

**Introduction to Cost Management** – Cost Accounting to Cost Management – Elements of costs – classification of costs – Methods of costing – Cost Management Tools – A Strategic View to Cost Management – Preparation of a Cost Sheet.

### **Module II**

Overheads, Classification and Collection, Difference between Cost Allocation and Cost Apportionment, (Full-fledged Problems on Primary and secondary distribution, Simultaneous equations, Absorption of overhead, Theory on under and Over absorption of Overhead).

### **Module III**

**Marginal Costing** – Nature and Scope – Applications – Break even charts and Point, Decision Making (all types with full problems) Differential Cost Analysis, Advantages and Disadvantages of Marginal Costing.

### **Module IV**

**Budgetary Control** – Objectives of Budgetary control, Functional Budgets, Master Budgets, Key Factor Problems on Production and Flexible Budgets.

**Standard Costing** – Comparison with Budgetary Control, analysis of variances, simple problems on Material and Labour Variances Only.

### **Module V**

Demerits of Traditional Costing, Activity Based Costing, Cost Drivers, Cost Analysis under ABC (Unit level, Batch level and Product Sustaining Activities), Benefits and weaknesses of ABC, Simple Problems under ABC.

## **Module VI**

Cost Audit – Objectives, Advantages, Areas and Scope of Cost Audit, Cost Audit in India – Practical – Read the contents of the report of Cost Audit and the annexure to the Cost Audit Report.

Management Audit – Aims and the objectives, Scope of Management Audit.

## **Module VII**

**Reporting to Management** – Purpose of reporting – Requisites of a good report, Classifications of Report, Segment reporting, Applicability of Accounting Standard 17, Objectives, Users of Segment reporting. Cost Reduction, and Cost Control, Target Costing – its Principles, Balanced Scorecard as a performance measure – Features, Purpose, Reasons for use of Balanced Scorecard.

### **RECOMMENDED BOOKS:**

1. Cost Accounting: Theory & Practice – Bhabatosh Banerjee 13/e, PHI.
2. A text book of cost and management accounting – Arora M N, 11/e, Vikas.
3. Cost Accounting – Jawaharlal & Seema Srivastava, 4/e, TMH.
4. Accounting & Costing for Management – Sinha P K, Excel Books, 2010

### **REFERENCE BOOKS:**

1. Cost Accounting – Khan & Jain, TMH.
2. Principles and Practice of Cost Accounting – Bhattacharyya, 3/e, PHI.
3. Management Accounting – Khan M Y & Jain P K, 6/e, McGraw Hill, 2012.

## Module I

**Introduction to Cost Management** – Cost Accounting to Cost Management – Elements of costs – classification of costs – Methods of costing – Cost Management Tools – A Strategic View to Cost Management – Preparation of a Cost Sheet.

---

### Cost Accounting to Cost Management

According to the dictionary meaning cost is the price paid for something. In other words cost is the amount of resources used for something which must be measured in terms of money. Cost is defined as the amount of expenditure whether actual or notional incurred on or attributable to a given thing or to ascertain the cost of a given thing.

According to CIMA, London, “costing is the techniques and processes of ascertaining cost”.

In simple, it is the methods used and the actual process involved in cost finding. The technique of costing involves two fundamental step namely:

- a. Collection and classification of expenditure according to the cost elements and,
- b. Allocation and apportionment of the expenditure to the cost centers or cost units.

Cost Accounting deals with collection, analysis of relevance of cost data for interpretation and presentation. CIMA defines cost accounting “as the process of accounting for costs from the point at which the expenditure is incurred or committed to the establishment of its ultimate relationship with cost centers and cost units.”

Cost management is the process of planning and controlling the budget of a business. Cost management is a form of management accounting that allows a business to predict impending expenditures to help reduce the chance of going over budget.

Cost management is the process of effectively planning and controlling the costs involved in a business. It is considered one of the more challenging tasks in business management. Generally, the costs or the expenses in a business are recorded by a team of experts using expense forms. The process involves various activities such as collecting, analyzing, evaluating and reporting cost statistics for budgeting. By implementing an effective cost management system, a company’s overall budgeting can be brought under control.

---

The cost management aims:

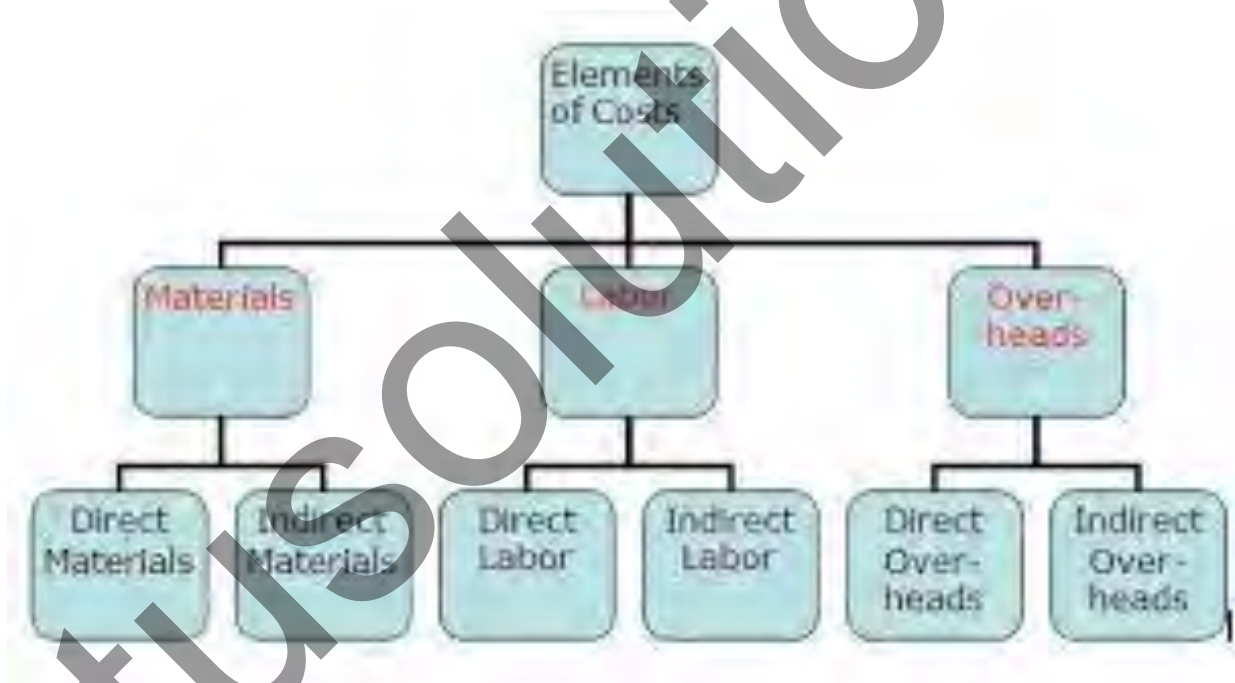
1. To develop a system such that the product costs / service costs can be accurately calculated.
2. To assess the overall performance of a product through its life cycle.
3. To find out the process of linking the various activities in a logical and rational manner so that they can be improved upon.
4. To control the costs at every stage as much as possible.
5. To evaluate the measures to be introduced in the process of controlling the costs.
6. To link all the activities of the organization to the basic management objectives.
7. To measure the variances from the actually planned goals.
8. To reset the activities towards the organizational goals.

### Elements of costs

Basic cost elements are:

1. Raw materials
  2. Labor
  3. expenses/overhead
    - Material (Material is a very important part of business)
      - Direct material/Indirect material
    - Labor
      - Direct labor/Indirect labor
    - Overhead (Variable/Fixed)
      - Production or works overheads
      - Administration overheads
      - Selling overheads
-

- Distribution overheads
- Maintenance & Repair
- Supplies
- Utilities
- Other Variable Expenses
- Salaries
- Occupancy (Rent)
- Depreciation
- Other Fixed Expenses



There are broadly three elements of cost - (1) material, (2) labour and (3) expenses.:

The substance from which the product is made is known as material. It may be in a raw state-raw material, e.g., timber for furniture and leather for shoe, etc. It may j also be in manufactured state-components, e.g., battery for car, speaker for radio, etc, Materials can be direct and indirect.

Direct Material

All materials which become an integral part of the finished product, the cost of which are directly and completely assigned to the specific physical units and charged to the prime cost, are known as direct material. The following are some of the materials that fall under this category:

- (a) Materials which are specifically purchased; acquired or produced for a particular job, order or process.
- (b) Primary packing material (e.g. carton, wrapping, cardboard, etc.)
- (c) Materials passing from one process to another as inputs.

In order to calculate the cost of material, expenses such as import duties, dock charges, transport cost of materials are added to the invoice price.

Material considered direct at one time may be indirect on other occasion. Nail used in manufacturing wooden box is treated as direct material, but treated as indirect material when used to repair the factory building.

Indirect Material: All materials, which cannot be conveniently assigned to specific physical units, are termed as 'indirect material'. Such commodities do not form part of the finished products. Consumable stores, lubrication oil, stationery and spare parts for the machinery are termed as indirect materials.

### **Labour**

Human efforts used for conversion of materials into finished products or doing various jobs in the business are known as labour. Payment made towards the labour is called labour cost. It can also be direct and indirect.

Direct Labour: Direct labour is all labour expended and directly involved in altering the condition, composition or construction of the product. The wages paid to skilled and unskilled workers for manual work or mechanical work for operating machinery, which can be specifically allocated to a particular unit of production, is known as direct wages or direct labour cost. Hence, 'direct wage' may be defined as the measure of direct labour in terms of money. It is specifically and conveniently traceable to the specific products Wages paid to the goldsmith for making gold ornament is an example of direct labour.

---

**Indirect Labour:** Labour employed to perform work incidental to production of goods or those engaged for office work, selling and distribution activities are known as 'indirect labour'. The wages paid to such workers are known as 'indirect wages' or indirect labour cost.

Example: Salary paid to the driver of the delivery van used for distribution of the product.

### **Expenses**

All expenditures other than material and labour incurred for manufacturing a product or rendering service are termed as 'expenses'. Expenses may be direct or indirect.

**Direct Expenses:** Expenses which are specifically incurred and can be directly and wholly allocated to a particular product, job or service are termed as 'direct expenses'. Examples of such expense are: hire charges of special machinery hired for the job, carriage inward, royalty, cost of special and specific drawings, etc. These are also known as 'chargeable expenses'.

**Indirect Expenses:** All expenses excluding indirect material and indirect labour, which cannot be directly and wholly attributed to a particular product, job or service, are termed as 'indirect expenses'. Some examples of such expenses are: repairs to machinery, insurance, lighting and rent of the buildings.

### **Classification of Costs**

Costs may be classified on different bases. They can be classified as follows:

1. By time (historical, predetermined)
  2. By nature of elements (material, labour, overhead)
  3. By association (product or period)
  4. By traceability (direct, indirect)
  5. By changes in activities or volume (fixed, variable, semi-variable)
  6. By function (manufacturing, administration, selling, research and development)
  7. Controllability (controllable, non-controllable)
  8. Analytical and decision-making (marginal, uniform, opportunity, sunk, differential etc.)
-

9. By nature of expense (capital, revenue)
10. Miscellaneous (conversion, traceable, normal, total)

### **Classification on the Basis of Time**

Costs can be classified into historical costs and predetermined costs.

**Historical costs:** Historical costs are determined after they are incurred actually. When production is completed, i.e., products reached their final stage of finished status, costs are available and on that basis costs are ascertained. Only on the basis of actual operations, costs are accumulated. Hence they are objective in nature.

**Predetermined costs:** Costs are calculated before they are incurred, i.e., before the production process is completed.

These predetermined costs may further be classified into estimated costs and standard costs

**Estimated costs:** Costs are estimated before goods are produced. As these are purely estimates, they lack accuracy.

**Standard costs:** These costs are also predetermined. But certain factors are analysed with care before setting up costs. Standard cost is not only a concept of cost but a technique or method of costing also.

### **Classification by Nature or Elements**

Elements of costs may be broadly divided into material, labour and expenses.

