

# Cost Terms, Concepts and Classifications



Cost, a frequently used word in all types of organizations-manufacturing, non-manufacturing, business, service and retail. The process of management functions involves planning, control, decision making as well as co-ordination. One of the most important inputs in managerial decision making is cost data. Managerial decision making is the process of choosing among alternative courses of action; if there is no alternatives, there is no decision to make. Before communicating information effectively to others, management accountants must clearly understand the differences among various types of costs, their computations, and their usage. Successful managers are certainly aware that it is the level of cost relative to revenue that determines the firm's overall profitability. Different types of costs are used in different situations. So in any business activity concerned with making maximum profit from available resources, some information on cost is essential. An important first step in studying management accounting is to gain an understanding of the various types of costs incurred by organizations. In this unit we will learn the widely recognized cost terms, concepts, and their classifications that is necessary to understand and communicate cost and management accounting information.

*School of Business*

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## Lesson 1: The Concept of Cost and General Cost Classification

### Learning objectives

After completing this lesson, you are expected to be able to:

- Understand the concept of cost.
- Distinguish between cost, expenses and losses.
- State the importance of cost classification.
- Cost classify according to natural characteristics.
- Make the cost classification according to changes in the volume of activity.

### Introduction

There is a controversy over the concept of costs, the definition of costs and what costs are relevant for managerial decision making. Most of the controversy disappears as soon as it is realized that cost information is essential for various purposes and for different kinds of problems. Cost data that are classified and recorded in a particular way for one purpose may be inappropriate for another purposes. The important point is that different cost concepts and classification are used for different purposes. Clear understanding of the concepts of costs and their classification would enable the managerial accountant to provide useful and appropriate cost data for managerial decision making.

### The Concepts of Cost

Cost reflects a monetary measure of the resources given up to attain some objectives such as acquiring a good or service. Cost is a monetary measures of the amount of resources used for a cost object. So a cost object or objectives is an objective where cost is measured i.e. it is an activity or item for which a separate measurement of cost is desired. Broadly speaking cost is the amount measured by the current monetary value of economic resources given up or to be given up in obtaining goods and services. Economic resources may be given up by transferring cash or other property, issuing capital stock, performing services, or increasing liabilities. From the above definition, it will be clear that three ideas are included in the concept of cost.

*Cost is the amount measured by the current monetary value of economic resources given up or to be given up in obtaining goods and services.*

First, the most basic notion is that cost measures the use of resources. The resources used in producing tangible goods or intangible services are physical quantities of material, hours of labour services and quantities of other services.

Second, cost measurement is expressed in monetary terms. Money provides a common denominator that permits the amount of resources, each measured according to its own scale (kilograms of materials, hours of labour) to be aggregated so that the total amount of resources used can be determined.

Third, cost measurement is always related to a purpose, that is, to a cost object. A cost object is an activity or resource for which a separate

A cost object is an activity or resource for which a separate measurement of costs is desired.

A cost is the value of assets given up, or to be given up, to acquire other assets, i.e. cost is a sacrifice of resources. Expenses are costs that are applicable to the current accounting period.

Expense means a decrease in owners equity that arises from the operation of a business during a specified accounting period.

A loss is an unplanned cost expiration and when assets are given up for nothing in return, the value of the assets given up becomes a loss. A more precise definition restricts the use of the term loss, stating that the cost expiration which does not benefit the revenue producing activities of a firm.

measurement of costs is desired. A cost object can be a thing, such as a product or asset, it can be the provision of a service, it can be segment, such as parquet centre, a department, or other organizational unit, it can be the conduct of a programme or it can be the operation of an entity.

**Costs, Expenses and Losses:** It is important to distinguish costs, expenses and losses. But before that it is necessary to understand what and asset is Normally a cost is viewed as an asset if it can be shown that it has future service potential that can be identified. For example, prepayment of insurance premium. Now as we have already understood a cost is the value of assets given up, or to be given up, to acquire other assets, i.e. cost is a sacrifice of resources. Expenses are costs that are applicable to the current accounting period. Expenses in its broadest sense includes all expired costs, i.e. costs which do not have any potential future economic benefit. The term expense is the cost of services or benefits received, or resources consumed during an accounting period. The term "cost is not synonymous with expense". Expense means a decrease in owners equity that arises from the operation of a business during a specified accounting period, whereas cost means any monetary sacrifice whether or not the sacrifice affects the owners equity during a given accounting period. Example, cost of good sold and selling and distribution expenses.

A loss is an unplanned cost expiration and for this reasons is often included in the broad definition of expense. When assets are given up for nothing in return, the value of the assets given up becomes a loss. A more precise definition restricts the use of the term loss, stating that the cost expiration which does not benefit the revenue producing activities of a firm. Examples, unrecovered book value on the sale of fixed assets, the write-off goodwill, carelessly destroyed supplies etc.

The following figure shows the relationship among costs, expenses and losses.

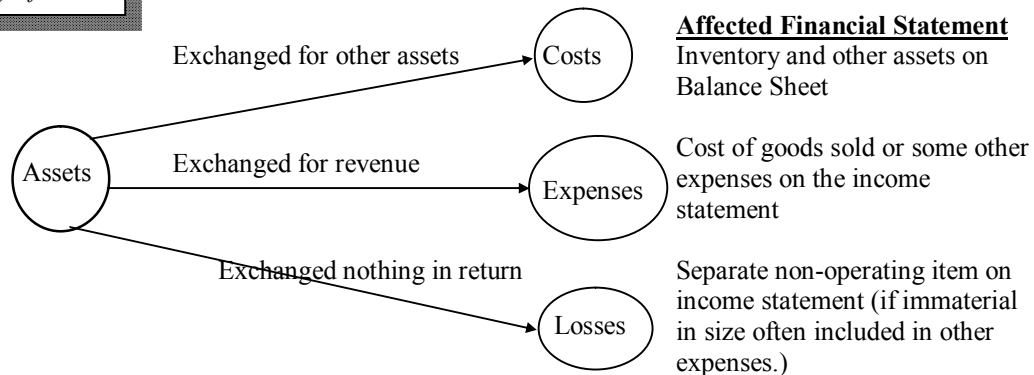


Figure: Relationship of Costs, expenses and losses.

