Chapter 1: Introduction to Cost Accounting

Cost Accounting: Foundations & Evolutions

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Learning Objectives

- What are the relationships among financial, management, and cost accounting?
- What are the the sources of authoritative pronouncements for the practice of cost accounting?
- What are the sources of ethical standards for cost accountants?
- What is a mission statement, and why is it important to organizational strategy?
- What must accountants understand about an organization's structure and business environment in order to perform effectively in that organization?
- What is a value chain, and what are the major value chain functions?
- How is a balanced scorecard used to implement an organization's strategy?
- Why is ethical behavior so important in organizations?

Learning Objectives > Continue

- Define cost classification and understand the basis of cost classification, especially the cost objectives
- Classify a specific cost as either manufacturing or non-manufacturing and whether direct or indirect.
- Understand the behavioral classification of costs and be able to classify various costs according to their behavior, either variable or fixed, and draw cost graphs for the various costs
- Understand the controllable and non-controllable costs and their relevance in cost decision making.
- Classify costs according to their functions. Explain the difference between product and period costs.

Accountants

- Financial accountants provide information to external parties
  - Investors
  - Creditors
  - Regulators
- Managerial accountants provide information to internal users
  - Managers
- Cost accountants provide information to both internal and external users
  - Product cost information

Accounting Differences

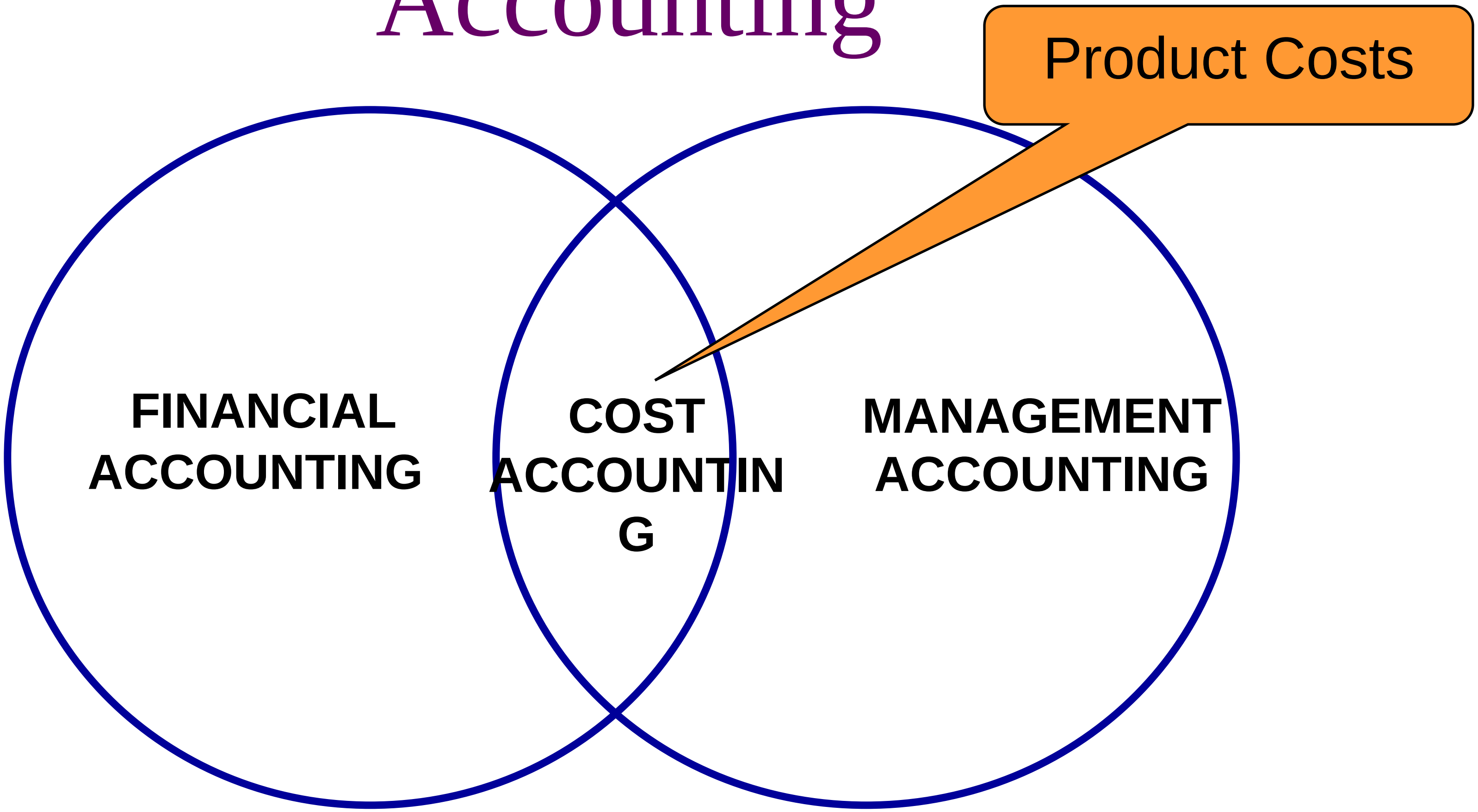
Financial

- External focus
- Whole organization
- Historical
- Quantitative
- Monetary
- Verifiable
- GAAP
- Formal recordkeeping