#### **Direct costs**

In general, production is carried on in different cost centres. Costs which can be directly identifiable with cost centres, processes or production units are known as direct costs.

#### **Indirect Costs**

If costs cannot be identifiable with cost centres or cost units, they are termed as "indirect costs". Such costs that cannot be easily identifiable with cost centres have to be apportioned on some equitable basis. These terms should be understood properly, as the same will be applied in case of materials, labour and wages.



### **Material Costs**

Commodities or substances from which products are produced are called materials. They may be further divided into direct and indirect. The term "direct" means that which can be identified with and allocated to cost centres and cost units. The term "indirect" means that which cannot be allocated but can be apportioned to, or absorbed by, cost centres and cost units.

#### **Direct Materials**

Direct materials are those materials which enter into and form part of the product, e.g., wood in furniture, chemicals in drugs, leather in shoes.

Direct materials include:

1. All materials specially purchased or requisitioned for a particular process or job or order.
2. All components—purchased or produced.
3. All materials passing from one process to another
4. All primary Packing Material.

**Indirect materials:** Materials which cannot be traced as part of the product are known as indirect materials. Indirect materials include:

1. Fuel, lubricating oil, grease etc. (for maintenance of plant and machinery)
2. Tools of small value for general use.
3. Consumable stores
4. Printing and stationery materials
5. Stores of small value used

### **Labour Costs**

It can also be classified into direct labour and indirect labour.

#### **Direct labour**

Where employees are employed directly in making the product and their work can be easily identified in the process of conversion of raw materials into finished goods, such labour is called

---

direct labour. The cost incurred on direct labour is called direct wages. Example: Wages paid to the driver of a bus in a transport service.

### **Indirect labour**

Labour employed in the works on factory which is ancillary to production is known as indirect labour. The cost incurred on indirect labour is called indirect wages. These costs may not be traced to specific units of output. Wages which cannot be directly identified with a job or process are treated as indirect wages. Example: wages of store keepers, time keepers, supervisors etc.

### **Expenses Costs**

Expenses also can be direct and indirect.

### **Direct expenses**

Direct expenses do not include direct material cost and direct labour cost. These expenses are incurred in respect of a specific product. Example: cost of special pattern, drawing or layout; secret formula, hire charges of machinery to execute an order, consultancy fees to a specific job. The latest trend in cost accounting is that these expenses are not taken into account. The terminology of CIMA is also of this view. Generally, direct expenses form a small part of total cost.

**Indirect expenses:** Expenses which cannot be charged to production directly and which are neither indirect material cost nor indirect wages costs are treated as indirect expenses. Examples: Rent, rates, taxes, power, insurance, depreciation.

### **Overheads**

Overheads include the cost of indirect material, indirect labour and indirect expenses. Overheads may be classified into (i) production or manufacturing overheads, (ii) administrative overheads, (iii) selling overheads and (iv) distribution overheads.

**Production or factory overhead:** It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in respect of manufacturing activity. It commences with the supply of raw materials and ends with the primary packing of finished goods.

---

**Administration overhead:** It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred for policy formulation, control and administration. Example: Directors' remuneration.

**Selling overhead:** It is the cost of creating sales and retaining customers. It is the aggregate of all indirect material costs, indirect wages and indirect expenses incurred in creating and stimulating demand for a firm's products and securing orders. Example: advertisement, publicity expenses.

**Distribution overhead:** It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in preparing the packed products for despatch and making them available to customers. Example: rates and taxes for finished goods, godown expenses.

### **Association with the Product (Costs in Their Relation to Product)**

#### **Prime Cost**

Prime cost is the aggregate of direct material cost, direct wages and direct expenses.

#### **Conversion cost:**

Conversion cost is the aggregate of direct wages and factory overhead. It is the cost incurred in the factory for the conversion of raw materials into finished goods.

#### **Product Cost**

Product Costs included in inventory values are called product costs. In manufacturing organizations, raw material costs and cost incurred in the conversion of raw materials into finished products are called product cost or inventory cost.

#### **Period costs:**

Period costs are costs that are charged against the revenue of a period of time in which they are incurred. Period costs are incurred on the basis of time like rent and salaries. Period costs include selling and distribution costs and administration costs. Since they are not directly associated with the product, they are not assigned to the product. They are charged to the period in which they are incurred and are to be treated as expenses. In this context, one has to distinguish between expense and expenditure. Expense is nothing but expired cost or expenditure. An organization incurs expenditure in order to acquire goods and services. The

---

same can be said to have expired when consumption takes place, meaning thereby that it has given the intended benefit. Thus, the cost of acquisition of goods for re-sale is an expenditure. But it becomes an expense when the goods are sold and is shown in the profit and loss account.

**Joint costs:** Joint costs arise when two or more products are processed at the same time or in a single operation or from a common material. To apportion joint costs among products is not an easy affair. If two or more products are produced from the same raw materials (e.g., petrol, diesel, kerosene), joint costs are incurred up to the point of separation.

### **Accounting Period - Wise Classification of Costs**

**Capital expenditure:** It may be defined as expenditure which results in the acquisition of or increase in an asset, or pertains to the extension or enhancement of earning capacity at a smaller cost. A capital expenditure is intended to benefit future periods. It is classified as a fixed asset. Example: Costs of acquiring land, building and machinery.

**Revenue expenditure:** This expenditure occurs for the maintenance of assets in working condition and not intended for increasing the revenue-earning capacity. A revenue expenditure benefits the current accounting period. It is treated as an expense.

For matching of costs and revenues, the distinction between capital expenditure and revenue expenditure is inevitable.

### **Behaviour-Wise Classification of Costs**

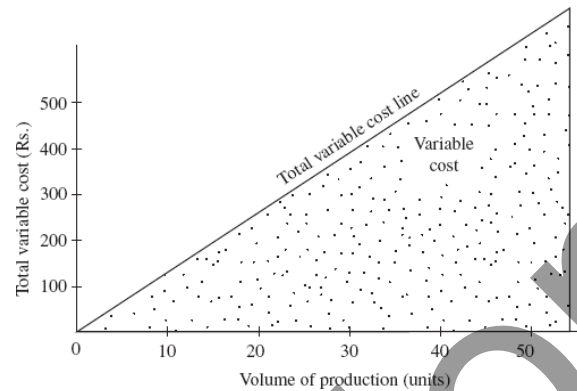
#### ***Variable Cost***

The terminology of CIMA defines variable cost as "a cost which tends to follow (in the short-term) the level of activity". Variable costs are also known as marginal costs. Variable costs vary directly and proportionally with the output. Variable cost per unit is constant but the total costs change corresponding to the levels of output. Variable cost is expressed in terms of units only. Variable costs are synonymous with engineered costs.

Example: Materials used to manufacture a product, wages of workers in a manufacturing process. To illustrate, let direct material cost to produce one unit of a product be Rs. 25. The existing volume of production is 10,000 units per annum, then the existing direct material cost is

---

10,000 units  $\times$  Rs. 25 = Rs. 2,50,000. In case, if the production increases to 20,000 units, the direct material cost would be Rs. 25  $\times$  20,000 units = Rs. 5,00,000. This shows that the direct material cost per unit remains constant but total material cost rises with an increase in activity level.



### **Fixed Cost**

The terminology of CIMA defines fixed cost as “the cost which accrues in relation to the passage of time and which, within certain limits, tends to be unaffected by fluctuations in the level of activity”.

Fixed costs are those which are not expected to change in total within the current budget year, irrespective of variations in the volume of activity. Such costs are fixed for a given period over a relevant range of output, on the assumption that technology and methods of manufacturing remain unchanged.

For the purpose of cost analysis, fixed costs may be classified as follows:

**Committed Costs:** These costs cannot be eliminated instantly. These costs are incurred to maintain basic facilities. Example: Rent, rates, taxes, insurance.

**Policy and managed costs:** Policy costs are incurred in enforcing management policies. Example: Housing scheme for employees. Managed costs are incurred to ensure the operating existence of the company. Example: Staff services.

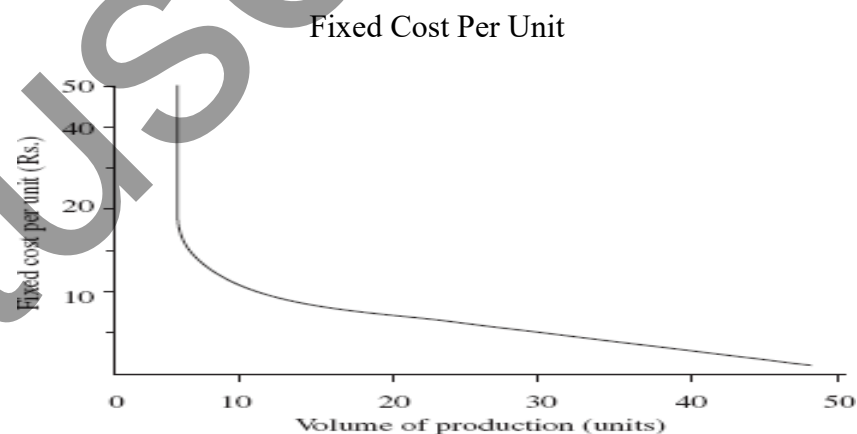
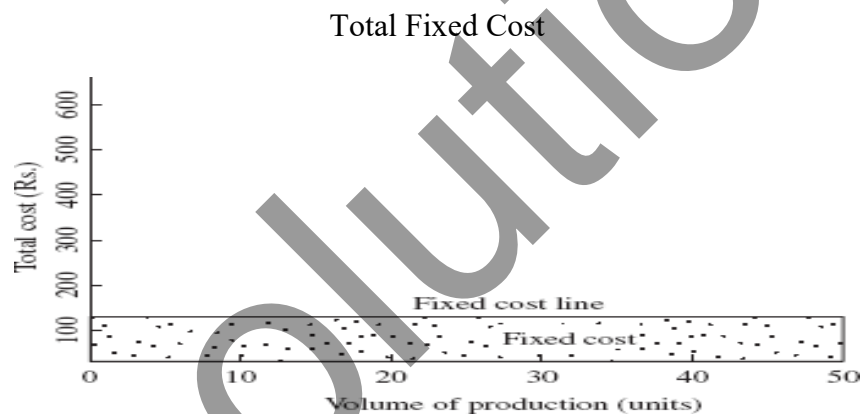
**Discretionary costs:** These are not related to operations. These can be controlled by the management. These occur at the discretion of the management.

### **Semi-Variable Costs**

The terminology of CIMA defines semi-variable cost as “a cost containing both fixed and variable elements which is thus partly affected by fluctuations in levels of activity” Semi-variable costs consist of features of both fixed and variable costs.

These costs vary in total with changes in the level of activity—not in direct proportion. Due to the fixed part of the element, they do not change in direct proportion to output. Due to the variable part of the element, they tend to change with volume. Semi-variable costs change in the same direction of output but not in the same proportion. Example: electricity charges, stationery, telephone expenses.

To illustrate, telephone expenses is a semi-variable cost. Annual rental is Rs.1000. For every call used the charge per call is Re. 1. Here the annual rental is the fixed part of the element—remains unchanged—whereas the call made forms the variable element.



### Functional Classification of Costs

**Production costs:** They are the cost of operating a production department in which manual and machine operations are performed directly upon any part of product manufactured. This includes the cost of direct materials, direct labour, direct expenses, primary packing expenses and all overhead expenses pertaining to production.

**Administration costs:** These expenses include all indirect expenses incurred in formulating the policy, directing the organization and controlling the operation of a concern. The expenses relating to selling and distribution, production, development and research functions are not to be included under this head.

**Selling and distribution costs:** These expenses include all expenses incurred with selling and distribution functions.

**Research and development costs:** These include the cost of discovering new ideas, processes or products by research and the cost of implementation of such results on a commercial basis.

**Preproduction costs:** when a new manufacturing unit is started or a new product is launched, certain expenses are incurred. There would be trial runs. All such costs are called preproduction costs. They are charged to the cost of future production because they are treated as deferred revenue expenditure.