Classification is the arrangement of cost items in logical groups.

**General Cost Classification**

Classification of costs is the process by which costs are grouped according to some common characteristics. Classification is the arrangement of cost items in logical groups having regard to their nature

(subjective classification) or purpose (objective classification) to be achieved and requirement of an organizations. Subjective classification is used to indicate the nature of the expenditure, for example, material, labour; whereas objective classification indicates the cost centre or cost unit where the costs are to be charged. Cost classifications are needed for the development of cost data and each classification throws light on the different aspects of the decision making process. In this lesson, cost classifications are used to define costs in terms of their relationships to the following items:

- natural characteristics.
- changes in the volume/levels of activity.
- tractability of the product.
- association with product or period.
- the nature of functions.
- relation with accounting period.
- the time of cost determination.
- the nature of data.
- the nature of prediction.
- the management policies.
- Managers' relevancy of decision making and analysis.

***1. Classification of Cost According to Natural Characteristics:***

According to this classification, costs are divided into three categories; i.e. Material, labour and other costs.

- **Material:** Material is rated as the first element of cost because without material to work upon nothing can be manufactured. Conversion of material in the production process increases the utility of the finished product. Material can be divided as (a) direct material and (b) indirect material.

<u>Industry/Product</u>	<u>Direct material</u>	<u>Indirect material</u>
Garments industry - Shirt	Cloths	Thread, Button
Cloth Industry - Cloth	Yarn, Cotton	Colour, Starch
Jute industry - Sack Cloth	Jute	Baching oil.

- **Labour:** Labour is considered as the second element of cost because without labour the form, shape or nature of material cannot be changed to increase its usefulness. This cost can also be of two types, (a) direct labour and (6) indirect labour.

Wage which can be economically traced to the output is known as direct labour and on the other hand, salaries paid to supervisor, cleaner, guard and production manager are treated as indirect labour/wages.

- **Other Costs:** All other manufacturing costs are classified as the third elements i.e. other costs, because, unless certain other costs are

incurred, material cannot be worked upon by labour. Examples of this types of costs include tools must be supplied, supervision must be exercised, machinery must be maintained, a place of work must be furnished to make possible labours work upon the raw material furnished.

Classification of costs according to natural characteristics is important because it is necessary to know the cost of each element that enters into a product to answer to the questions relating to stock valuation, decision making, and controlling the organisation's activities.

**2. Classification according to changes in the volume/levels of activity:**

Within a period, a particular cost may be observed changing with corresponding changes in some measures of activity. Hence, costs are classified according to their behaviour in relation to changes in the volume of output (production), which others, as they are incurred in relation to time, remain more less fixed in amount. Accountants describe a given cost behaviour pattern according to the way its total cost (rather than its unit cost) reacts to changes in a related measure of activity.

On this basis, costs are classified into the four categories, viz., fixed, variable, semi-fixed and semi-variable:

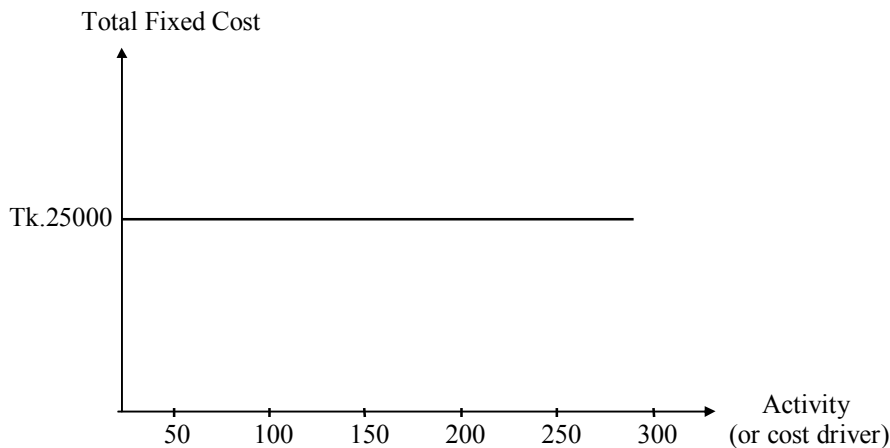
*A fixed cost is that which tends to remain unchanged despite often wide changes in output or activity.*

- **Fixed Costs:** A cost that is not immediately affected by changes in the cost driver. Activities that affect costs are often called cost driver. A fixed cost is that which tends to remain unchanged despite often wide changes in output or activity. On a per unit basis, a fixed cost varies inversely with changes in the level of activity. This means that the per unit fixed cost decreases with increase in the activity level, and increases with decrease in the activity level. The rent of buildings of an organization, supervisor's salaries, taxes on real estate, maintenance and repairs of buildings and grounds, depreciation (other than that computed under the units of production method), insurance are good examples of fixed costs. Fixed costs are sometimes termed as "capacity cost" because fixed costs are generally incurred to create facilities.

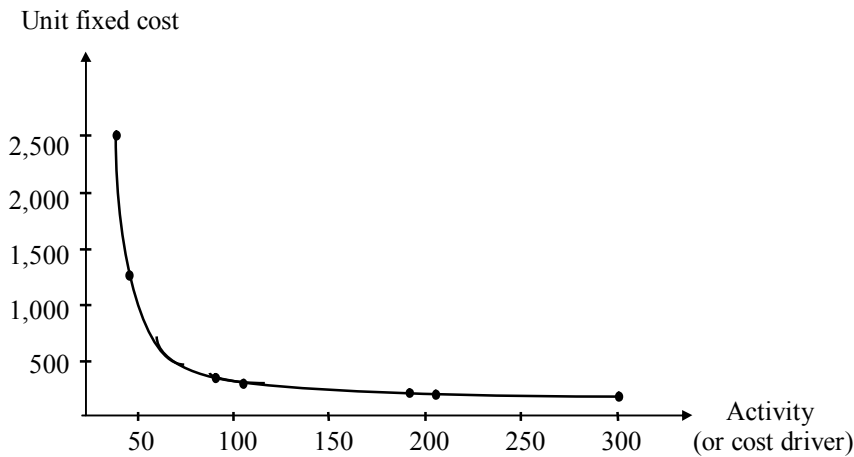
**2.1 (A & B) Illustrates the behaviour of fixed cost found in the following tabulation of fixed cost Table # 2.1**