Managerial

- Internal focus
- Segments or divisions
- Current/projected
- Quantitative/qualitative
- Monetary and nonmonetary
- Timely/reasonable estimate
- Benefits exceed costs
- Formal and informal recordkeeping

Relationship of Financial, Management, and Cost Accounting



Product Cost Information

- External parties—stockholders, creditors, and regulators
  - For investment and credit decisions
  - Complies with GAAP
  - Enterprise focus
- Internal parties
  - Planning, controlling, and decision making
  - Evaluating performance
  - Includes upstream and downstream costs
  - Disaggregated

Accounting Bodies

Financial

- Public Company Accounting Oversight Board (PCAOB)
- Securities and Exchange Commission (SEC)
- Financial Accounting Standards Board (FASB)

Management

- Institute of Management Accountants (IMA)
- Society of Management Accountants of Canada
- Cost Accounting Standards Board (CASB)

Professional Ethics

- Earnings management—deliberate accounting adjustments to “hit” profit targets
- Often adjustments involve cost accounting—product costs and inventory valuations
- Stretching legitimate accounting techniques
- Outright fraud

Ethics and Legislation

- Sarbanes-Oxley Act—CEOs and CFOs personally accountable for the accuracy of their organization's financial reporting
- False Claims Act—whistle-blower protection and penalties for failure to blow the whistle (disclose known financial frauds)

- Executives Financial Officer
- Chief Financial Officer

Ethics & Management Accountants

- Standards of Ethical Conduct for Management Accountants
  - Competence
  - Confidentiality
  - Integrity
  - Credibility

Organizational Strategy

1. Develop mission statement
2. Implement strategy
3. Deploy resources to create value for customers and shareholders
4. Recognize that each organization is unique—thus unique strategies must be developed

Organizational Strategy

Five factors

- core competencies
- organizational structure
- management style and organizational culture
- organizational constraints
- environmental constraints

Organizational Strategies

- Core competency—critical function or activity providing a competitive advantage
- Cost leadership strategy—undercut competitor prices
- Product differentiation strategy—superior quality products or unique services sold at a premium

Organizational Structure

- Distribution of authority and responsibility in an organization
  - Authority—right to use resources to accomplish a task or achieve an objective
  - Responsibility—obligation to accomplish a task or achieve an objective

Value Chain

A set of value-adding functions and processes that converts inputs into products/services

- Research and Development
- Product Design
- Supply
- Production
- Marketing
- Distribution
- Customer Service

Communicate strategy to all members of the value chain

Balanced Scorecard

- Learning and Growth
  - The organization's intellectual capital
- Internal Business
  - Things to do well to meet customer needs and expectations
- Customer Value
  - How well the organization is doing relative to important customer criteria
- Financial
  - Address stockholders'/stakeholders' concerns about profitability and organizational growth

Ethics in Multinationals

- Foreign Corrupt Practices Act—prohibits bribes to obtain/retain a business
- Organization of Economic Cooperation and Development Convention—crime to offer, promise, or give bribes to obtain/retain internal business deals

Potential Ethical Issues

- Earnings management
- Low cost production at any cost
- Whistleblower retaliation
- Fixing prices
- Bribery and other corruption
- Hiding managerial acts

COST CLASSIFICATION

- **DEFINITION OF KEY TERMS**
- **Prime cost:** this is a summation of all direct costs incurred in production. It comprises direct material and direct labour costs and direct expenses.
- **Variable cost:** a cost that changes in direct proportion to changes in the level of activity.
- **Fixed cost:** a cost that does not change with the level of output - also called autonomous cost
- **Direct costs:** are costs that can be traced specifically and identified to the end product of the production process without any extra cost or inconvenience
- **Indirect costs:** are costs that will not be directly attributable to a specific product. They are regarded as overheads.
- **Marginal cost:** it represents the additional cost of producing an extra unit of output.

Cost classification may be defined as 'the arrangement of cost items in a logical sequence having regard to their nature and purpose to be fulfilled'. Costs are classified according to the cost objectives. Cost objective is the activity for which a separate measure of cost is desired. They include, cost stock valuation, cost for decision-making and cost for control purposes

The table below shows a summary of cost classifications given cost objectives:

	Cost objective	Possible classification
1.	Stock valuation	• Manufacturing and non-manufacturing costs • Period and product costs • Direct and indirect costs
2.	Decision making	• Cost behavior: Variable, fixed, semi variable, • Relevance: opportunity, sunk cost, historical cost,standard costs
3.	Control purposes	• Controllable and non-controllable • Avoidable and non-avoidable

Manufacturing costs

These are the costs incurred to produce a product. Remember that a product refers to both goods and services. The elements of manufacturing costs are: direct material costs, direct labour costs; and overhead costs. The elements make up the total cost of a product, as shown below:

- **(a) Material costs:** Material refers to all the physical inputs into the production process.
- Raw materials can be classified as direct or indirect
- **Direct materials** are those materials that can be easily traced to a product without any extra cost or inconvenience. Examples include leather and sole for a shoe making industry.
- **Direct expenses** are expenses incurred for a particular job, project or service e.g.
  - Royalties
  - Franchise
  - Hire of special equipment
- **Indirect materials** are materials that become an integral part of the finished product but may be traceable into the product only at great cost or inconvenience. Examples include glue and thread for a shoe making industry.

