

**An Introduction to Cost Terms and Purposes**

**Chapter 2 Part 1**

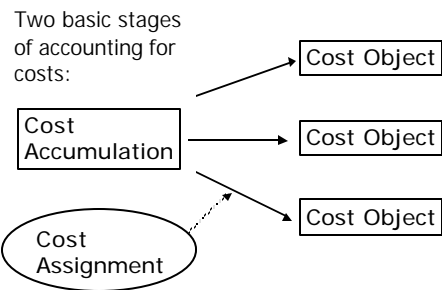
**Cost and Cost Terminology**

**Cost**

- is a resource sacrificed or forgone to achieve a specific objective.
- is usually measured as the monetary amount that must be paid to acquire goods and services.

A **cost object** is anything for which a separate measurement of costs is desired.

**Cost Accumulation and Cost Assignment**



**Cost Accumulation and Cost Assignment**

**Cost accumulation**

is the collection of cost data in some organized way by means of an accounting system.

**Cost assignment**

is a general term that encompasses...

- ❖ tracing accumulated costs to a cost object, and
- ❖ allocating accumulated costs to a cost object.

**Direct Costs**

Direct costs of a cost object are those that are related to a given cost object (product, department, etc.) and that can be traced to it in an economically feasible way.

Cost-Tracing describes the assignment of direct costs to the particular cost object.

**Indirect Costs...**

are related to the particular cost object but cannot be traced to it in an economically feasible way.

**Cost allocation** describes the assigning of indirect costs to the particular cost object.

Direct and Indirect Costs Ex 1



### Cost Behavior Patterns

#### Variable costs

change in total in proportion to changes in the related level of total activity or volume.

#### Fixed costs

do not change in total for a given time period despite changes in the related level of total activity or volume.

### Cost Drivers

⚡ is a factor, such as the level of activity or volume, that causally affects costs (over a given time span).

The cost driver of variable costs is the level of activity or volume whose change causes the (variable) costs to change proportionately.

The number of bicycles assembled is a cost driver of the cost of handlebars.

### Relevant Range...

⚡ is the band of the level of activity or volume in which a specific relationship between the level of activity or volume and the cost in question is valid.

Example

### Total Costs and Unit Costs

A unit cost (also called an average cost) is computed by dividing some amount of cost total by some number of units.

The "units" may be expressed in various ways:

Hours worked

Packages delivered

Bicycles assembled

Use Unit Costs Cautiously

### Manufacturing Companies

⚡ purchase materials and components and convert them into finished goods. So will have raw materials, work-in-process and finished goods inventories.

⚡ must also develop, design, market, and distribute its products.



### Merchandising Companies

⚡ purchase and then sell tangible products without changing their basic form. So will have one type of inventories.

amazon.com

WAL-MART *Always*



**Service Companies...**

provide services or intangible products to their customers.

Labor is the most significant cost category.



**Direct and Indirect Costs Ex 1**

Balluff, Inc. has two production departments, Assembly and Finishing, and two service departments, Maintenance and Personnel.

**Direct Costs:**

Maintenance Department	\$30,000
Personnel Department	24,600
Assembly Department	70,000
Finishing Department	50,000

Assume that Maintenance Department costs are allocated equally among the production departments. How much is allocated to each department?

**Direct and Indirect Costs Ex 2**

Maintenance \$30,000		
\$15,000	Allocated	\$15,000

Assembly Direct Costs \$70,000
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Finishing Direct Costs \$50,000
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Cost Behavior Patterns

**Example Fixed/Variable**

What is the total handlebar cost when 1,000 bicycles are assembled?

1,000 units x \$52 = \$52,000

What is the total handlebar cost when 3,500 bicycles are assembled?

3,500 units x \$52 = \$182,000

**Example Fixed/Variable 1**

Assume that Bannister Bicycles buys a handlebar at \$52 for each of its bicycles.

Total handlebar cost is A cost that changes in total in proportion to changes in the number of bicycles assembled (variable cost).

**Example Fixed/Variable**

Assume that Bannister Bicycles incurred \$94,500 in a given year for the leasing of its plant.

This is a fixed cost with respect to the number of bicycles assembled.

These costs are unchanged in total over a designated range of the number of bicycles assembled during a given time span.



### Example Fixed/Variable

What is the leasing (fixed) cost per bicycle when Metairie assembles 1,000 bicycles?

$$\$94,500 \div 1,000 = \$94.50$$

What is the leasing (fixed) cost per bicycle when Metairie assembles 3,500 bicycles?

$$\$94,500 \div 3,500 = \$27$$

### Relevant Range Ex

Assume that fixed (leasing) costs are \$94,500 for a year and that they remain the same for a certain volume range (1,000 to 5,000 bicycles).

1,000 to 5,000 bicycles is the relevant range.

If annual demand for Bannister's bicycles increases, and the company needs to assemble more than 5,000 bicycles, it would need to lease additional space which would increase its fixed costs.

Relevant Range...

### Total Costs and Unit Costs

What is the unit cost when Bannister Bicycles assembles 1,000 bicycles?

Total fixed cost \$94,500

Total variable cost \$52,000

\$146,500

$$\$146,500 \div 1,000 = \$146.50$$

### Use Unit Costs Cautiously

Assume that Metairie Bicycles management uses a unit cost of \$146.50 (leasing and handlebars).

Management is budgeting costs for different levels of production.

### Use Unit Costs Cautiously

What is their budgeted cost for an

≈ estimated production of 600 bicycles?

$$600 \times \$146.50 = \$87,900$$

≈ estimated production of 3,500 bicycles?

$$3,500 \times \$146.50 = \$512,750$$

### Use Unit Costs Cautiously

What should the budgeted cost be for an estimated production of 600 bicycles?

Total fixed cost \$94,500

Total variable cost ( $\$52 \times 600$ ) = 31,200

Total \$125,700

Unit costs  $\$125,700 \div 600 = \$209.50$

Using a cost of \$146.50 per unit would underestimate actual total costs if output is below 1,000 units.



### Use Unit Costs Cautiously

What should the budgeted cost be for an estimated production of 3,500 bicycles?

Total fixed cost \$94,500

Total variable cost  $52 \times 3,500 =$  182,000

Total \$276,500

Unit costs  $\$276,500 \div 3,500 =$  \$79.00

Using a cost of \$146.50 per unit would over-estimate actual total costs if output is below 1,000 units.

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