Activity (or Cost driver)	Fixed Cost per unit (Tk.)	Total Fixed Cost (Tk.)
10	2,500	25,000
20	1,250	25,000
100	250	25,000
110	227.27	25,000
200	125	25,000
210	119.05	25,000
300	83.33*	25,000

\*Rounded



**Exhibit 2.1 (A): Graph of total fixed cost**



**Exhibit 2.1 (b) : Graph of unit fixed cost.**

The graph illustrates that total fixed cost remains unchanged irrespective of whether activity changes. When activity doubles or triples, from 100 to 200 to 300, total fixed cost remains constant at Tk.25,000. However, the fixed cost per unit does change level as activity changes. If activity level is 20 units, then the fixed cost per unit declines to Tk.1,250 and Tk.250 respectively.

Algebraically, a fixed cost graphs is represented by :  $y = a$ , where; 'y' is the total cost and 'a' is the fixed cost.

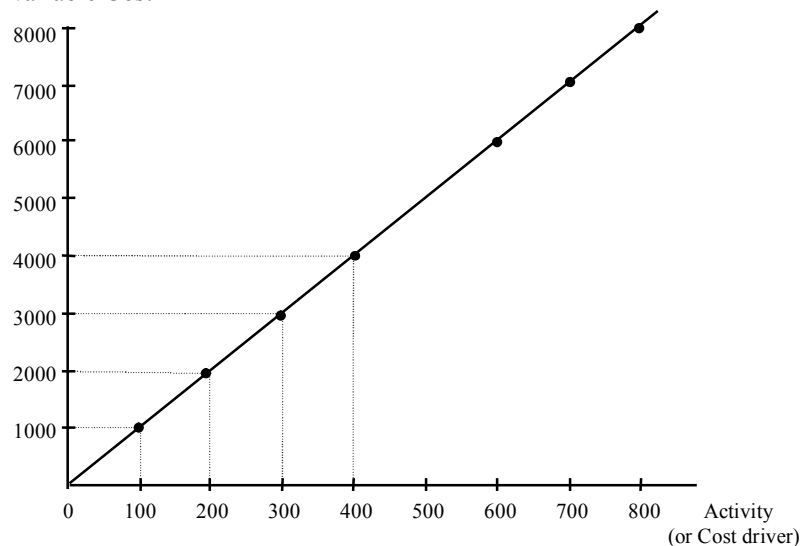
- Variable Costs:** A cost that changes in direct proportion to changes in the cost driver. A cost that varies in total in direct proportion to changes in activity levels, a variable cost must be a constant amount per unit. The cost of raw materials, wages, sales commission, use of machine on rental basis are the good examples of variable costs. Thus, as activity changes, total variable cost increases or decreases proportionately with the activity changes, but unit variable cost remains the same.

*A cost that varies in total in direct proportion to changes in activity levels.*

**Exhibit 2.2: Illustrates the behaviour of variable cost found in the following Tabulation of variable cost Table # 2.2.**

Activity (or Cost driver)	Variable Cost per unit (Tk.)	Total Variable Cost (Tk.)
100	10	1,000
200	10	2,000
300	10	3,000
400	10	4,000
500	10	5,000
600	10	6,000
700	10	7,000

Total variable Cost



**Exhibit 2.2: Graph of total variable cost**

The graph illustrates that total variable cost increases proportionately with activity. When activity doubles from 100 to 200 units, total variable cost doubles, from Tk.1,000 to Tk.2,000 and so on. However, the variable cost per unit remains the same as activity changes. The variable cost associated with each unit of activity is Tk.10 whether the activity level is 100 units, 400 units or 700 units.

Algebraically, a variable cost line in the graph is represented by :  $y = bx$

where; 'y' is the total cost

'b' is variable cost per unit; and

'x' is the number of units of output.

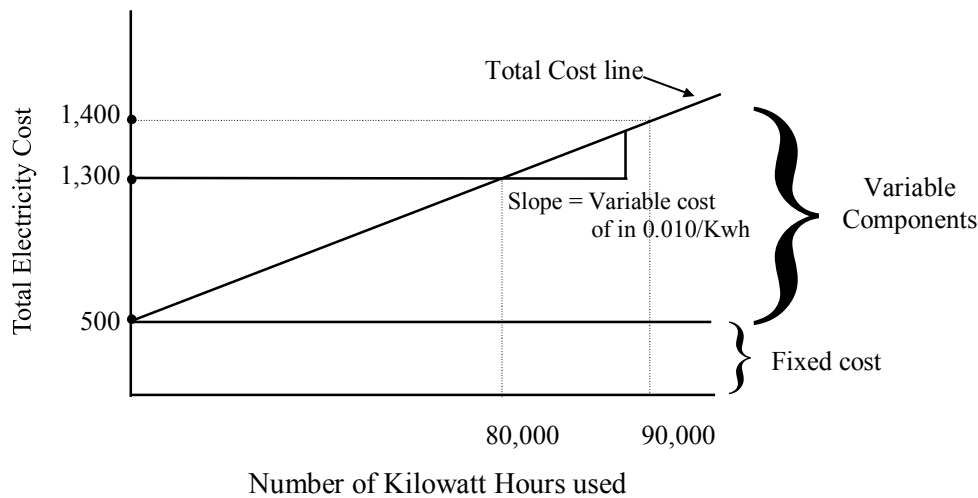
*A mixed cost is a semi-variable cost (sometimes known as a semi-fixed cost) that has both a fixed and variable element to it.*

**Mixed Cost:** A mixed cost is a semi-variable cost (sometimes known as a semi-fixed cost) that has both a fixed and variable element to it. So a mixed cost has both a variable and a fixed component. On a per unit basis, a mixed cost does not fluctuate in direct proportion with changes in activity nor remains constant with changes in activity. Telephone cost is an example of a mixed or semi-variable cost. This is so because it has



a fixed rental charge and a variable cost per unit of telephone time used per call. This means that the total telephone cost is a mixture of fixed and variable costs. Another good example of a mixed cost is electricity that is computed as a flat charge (the fixed component) for basic service plus a stated rate for each kilowatt-hour of electricity used (the variable component).

