(2) Flexible Budget	Activity Variances (2) – (3)	(3) Planning Budget
Number of laws (Q)		550				500
Revenue	(\$75Q)	\$ 43,000				\$ 37,500
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500				\$ 20,000
Gasoline and supplies	(\$9Q)	5,100				4,500
Equipment maintenance	(\$3Q)	1,300				1,500
Office and shop utilities	(\$1,000)	950				1,000

A Performance Report Combining Activity and Revenue and Spending Variances ₂

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	(1) Actual Results	Revenue and Spending Variances (1) – (2)	(2) Flexible Budget	Activity Variances (2) – (3)	(3) Planning Budget
Number of laws (Q)		550		550		500
Revenue	(\$75Q)	\$ 43,000		\$ 41,250		\$ 37,500
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500		\$ 21,500		\$ 20,000
Gasoline and supplies	(\$9Q)	5,100		4,950		4,500
Equipment maintenance	(\$3Q)	1,300		1,650		1,500
Office and shop utilities	(\$1,000)	950		1,000		1,000

A Performance Report Combining Activity and Revenue and Spending Variances ₂

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	(1) Actual Results	Revenue and Spending Variances (1) – (2)	(2) Flexible Budget	Activity Variances (2) – (3)	(3) Planning Budget
Number of laws (Q)		550		550		500
Revenue	(\$75Q)	\$ 43,000		\$ 41,250	\$ 3,750 F	\$ 37,500
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500		\$ 21,500	\$ 1,500 U	\$ 20,000
Gasoline and supplies	(\$9Q)	5,100		4,950	450 U	4,500
Equipment maintenance	(\$3Q)	1,300		1,650	150 U	1,500
Office and shop utilities	(\$1,000)	950		1,000	-	1,000

A Performance Report Combining Activity and Revenue and Spending Variances ²

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	(1) Actual Results	Revenue and Spending Variances (1) – (2)	(2) Flexible Budget	Activity Variances (2) – (3)	(3) Planning Budget
Number of laws (Q)		550		550		500
Revenue	(\$75Q)	\$ 43,000	\$ 1,750 F	\$ 41,250		\$ 37,500
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 2,000 U	\$ 21,500		\$ 20,000
Gasoline and supplies	(\$9Q)	5,100	150 U	4,950		4,500
Equipment maintenance	(\$3Q)	1,300	350 F	1,650		1,500
Office and shop utilities	(\$1,000)	950	50 F	1,000		1,000

A Performance Report Combining Activity and Revenue and Spending Variances ₃

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Office and shop rent	(\$2,000)	2,000	-	2,000	-	2,000
Equipment depreciation	(\$2,500)	2,500	-	2,500	-	2,500
Insurance	(\$1,000)	<u>1,200</u>	<u>200 U</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
Total expenses		<u>36,550</u>	<u>1,950 U</u>	<u>34,600</u>	<u>2,100 U</u>	<u>32,500</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 200 U</u>	<u>\$ 6,650</u>	<u>\$ 1,650 F</u>	<u>\$ 5,000</u>

A Performance Report Combining Activity and Revenue and Spending Variances ⁴

Larry's Lawn Service
Flexible Budget Performance Report
For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Number of laws (Q)		<u>550</u>		<u>550</u>		<u>500</u>
Revenue	(\$75Q)	<u>\$ 43,000</u>	<u>\$ 1,750 F</u>	<u>\$ 41,250</u>	<u>\$ 3,750 F</u>	<u>\$ 37,500</u>
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 2,000 U	\$ 21,500	\$ 1,500 U	\$ 20,000
Gasoline and supplies	(\$9Q)	5,100	150 U	4,950	450 U	4,500
Equipment maintenance	(\$3Q)	1,300	350 F	1,650	150 U	1,500