### **Costs for Planning and Control**

**Controllable cost:** The terminology of CIMA defines controllable cost as “a cost which can be influenced by the action of specified member of an undertaking”. It refers to those costs which may be regulated at a specified level of authority (management) within a specified time period. The term “controllable costs” means variable costs. Cost-control factor depends on time factor and level of managerial authority. If the time period is sufficiently long, cost can be well controlled. Proper delegation of authority with responsibility facilitates the task of control of costs.

**Uncontrollable costs:** Uncontrollable cost is defined as the “cost which cannot be influenced by the action of a specified member of an undertaking”. This cost is not subject to control at any level.

---

The difference between the terms is important for the purpose of cost control, and responsibility accounting costs which are not subject to the control of a person should not be charged to that person. For instance, a foreman should not be charged with the plant superintendent salary.

**Budget:** A budget is a plan for a future period. It is expressed in monetary terms. The terminology of CIMA defines a budget as —a plan quantified in monetary terms, prepared and approved prior to a defined period of time usually showing planned income to be generated and/or expenditure to be incurred during that period and the capital to be employed to attain a given objective”. It is also a tool of control.

**Standard costs:** Standard costs are closely related to budgets, and both are said to be complementary to each other. It is a basic accounting tool. A standard cost is a predetermined calculation of how much costs should be under specific working conditions. It is built up from an assessment of the value of cost elements and correlates technical specifications and quantification of material, labour and other costs to the prices and/or wage rates expected to apply during the period in which standard cost is intended to be used. Its main purposes are to provide bases for control through variance accounting, for valuation of stock, and work-in-progress and in some cases, for fixing selling prices.

Costs for Analytical and Decision-Making Purposes

**Imputed costs:** Imputed costs do not involve actual cash outlay (cash payment). They are not recorded in the books of accounts. They are not measurable accurately. However, imputed costs are useful while taking decisions. Imputed costs can be estimated from similar situations. Imputed costs can be estimated from similar situations outside the organization. Although these are hypothetical costs, in making comparison, in performance evaluation, in making decision, the inclusion of imputed costs is inevitable. Examples: Interest on invested capital, rental value of company-owned building, salaries of owner-directors of sole proprietorship firms.

**Sunk costs:** Sunk cost is invested cost or recorded cost. A sunk cost is one which has been incurred already and cannot be avoided by decision taken in future. Sunk cost may be defined as —an expenditure for equipment or productive resources which has no economic relevance to the present decision-making process”. Sunk cost is a past cost which cannot be taken into account in decision making. Sunk cost may also be defined as the difference between the purchase price of

---



an asset and its salvage value. Non-incremental costs (i.e., cost which do not increase) are also, at times, termed as sunk costs (one specific group of non-incremental costs).

**Differential costs:** Differential costs arise on account of the change in total costs associated with each alternative. In the language of the AAA committee, “it is the increase or decrease in total costs, or the changes in the specific elements of cost that results from any variation in operation.” Differential cost consists of both variable and fixed costs. The differential cost between any two levels of production is (i) the difference between two marginal costs (variable cost) at these two levels and (ii) the increase or decrease in fixed costs. A distinction has to be understood between differential cost and incremental cost. Incremental cost applies to increase in production and is restricted to cost only, whereas differential cost confines to both increase or decrease in output.

Differential cost is of much use in decision-making process, especially in choosing the best alternative and in ascertaining profit where additional investments are introduced in the business.

**Opportunity costs:**

Opportunity costs are the economic resources which have been foregone as the result of choosing one alternative instead of another. The unique feature of an opportunity cost is that no cash has changed hands. There is no exchange of economic resources. It results from sacrificing some action. They are never shown in regular cost accounting records.

**Postponable costs:** These are costs which may be postponed to the future with little or no effect on current operations. Actually it means deferring the expenditure to some future date. It does not mean that the cost is avoided and rejected summarily. Example: Repairs and maintenance.

**Avoidable costs:** By choosing one alternative, costs may be saved. That means by avoiding one, and choosing another, costs can be saved. Example: By not manufacturing a new product, the appropriate direct material, labour and variable costs can be avoided.

**Out-of-pocket costs:** Out-of-pocket cost means those elements of cost which warrant cash payment in the period under consideration. This is helpful in deciding whether a particular venture will at least return the cash expenditure caused by the expected project. Example: Taxes, insurance premium, salaries of supervisory staff, etc.

---

**Relevant costs:** Relevant costs are those expected future costs that differ between alternatives. It is a cost affected by a decision at hand. Historical costs are irrelevant to a decision. It is reasonable because it helps to ascertain whether the costs are relevant to a particular decision at the present condition. In general, variable costs are affected by a decision and so they are considered relevant.

**Uniform costs:** Generally they are not distinct costs as such. According to this, common costing principles and procedures are being adopted by a number of firms. These costs are mainly intended for inter-firm comparison.

**Marginal costs:** It is the aggregate of variable costs. It is useful in various ways for the management.

**Common costs:** Common costs are those costs which are incurred for more than one produce, job territory or any other specific costing object. The National Association of Accountants defines common costs as “the cost of services employed in the creation of two or more outputs, which is not allocable to those outputs on a clearly justified basis”.

### **Other Costs**

**Normal cost:** This cost is incurred at a given level of output in the conditions that level of output is achieved.

**Traceable cost:** This cost can be easily identified with a product or job or process.

**Total costs:** It denotes the sum of all costs in respect of a particular process or unit or job or department or even the entire organization.

### **Methods of Costing**

Different industries follow different methods to establish the cost of their product. This varies by the nature and specifics of each business. There are different principles and procedures for performing the costing. However, the basic principles and procedures of costing remain the same. Some of the methods are mentioned below:

- Unit costing
- Job costing

- Contract costing
- Batch costing
- Operating costing
- Process costing
- Multiple costing
- Uniform costing

### Different Methods of Costing

Here's a breakdown of each different method of costing:

- **Unit costing:** This method is also known as "single output costing." This method of costing is used for products that can be expressed in identical quantitative units. Unit costing is suitable for products that are manufactured by continuous manufacturing activity: for example, brick making, mining, cement manufacturing, dairy operations, or flour mills. Costs are ascertained for convenient units of output.
  - **Job costing:** Under this method, costs are ascertained for each work order separately as each job has its own specifications and scope. Job costing is used, for example, in painting, car repair, decoration, and building repair.
  - **Contract costing:** Contract costing is performed for big jobs involving heavy expenditure, long periods of time, and often different work sites. Each contract is treated as a separate unit for costing. This is also known as terminal costing. Projects requiring contract costing include construction of bridges, roads, and buildings.
  - **Batch costing:** This method of costing is used where units produced in a batch are uniform in nature and design. For the purpose of costing, each batch is treated as an individual job or separate unit. Industries like bakeries and pharmaceuticals usually use the batch costing method.
  - **Operating costing or service costing:** Operating or service costing is used to ascertain the cost of particular service-oriented units, such as nursing homes, busses, or railways. Each particular service is treated as a separate unit in operating costing. In the case of a nursing home, a unit is treated as the cost of a bed per day, while, for busses, operating cost for a kilometer is treated as unit.
-

- **Process costing:** This kind of costing is used for products that go through different processes. For example, the manufacturing of clothes involves several processes. The first process is spinning. The output of that spinning process, yarn, is a finished product which can either be sold on the market to weavers, or used as a raw material for a weaving process in the same manufacturing unit. To find out the cost of the yarn, one needs to determine the cost of the spinning process. In the second step, the output of the weaving process, cloth, can also be sold as a finished product in the market. In this case, the cost of cloth needs to be evaluated. The third process is converting the cloth to a finished product, for example a shirt or pair of trousers. Each process that can result in either a finished good or a raw material for the next process must be evaluated separately. In such multi-process industries, process costing is used to ascertain the cost at each stage of production.
- **Multiple costing or composite costing:** When the output is comprised of many assembled parts or components, as with television, motor cars, or electronics gadgets, costs have to be ascertained for each component, as well as with the finished product. Such costing may involve different methods of costing for different components. Therefore, this type of costing is known as composite costing or multiple costing.
  - **Uniform costing:** This is not a separate method of costing, but rather a system in which a number of firms in the same industry use the same method of costing, using agreed-on principles and standard accounting practices. This helps in setting the price of the product and in inter-firm comparisons.

### Cost Management Tools

With the focus on cost reduction for various functions, the management looks at various tools for managing and cost control in the challenging business environment. The emphasis is on serving the customers' needs through different tools. The following are the various tools used in strategic cost management

1. Activity based costing and activity based management.
  2. Benchmarking.
  3. Just-in-time.
  4. Economic Value Addition.
-

5. Target Costing.
6. Balanced Scorecard.
7. Strategic Cost Management.
8. Value analysis and strategic positional analysis.
9. Managing the capacity costs using the flexible budget techniques
10. Using cost conformance techniques with the cost of quality.

### **Cost Sheet**

Cost sheet is a statement of costs which show the various elements of the cost of goods produced in terms of prime cost, factory cost, cost of production, cost of goods sold, cost of sales and profit or loss. This is typically prepared in regular intervals such as weekly, monthly, quarterly, annually depending on the requirements of the organization.

PROFORMA OF COST SHEET

Particulars	Per Unit	Amount (Rs.)	Amount (Rs.)
Opening Stock of Raw Materials	***	***	
Add:	***		
Purchases		***	
Carriage inwards		***	
Octroi & Customs Duty		***	
		*****	
Less			
Closing Stock of Raw Materials		***	
<b>RAW MATERIALS CONSUMED</b>			***
Direct or Productive Wages / Direct Labour		***	
Add: Outstanding Wages, if any		***	***
Direct or Chargeable Expenses			***
<b>PRIME COST</b>	***		***
<b>Add: Works or Factory Overheads</b>			
Indirect Materials		***	
Indirect wages		***	
Overtime charges		***	
Fuel & Power		***	
Factory rent		***	
Factory lighting		***	
Insurance		***	
Supervisor salary		***	
Staff welfare expenses		***	
Works expenses		***	
Depreciation of P&M		***	
Gas & Water		***	
Drawing office expences		***	
Technical Directors Fess		***	
Laboratory Expenses		***	
Internal Transport Expenses		***	***
Less: Sale of Scrap			***
<b>GROSS FACTORY COST / GROSS WORKS COST</b>			***
Add: Opening Stock of Work-in-Progress			***
			***
Less: Closing Stock of Work-in-Progress			***
<b>NET FACTORY COST / NET WORKS COST</b>			***
Add: Office & Administration Overheads		***	
Office Salary		***	
Office Rent & rates		***	

Stationery & Printing		***	
<b>Office Expenses</b>		***	
Depreciation of office building		***	
Depreciation of office furniture		***	
Office lighting		***	
Establishment charges		***	
Director's fees		***	
Director's travelling expenses		***	
Legal charges		***	
Audit fees		***	
<b>COST OF PRODUCTION</b>		***	
Add: Opening Stock of Finished Goods		***	
		***	
Less: Closing Stock of Finished Goods		***	
<b>COST OF GOODS SOLD</b>		***	***
Add: Selling & Distribution Overheads			
Advertising		***	
Showroom expenses		***	
Carriage outwards		***	
Salesman commission		***	
Packing expenses		***	
Bad debts		***	
Counting house salaries		***	
Delivery van expenses		***	
Travelling expenses		***	
Warehouse expenses		***	
Sales Manager's salaries		***	
Sales director's fees		***	
Sales office expenses		***	
Depreciatin of Delivery van		***	
Repairs of delivery van		***	
Expenses of sales branches		***	
<b>TOTAL COST OR COST SALES</b>		***	***
<b>PROFIT</b>		***	***
<b>SALES REVENUE</b>			***

**Points to be noted while preparing the cost sheet**

**1. Pure financial expenses such as**

- a. Cash discount
- b. Interest paid
- c. Preliminary expenses written off

- d. Donations
  - e. Income tax paid
  - f. Dividend paid
  - g. Profit or loss on sale of fixed assets and damages payable at law etc. should not be included in the cost sheet
2. Acquisition of capital assets viz.
- a. Cost of land and building
  - b. Purchase of machinery
  - c. Furniture etc. does not form part of the cost sheet.
3. Pre-incorporation expenses such as
- a. Registration expenses
  - b. Legal charges
  - c. Miscellaneous expenses should not form part of the cost sheets.
4. The closing stock of work-in-progress must be valued at the current period's works cost.
5. The closing stock of finished goods must be valued at the current period's cost of production.
6. In absence of any other information, the opening stocks of work in progress and opening stock of finished goods must be valued at the current periods' costs only.
7. Any value realized from the sale of scrap must be deducted before identifying the works cost and the valuation of the closing stock of work in progress must be done only after this treatment.
8. When the profit is given as a percentage of cost of sales

$$\text{Profit} = \frac{\text{Percentage of Profit}}{\text{Cost of Sales}} * 100$$

9. When the profit is given as a percentage of sales revenue
-



$$\text{Sales Revenue} = \frac{\text{Cost of Sales}}{100 - \text{Percentage of Profit}} * 100$$

**And, Profit = Sales Revenue – Cost of Sales**

Vtusolution.in

## Module II

(10 Hours)

Overheads, Classification and Collection, Difference between Cost Allocation and Cost Apportionment, (Full Fledged Problems on Primary and secondary distribution, Simultaneous equations, Absorption of Overhead, Theory on Under and Over absorption of Overhead.