**Exhibit 2.3: Illustrates the behaviour of mixed costs**



**Exhibit 2.3: Graph of a Mixed Cost**

The graph illustrates the electricity charge of a company, which consists of a flat rate of Tk.500 per month plus Tk.0.010 per Kwh. If the company uses 80,000 Kwhs of electricity per month, its total electricity bill is Tk.1,300 [Tk.500 + (Tk.0.010 x 80,000)]. If 90,000 Kwhs are used, the electricity bill is Tk.1,400. The distance between the fixed cost line and the total cost line in Exhibit is the amount of variable cost. The slope of the total cost line is the variable cost per unit of activity.

Algebraically, a mixed cost (semi-variable) graph is represented by;  $y = a + bx$

where; 'y' is the total cost

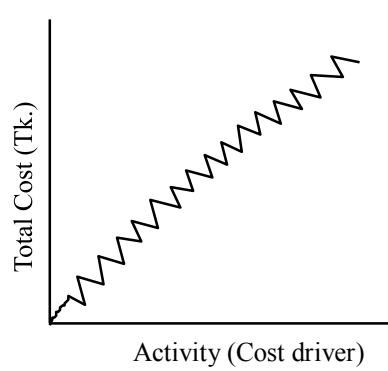
'a' is the fixed cost value

'b' is the variable cost per unit, and

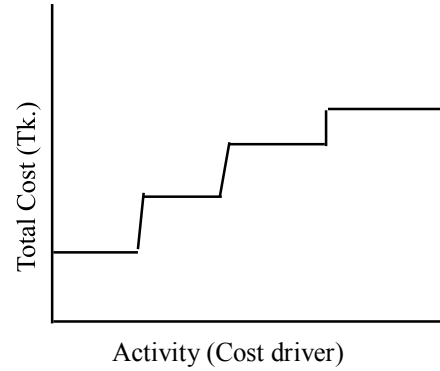
'x' is the number of units of output

**Step Cost:** A step cost is so called because the cost increases in steps (or jumps) such that over one range of output the cost remains fixed. A step can be variable or fixed. Step variable costs have small steps and step fixed costs have large steps. For example; canteen staff wages. The costs are fixed upto a certain level of output but beyond that level as the number of workers increases to meet the increased production an additional member of canteen staff is required to cater the needs of additional workers resulting in a change in canteen staff wages.

If steps are narrow and small the behaviour pattern approximate pure variable cost pattern [Exhibit 2.4 (A)] is termed as step-variable costs. One the otherhand, if the steps are wider, the step cost is termed as 'step fixed cost'. [Exhibit 2.4 (B)].



**Exhibit: 2.4 (A): Step Variable Cost**



**Exhibit 2.4 (B): Step Fixed Costs**

When step variable or step fixed costs exist, the accountants must choose a specific relevant range of activity that will allow step variable cost to be treated as variable and step fixed costs to be treated as fixed.

**Assignments**

(a) Objective type and multiple choice questions

1. True or False
2. Fill in the blanks
3. Select the most suitable answer

(b) Descriptive question

(c) Problems:

(d) Cases:

## Lesson 2: Other General Cost Classification

### Learning objectives

After completing this lesson, you are expected to be able to:

- Explain the classification of costs according to traceability to the product
- Distinguish between period costs and product costs
- Describe and give examples of manufacturing costs, administrative costs, marketing costs and research and development costs.
- Classify cost according to relation with accounting period.
- Distinguish between cost classifications according to the time of incurrence and nature of data.
- Explain cost classification according to the nature of production.
- Describe the role of various costs to the management policies.
- Make cost classification according to relevancy of decision making and analysis.

### Introduction

One of the important inputs in managerial decision-making is cost data. There is, however, no single concept of cost which can cater to all management needs. An important objective of managerial accounting is to assist managers in controlling costs. In this process, costs are classified in various ways, and, at different steps in managerial accounting, some cost figures may be placed in different classification. In the final lesson of this unit we have already discussed the final two types of cost classification. This lesson is concerned with the other cost classifications mentioned in the preceding lesson.

### *3. Classification according to traceability to the product*

Cost control is facilitated by tracing costs to the department or work center in which the cost was incurred. It is usually possible to determine the cost of raw materials, labour inputs with production of each unit. Other items cannot be easily and accurately separated and attributed to individual units of output. For the purpose of traceability of costs to product, costs are classified as either direct or indirect.