Manufacturing costs > continue

- **(b) Labour**

- Labour is the physical and mental human input in a production process. Labour costs can be divided into direct labour costs and indirect labour costs.
- **Direct labour:** cost refers to wages paid to workers who are directly involved in the production of each item produced. Such labour cost can be physically traced to the creation of product without undue cost. The cost can be readily identified with specific product or unit. For instance, wages paid to factory supervisors, forklift truck drivers, factory store room clerks, etc.
- **Indirect labour:** costs refer to the wages paid to workers whose efforts cannot be readily identified with specific product units or batches e.g. laborers paid to maintain all the premises utilized for production of goods and services.

- **(c) Overhead costs** They are also called indirect production costs. They include all costs of manufacturing except direct materials and direct labour.

Non-manufacturing costs

- Non-manufacturing costs are costs incurred by all activities that support the production of goods and services. They are administration costs, selling costs and distribution costs. These are explained as follows:

(a) **Production costs:** these are costs incurred in the manufacturing process. They include material costs, labour costs and overhead costs as discussed above.

(b) **Administrations cost:** Is the sum of costs associated with the overall management of the enterprise, which cannot be readily identified with one of the major functional areas

- e.g. salary of the factory manager would be seen as a production cost but the salary of the personnel officer will be viewed as administrative cost since the personnel function does work for all other functions of the enterprise.

(c) **Selling Cost:** this is the sum of costs associated with the securing of orders from customers. Included in this area will be items such as the salaries paid to the salesmen and expenditure on advertising.

Non-manufacturing costs > continue

(d) Distribution costs: these are costs associated with warehousing the products and their delivery to customers. They are incurred in getting the finished product to customers for instance, depreciation of the distribution van.

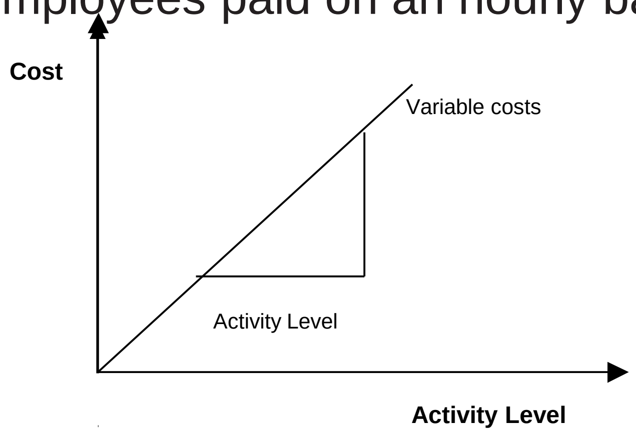
(e) Finance costs: These are costs incurred to secure funds to finance the organization's activities. These include interests on loans and overdrafts, dividends to shareholders, interests on debentures etc.

(f) Research and development costs: These are costs that are incurred to invent new products or to modify the existing ones, as well as costs incurred to acquire more information on such products.

Classification according to behavior

Definition:

- Cost behavior means how costs will respond or react to changes in the activity level. i.e. as we increase output or sales, are the costs rising, dropping or remaining the same. Cost Behavior can be used to produce various classifications of costs such as:
- **Variable costs:** These are costs that increase or decrease, in total, in direct proportion to changes in the total level of activity or number of units produced i.e. that portion of the cost of an activity that change with the level of output. Examples of variable costs include wages paid to casual employees paid on an hourly basis and fuel cost based on mileage.



$$\textbf{Variable Cost per Unit} = \frac{\textbf{Costs}}{\textbf{Activity level}}$$

Note:

- With variable costs, the cost level is zero when production is zero. The cost increases in proportion to the increase in the activity level because variable cost per unit of activity level is constant, thus the variable cost function is represented by a straight line from the origin. The gradient of the function indicates the variable cost per unit.
- For a cost to be variable, there should be an activity base which drives it. This activity base is a measure of effort that operates as a casual factor in the incurrence of variable costs. Thus to control these costs, cost accountants should be well acquainted with the various cost drivers (activity bases) within the organization.
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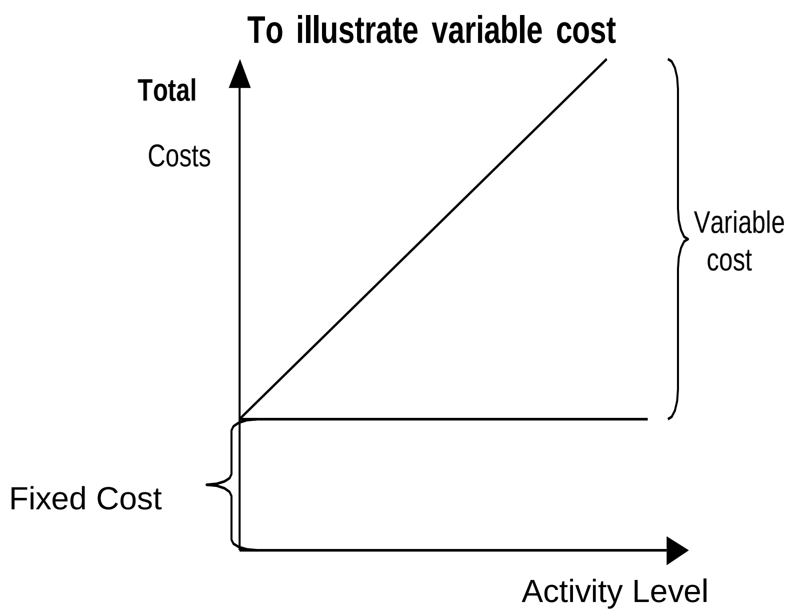
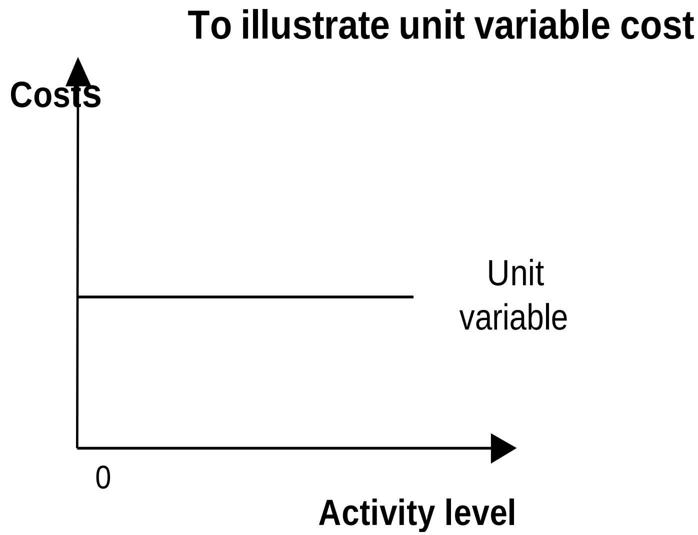
Semi variable costs

These are costs with both a fixed and variable cost component. The fixed component is that portion which is constant irrespective of the level of activity. They are variable within certain activity levels but are fixed within other activity levels, as shown below: examples include salesmen salaries (salary plus commission, telephone charges, water bills, etc.

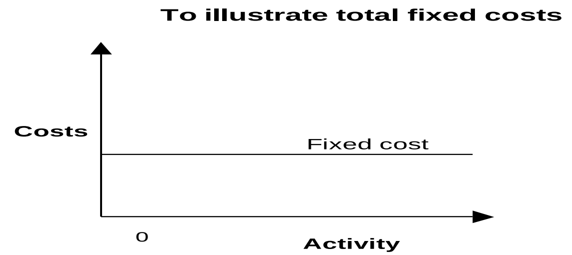


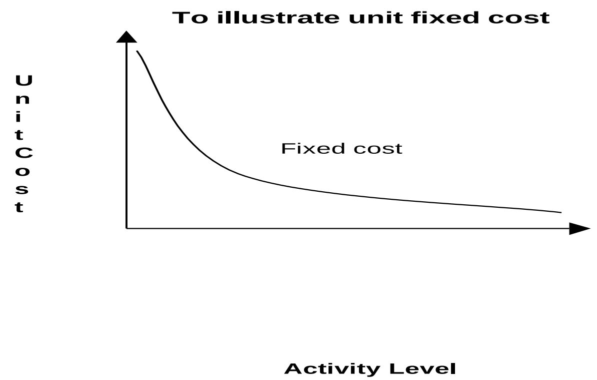
Note: variable cost per unit is constant



- **Fixed Costs**

These are costs that do not change with the level of output. They are also called autonomous costs, as they remain the same irrespective of the activity level as shown below.



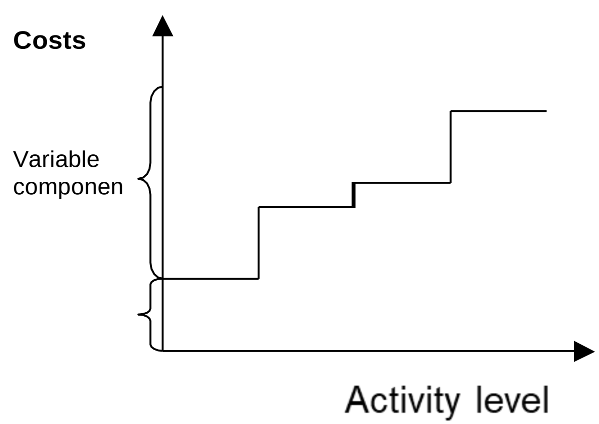


Note: The classification of cost into fixed and variable costs would only hold within a relevant range beyond which all costs are variable. The relevant range is the activity limits within which the cost behavior can be predicted.