---

### Meaning

Overhead is also known as, overhead cost, overhead charges, non-productive cost, burden, loading, on cost etc.

- Overhead is the cost incurred in the course of making a product, providing a service or running a department, but which cannot be traced directly and fully to the product, service or department.
- Overheads is actually the total of the following
  1. Indirect materials.
  2. Indirect labour.
  3. Indirect expenses

### Definition of Overheads

According to CIMA, overhead cost as the total cost of indirect materials, indirect labour and indirect expenses. In short, it is the cost of materials, labour and expenses that cannot be economically identified with specific saleable cost unit.”

According to ICMA, indirect cost is an expenditure on labour, material, services which cannot be economically identified with a specific saleable cost per unit. Overhead costs are known as supplementary cost, indirect cost, on cost etc.”

### Classification and Collection of Overhead

There are various methods of classifying or grouping overheads, which greatly depend upon the objectives of classification, the type or the size of the firm. Generally, the following is the classification according to

---

### **Classification According to Nature**

According to this classification, overhead can be classified into

- (a) Indirect material
- (b) Indirect labour and
- (c) Indirect expenses.

**Indirect Material:** All materials, which cannot be conveniently assigned to specific physical units, are termed as 'indirect material'. Such commodities do not form part of the finished products. Consumable stores, lubrication oil, stationery and spare parts for the machinery are termed as indirect materials.

**Indirect Labour:** Labour employed to perform work incidental to production of goods or those engaged for office work, selling and distribution activities are known as 'indirect labour'. The wages paid to such workers are known as 'indirect wages' or indirect labour cost.

**Example:** Salary paid to the driver of the delivery van used for distribution

**Indirect Expenses:** All expenses excluding indirect material and indirect labour, which cannot be directly and wholly attributed to a particular product, job or service, are termed as 'indirect expenses'. Some examples of such expenses are: repairs to machinery, insurance, lighting and rent of the buildings.

### **Classification According to Function**

The main groups of this classification are

- (a) Manufacturing overhead,
- (b) Administrative overhead,
- (c) Selling overhead and
- (d) Distribution overhead.

### **Manufacturing overhead**

---

It is also known as works overhead, production overhead or factory overhead. It is the aggregate of the indirect expenses of operating the manufacturing division of a concern and includes all expenses incurred by the concern from the receipt of the till its completion, ready for dispatch.

It includes all overhead cost incurred from the stage of procurement of materials till the completion of the finished product but excludes expenses on administration, selling and distribution. For egs.

- Rent, taxes, depreciation, insurance etc. of the factory land and buildings.
- Depreciation, insurance etc. of the factory plant, machines, equipment etc.
- Consumable stores, small tools etc.
- Cost of overtime, idle time, holiday pay etc.
- Salary of foreman, time-keepers, works managers etc.
- Fuel, power, coal etc.\factory lighting, heating, ar-conditioning etc.
- Welfare expenses, canteen, recreation club etc.
- Cost of works – stationery, works-telephone etc.
- Wages paid to indirect workers – watch & ward staff, repairs etc.

**Administration overhead:** It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred for policy formulation, control and administration. Example: Directors' remuneration.

**Selling overhead:** It is the cost of creating sales and retaining customers. It is the aggregate of all indirect material costs, indirect wages and indirect expenses incurred in creating and stimulating demand for a firm's products and securing orders. Example: advertisement, publicity expenses.

**Distribution overhead:** It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in preparing the packed products for despatch and making them available to customers. Example: rates and taxes for finished goods, godown expenses.

### **Classification According to Variability**

---

Expenses are also classified on the basis of behaviour or variability; it can be found that all items of overhead do not vary in sympathy with production. Based on this behaviour the expenses can be divided into

- Fixed
- Variable and
- Semi-variable or semi-fixed.

**Fixed overhead** or constant charges or period costs remain fixed in their nature and do not vary with changes in the volume of output.

Such expenses remain constant even if the volume of production changes; when there is more production, and the fixed overhead is true only for a shorter period, and in the long run, they occurs the change. Examples for this context are Salaries of staff, taxes etc.

Example of fixed costs is: depreciation of plant, rent of storage-house and building, postage, stationery, salaries, insurance etc.

**Variable or fluctuating overhead** is a cost which, in the aggregate, tends to vary in direct proportion to changes in the volume of output or turnover. In other words, these costs change in the same ratio in which output changes.

Total variable cost will tend to vary direct with volume, while unit variable cost is likely to remain constant at all levels.

For example, indirect material, indirect labour power and fuel, spoilage, stores handling, over time etc.

### **Semi – variable Overhead**

This type of overhead varies with a change in the volume of output, but not in such a proportion as the output changes. This type stands mid-way between fixed and variable overhead.

Semi-variable overheads may remain fixed at certain levels of output, while they vary at other levels, but not in the proportion of output changes.

For example, repairs and maintenance, depreciation of plant and machinery, telephone, salary to supervisors etc.

---

### **Classification According to Normality**

According to this class the costs are divided into two types – normal overhead and abnormal overhead.

*Normal expenses* are expected to be incurred in attaining a given output. These are unavoidable. These can be included in production cost.

Abnormal costs are those which are not expected to occur in attaining a given output; for example, abnormal idle time, abnormal wastage etc. such expenses may be transferred to costing profit and loss account.

### **Classification According to Control**

It can be divided into two types –

- Controllable costs and
- Uncontrollable costs

*Controllable costs* are those which can be controlled by an efficient management. For example, idle time, wastage etc. can be controlled.

*Uncontrollable costs* are those which cannot be controlled. All types of fixed costs are the best example.

### **Allocation and Apportionment**

Allocation of overhead is the function of identifying overhead items with particular cost centres or production and service department. Allocation is the process of charging the full amount of overhead costs to a particular cost centre. For example, salary to the Sales Manager is allocated to the sales Department.

Apportionment of overhead is the process of distributing those items of overhead which cannot be allocated to a cost centre or department, between cost centres or departments on an equitable basis. It is the process of splitting up an item of overhead cost and charging it to the cost centres on an equitable basis. That is, where the expense is a common one and it is to be allotted to different cost centres proportionately on an appropriate basis, it is known as apportionment.

---

For example, factory rent is an expense which cannot be allocated to any one department, but is to be shared by all production department and service departments on suitable basis.

### **Overhead allocation**

- Allocation is the process by which whole cost items are charged direct to a cost unit or cost centre.
- For example, the following cost will be charged to the following cost centres via the process of allocation.

Direct labour will be charged to the production cost centre.

1. The cost of warehouse security will be charged to the warehouse cost centre.
2. Costs such as canteen are charged direct to the various overhead cost centres.

### **Apportionment of overhead**

- Apportionment of overhead is distribution of overheads to more than one cost centre on some equitable basis.
- When the indirect costs are common to different cost centres, these are to be apportioned to the cost centres on an equitable basis. For example, the expenditure on general repair and maintenance pertaining to a department can be allocated to that department but has to be apportioned to various machines (Cost Centres) in the department.
- If the department is involved in the production of a single product, the whole repair & maintenance of the department may be allocated to the product.

## Basis of apportionment

### Overhead apportionment basis

Sl.No.	Name of the overhead cost	Bases of apportionment
1	Building tax	Floor Area
	Lighting and heating	
	Fire insurance	
	Air conditioning	
2	Fringe Benefits	Number of Workers
	Labour welfare expenses	
	Time Keeping	
	Personnel Office	
	Supervision	
3	Compensation to workers	Direct Wages
	Holiday Pay	
	ESI & PF Contribution	
4	General Overhead	Direct labour hours or direct wages or machine hours
5	Depreciation of P&M	Capital values
	Repairs & Maintenance of P&M.	
	Insurance of stock	
6	Power / Steam consumption	Technical Estimates
	Internal transport	
	Managerial Salaries	
7	Lighting expenses	No. of light points, or floor area
8	Electric Power	Horse power of machines, or no. of machine hours, or value of machines.
9	Material handling & Stores overhead	Weight of materials, or Quantity of Materials, or Value of materials.

### Primary and Secondary Distribution of Overheads

- ✓ In case of multi-product environment, there are common service cost centres which are providing services to the various production cost centres and other service cost centres.
- ✓ The costs of services are required to be apportioned to the relevant cost centres.
- ✓ First step to be followed is to apportion the overheads to different cost centres and then second step is to apportion the costs of service cost centres to production cost centres on an equitable basis.



- ✓ The first step is termed as primary distribution and the second step is termed as secondary distribution of overheads.

### **Absorption of overheads**

- Absorption of overheads is charging of overheads from cost centres to products or services by means of absorption rates for each cost center which is calculated as follows:
- **Overhead Absorption Rate** = 
$$\frac{\text{Total Overheads of Cost Centre}}{\text{Total Quantum of Base}}$$
- The base (denominator) is selected on the basis of type of the cost centre and its contribution to the products or services, for example, machine hours, labour hours, quantity produced etc.

### **Apportionment of service departments costs**

The aim is to apportion all the service department costs to the production departments, in one of three ways:

1. The direct method, where the service centre costs are apportioned to production departments only
2. The step down method, where each service cost centers' are not only apportioned to production departments but to some (but not all) of the other service centres that make use of the services provided.
3. Apportionment of service departments costs- the reciprocal method

### **Apportionment of service departments costs – the reciprocal method**

The repeated distribution (or reciprocal) method, where service cost centers are apportioned to both the production departments and services department that use the services.

The service centre costs are then gradually apportioned to the production departments. This method is used only when service departments use each other's services

### **The reciprocal method of distribution**

---

Steps to be followed under this method are :

- i. The proportion at which the costs of a service cost centres are to be distributed to production cost centres and other service cost centres are determined.
- ii. Costs of first service cost centres are to be apportioned to production cost centres and service cost centres in the proportion as determined in step (i).
- iii. Similarly, the cost of other service cost centres are to be apportioned.

This process as stated in (ii) and (iii) are to be continued till the figures remaining undistributed in the service cost centres are negligibly small. The negligible small amount left with service centre may be distributed to production cost centres

### **Overhead absorption**

- Overhead absorption is the process whereby overhead costs allocated and apportioned to production cost centres are added to unit, job or batch costs.
- Overhead absorption is sometimes known as overhead recovery
- Therefore having allocated and/or apportioned all overheads, the next stage is to add them to, or absorb them into, cost units
- Overheads are usually added to costs units using a predetermined overhead absorption rate, which is calculated using figures from the budget.