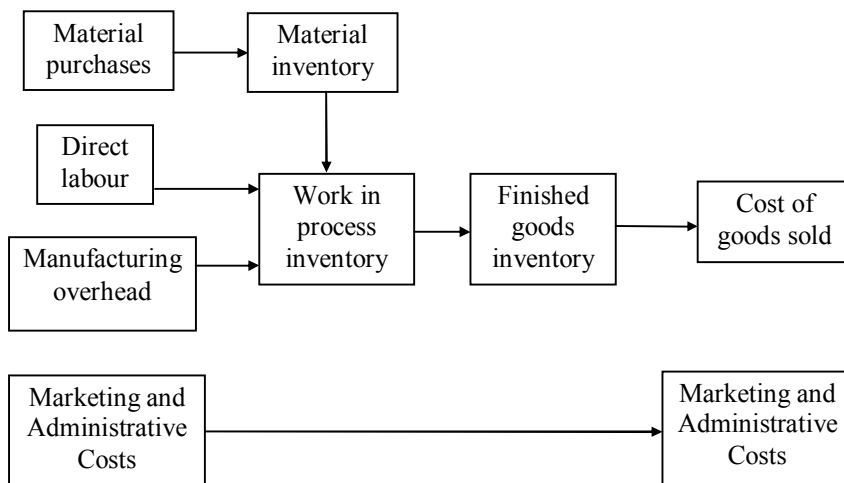
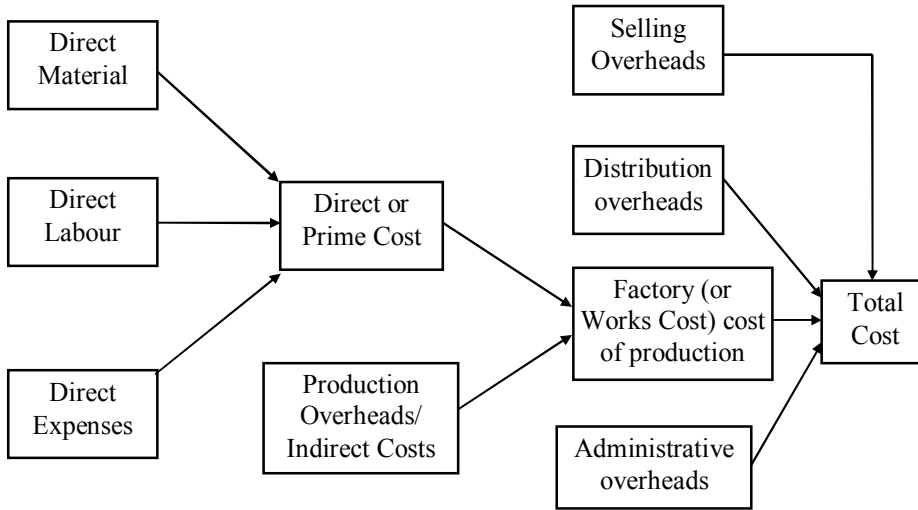
- **Direct Cost:** Direct costs are those which are incurred for a particular cost unit, and can be conveniently linked with that particular cost unit. Direct costs are those incurred primarily for, and which can be identified as part of the cost of a given product. So once the cost object is specified, any costs that are distinctly traceable to it are called direct costs. Examples of direct costs include cost of direct material, direct labour, direct charges (special tool used for product) etc.

*Direct costs are those which can be identified as part of the cost of a given product.*

- Indirect Cost:** Indirect costs are those of a more general nature which cannot be identified primarily as part of the cost of a given product but without which the product could not be manufactured. So these costs that can not be traced are called indirect or common costs and are allocated or assigned to the cost object using one or more appropriate predictions or arbitrarily chosen bases. Examples of indirect costs include supervisors' salary, rent, rates and taxes, lighting etc.

*Indirect costs are those which cannot be identified primarily as part of the cost of a given product.*

The build-up of total cost showing how direct and indirect costs are related is shown in the following figure:



**Figure: Build-up of Total Cost**

Note: the term Factory or works cost is the same as the 'production cost' or 'cost of goods manufactured and the term production overhead/indirect cost is the same as 'Factory Overhead'.

The distinction between direct costs and indirect costs depends upon the unit under consideration. This is important because it provides the medium for charging costs to different classes of production. It should be

Direct costs are controllable costs for various responsibility centers and indirect costs are not controllable.

Period costs refer to those items of cost which are recognized as expenses for the period in which they are incurred and are charged against the revenue for the period.

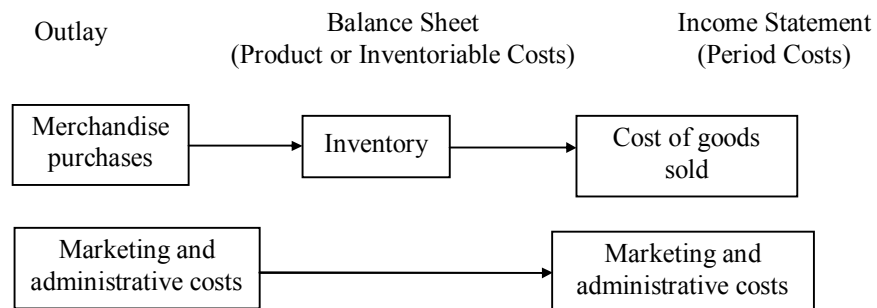
Product costs are those costs that are assigned to inventory because they are closely associated with production activities rather than with the passage of time.

mentioned that direct costs are controllable costs for various responsibility centers and indirect costs are not controllable.

**4. Classification according to association with product of period:** An important issue in both managerial and financial accounting is the timing with which the costs and services are recognized as expenses. Costs are also classified by time period to provide some bases of comparison of the firm's financial position from period to period. Costs related to time periods are either period costs or product costs.

- Period Costs:** Period costs refer to those items of cost which are recognized as expenses for the period in which they are incurred and are charged against the revenue for the period. So period costs are charged in the profit and loss account in the period in which they are incurred because they relate to the passage of time, rather than being associated closely with the manufacturing process. It should be remembered that period costs are not assets, because they are not expected to provide any future economic benefits to the organization. Examples of period costs are salaries of sales personnel, sales representatives' commission, administrative expenses, selling expenses, distribution expenses, depreciation of the office equipment, and finance expenses etc.
- Product Costs:** Product costs refer to those items of cost that are included in the costs of inventory and become expenses when the product is sold subsequently. So product costs are those costs that are assigned to inventory because they are closely associated with production activities rather than with the passage of time. It should be remembered that product costs are considered assets when incurred, because they are resources that are expected to provide future economic benefits to the organization. Product costs associated with making or acquiring inventory are also called "inventoriable costs", which means the amount of inventory remains unsold that is the portion of product cost stored. During the time period of sale the product costs are recognized as an expense called "cost of goods sold". For examples, the cost of direct materials, direct labour, and manufacturing overhead consist product costs for manufactured goods.

The following flow diagram gives a general picture of how to determine whether a cost is period cost or product cost.