- **Semi Variable Costs or stepped costs**

These are costs which are constant within a certain production band but eventually increase at some critical point by a constant amount to another fixed level once the output band changes. This is a clear illustration of how fixed costs behave in the long run. For instance, managers' salaries are increased from time to time. Each time there is an increase, the costs increase by the amount added at that critical point.

To illustrate semi variable costs



DIRECT COSTS AND INDIRECT COSTS

- **Direct costs** are costs that can be traced specifically and identified to the end product of the production process without any extra cost or inconvenience. Direct costs consist of costs that can be directly attributed to a specific output, product or level of activity. Direct costs include direct raw materials and direct labour also called prime costs in aggregate.
- **PRIME COST = Direct Material Cost + Direct Labour Cost + Direct expenses**

- **Indirect costs** are costs that will not be directly attributable to a specific product. They are regarded as overheads. Identification of overheads to specific products is done through cost allocation and apportionment. They include supervisors' salaries, rent, electricity, depreciation of building etc.

Classification according to controllability

- **Controllable cost:** Refers to the cost, which can be influenced by the actions of a person in whom authority for such control is vested. Cost is said to be controllable at a particular level of management if that level has the power to authorize its incurrence. In other words, controllable costs are costs that are reasonably subject to regulations by the manager with whose responsibility those costs are being identified. For instance, a decision to hire more personnel to an organization at affordable rates can be controlled.
- **Non controllable cost:** is a cost which cannot be influenced by a person in whom authority for such control is vested. They are costs, which cannot be adjusted without affecting the long- term objective of the firm. For example if the trade union demands an increase in wages, the increment is a non controllable cost. Similarly, the depreciation of a building is a non-controllable cost to a manager as he does not have authority over depreciation.
- NOTE: In decision making, only controllable costs are relevant because they can be changed by the decision maker. There is little or nothing that the decision maker can do about the non-controllable costs thus they are irrelevant in decision making.

Classification according to normality

- **Normal costs:** these are costs that are expected to be incurred given a specific level of production. They may also be referred to as standard costs.

- **Abnormal costs:** abnormal costs are costs above the normal costs given a specific level of activity. For instance, abnormal costs may be incurred in production where the prices of materials have significantly and adversely varied from the standard.

- ## Classification according to time

- **Historical costs:** these are costs that were incurred at a given time in the past. They are irrelevant for decision making. An example is acquisition cost of an asset.
- **Predetermined costs:** these are estimated costs that have been estimated for purposes of decision making. An example of such costs include overheads which are absorbed on a given predetermined overhead absorption rate. They are not always accurate.

Classification based on identification with inventory

- Under this classification, costs are classified according to the function they perform in an organization. Costs can functionally be classified as:

(a) **Product costs:** are all the costs incurred in production of units during a time period

- e.g. raw material costs, direct labour costs and production overheads. Such costs are capitalized and expensed (charged to the profit and loss account) only when the manufacturer sells inventory. These costs may be carried from one period to the other.
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(b) **Period costs:** these are costs mainly incurred in the ordinary running of the business enterprise. They include costs like electricity bill paid, salaries and allowances and rent payments. They are referred to as period costs since they are expensed in the period they are incurred.

Classification for decision making

(a) **Sunk costs:** these are costs, which have already been incurred. They cannot be changed by any decision made after incurrence. Such costs are irrelevant for decision making. For example, cost of a delivery van already acquired by the organization shall be irrelevant as it cannot be changed by any course of action taken by management.

(b) **Marginal cost:** is the additional cost of producing an extra unit of output.

(c) **Opportunity cost:** is defined as the cost of the next best foregone alternative or the potential benefit that is lost by taking one course of action and giving up the other. For instance, by deciding to take on a leave and forego wages, the opportunity cost of the decision shall be the foregone wages.

(d) **Differential cost/incremental cost:** these are costs that differ among alternatives. They are costs relevant for decision making. They may be either variable or fixed. For instance, if taking up a different business apartment amounts to an extra $2,000 rent expense, the differential (incremental) cost of the decision shall be the $2,000.

Classification for decision making > Continue

(e) Imputed cost

Is an expense not incurred directly, but actually borne. For example, a person who owns a home debt-free has an imputed rent expense equal to the amount of interest that could be earned on the proceeds from the sale of the home if the home were sold.

(f) Replacement cost

The amount it would cost to replace an asset at current prices. If the cost of replacing an asset in its current physical condition is lower than the cost of replacing the asset so as to obtain the level of services enjoyed when the asset was bought, then the asset is in poor condition and the firm would probably not want to replace it

(g)Standard cost

A management tool used to estimate the overall cost of production, assuming normal operations.