### **Calculation of overhead absorption rate**

- Estimate the overhead likely to be incurred during the period
- Estimate the activity level for the period
- Divide the estimated overhead by the budgeted activity level
- Absorb the overhead into the cost unit by applying the calculated absorption rate

### **Over and under absorption of overheads**

---

- The rate of overhead absorption is based on estimates (of both numerator and denominator) and it is quite likely that either one or both of the estimates will not agree with what actually occurs
  - Over absorption means that the overheads charged to the cost of sales is more than the overheads actually incurred
  - Under absorption means that insufficient overheads have been included in the cost of sales

**The reasons for over/under absorbed overheads**

- The overhead absorption rate is predetermined from budget estimates of overhead cost and the expected volume of activity.
- Over or under recovery of overhead will occur in the following circumstances:-
  - Actual overhead costs are different from budgeted overhead.
  - The actual activity level is different from the budgeted activity level.
  - Actual overhead costs and actual activity level differ from the budgeted costs and levels.

**Apportionment of Overheads on Non-Reciprocal Basis**

<b>Service Department</b>	<b>Bases of Apportionment</b>
Store – keeping department	No. of material requisition or value / quantity of materials consumed in each department.
Purchase Department	Value of materials purchased for each department or no. of purchase orders placed.
Time keeping department and Pay roll Dept.	No. of employees, or total labour or machine hours.
Personnel department	Rate of labour turnover, or total no. of employees in each dept.
Canteen, welfare and recreation depts..	No. of employees, or total wages.
Maintenance dept.	No. of hours worked in each departments.
Internal transport dept.	Value or weigh of goods transported, or distance covered.
Inspection dept.	Direct labour hurs or machine operating hours
Drawing office	No. of drawings made or man hours worked.

### **Difference between Cost Allocation and Cost Apportionment**

Cost allocation means the allotment of whole items of cost to cost centres or cost units. Cost apportionment, means and involves allotment or proportion of items of cost centres or cost units.

In other words, cost allocation deals with items, whereas apportionment must deal only with a proportion of items of cost.

Further, in allocation, costs are directly allocated. But apportionment of cost needs a suitable basis for the sub-division of the costs to various cost centres or cost units.

Allocation is a direct process. But apportionment may be made indirectly on some suitable bases.

Vtusolution.in

### Module III

**Marginal Costing** – Nature and Scope – Applications – Break even charts and Point, Decision Making (all types with full problems) Differential Cost Analysis, Advantages and Disadvantages of Marginal Costing.

---

Marginal costing is not a method of cost ascertainment like job costing or contract costing. Marginal costing is a technique of costing, which may be used with other method of costing, viz., job or process. For decision-making, it is more helpful to the management. It is also known as direct costing, differential costing, incremental costing and comparative costing.

In marginal costing, only variable items of costs are taken into account. These variable costs will change in direct relation to the change in the volume of production or change in the production by one unit.

As such, variable costs are called product costs and are charged to production. Fixed costs are not allocated to cost unit; and these are charged directly to profit and loss account during the period and are called as period costs or capacity costs.

#### Definition of Marginal Costing

According to ICMA, “the ascertainment by differentiating between fixed costs, and variable costs, of marginal costs and of the effect on profit of changes in volume or type of output.”

According to Dr. Joseph, “marginal costing is a technique of determining the amount of change in the aggregate costs due to an increase of one unit over the existing level of production. As such, it arises from the production of additional increments of output”.

According to Batty, “marginal costing as a technique of cost accounting, which pays special attention to the behaviour of costs with changes in the volume of output”.

#### Nature and Scope

- Marginal costing is a technique or working of costing, which is used in conjunction with other methods of costing (process or job).
  - Fixed and variable costs are kept separate at every stage. Semi-variable costs are also separated into fixed and variable.
-

- As fixed costs are period costs, they are excluded from product cost or cost of production or cost of sales. Only variable costs are considered as the cost of the product.
- When evaluation of finished goods and work-in-progress are taken into account, they will be only variable costs.
- As fixed costs are period costs, they are charged to profit and loss account during the period in which they are incurred. They are not carried forward to the next year's income.
- Marginal income or marginal contribution is known as the income or the profit.
- The difference between the contribution and fixed costs is the net profit or loss.
- Fixed costs remain constant irrespective of level of activity.
- Sales price and variable cost per unit remain the same.
- Cost-volume-profit relationship is fully employed to reveal the state of profitability at various levels of activity.

### **Application of Marginal Costing Techniques**

Marginal costing is an extremely valuable technique with the management. The cost-volume-profit relationship has served as a key to locked storehouse of solutions to many situations. It enables the management to tackle many problems which are faced in the practical business.

Marginal Costing helps the management in decision-making in respect of the following vital areas:

1. Cost Control
  2. Fixation Of Selling Price
  3. Closure Of A Department Or Discontinuing A Product
  4. Selection Of Profitable Product Mix
  5. Profit Planning
  6. Decision To Make Or Buy
  7. Decision To Accept A Bulk Order
  8. Introduction Of A New Product
  9. Choice Of Technique
  10. Evaluation Of Performance
-

11. Decision Making
12. Maintaining A Desired Level Of Profit
13. Level Of Activity Planning
14. Alternative Methods Of Production
15. Introduction Of Product Line

### **Cost Control**

The two types of costs – variable and fixed – are controllable and non-controllable respectively. The variable cost is controlled by production department and the fixed cost is controlled by the management.

### **Fixation of selling price**

Product pricing is a very important function of management. One of the purposes of cost accounting is the ascertainment of cost for fixation of selling price. Marginal cost of a product represents the minimum price for that product and any sale below the marginal cost would entail a loss of cash. There are cyclic periods in business – boom, depression, recession etc.

### **Selling at or Below Marginal Cost**

When we sell a commodity at marginal cost, only variable cost is recovered. Generally, the price of a product is fixed to cover variable cost as well as fixed cost, in addition to a desired profit. Fixing the selling price below the marginal cost, invites loss of some of variable cost. The products may be sold below the marginal cost in the following cases, when:

- A competitor is to be driven out of market.
  - To popularize the product.
  - Labour engaged cannot be retrenched.
  - The goods are of perishable nature.
  - To keep the plant in running condition.
  - There is a cut throat competition.
  - To use the materials, which is about to perish.
  - The product is used as a loss leader for the sale of another products.
  - Not to close down the firm.
  - Fear of market which may go out of hand.
-

- To prevent the loss of future orders.
- To capture the foreign market.

### **Closure of a Department or Discontinuing a Product**

Marginal costing technique shows the contribution of each product to fixed costs and profit. If a department or a product contributes the least amount, then the department can be closed or its production can be discontinued. It means the product which gives a higher amount of contribution may be chosen and the rest should be discontinued.

### **Selection of Profitable Product Mix**

In a multiproduct concern, a problem is faced by the management as to which product mix or sales mix will give the maximum profit. The product mix which gives the maximum profit must be selected. Product mix is the ratio in which various products are produced and sold.

The marginal costing technique helps the management in taking decisions regarding changing the ratio of product mix which gives maximum contribution or in dropping unprofitable product line. The product which has comparatively less contribution may be reduced or discontinued.

### **Profit Planning**

Profit planning is a plan for future operation or planning budget to attain the given objective or to attain the maximum profit.

### **Decision to make or buy**

A firm may make some products, parts or tools or sometimes it may buy the same thing from outside. The management must decide which is more profitable to the firm. The management must decide which is more profitable to the firm. If the marginal cost of the product is lower than the price of buying from outside, then the firm can make the product.

### **Decision to accept a bulk order or foreign market order**

Large scale purchasers may demand products at less than the market price. A decision has to be taken now whether to accept the order or to reject it.

By reducing the normal price, the volume of output and the sales can be increased. If the price is below the total cost, rejection of the order is aimed at. In marginal costing, the offer may be

---



accepted, if the quoted price is above marginal cost, because of the reason that existing business contribution can recover the fixed costs and the margin of profits. In such cases, the contribution made by foreign market, or bulk orders will be an addition to the profit. But the price should not be less than the marginal cost. However, it should not affect the normal market price.

### **Introduction of a New Product**

A producing firm may add additional products with the available facility. The new product is sold in the market at a reasonable price, in order to sell it in large quantities. It may become popular. If favorable, the sales can be increased, thus the total cost comes down and contributes some amount towards fixed costs and profits.

### **Choice of Technique**

Every management wishes to manufacture products at the most economical way. For this, the marginal costing is a good guide as to the products at different stages of production, that is to say whether the management has to adopt hand operated system or semi-automatic system or complete automatic system. When operations are done by hand, fixed cost, will be lower than the fixed cost incurred by machines and in complete automatic system fixed costs are more than variable cost.

### **Evaluation of Performance**

Marginal costing helps the management in measuring the performance efficiencies of a department or a product line or sales division. The department or the product or division which gives the highest P/V ratio will be the most profitable one or that is having the highest performance efficiency.

### **Decision Making**

Price must not be less than total cost under normal conditions. Marginal costing acts as a price fixer and a high margin will contribute to the fixed cost and profit. But this principle cannot be followed at all times. Prices should be equal to marginal cost plus a reasonable amount, which depends upon demand and supply, competition, policy of pricing etc.

If the price is equal to marginal cost, then there is a loss equal to fixed costs. Sometimes, the businessman has to face loss when,

---

- a. There is cut-throat completion
- b. There is the fear of future market
- c. The goods are of perishable nature
- d. The employees cannot be removed
- e. A new product is introduced in the market
- f. Competitors cannot be driven out etc.

### **Maintaining a desired level of profit**

An industry has to cut prices of its products from time to time on account of competition, government regulations and other compelling reasons. The contribution per unit on account of such cutting is reduced while the industry is interested in maintaining a minimum level of its profits.

Marginal costing technique can ascertain how many units have to be sold to maintain the same level of profits.

### **Level of activity planning**

When different levels of production and / or selling activities are being considered and the management has to decide the optimum level of activity, the marginal costing technique helps the management. What level of activity is optimum for a business to adopt, is an important problem faced by businesses.

### **Alternative methods of production**

Marginal costing techniques are also used in comparing the alternative methods of manufacture i.e. machine work or hand work, whether one machine is to be employed instead of another etc. many a time, management has to choose a course of action from among so many alternatives, the changes in the marginal contribution under each of the proposed methods are worked out and the method which gives the greatest contribution is obviously adopted keeping in view the limiting factor if any.

### **Introduction of new product or product line**

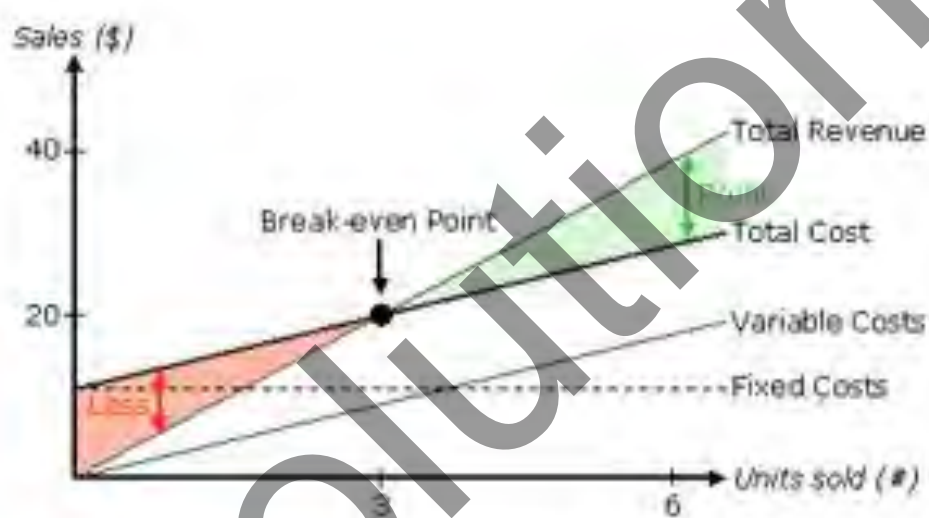
The technique to assess the profitability of line extension products is the incremental contribution estimates. The same technique of contribution analysis would be followed in

---

assessing the profitability of a new product line. Sales forecast would result from a market survey and market research.

### Break Even Charts and Points

In simple words, the **break-even point** can be defined as a point where total costs (expenses) and total sales (revenue) are equal. Break-even point can be described as a point where there is no net profit or loss. The firm just “breaks even.” Any company which wants to make abnormal profit, desires to have a break-even point. Graphically, it is the point where the total cost and the total revenue curves meet.