**Merchandising Managing**

It is important to classify period costs and product costs with due care. As shown in the above flow diagram, marketing and administrative costs are not product costs either in merchandising or manufacturing companies. Merchandise company inventory represents merchandise purchase for sale while manufacturing company inventory consists of cost of material, labour and manufacturing overhead that are used to manufacture product. So if the period costs and product costs are classified incorrectly, the financial statement for the period will be inexact.

**5. Classification according to the nature of functions:** According to this classification costs are classified relating to the number of functions performed by a business enterprise. It leads to grouping of costs according to the broad division of activity i.e. functional costs may be classified into the following types.

- **Manufacturing Costs:** These refer to the costs of operating the manufacturing division of an undertaking i.e. this costs include the transformation of material into finished products through the use of labour and factory facilities. This cost is also termed as “production cost” or “factory cost”, which is the sum of direct material, direct labour, and factory overhead. The portion of manufacturing costs which represent work completed is transferred to finished goods to offer for sale while incomplete works remain in work-in-process.
- **Administrative Costs:** Administrative costs refer to all costs of running the organization as a whole. So it includes all expenditure incurred in formulating the policy, directing the organization and controlling its operations, which is not directly related to production, selling, distribution, research and development costs. Examples of such costs include salaries of top management personnel, general accounting, secretarial, cost of legal and public relation activities, general administration etc.
- **Marketing Costs:** Marketing costs also known as selling costs incurred at the point where manufacturing costs end that is, when manufacturing process is completed and the finished product is ready for sale. So the marketing costs include the cost of selling goods or services and also the cost of distribution. This cost is often termed as “order-getting” and “order-filling” cost. Order-getting costs also known as selling costs include salaries, commissions, travel costs of sales representatives, and cost of advertising and promotion. On the other hand, order filling costs also known as distribution costs include costs of storing, handling and shipping finished products. Taking together, marketing cost is well known as “selling and distribution cost.”
- **Research and Development Costs:** Research cost is the cost of researching for new or improved products, new application of materials or new or improved methods, processes, systems or services.

*Manufacturing costs refer to the costs of operating the manufacturing division of an undertaking.*

*Administrative costs refer to all costs of running the organization as a whole.*

*Marketing costs also known as selling costs incurred when manufacturing process is completed and the finished product is ready for sale.*

*Research cost is the cost of researching for new or improved products methods, processes, systems or services.*

Development cost is the cost of the process which begins with the implementation of the decision to use scientific or technical knowledge to produce a new or improved product or to employ a new or improved method, process, system, etc., and ends with the commencement of commercial production of that product or by that method.

**6. Classification according to relation with accounting period:** The concepts of capital and revenue are of fundamental importance to the correct determination of accounting profit for a period. In addition to the costs discussed earlier other costs relate to its efficiency or capacity are incurred from time to time during its service life. For the purpose of costs related to accounting period, costs are classified as either capital cost or revenue cost.

*Capital expenditure is the outflow of funds to acquire an asset that will benefit the enterprise more than one accounting period.*

- **Capital Expenditure:** Capital expenditure is the outflow of funds to acquire an asset that will benefit the enterprise more than one accounting period. A capital expenditure takes place when an asset or service is acquired or improvement of a fixed asset is affected. These assets are expected to provide benefits to the business in more than one accounting period and are not intended for resale in the ordinary course of business. For example, the cost of Plant and Machinery in case of a manufacturing company, Buildings, Vehicles, Patents etc.

*Revenue expenditure is the outflow of funds to meet the running expenses of an enterprise and that will be of benefit for the current period only.*

- **Revenue Expenditure:** Revenue expenditure is the outflow of funds to meet the running expenses of an enterprise and that will be of benefit for the current period only. A revenue expenditure is incurred to carry on the normal course of business or maintain the capital asset in good condition. Examples include raw materials used, labour charges, electricity, stationery, rent, insurance etc.

Correct classification between capital and revenue expenditure is crucial. Incorrect classification may affect reported income.

**7. Classification according to the time of cost determination:** Costs classified in relation to the time of incidence include historical costs, replacement costs and budgeted costs.

*Historical costs or actual cost refer to the costs actually incurred and ascertained after they have been incurred.*

- **Historical Costs:** Historical costs or actual costs refer to the costs actually incurred and ascertained after they have been incurred. Historical costs were incurred in the past and are normally used in financial accounting. These costs are objective and verifiable in quantities for income statement and balance sheet valuations. It is a postmortem of the costs. However, historical costs are frequently not so useful for decision making because conditions may have changed since the costs were incurred.

*A replacement cost is an amount that a firm would currently have to pay to replace an asset.*

- **Replacement Costs:** A replacement cost is an amount that a firm would currently have to pay to replace an asset or to buy one that performs functions similar to an asset currently held. It is the cost of replacement at current market price. So replacement cost valuation states the costs at prices that would have to be paid currently.



- **Budgeted Costs:** A budgeted cost is a planned future expenditure. A budgeted cost could be, but is not necessarily, the same amount as the replacement cost.

*A budgeted cost is a planned future expenditure.*

Historical costs are indispensable to determine product costs for inventories and other financial accounting purposes because in financial statement amounts must be objective and verifiable. On the otherhand, replacement, budgeted, and other version of current costs are normally more appropriate to provide useful information to management.

**8. Classification according to the nature of data:** Costs classified according to the nature of data include explicit costs and implicit costs.

- **Explicit Costs:** In general, costs refer only to explicit costs. In fact, historical costs are explicit costs of the firm for which explicit payment had been made sometime in the past or for which the firm is committed to make future payments. Examples of such costs are wages and salaries, rent, cost of materials, depreciation, the amount paid for a machine, and interest payments.

*Historical costs are explicit costs of the firm for which explicit payment had been made.*

- **Implicit Costs:** Implicit costs are those which do not involve actual payment by a firm to factors of production, but nevertheless represent costs to the firm in the sense that in order to use certain inputs in the production process, opportunities for the firm to use them else where have been foregone. Example, the value of the firm owners' time is used to manage the business also component of total implicit costs.

*Implicit costs are those which do not involve actual payment by a firm to factors of production.*

**9. Classification according to the nature of production:** Fundamentally depending on the nature of production, there are two major groups of costing methods; process costing, and job costing. There is also a flux method combining features of both into one usually called a batch costing method. Costs classified according to the nature of production include separable cost, joint cost, and common cost.