(h) Budgeted cost

This is the cost estimated to be incurred and used for budgeting purposes. It is a cost included in the budget representing cost expected. Most of the times, budgeted cost will be derived from standard cost.

Chapter Summary

- Costs can be broadly categorized into two: Manufacturing costs and Non manufacturing costs
- Manufacturing costs comprise direct materials, direct labour and manufacturing overheads.
- The total of manufacturing overheads and direct labour gives conversion cost.
- The total of direct materials and direct labour gives Prime cost.
- Non manufacturing costs comprise selling and administrative and selling expenses.
- This chapter primarily focuses on classification of costs. The following table will help analyze the various objectives of classification and categories, which fall under them.

	Cost objective	Possible classification
1.	Stock valuation	•Manufacturing and non-manufacturing costs •Period and product costs •Direct and indirect costs
2.	Decision making	• Cost behavior: Variable, fixed, semi variable, • Relevance: opportunity, sunk cost, historical cost, standard costs
3.	Control purposes	• Controllable and non-controllable • Avoidable and non avoidable

i) Manufacturing cost; cost incurred to produce a product. It comprises of material cost, labour cost and overhead cost

i) Non-Manufacturing costs are costs incurred by all activities that support the production of goods and services. They are administration costs, selling costs and distribution costs.

i) Period costs are costs mainly incurred in the ordinary running of the business enterprise. They include examples like electricity bill paid, salaries and allowances and rent payments. They are referred to as period costs since they are expensed in the period they are incurred.

i) Product costs are all the costs incurred in production of units during a time period

- e.g. raw material costs, direct labour costs and production overheads. Such costs are capitalized and expensed (charged to the profit and loss account) only when the manufacturer sells inventory.
-

i) Variable costs change proportionate to the change in the level of activity which fixed costs remain constant over the relevant range.

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i) Controllable cost refers to the cost which can be influenced by the actions of a person in whom authority for such control is vested while uncontrollable cost refers to cost which cannot be influenced by a person in whom authority for such control is vested. They are costs which cannot be adjusted without affecting the long-term objective of the firm

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i) Avoidable costs refer to costs that will not be incurred if an activity is suspended; also called escapable cost while unavoidable costs refer to costs that are incurred regardless of the decision to make or buy a certain part or keep or drop a certain product line; these costs cannot be recovered or saved

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i) Sunk costs and historical costs are irrelevant for decision making.

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CHAPTER QUIZ

1. What is the relationship among financial, management, and cost accounting?
2. How is the balanced scorecard used to implement an organization's strategy?
3. Where can an accountant find ethical standards for cost accounting?
4. Identify and give examples of each of the three basic cost elements involved in the manufacture of a product.

CHAPTER QUIZ > Continue

5. Product costs are sometimes called inventorable costs. Why?

6. It is possible for costs such as salaries and depreciation to end up as assets on the balance sheet. Explain

7. Classify the following costs as either fixed or variable
   i. Depreciation on a straight line basis
   ii. Wages paid to casual workers – on piece rate basis
   iii. Salary paid to stores manager

8. Are fixed costs always fixed?

ANSWERS TO some CHAPTER QUIZ

a) Basic cost elements:
   a. materials such as leather and sole used to make a shoe
   b. Labour such as the cobblers

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a) Product costs are inventorable costs because they are costs incurred to manufacture inventory units. Inventory is normally valued based on the production cost.

a) It is possible, when such costs are treated as product costs and then there exists inventory at the end of the period (ending inventory) then such costs will indirectly appear in the balance sheet

a) Classification of costs
   a. Fixed cost
   b. Variable cost
   c. Fixed cost

b) Fixed costs are only fixed in the short run and within the relevant range. Beyond the relevant range, they may assume a different behavior.

EXAM QUESTIONS

- **QUESTION ONE**

Identify and give examples of each of the three basic cost elements involved in the manufacture of a product. (10 marks)

- **QUESTION TWO**

Explain the difference between the following terms

i. Product cost and period cost
ii. Sunk cost and relevant cost
iii. Fixed and variable cost
iv. Avoidable and unavoidable costs
v. Controllable and uncontrollable costs
vi. Direct and indirect costs
vii. prime cost and Conversion cost (3 marks each)

- **QUESTION THREE**

Discuss the behavioral classification of costs, explaining all the terms used therein (20 marks)

Practical exercises-Chapter 1

Example of Variable Costs

Produce of cake will cost $5 in raw materials and $20 in direct labor to bake one cake. In addition, there are fixed costs of $500 (the equipment used). To illustrate the concept, see the table below:

Cupcakes	Raw material costs	Direct labor costs	Total Variable Costs	Fixed Costs	Total Costs
0	$ -	$ -	$ -	$ 500.00	$ 500.00
1	$ 5.00	$ 20.00	$ 25.00	$ 500.00	$ 525.00
5	$ 25.00	$ 100.00	$ 125.00	$ 500.00	$ 625.00
10	$ 50.00	$ 200.00	$ 250.00	$ 500.00	$ 750.00
20	$ 100.00	$ 400.00	$ 500.00	$ 500.00	$ 1,000.00
50	$ 250.00	$ 1,000.00	$ 1,250.00	$ 500.00	$ 1,750.00

Note how the costs change as more cakes are produced.