Break-even point is the number of units (N) produced which make zero profit.

$$\text{Revenue} - \text{Total costs} = 0$$

$$\text{Total costs} = (\text{Variable costs} * N) + \text{Fixed costs}$$

$$\text{Revenue} = \text{Price per unit} * N$$

$$\text{Price per unit} * N - (\text{Variable costs} * N + \text{Fixed costs}) = 0$$

So, break-even point (N) is equal

$$N = \text{Fixed costs} / (\text{Price per unit} - \text{Variable costs})$$

The origins of break-even point can be found in the economic concepts of “the point of indifference.” Calculating the break-even point of a company has proved to be a simple but quantitative tool for the managers. The break-even analysis, in its simplest form, facilitates an insight into the fact about revenue from a product or service incorporates the ability to cover the relevant production cost of that particular product or service or not. Moreover, the break-even point is also helpful to managers as the provided information can be used in making important decisions in business, for example preparing competitive bids, setting prices, and applying for loans.

Adding more to the point, break-even analysis is a simple tool defining the lowest quantity of sales which will include both variable and fixed costs. Moreover, such analysis facilitates the managers with a quantity which can be used to evaluate the future demand. If, in case, the break-even point lies above the estimated demand, reflecting a loss on the product, the manager can use this info for taking various decisions. It might choose to discontinue the product, or improve the advertising strategies, or even re-price the product to increase demand.

Another important usage of the break-even point is that it is helpful in recognizing the relevance of fixed and variable cost. The fixed cost is less with a more flexible personnel and equipment thereby resulting in a lower break-even point. The importance of break-even point, therefore, cannot be overstated for a sound business and decision making.

However, the applicability of break-even analysis is affected by numerous assumptions. A violation of these assumptions might result in erroneous conclusions.

### **Differential Cost Analysis**

Some management accountants use differential cost as a synonym to marginal cost. In fact, the theory of marginal costing is only a part of differential cost analysis. These two are similar in some aspects and differ in certain others. The points of similarities and differences are discussed below:

#### **Similarities**

- a. Both techniques are based on the classification of costs into fixed and variable. If fixed costs do not change, the result under both remain same.

- b. Both techniques are used for cost analysis.
- c. Both techniques are used for managerial decision-making and formulating policies.

### Differences

The following are the differences between differential cost analysis and marginal cost analysis:

S. No.	Differential Cost Analysis	Marginal Costing Analysis
i.	It is a costing technique used for decision-making purpose with the use of differential revenue and differential cost.	It is a technique used in ascertaining the marginal cost and effect on changes in profit due to changes in volume.
ii.	The differential costing can be applied in varied alternative proposals hence the scope is wider.	The scope of marginal costing is comparatively lesser.
iii.	The differential costing uses the accounting information and it can only be part of accounting system.	The marginal costing system can be included into accounting system.
iv.	The main analytical tools used in differential costing are, incremental/ decremental cost, incremental revenue and incremental/decremental profit.	In marginal costing, the main analytical tools are, P/V ratio, Break-even point, contribution, CVP analysis etc.
v.	It is not possible to ascertain exactly the differential cost and sometimes it is used in conjunction with costs and opportunity cost.	The marginal cost can be calculated exactly by adding variable overheads to prime cost.
vi.	The differential costing can be used for short-term, medium-term and long-term decision-making.	The marginal costing is mainly used for short-term and medium-term decision-making.

### Advantages and Disadvantages of Marginal Costing

#### Advantages

##### Constant in nature

Variable costs fluctuate from time to time, but in the long run, marginal costs are stable. Marginal costs remain the same, irrespective of the volume of production.

### **Effective cost control**

It divides cost into fixed and variable. Fixed cost is excluded from product. As such, management can control marginal cost effectively.

### **Treatment of overheads simplified**

It reduces the degree of over or under-recovery of overheads due to the separation of fixed overheads from production cost.

### **Uniform and realistic valuation**

As the fixed overhead costs are excluded from product cost, the valuation of work-in-progress and finished goods becomes more realistic.

### **Helpful to management**

It enables the management to start a new line of production which is advantageous. It is helpful in determining which is profitable whether to buy or manufacture a product. The management can take decision regarding pricing and tendering.

### **Helps in production planning**

It shows the amount of profit at every level of output with the help of cost volume profit relationship. Here the break-even chart is made use of.

### **Better results**

When used with standard costing, it gives better results.

### **Fixation of selling price**

The differentiation between fixed costs and variable costs is very helpful in determining the selling price of the products or services.

Sometimes, different prices are charged for the same article in different markets to meet varying degrees of competition.

### **Helpful in budgetary control**

The classification of expense is very helpful in budgeting and flexible budget for various levels of activities.

---

### **Preparing tenders**

Many business enterprises have to compete in the market, in quoting the lowest prices. Total variable cost, when separately calculated, becomes the 'floor price'. Any price above this floor price may be quoted to increase the total contribution.

### **Make or Buy Decision**

Sometimes a decision has to be made whether to manufacture a component or a product or to buy it ready-made from the market. The decision to purchase it would be taken if the price paid recovers some of the fixed expenses.

### **Better Presentation**

The statements and graphs prepared under marginal costing are better understood by management executives. The break-even analysis presents the behaviour of cost, sales, contribution etc in terms of charts and graphs. And, thus the results can easily be grasped.

### **Disadvantages of Marginal Costing**

#### **Difficulty to analyse overhead**

Separation of costs into fixed and variable is a difficult problem. In marginal costing, semi-variable or semi-fixed costs are not considered.

#### **Time element ignored**

Fixed costs and variable costs are different in the short run; but in the long run, all costs are variable. In the long run all costs change at varying levels of operation, when new plants and equipment are introduced, fixed costs and variable costs will vary.

#### **Unrealistic assumption**

Assumption of sale price will remain the same at different levels of operation. In real life, they may change and give unrealistic results.

#### **Difficulty in the fixation of price**

Under marginal costing, selling price is fixed on the basis of contribution. In case of cost plus contract, it is very difficult to fix price.

---

### **Complete information not given**

It does not explain the reason for increase production or sales.

### **Significance lost**

In capital-intensive industries, fixed costs occupy major portions in the total cost. But marginal costs cover only variable costs. As such, it loses its significance in capital industries.

### **Problem of variable overheads**

Marginal costing overcomes the problem of over and under-absorption of fixed overheads. Yet there is the problem in the case of variable overheads.

### **Sales-oriented**

Successful business has to go in a balanced way in respect of selling production functions. But marginal costing is criticized on account of its attaching over-importance to selling function. Thus it is said to be sales-oriented. Production function is given less importance.

### **Unreliable stock valuation**

Under marginal costing stock of work-in-progress and finished stock is valued at variable cost only. No portion of fixed cost is added to the value of stocks. Profit determined, under this method, is depressed.

### **Claim for loss of stock**

Insurance claim for loss or damage of stock on the basis of such a valuation will be unfavourable to business.

### **Automation**

Now-a-days increasing automation is leading to increase in fixed costs. If such increasing fixed costs are ignored, the costing system cannot be effective and dependable.



## Module IV

**Budgetary Control** – Objectives of Budgetary control, Functional Budgets, Master Budgets, Key Factor Problems on Production and Flexible Budgets.

**Standard Costing** – Comparison with Budgetary Control, analysis of variances, simple problems on Material and Labour Variances Only.

---

### Introduction

In our daily life, we use to prepare budgets for matching the expenses with income; and available funds can be invested in a profitable manner. Similarly in business, budgets are prepared on the basis of future estimated production and sales in order to find out the profit in a specified period. A budget is in the nature of an estimate and is a quantified plan for future activities to coordinate and control the use of resources for a specified period. Thus budget is a quantitative statement of management plans and policies for a given period and is used as a guide for the purpose of attaining the given objectives. It is also used as standard with which actual performance is measured. Budgets must be prepared with full knowledge and acceptance by the executives whose performance is to be measured against the budget. Different types of budgets are prepared for different purposes.

Budgeting may be defined as the process of preparing plans for future activities of a business enterprise after considering and involving the objectives of the said organization. This also provides process/steps of collection and comparison of data, by which deviations from the plan, either favourable or adverse, can be measured. This analysis is helpful in performance analysis, cost estimation, minimizing wastage and better utilisation of resources of the organization.

### Concept of Budget & Budgetary control

Budgeting is a process, which includes two important functions: Budget and Budgetary control. Budget is a planning function and budgetary control is a controlling system or technique. A manager looks to the future, searches for alternative courses of action and predetermines a course of action to be taken in relation to known events and the possibilities of future problems. Thus, the budget will do this work for the activities of a business enterprise. I.C.M.A., London defines the budget as –Budget is financial and/or quantitative statement, prepared prior to a defined

---

period of time, of the policy to be pursued during that period for the purpose of attaining a given object”.

### **Objectives of Budgeting**

It is a well-known fact that a planned activity has better chances of success than an unplanned one. The budgeting is a forward planning and effective control tool. Thus, the objectives of the budgeting are:

- a. To control the cost and increase revenue and thereby maximise profit, so as to know profit at different level of production and best production level.
- b. To run production activities in efficient manner by lay behind the chances of interruption in production process due to lack of material, labour etc.
- c. To bring about coordination between different functions of an enterprise, which is essential for the success of any enterprise?
- d. To incorporate measures of calculation of deviations from budgeted results and analysis of the same, whereby responsibility can be fixed and controlling measures/action can be taken.
- e. To ensure that actions taken are in accordance with the targets and if required, to take suitable corrective action.
- f. To predict short-term and long-term financial positions for better financial position and management of working capital in better manner.

### **Advantages of Budgeting**

The following are the advantages of budgeting:

- a. Budgeting leads to maximum utilisation of resources with a view to ensuring maximum return.
  - b. Budgeting increases the awareness about business enterprise at all levels of management in the process of fulfillment of targets.
  - c. Budgeting is helpful in better co-ordination between different functions/activities of business/organisation and hence, better understanding between different functions.
-

- d. Budgeting is a process of self-examination and self-criticism which is essential for the success of any organisation.
- e. Budgeting makes a path for active participation and support of top management.
- f. Budgeting enables the organisation to prefix its goals and push up the forces towards their achievements.
- g. Budgeting stimulates the effective use of resources and creates an attitude of cost consciousness throughout the organisation.
- h. It creates the bases for measuring performances of different departments as well as different functions of the production activities.

### **Limitation of budgeting**

In spite of the above advantages, budgeting has the following limitations:

- a. Forecasting, planning or budgeting is not an exact science and a certain amount of judgement is present in any budgeting plan.
- b. The basic requirement for the success of budgeting is the absolute support and enthusing provided by the top management. If it is lacking at any time, the whole system will collapse.
- c. Budgeting should be followed up by effective control action, this is often lacking in many organisations, which defeats the very purpose of budgeting.
- d. The installation of budgeting system is an elaborate process and it takes time.
- e. It requires the experienced man-power, technical staff, analysis, control etc, hence, it is costly affair.

### **Types of Budgets**

#### **Master Budget**

Master Budget is a combination of all other budgets prepared for a specific period. It shows the overall budget plan. All the budgets are coordinated into one harmonious unit.

According to Rowland and William H. Harr, –Master Budget is a summary of the budget schedules in capsule form made for the purpose of presenting in one report the highlights of the budget forecast.” Thus, Master Budget sets out the plan of operations for all departments in

---

considerable detail for the budget period. The budget may take the form of a Profit and Loss Account and a Balance Sheet as at the end of the budget period.

The budget generally contains details regarding sales (net), production costs, cash position, and key account balances like debtors, fixed assets, bills payable, etc. It also shows the gross and the net profits and the important accounting ratios. It is prepared by the Budget Officer and it requires the approval of the Budget Committee before it is put into operation. If approved, it is submitted to the Board of Directors for final approval. The Board may make certain alterations if necessary before it is finally approved.