- **Separable Cost:** A separable cost refers to any cost that can be attributed to exclusively and wholly to a particular product, process, division or department.
- **Joint Cost:** In costing of joint products, difficulty arises in apportioning joint costs, that is the cost incurred up to the spilt-off point between individual joint products. So a joint cost is the cost of a process which results in more than one main product. So, the costs which are a sort of common costs exist when units of different goods are produced out of one and the same material or process.
- **Common Cost:** Common cost refers to those costs which are incurred collectively for a number of cost centres and are required to be suitable apportioned for determining the cost of individual cost centres. Common costs are costs of maintaining common facilities.

*A separable cost refers to any cost that can be attributed to exclusively and wholly to a particular product, process, division or department.*

*Joint cost incurred up to the spilt-off point between individual joint products.*

*Common cost refers to those costs which are incurred collectively for a number of cost centres.*

**10. Classification according to the management policies:** Another dimension to the classification of costs debate is that of management policy. Management policy on cost behaviour is important, otherwise

attempting to analyze cost behaviour could prove to be a problem. According to the management policy, fixed costs and variable costs can be further classified as follows:

*Committed costs are the result of earlier commitment.*

- **Committed Fixed Costs:** Committed costs are the result of commitment in fixed costs and other long-term activities. Consequently, these are mostly fixed costs. Committed fixed costs are those which arise from creation of capacity and the size of such costs depends upon the technology. Committed costs are sometimes known as non-controllable costs. They become non-controllable once the commitment is made. Examples of committed fixed costs are, depreciation and insurance, property taxes, rent, rates, and supervisory salaries. Such costs are committed because short-term management decisions cannot change these costs and they are incurred even when output is zero; that is, they do not change as activity changes.
- **Discretionary Variable Costs:** Discretionary variable costs are those costs that are incurred or reduced or eliminated as needs arise and they are dependent upon management policy. Labour overtime cost is a good example. for further example; if the management policy is to spend a specified percentage of sales revenue achieved on research, and on advertisement, these two items of variable costs would fit in the discretionary classification.
- **Discretionary Fixed Costs:** They are costs which are not the result of output but which are at the discretion of management. The good examples of discretionary fixed costs include advertising costs, training expenses, management consultancy services, sales promotion costs, research expenses, charitable and political donations. These costs are also known as programmed costs or managed costs because these costs are caused by management policy decisions. The most important characteristics of these costs is that it is very difficult, if not impossible, to determine whether the services or resources acquired through these costs have been used effectively and as a result the need and amount of such expenses are decided afresh everytime.
- **Engineered Variable Costs:** As the term indicates, are the costs which have a scientific relationship with the output level. An engineered cost is any cost that has an explicit, specified, physical relationship with a selected measure of activity. Such relationship is known with experience and could be established scientifically to set the standards. The best known examples of engineered variable costs include direct material, direct labour, sales commissions, distribution expenses etc. Variable costs are normally engineered.

*Committed costs are the result of earlier commitment.*

*An engineered cost is any cost that has an explicit, specified, physical relationship with a selected measure of activity.*

**11. Classification according to manager's relevancy of decision making and analysis:** Although costs are accumulated for cost as curtailment and cost control, one of the main purposes of cost accounting is to provide detailed information for managerial decision making. In fact, the fixed-variable classification cannot deal with all cost

relationships involved in managerial decisions. So it is necessary at this stage to discuss a wider range of cost concepts. Each classification throws light on manager's relevancy of decision making and analysis.

- **Opportunity Cost and Outlay Cost:** The term opportunity cost, used by accountants is borrowed from economists. We know that, in managerial decision making, a cost is not really a cost unless it requires a sacrifice of alternatives, i.e., unless it is an opportunity cost. Opportunity cost is the cost of selecting one course of action in terms of the opportunities which are given up to carry out that course of action; that is, an opportunity cost is the cost of an opportunity foregone. The concept recognizes that resources are scarce and have alternative uses. For example, assume that a manufacturer can sell his work-in-process to outside market for Tk.1,00,00. They decide, however, to keep it and finish it. The opportunity cost of the work-in-process is Tk.10,000 because this is the amount of economic resources foregone by the manufacturer to complete the product. Further, if fixed deposits in the banks are proposed to be withdrawn for financing a project, the opportunity cost would be the loss of interest on the deposits. Since the opportunity cost represents only sacrificed alternatives, they are never recorded as such in the financial accounts.

*Opportunity cost is the cost of selecting one course of action in terms of the opportunities which are given up to carry out that course of action.*

On the contrary, the concept of cost which normally enters into the accounts of a business is known as outlay cost. Outlay costs refer to the actual expenditures incurred on raw materials and other productive facilities.

*Outlay costs refer to the actual expenditures incurred on raw materials and other productive facilities.*

- **Relevant Costs and Irrelevant Costs:** Any cost which is relevant in making a decision is relevant cost. Costs or revenues are relevant when they are logically related to a decision and vary from one decision alternative to another. Any cost which is relevant in making a decision is relevant cost. Costs that will be incurred as a result of a decision and thus appropriate to a specific managerial decision are known as relevant costs. These costs are relevant for future decision making. On the contrary, costs which are not affected by a decision are irrelevant costs, that is costs that have already been incurred irrespective of what is being done by the enterprise at present are irrelevant costs.

*Any cost which is relevant in making a decision is relevant cost.*

*Costs which are not affected by a decision are irrelevant costs.*

Relevant costs for decision making reflect the following two important features:

- They must be expected future costs and
- They must differ among alternatives.

For example; when plant replacement is being considered, the present depreciated cost of the plant to be replaced would be irrelevant but its sale value would be relevant since this will go to reduce the cost of capital investment. Similarly, if a company wants to make components that was purchased from outside market, the relevant cost will be the cost of material and direct labour and fixed costs that will be required for creating new facilities to make the components.

When the cost of an option is shown as additional to that under another option it is called an incremental cost.