What would your advice to Ahmed be: keep working or stop? In other words, what is the right decision for Ahmed to make?

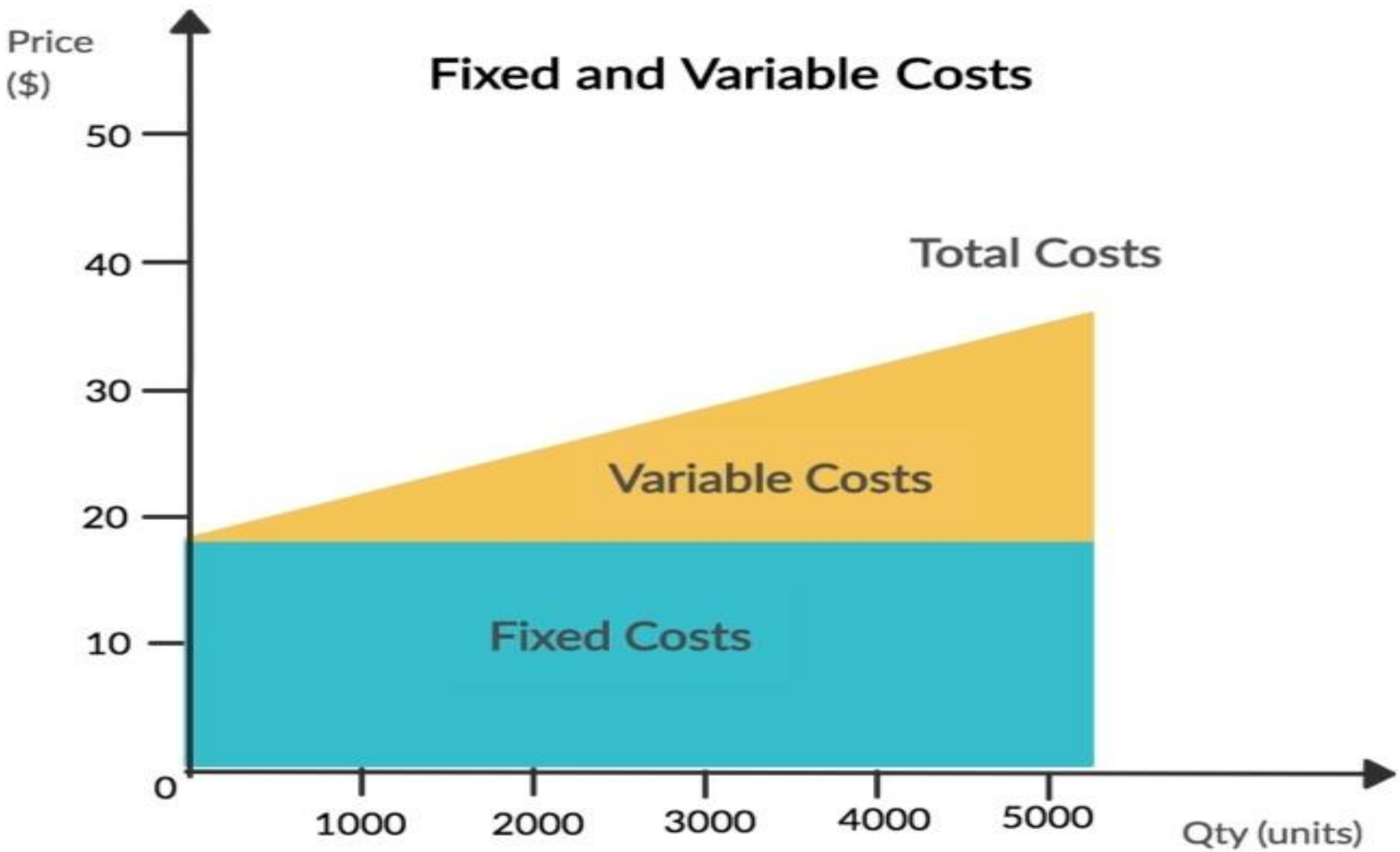
- **A. January fixed costs:**
  - Rent: $1,000
  - Electricity: $200
  - Employee salaries: $500
- **Total January fixed costs: $1,700**
- **B. January variable expenses:**
  - Cost of flour, butter, sugar, and milk: $1,800
  - Total cost of labour: $500
- **Total January variable costs: $2,300**

- **Revenue $3,000**

Answer Analysis:

- This example illustrates the role costs play in decision making. In this case, Ahmed's best decision would be to continue working while he looks for ways to reduce the variable costs he incurred from production (eg, see if he can secure raw materials at a lower price).

- If Ahmad were to shut down the business, he must still pay monthly fixed costs of $1,700. If Ahmad were to continue operating despite losing money, he would only lose $1,000 per month ($3,000 in revenue – $4,000 in total costs). Therefore, Ahmad would actually lose more money ($1,700 per month) if he were to discontinue the business altogether.


