

# What are Cost Classification Systems?

## Worksheet

Cost classification systems sort costs into categories such as fixed vs. variable (by behavior), direct vs. indirect (by traceability), and product vs. period (by timing), so managers can predict how total costs change and make informed pricing and budgeting decisions.

## Questions

- Which of the following is a variable cost?
  - Factory rent
  - Direct materials
  - Property insurance
  - Depreciation on equipment (straight-line)
- Fixed costs of \$30,000 and variable cost of \$8/unit. What is the total cost at 2,500 units?
  - \$30,000
  - \$50,000
  - \$20,000
  - \$58,000
- A cost that can be directly traced to a single product, like fabric in a shirt, is a:
  - Indirect cost
  - Period cost
  - Direct cost
  - Fixed cost
- A cell phone plan with a \$20 base fee plus \$0.10 per minute over the limit is an example of a:
  - Fixed cost
  - Variable cost
  - Mixed (semi-variable) cost
  - Sunk cost
- A factory has \$20,000 in fixed costs per month and a variable cost of \$15 per unit. What is the total cost of producing 1,000 units?
- Classify each cost as fixed, variable, or direct/indirect: factory rent, wood used in a furniture, sales commission (5% of each sale).
- A company's total cost was \$50,000 at 2,000 units and \$65,000 at 3,000 units. Estimate the variable cost per unit and the fixed cost using the high-low method.
- Define: What is a fixed cost?
- Define: What is a variable cost?
- Define: What is the difference between direct and indirect costs?

## Answer Key

1. B) Direct materials - Direct materials rise and fall with production volume, unlike the other fixed costs listed.
2. B) \$50,000 - Total = 30,000 + (8 2,500) = 30,000 + 20,000 = \$50,000.
3. C) Direct cost - Direct costs are those clearly traceable to a specific cost object such as a product.
4. C) Mixed (semi-variable) cost - It has both a fixed component (\$20) and a variable component (per-minute charge).
5. Total Cost = FC + (VC Q) Total Cost = 20,000 + (15 1,000) Total Cost = 20,000 + 15,000 = \$35,000
6. Factory rent: fixed cost (constant regardless of output) and indirect cost (not traceable to one product) Wood used in furniture: variable cost (rises with units made) and direct cost (traceable to each unit) Sales commission: variable cost (changes with sales volume) and a period cost (selling expense, not part of production)
7. Variable cost per unit = (65,000 50,000) / (3,000 2,000) = 15,000/1,000 = \$15 per unit Fixed cost = Total cost (VC Q) = 50,000 (15 2,000) = 50,000 30,000 = \$20,000
8. A cost that stays the same in total regardless of production volume, like rent or a manager's salary.
9. A cost that changes in direct proportion to the number of units produced, like raw materials.
10. Direct costs can be traced to a specific product (e.g. wood in a table); indirect costs cannot and are allocated (e.g. factory utilities).

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