50 lawns × \$30 per lawn

50 lawns × \$75 per lawn

A Performance Report Combining Activity and Revenue and Spending Variances ⁵

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Office and shop utilities	(\$1,000)	950	50 F	1,000	-	1,000
Office and shop rent	(\$2,000)	2,000	-	2,000	-	2,000
Equipment depreciation	(\$2,500)	2,500	-	2,500	-	2,500
Insurance	(\$1,000)	<u>1,200</u>	<u>200 U</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
Total expenses		<u>36,550</u>	<u>1,950 U</u>	<u>34,600</u>	<u>2,100 U</u>	<u>32,500</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 200 U</u>	<u>\$ 6,650</u>	<u>\$ 1,650 F</u>	<u>\$ 5,000</u>

A Performance Report Combining Activity and Revenue and Spending Variances ⁶

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Number of laws (Q)		<u>550</u>		<u>550</u>		<u>500</u>
Revenue	(\$75Q)	<u>\$ 43,000</u>	\$ 1,750 F	<u>\$ 41,250</u>	\$ 3,750 F	<u>\$ 37,500</u>
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 2,000 U	\$ 21,500	\$ 1,500 U	\$ 20,000
Gasoline and supplies	(\$9Q)	1,100	150 U	4,950	450 U	4,500
Equipment maintenance	(\$3Q)	1,300	350 F	1,650	150 U	1,500

\$43,000 actual – \$41,250 budget

A Performance Report Combining Activity and Revenue and Spending Variances ⁷

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Office and shop utilities	(\$1,000)	950	50 F	1,000	-	1,000
Office and shop rent	(\$2,000)	2,000	-	2,000	-	2,000
Equipment depreciation	(\$2,500)	2,500	-	2,500	-	2,500
Insurance	(\$1,000)	<u>1,200</u>	<u>200 U</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
Total expenses		<u>36,550</u>	<u>1,950 U</u>	<u>34,600</u>	<u>2,100 U</u>	<u>32,500</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 200 U</u>	<u>\$ 6,650</u>	<u>\$ 1,650 F</u>	<u>\$ 5,000</u>

Learning Objective 5

Prepare a planning budget and a flexible budget with more than one cost driver.

Planning and Flexible Budgets with Multiple Cost Drivers ¹

More than one cost driver may be needed to adequately explain all the costs in an organization.

The cost formulas used to prepare a flexible budget can be adjusted to recognize multiple cost drivers.

Planning and Flexible Budgets with Multiple Cost Drivers ₂

Because the time required for edging and trimming is different for different lawns, Larry decided to add an additional cost driver (hours) for the time required for edging and trimming.

So Larry estimated the additional hours and developed a new planning and flexible budget that includes the second cost driver in both his revenue and expense budget formulas.

Planning and Flexible Budgets with Multiple Cost Drivers ₃

Planning Budget with multiple cost drivers

Larry's Lawn Service
For the Month Ended June 30

	Revenue/Cost Formulas	Planning Budget
Number of laws (Q)		500
Number of hours (H)		100
Revenue	$(\$75Q + \$25H)$	<u>\$ 40,000</u>
Expenses:		
Wages and salaries	$(\$5,000 + \$29Q + \$25H)$	\$ 22,000
Gasoline and supplies	$(\$8Q + \$6H)$	4,600
Equipment maintenance	$(\$2Q + \$2H)$	1,200
Office and shop utilities	(\$1,000)	1,000
Office and shop rent	(\$2,000)	2,000
Equipment depreciation	(\$2,500)	2,500
Insurance	(\$1,000)	<u>1,000</u>
Total expenses		<u>34,300</u>
Net operating income		<u>\$ 5,700</u>

Planning and Flexible Budgets with Multiple Cost Drivers ⁴

Flexible Budget with multiple cost drivers

Larry's Lawn Service

For the Month Ended June 30

	Revenue/Cost Formulas	Flexible Budget
Number of laws (Q)		550
Number of hours (H)		100
Revenue	$(\$75Q + \$25H)$	<u>\$ 43,750</u>
Expenses:		
Wages and salaries	$(\$5,000 + \$29Q + \$25H)$	\$ 23,450
Gasoline and supplies	$(\$8Q + \$6H)$	5,000
Equipment maintenance	$(\$2Q + \$2H)$	1,300
Office and shop utilities	(\$1,000)	1,000
Office and shop rent	(\$2,000)	2,000
Equipment depreciation	(\$2,500)	2,500
Insurance	(\$1,000)	<u>1,000</u>
Total expenses		<u>36,250</u>
Net operating income		<u>\$ 7,500</u>

Learning Objective 6

Prepare a performance report with more than one cost driver that combines activity variances and revenue and spending variances.