Price
($)
Fixed and Variable Costs
50
40
30
20
10
0
Total Costs
Variable Costs
Fixed Costs
1000
2000
3000
4000
5000
Qty (units)

Example: Variable cost

Unlike fixed cost, variable costs are direct function of production volume, rising whenever production expends and falling whenever it contracts

Production level	250	500	750	1000
Total Variable (VC) $ Cost	12000	24000	36000	48000
Cost per unit $	48	48	48	48

Example: Fixed Cost

Fixed cost is a cost that remains constant in total, regardless of changes in the level of activities within the relevant range

Production Level	250	500	1000	2000
Total Fixed Cost (FC) $	5000	5000	5000	5000
Cost per Unit $	20	10	5	2.5

The followings are some cost data for a company,

- Selling and Distribution Costs 4500 $
- Administration Costs 3000 $
- Production Cost 5000 $

- **Required:** preparing a table for cost classification by Functions and extract total costs.

- **Solution:**

Cost Classification Based on Function		
Production Cost	5000 $	
Selling and Distribution Costs	4500	
Administration Costs	3000	
Total Cost		**12,500 $**

Quiz 22/9/2022 G C

- Identify and give examples of each of the three basic cost elements involved in the manufacture of a product.

Quiz 22/9/32022 G A&B

- What is the relationship among financial, management, and cost accounting?
- Are fixed costs always fixed?

Homework Chapter 1

EX 1: The following data on cost components are extracted from the books of Automotive Manufacturer Flamers:

Solution EX1:

Costs	Based On Elements	Based On Function	Based On Cost Re.	Based On Behavior
The cost of bulbs and elements	Material	Production	Direct	Variable
The cost of fuels and oils Machines	Material	Production	Direct	Variable
Wages of production workers	Labor	Production	Direct	Variable
The cost of materials and wrap packages	Material	Selling Exp.	Direct	Variable
The cost of wires For Factory Building	Material	Production	In Direct	Fixed
Cost of spare parts for machines	Material	Production	In Direct	Fixed
The cost of screens	Material	Production	Direct	Variable
Maintenance workers wages	Labor	Production	In Direct	Fixed
Depreciation Machinery Factory	Expenses	Production	In Direct	Fixed
Exhibition wages guard workers	Labor	Selling Dep.	In Direct	Fixed
the cost of lighting and cooling Factory plant	Expenses	Production	In Direct	Fixed
The salaries of supervisors	Labor	Production	In Direct	Fixed

Continue Ex1

Solution EX1:

Costs	Based On Elements	Based On Function	Based On Cost Re.	Based On Behavior
The factory manager's salary	Labor	Production	In Direct	Fixed
Selling Men salaries	Labor	Selling Exp.	In Direct	Fixed
Commission salesmen	Labor	Selling Exp.	Direct	Variable
Depreciation of factory buildings	Expenses	Production	In Direct	Fixed
Administrative salaries	Labor	Admin.	In Direct	Fixed
Exhibition Rent	Expenses	Selling Exp.	In Direct	Fixed
Insurance Administration Building	Expenses	Admin	In Direct	Fixed
Interest and bank commissions	Expenses	Admin	In Direct	Fixed

Required: Analyze the cost components as previously studied according to cost classifications

Exercise 2: The factory incurs the following costs for the production of identical tanks:

1.	Laborers' wages	2.	Synthetic wood
3.	Power consumption	4.	Glass
5.	Nails and screws	6.	Factory insurance
7.	Handles, locks and hinges	8.	Wood
9.	Supervisors' salaries	10.	Factory depreciation
11.	Glue, paints	12.	Factory manager's salary

Required: Classify the above costs as direct or indirect.

Solution EX 2

1.	**Direct**	**2.**	**Indirect**
3.	Direct	4.	Indirect
5.	Direct	6.	Indirect
7.	Indirect	8.	Direct
9.	Indirect	10.	Indirect
11.	Indirect	12.	Indirect

- **Exercise 3:**

Green Fuels is engaged in production of biofuels. At the start of financial year 2012, the company had a raw material inventory of $10 million. During the year it purchased $320 million of raw material. The raw material inventory at the end of 2012 amounted to $50 million. Out of the raw materials consumed $100 million went to manufacturing overheads. The company's total labor costs are $300 million. 20% of the labor is indirect.

- **Required:** Compute the prime costs?

- **Note**: Prime costs can be calculated using any of the following formulas depending on the information available:
- Prime Costs= Direct Materials Cost + Direct Labor Cost
- Prime Costs = Total Manufacturing Costs - Total Manufacturing Overheads

Solution EX3

- Raw materials consumed = opening raw materials ($10 million) + purchases ($320 million) – ($50 million) = $280 million
- Direct materials consumed = raw materials consumed ($280 million) – indirect materials ($100 million) = $180 million
- Direct labor costs = 80% of $300 million = $240 million
- Prime costs = $180 million + $240 million = $420 million