### **Sales Budget**

The sales budget is usually the keystone in planning and control of operation of a business. Sales forecast serves as a base for the sales budget. The sales budget is prepared in quantitative terms of units expected to be sold and the value expected to be realised. The Sales Manager should be made directly responsible for the preparation and execution of sales budget. This is prepared according to the requirements of the business while preparing sales budget. The useful classification may be-products, territories, customers, salesmen, etc. More than one classification may be employed. However, at the time of preparing sales budget the following factors should be kept in mind:

(a) salesmen's estimates (b) orders in hand (c) Past behaviour (d) Management policies for future (e) seasonal fluctuations (f) availability of materials (g) plant capacity (h) availability of finance (i) potential market (j) level of competition (k) position of competitors, etc. Look at the following illustration how a sales budget is to be prepared.

### **Production Budget**

The Production Budget is a forecast of the production for the budget period. It provides an estimate of the total volume of production product-wise with the scheduling of operations by days, weeks and month and also a forecast of the closing finished product inventory. It is based on sales budget. The Factory Manager is the person generally made responsible for its preparation, administration and execution. This budget can also be prepared department-wise. This budget is prepared in quantity terms only. The main factors, which are useful in preparing production budgets, are:

---

(a) Inventory Policies (b) Sales Requirements (c) Uniformity of Production (d) Plant Capacity (e) Availability of inputs (f) Duration of Production.

**Production may be computed as follows:**

Units to be produced = Budgeted Sales + Desired Closing Stock of finished goods – Opening Stock of finished goods.

**Materials Budget**

Materials are either direct or indirect. The Material budget generally deals only with the direct materials. Indirect materials are generally included in overhead budget. The material requirements are estimated on the basis of quantity of each class of products to be produced by multiplying the exact material requirement for each class of product by the number of units of that class. Material budget can be prepared on the basis of standards or, historical data regarding percentage of raw materials to total cost, adjusted for current price and normal wastage of material.

The factors to be considered while preparing the Material Budget are: the quantity of material required for the production budget, tentative dates by which required material must be available, the availability of storage facilities as well as credit facilities, price trends in the market, nature of the materials required etc.

Only direct materials are to be taken into account and indirect materials are not taken into account as they are considered under overheads budget. The material budget helps the management for proper planning of purchases. The object of the budget is to ensure the availability of adequate quantities of materials as and when required. It will be included in the Master Budget after the approval of Budget Committee.

**Purchase Budget**

Purchase Budget gives the details of material purchases to be made in the budget period. It correlates with sales forecast and production planning. It deals with purchases that are required for planned production. Purchases would include both direct and indirect materials and goods. While placing the purchase orders material manager has to see the orders on hand and unfulfilled orders at the beginning of the budget period and adjust the purchases accordingly. Purchase

---

budget enables the budget officer to provide funds in the cash budget according to delivery schedules, terms of payment and credit period. While preparing purchase budget the factors like the opening and closing stock to be maintained, maximum and minimum stock quantities to be maintained, economic order quantity level, the resources available, the policy of management etc., should also be taken into account.

Budgeted Purchase Quantity = Budgeted Consumption Quantity +  
required Closing Stock – Opening Stock.

### **Direct Labour Budget**

The direct labour budget tells about the estimates of direct labour requirements essential for carrying out the budgeted output. The quantity of labour, e.g. skilled, unskilled, semi-skilled etc are estimated first. The time taken by them can be measured in terms of man hours. Thereafter, the total cost of labour is estimated by multiplying the rates of pay with the labour hours. The purpose of this budget is to ensure optimum utilization of labour force.

### **Overhead Budget**

The overheads budget should be prepared in three parts as follows:

- 1) Manufacturing Overhead Budget
- 2) Administration Overhead Budget, and
- 3) Selling and Distribution Overhead Budget.

### **Manufacturing Overhead Budget**

The budget is an estimate of the manufacturing overhead costs to be incurred in the budget period to achieve the targeted production.

Manufacturing overheads include indirect material, indirect labour, and indirect expenses related to the factory.

The cost of each and every item of these three components of manufacturing overhead is separately estimated as per the requirements of production.

### **Administration Overhead Budget**

---

Administration overhead includes the costs of framing policies, directing the organisation and controlling the business operations. Most of the administration expenses are normally unconnected with the volume of activity, therefore, experience and anticipated changes in conditions are the guides for the preparation of this budget.

### **Selling and Distribution Overhead Budget**

The budget includes all expenses relating to selling, advertising, delivery of goods to customers, etc. The overheads may be determined on the basis of sales targets being allocated to different territories or salesman etc. Those expenses which generally vary with the sales quantity are estimated on sales basis, others which are of a fixed nature, are estimated on the basis of past experience and anticipated changes. The responsibility for the preparation of this budget lies with the executives of the sales departments.

### **Cash Budget**

A Cash Budget is a summary statement of the firms' expected cash inflows and outflows over a projected time period. In other words, cash budget involves a projection of future cash receipts and cash disbursements over various time intervals. While preparing cash budget seasonal factors must be taken into account and in practice cash budget is prepared on a monthly basis. The availability of other budgets is tested in terms of cash availability. Cash budget is also called as cash flow statement which indicates cash inflow and cash outflows. It is generally prepared for a maximum period of one year.

A cash budget helps the management in (i) determining the future cash needs of the firm, (ii) planning for financing of the needs; (iii) exercising control over cash and liquidity of the firm.

The overall objective of a cash budget is to enable the firm to meet all its commitments in time and at the same time prevent accumulations of unnecessary large balance with it.

### **Methods of Preparing Cash Budgets**

There are basically three methods for preparing cash budgets.

1. Receipts and Payments Method
2. Adjusted Profit and Loss Account Method
3. Balance Sheet Method

Let us study about these methods in brief.

---



### 1) **Receipts and Payments Method**

Under this method, all receipts are added and out of the total, the sum of all payments is deducted to arrive at the balance in hand. The closing balance in hand say, for a particular month is the opening balance of the next month and is added to the total of receipts so as to know the total availability of cash during the month. The receipts and payments during the budget period are found out from various functional budgets prepared. The credit allowed to debtors, the credit allowed to us by suppliers, the delay in payment of wages and other expenses etc. are the factors, which are taken into account to determine the timing of receipts and payments. Advance payments and receipts are to be included but the payment in abeyance and income accrued on outstanding are excluded from cash budget. Revenue as well as capital receipts and payments are recorded in cash budget.

### 2) **Adjusted Profit and Loss Account Method**

The budgeting done by Adjusted Profit and Loss account method is known as cash flow statement and is more suitable for long-term forecasting. Under this method profit is taken as equivalent to cash and necessary adjustments are done in respect of non-cash transactions. The net estimated profit is taken as the base and non-cash items like depreciation, outstanding expenses, provisions etc. already deducted to arrive at the net profit are added back. The capital receipts, reduction in debtors, stocks, increase in liabilities, issue of share capital and debentures are other items which are added to compute the total cash receipts. The payments of dividends, prepayments, capital payments, increase in debtors, and increase in stock and decrease in liabilities are deducted out of the total cash receipts. The profit adjusted this way denotes the estimated cash available.

### 3) **Balance Sheet Method**

Under this method, at the end of budget period a projected balance sheet is drawn up setting out the various assets and liabilities, except cash and bank balances. The balancing figure would be the estimated closing cash/bank balance. Thus, under this method, closing balances other than cash/bank will have to be found out first to be put in the budgeted balance sheet. This can be done by adjusting the anticipated transaction of the year in the opening balances. If the liabilities are more than assets, this reveals a balance of cash/bank and if assets exceed liabilities, it reveals

---



a bank overdraft. Thus, under Adjusted Profit and Loss method, the amount of cash is computed by preparing a Cash Flow Statement and the same amount is computed as a balancing figure under Balance Sheet method.

### **Fixed Budget**

According to C.I.M.A., London, –a fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained.” Thus, a budget prepared on the basis of a standard or fixed level of activity is known as a fixed budget. It does not change with the change in the level of activity. Therefore, it becomes an unrealistic yardstick in case the level of activity actually attained does not confirm to the one assumed for budgeting purposes. The management will not be in a position to assess the performance of different heads on the basis of budgets prepared by them because they can serve as yardsticks only when the actual level of activity corresponds to the budgeted level of activity. Fixed budget is useful when there is no significant variation between the budgeted output and the actual output. It does not consider variances due to changes in the volume. In the industries where the pattern of demand is stable a fixed budget may be adequate, especially where the budget period is comparatively short. In such concerns it is possible to forecast sales with a considerable degree of accuracy.

### **Flexible Budget**

Flexible budget, also known as variable or sliding sale budget, is a budget which is designed to furnish budgeted costs for any level of activity actually attained. Flexible budgeting technique may be employed to adjust other budgets according to current conditions arising out of seasonal variations or changes in the length of the working period etc.

According to C.I.M.A., London, –a flexible budget is a budget designed to change in accordance with the level of activity actually attained.” Thus, a budget prepared in a manner so as to give the budgeted cost for any level of activity is known as a flexible budget. Such a budget is prepared after considering the fixed and variable elements of cost and the changes that may be expected for each item at various levels of operations.

Under this method, a series of budgets would be prepared at different levels of activity. Variable items are shown in the budget as per the level of output. Fixed costs are shown at the same amount irrespective of level of output. Sales value is computed and entered into the flexible

---

budget. The position of profit or loss will be revealed at the various levels of activity. Management will take a decision to operate at a particular level of activity where the profit is maximum taking into account all other factors.

A flexible budget is more realistic, useful and practical. The likely changes in the actual circumstances are taken into account while preparing a flexible budget. The technique is highly useful for control purposes. Actual performance of an executive may be compared with what he should have achieved in the actual circumstances and not with what he should have achieved under quite different circumstances.

### **Zero Based Budgeting (ZBB)**

The technique of zero based budgeting suggests that an organisation should not only make decisions about the proposed new programmes but it should also, from time to time, review the appropriateness of the existing programmes. Such review should particularly be done of such responsibility centres where there is relatively high proportion of discretionary costs.

Zero based budgeting, as the term suggests, examines a programme or function or responsibility from –scratch.” The reviewer proceeds on the assumption that nothing is to be allowed. The manager proposing the activity has, therefore, to prove that the activity is essential and the various amounts asked for are reasonable taking into account the volume of activity. Nothing is allowed simply because it was being done or allowed in the past. Thus, it means writing on a clean slate.

Peter A. Pyhrr defined the zero based budgeting as –an operating planning and budgeting process which requires each manager to justify his entire budget requests in detail from scratch (hence zero basis). Each manager states why he should spend any money at all. This approach requires that all activities be identified as decision packages which would be evaluated by systematic analysis ranked in order of importance.”

Thus, a cost-benefit analysis is done in respect of every function or process. It has to be justified while framing budgets. The assumption underlying zero base budgeting is that the budget for the previous period was zero, therefore whatever costs are likely to be incurred or spending programmes are chalked out, justification of the full amount is to be given. Under conventional system of budgeting, however, the justification is to be submitted by the manager only in respect

---

of the increase in the demand for allotment of funds in excess over the budget for the previous period.

Thus, instead of functionally-oriented spending approach, programme-oriented and decision-oriented approach is followed under zero based budgeting.

### **Advantages of ZBB**

- 1) This system is decision oriented.
- 2) The technique is relatively elastic, because budgets are prepared every year as zero base.
- 3) It reduces wastage, eliminates inefficiency and reduces the overall cost of production because every budget proposal is on the basis of cost-benefit ratio after careful evaluation of different alternatives and the one which is 'best' is approved.
- 4) It provides for a greater possibility of goal congruence.
- 5) It takes into consideration inflationary trends, competitor games and consumer behaviour.
- 6) It vastly improves financial planning and management information system in view of its revolutionary approach.

### **Disadvantages of ZBB**

- 1) It is possible to quantify and evaluate budget proposals involving financial matters but computation of cost-benefit analysis is not possible in respect of non-financial matters.
- 2) The cost of administration of zero based budgeting is high.
- 3) It may be difficult to search out various alternatives for the same activity.
- 4) Some decision packages are inter-related which may be difficult to rank.
- 5) Ranking the decision is a scientific technique. Every manager cannot be expected to have the necessary technical expertise in this matter.
- 6) Zero based budgeting dismisses that the past is irrelevant and thereby challenges the fundamental theory of continuity.