Differential cost is the difference in the total cost of two options compared.

- Incremental Cost and Differential Cost:** For most practical decision problems, the two terms incremental cost and differential cost are used synonymously. When the cost of an option is shown as additional to that under another option it is called an incremental cost. On the otherhand, differential cost is the difference in the total cost of two options compared. The option may involve change in production, introduction of new machinery on new product, marketing on any other business activity. It is noteworthy here that, although technically an incremental cost should refer only to an increase in cost from one alternative to another; decrease in cost should be referred to as decrement cost. Differential cost is a broader term, encompassing both cost increases (incremental costs) and cost decreases (decremental costs) between alternatives.

For example; that a company is considering two competing sites for a new factory. If the northern site is chosen, the annual cost of transporting raw materials to the site is estimated Tk.1,85,000. If the southern site is selected, annual transportation charge is estimated to be Tk.1,50,000. The annual differential cost of transporting raw material is calculated as follows:

Annual cost of transporting raw materials to northern site	Tk.1,85,000
Annual cost of transporting raw materials to southern site	1,50,000
Annual differential cost	35,000

It may be noted that differential cost calculation is generally done for facilitating managerial decisions and is not generally incorporated in accounting records.

Sunk costs are costs that have been incurred in the past cannot be changed by any current or future action.

- Sunk Cost:** A sunk cost is a cost that has already been incurred at the time that a decision is being considered and is therefore not of importance for the new decision under consideration. So sunk costs are costs that have been incurred in the past and consequently they do not affect future costs and cannot be changed by any current or future action.

Such costs are irrelevant in a decision-making situation because there is nothing that can be done to undo the decision to invest in them.

Some argue that the total cost of a fixed asset is not a sunk cost, but sunk cost is the difference between the purchase price of a fixed asset and the net amount that could be realized from its sale. For example, if the book value of a machine is Tk.10,00,000 and its estimated scrap value is Tk.75,000; the net book value of the machine i.e., Tk.9,25,000 (Tk.10,00,000 - Tk.75,000) should be considered as sunk cost. Alternatively, the book value of Tk.10,00,000 can also be considered sunk cost while Tk.75,000 should be taken as opportunity cost.

Out-of-pocket costs refer to costs that involve current payments to outsiders.

- Out of Pocket Costs and Book Costs:** Out-of-pocket costs refer to costs that involve current payments to outsiders as opposed to book

cost, such as depreciation, that do not require current cost expenditures. The payments for management in deciding whether or not a particular project will at least return the expenditures associated with the project relected by management. Out of pocket costs could also be like sunk cost and irrelevant if the firm is not in a position to save them, otherwise these costs are relevant costs.

*Book costs refer to cost that that do not require current cost expenditures.*

Book costs can be converted into out-of-pocket costs by selling assets and leasing them back from the buyer. For example, A firm can sell own factory building but can continue to use it by paying rent to the new owner. The rental payment then replaces the depreciation charge and interest cost of owned capital.

- **Past Costs and Future Costs:** Most of the important managerial decisions using cost information requires forecast of future costs, rather than actual costs, i.e., unadjusted records of past costs. Actual costs incurred in the past and recorded in the books of account are known as past costs. On the contrary future costs are those that are likely to be incurred in a future period. They are not recorded in the books of account, and hence, have to be estimated. Since managerial decisions are forward looking, it centres round future costs and not past costs for expenditure control, projection of future income statements, capital investment decisions, pricing etc.

*Actual costs incurred in the past and recorded in the books of account are known as past costs.*

*Future costs are those that are likely to be incurred in a future period.*

- **Controllable Costs and Uncontrollable Costs:** The controllability of a particular cost depends upon the level of management, that is, it is related to a special centre of managerial responsibility. Controllable costs are those which can be influenced by the decisions and actions of a specified member of an undertaking and uncontrollable costs are those which cannot be influenced by a specified member of an undertaking. The distinction is not absolute because many costs are not completely under the control of one individual. In classifying costs as controllable or uncontrollable, managerial accountants generally focus on a manager's ability to influence costs. Examples of controllable costs are indirect labour, lubricants, power costs while depreciation, rent, and property tax are uncontrollable costs.

*Controllable costs are those which can be influenced by the decisions and actions of a specified member of an undertaking.*

*Uncontrollable costs are those which cannot be influenced by a specified member of an undertaking.*

The time period factor and the decision making authority can make a cost controllable or uncontrollable. If the time period is long enough, all costs can be controllable. Similarly, whether a cost is controllable or not should be decided by the decision making authority.

- **Escapable Costs and Inescapable Costs:** Whether certain costs are escapable or inescapable varies according to the decision. Escapable costs refer to these costs that may not only be postponed but may also be avoided entirely as a result of contraction of business activity. For example; A portion of depreciation which varies with the use of a machine can be avoided by reducing output. Therefore, the part that continues regardless of output is escapable only if the machine or building is sold and if, of course, there is a ready market for the asset.

*Escapable costs refer to these costs that may not only be postponed but may also be avoided entirely as a result of contraction of business activity.*

*Inescapable or unavoidable costs are those that must be met even if there is contraction of business activity.*

*Shutdown costs are those costs which have to be incurred under all situations in the case of stopping manufacture of a product or closing down a department or a division.*

*Abandonment costs are those that result from a permanent cessation of business activities.*

On the contrary, inescapable or unavoidable costs are those that must be met even if there is contraction of business activity. For example, manufacturing plants must incur minimum power costs regardless of the volume of sales.

- **Shut-down Costs and Abandonment Costs:** Shutdown costs are those costs which have to be incurred under all situations in the case of stopping manufacture of a product or closing down a department or a division. Shut down costs are always fixed costs. For example, in case of a manufacturing company, if a product manufacturing is stopped, then a part of fixed costs associated with the product like rent, watchman's salary, property taxes will be incurred. Such fixed costs are unavoidable.

On the otherhand, abandonment costs are those that result from a permanent cessation of business activities. In other words, when a fixed asset is retired from service and is to be disposed of, the costs connected with disposal an known as abandonment costs.