A Performance Report with Multiple Cost Drivers

Larry's Lawn Service
Flexible Budget Performance Report
 For the Month Ended June 30

	Revenue/ Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Number of laws (Q)		<u>550</u>		<u>550</u>		<u>500</u>
Number of hours (H)		<u>100</u>		<u>100</u>		<u>100</u>
Revenue	(\$75Q + \$25H)	<u>\$ 43,000</u>	<u>\$ 750 U</u>	<u>\$ 43,750</u>	<u>\$ 3,750 F</u>	<u>\$ 40,000</u>
Expenses:						
Wages and salaries	(\$5,000 + \$29Q + \$25H)	\$ 23,500	\$ 50 U	\$ 23,450	\$ 1,450 U	\$ 22,000
Gasoline and supplies	(\$8Q + \$6H)	5,100	100 U	5,000	400 U	4,600
Equipment maintenance	(\$2Q + \$2H)	1,300	-	1,300	100 U	1,200
Office and shop utilities	(\$1,000)	950	50 F	1,000	-	1,000
Office and shop rent	(\$2,000)	2,000	-	2,000	-	2,000
Equipment depreciation	(\$2,500)	2,500	-	2,500	-	2,500
Insurance	(\$1,000)	<u>1,200</u>	<u>200 U</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
Total expenses		<u>36,550</u>	<u>300 U</u>	<u>36,250</u>	<u>1,950 U</u>	<u>34,300</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 1,150 U</u>	<u>\$ 7,500</u>	<u>\$ 1,800 F</u>	<u>\$ 5,700</u>

Exercise:

Prepare a Flexible Budget with More Than One Cost Driver

Alyeski Tours operates day tours of coastal glaciers in Alaska on its tour boat the Blue Glacier. Management has identified **two cost drivers—the number of cruises and the number of passengers**—that it uses in its budgeting and performance reports. The company publishes a schedule of day cruises that it may supplement with special sailings if there is sufficient demand. Up to 89 passengers can be accommodated on the tour boat. Data concerning the company's cost formulas appear below:

	Fixed Cost per Month	Cost per Cruise	Cost per Passenger
Vessel operating costs	\$ 6,200	\$ 475.00	\$ 3.50
Advertising	\$ 2,000		
Administrative costs	\$ 5,400	\$ 37.00	\$ 1.50
Insurance	\$ 3,100		

Exercise:

Prepare a Flexible Budget with More Than One Cost Driver

For example, vessel operating costs should be \$6,200 per month plus \$475.00 per cruise plus \$3.50 per passenger. The company's sales should average \$30.00 per passenger. In July, the company provided 59 cruises for a total of 3,150 passengers.

	Fixed Cost per Month	Cost per Cruise	Cost per Passenger
Vessel operating costs	\$ 6,200	\$ 475.00	\$ 3.50
Advertising	\$ 2,000		
Administrative costs	\$ 5,400	\$ 37.00	\$ 1.50
Insurance	\$ 3,100		

Required:

Prepare the company's flexible budget for July.

Solution:

Prepare a Flexible Budget with More Than One Cost Driver

Alyeski Tours	
Flexible Budget	
For the Month Ended July 31	
Actual cruises	59
Actual passengers	3,150
Revenue (30 x 3,150)	\$94,500
Expenses:	
Vessel operating costs	?
Advertising	?
Administrative costs	?
Insurance	?
Total expense	?
Net operating income	?

Solution:

Prepare a Flexible Budget with More Than One Cost Driver

Alyeski Tours	
Flexible Budget	
For the Month Ended July 31	
Actual cruises	59
Actual passengers	3,150
Revenue (30 x 3,150)	\$94,500
Expenses:	
Vessel operating costs	45,250
Advertising	2,000
Administrative costs	12,308
Insurance	3,100
Total expense	62,658
Net operating income	\$31,842