Budgeting is a continuous process of estimating and forecasting about the future and is based on past happenings.

---

## **Standard Costing & Variance Analysis**

One of the prime functions of management accounting is to facilitate managerial control and the important aspect of managerial control is cost control. The efficiency of management depends upon the effective control of costs. Therefore, it is very important to plan and control cost. Standard costing is one of the most important tools, which helps the management to plan and control cost of business operations. Under standard costing, all costs are pre-determined and pre-determined costs are then compared with the actual costs. The difference between pre-determined costs and the actual costs is known as variance which is analyzed and investigated to the reasons. The variances are then reported to management for taking remedial steps so that the actual costs adhere to pre-determined costs. In historical costing actual costs are ascertained only when they have been incurred. They are useful only when they are compared with predetermined costs. Such costs are not useful to management in decision-making and cost control. Therefore, the technique of standard costing is used as a tool for planning, decision-making and control of business operations. In this unit you will study the basic concepts of standard costing.

### **Meaning of Standard Cost**

Standard costs are predetermined cost which may be used as a yardstick to measure the efficiency with which actual costs has been incurred under given circumstance. To illustrate, the amount of raw material required to produce a unit of product can be determined and the cost of that raw material estimated. This becomes the standard material input. If actual raw material usage or costs differ from the standards, the difference which is called ‘variance’ is reported to manager concerned. When size of the variance is significant, a detailed investigation will be made to determine the causes of variance

According to the chartered Institute of Management Accountants (C.I.M.A) London, –Standard cost is the predetermined cost based on technical estimates for materials, labour and overhead for a selected period of time for a prescribed set of working conditions.”

The Institute of Cost and Works Accountants defines standard costs as –Standard costs are prepared and used to clarify the final results of a business, particularly by measurement of

---

variations of actual costs from standard costs and the analysis of the causes of variations for the purpose of maintaining efficiency of executive action.”

Thus standard costs is a predetermined which determines what each product or service \_should be‘ under given circumstances. From the above definitions we may note that standard costs are:

*Pre-determined cost:* Standard cost is always determined in advance and ahead of actual point of time of incurring of costs.

*Based on technical estimated:* Standard cost is determined only on the basis of a technical estimate and on a rational basis.

*For the purpose of Comparison:* The very purpose of standard cost is to aid the comparison with actual costs.

*Based for price fixing:* The prices are fixed in advance and hence the only variation basis is the standard cost.

### **Concept of Standard Costing**

Standard costing is a technique used for the purpose of determining standard cost and their comparison with the actual costs to find out the causes of difference between the two so that remedial action may be taken immediately. The Chartered Institute of Management Accountants, London, defines standard costing as –the preparation of standard costs and applying them to measure the variations from actual costs and analysing the causes of variations with a view to maintain maximum efficiency in production”.

Thus, standard costing is a technique of cost accounting which compares the \_standard cost‘ of each product or service, with the actual cost, to determine the efficiency of the operation. When actual costs differ from standards the difference is called variance and when the size of the variance is significant a detailed investigation will be made to determine the causes of variance, so that remedial action will be taken immediately.

Thus, standard costing involves the following steps:

- Setting standard costs for different elements of costs.
  - Recording of actual costs.
  - Comparing between standard costs and actual costs to determine the variances
-

- Analysing the variances to know the causes thereof, and
- Reporting the analysis of variances to management for taking appropriate actions wherever necessary.

The system of standard costing can be used effectively to those industries which are producing standardised products and are repetitive in nature. Examples are cement industry, steel industry, sugar industry etc. The standard costing may not be suitable to jobbing industries because every job has different specifications and it will be difficult and expensive to set standard costs for every job. Thus, standard costing is not suitable in situations where a variety of different kinds of tasks are being done.

### Standard Cost and Estimated Costs

Estimates are pre-determined costs which are based on historical data and is often not very scientifically determined. They usually compiled from loosely gathered information and therefore, they are unsafe to use them as a tool for measuring performance. Standard costs are pre-determined costs which aims at what the cost should be rather than what it will be. The following are some of the important differences between standard cost and estimated cost

Standard Cost	Estimated Cost
Standard cost emphasizes as what the cost <u>should be</u> in a given set of situations.	Estimated cost emphasizes on what the cost <u>will be</u> .
Standard costs are planned costs which are determined by technical experts after considering levels of efficiency and production	Estimated costs are determined by taking into consideration the historical data as the basis and adjusting it to future trends.
It is used as a devise for measuring efficiency	It cannot be used as a devise to determine efficiency. It only determines expected costs.
Standard costs serve the purpose of cost control	Estimated costs do not serve the purpose of cost control.
Standard costing is part of cost accounting process	Estimated costs are statistical in nature and may not become a part of accounting.
It is a technique developed and recognised by management and academicians	It is just an estimate and not a technique
It can be used where standard costing is in operation	It may be used in any concern operating on a historical cost system.

---

## Standard Costing and Budgeting

Budgeting may be defined as the process of preparing plans for future activities of the business enterprise after considering and involving the objectives of the said organisation. This also provides process/steps of collection and preparation of data, by which deviations from the plan can be measured. This analysis helps to measure performance, cost estimation, minimizing wastage and better utilisation of resources of the organisation. Thus, budgets are prepared on the basis of future estimated production and sales in order to find out the profit in a specified period. In other words Budget is an estimate and a quantified plan for future activities to coordinate and control the uses of resources for a specified period. According to Institute of Cost and Works Accountants, –A budget is a financial and / or quantitative statement prepared prior to a defined period of time, of the Policy to be pursued during that period for the purpose of attaining a given objective.” Budgeting is a process which includes both the functions of budget and budgetary control. Budget is a planning function and budgetary control is a controlling system or a technique. You might have already studied the budgeting in detail in Block 3, under Unit-8: Basic Concepts of Budgeting.

The objective of the standard costing and budgeting is to achieve maximum efficiency and cost control. Under both the systems actual performance is compared with predetermined standards, deviations, if any, are analysed and reported. Budgeting is essential to determine standard costs while standard costing is necessary for planning budgets. Both are complimentary in nature and in determining the results. Besides similarities there are certain differences between standard costing and budgeting which are as follows

	<b>Standard costing</b>		<b>Budgeting</b>
1.	Standard costing is based on technical information and is fixed scientifically.	1.	It is based on standard cost, historical costs and estimates.
2.	Standard costs are used mainly for the manufacturing function and also for marketing and administration functions. Therefore, it does not require functional coordination.	2.	Budgets are prepared for different functional departments such as sales, purchase, production, finance, personnel department. Therefore, it requires functional coordination.
3.	Standard costs emphasises the cost levels which should be reduced	3.	Budgets emphasises cost levels which should not be exceeded.

---



4.	In standard costing variances are usually revealed through accounts.	4.	In Budgeting, variances are not revealed through accounts and control is exercised by putting budgeted figures and actual side by side.
5.	In standard costing, a detailed analysis is needed in case of variances.	5.	No further analysis is required if costs are within the budget.
6.	Standard costing sets realistic yardsticks and therefore, it is more useful for controlling and reducing costs.	6.	Budgets generally set maximum limits of expenditure without considering the effectiveness of expenditure.
7.	Standard cost is revised only when there is a change in the basic assumptions and basis.	7.	Budgeting is done before the beginning of each accounting period.
8.	Standard costs are based on the basis of standards set by management.	8.	Budgets are set on the basis of present level of efficiency.
9.	Standard costing cannot be used partially. Standards will have to be set for all elements of cost.	9.	Budgeting can be done either wholly or partly.
10.	Standard cost is a projection of cost accounts.	10.	Budgeting is a projection of financial accounts.

### Variance Analysis

After the standard costs have been set, the next step is to ascertain the actual cost of each element and compare them with the standard already set. The difference of actual from the standard is Variance. While setting standard specific method of production is to be kept in mind. If a different method of production is adopted, it gives rise to a different amount of cost, thereby causing variance, known as method variance. In standard costing, Variance means the difference between a standard cost and the comparable actual cost incurred during a period. Variance analysis is the process of analysing variances by sub-dividing the total variance in such a way that management can assign responsibility for any off-standard performance. Thus, variance analysis means the measurement of the deviation of actual performance from the desired performance.

Variance may be favourable or unfavourable depending upon whether the actual cost is less or more than the standard cost. If the actual cost is less than the standard cost, the variance is termed as 'favourable' and if the actual cost is more than the standard cost, variance is called as 'unfavourable' or 'adverse' variance. The effect of favourable variance increases the profit and



it is a sign of efficiency of the organisation. On the other hand, unfavourable variance refers to the loss of the business and it is a sign of inefficiency of the organisation.

### **Controllable and Uncontrolled Variances**

The variance may be classified as Controllable and Uncontrollable. Variance is said to be controllable if it is identified as the primary responsibility of a particular person or department. The excessive use of materials or labour hours than the standards can be attributable to a particular person. When the variations are due to the factors beyond the control of the concerned person or department, it is said to be uncontrolled. The rise in prices of materials, increase in wage rates, Govt. restrictions etc., are the examples of uncontrollable variance. These factors are not within the control of the management and the responsibility of the variance cannot be assigned to any particular person or division. The division of variance into controllable and uncontrollable is important from the view point of management as it can place more emphasis on controllable variance and thus facilitates to the principle of management by exception. Standard costing to be more realistic, sometimes the standards set are to be revised on account of changes in uncontrollable factors like wages, materials etc. To take into account these factors into variance, a 'revised variance' is created and the basic standard is allowed to continue. This revision variance is the difference between the standard cost originally set and the revised standard cost.

Finding variance is not the ultimate objective of the standard costing. But their analysis and finding the causes of variance is the ultimate aim to control cost. Control of cost depends on the corrective action taken by the management. The analysis of variance helps the management to locate deficiency and assign responsibility to particular person or cost centre. The next step of the management is to find out the reason for the variance to pin points where necessary, corrective action should be taken over.

### **Direct Material Variances**

Materials constitute most important element of cost. Therefore, utmost care should be taken in purchasing and using the materials. When deviations occur between the standards specified and the actuals the following variances could be calculated:

Direct Material Cost Variance,

---

Direct Material Price Variance, and

Direct Material Usage or Quantity Variance

Let us study the above variances in detail.

a. **Direct Material Cost Variance:**

It is the difference between the standard cost of materials specified for the output achieved, and the actual cost of direct materials consumed. The standard cost of materials is computed by multiplying the standard price with the standard quantity for actual output. The actual cost is computed by multiplying actual price with the actual quantity used. The Direct Material Variance may be calculated with help of the following formula:

**Direct Material Cost Variance (DMCV) = Standard Cost – for actual output Actual Cost**

Where,

Standard Cost = Standard Price per unit X Standard Quantity used for actual output

Actual Cost = Actual Price X Actual Quantity used.

Direct material cost variance arises due to change in price of materials or change in the quantity of material used or both. If the standard cost is more than the actual cost, the variance will be favourable and on the other hand, if the actual cost is more than the standard cost the variance will be unfavourable or adverse.

b. **Direct Material Price Variance:**

Direct Material Price Variance is the difference between actual price and standard price of materials consumed. Material price variance may arise due to the following reasons:

- i) Changes in the prices of materials,
  - ii) Uneconomical size of purchase orders,
  - iii) Failure to purchase materials at proper time,
  - iv) Fluctuations in the cost of transportation and carriage of goods,
  - v) Buying efficiency or inefficiency
-

- vi) Not availing cash discounts when setting standards,
- vii) Purchase of substitute material for non-availability of specified material
- viii) Changes in the duty structure which is forming part of price,
- ix) Inefficiency of purchase department etc.

Some of the above factors are controllable if proper care is exercised by the management. Generally, the Purchase Manager will be held responsible for material price variance. Material price variance will be calculated as follows:

$$\begin{aligned}\text{Direct Material Price Variance} &= \text{Actual Quantity (Standard Price - Actual Price)} \\ &= \text{AQ (SP - AP)}\end{aligned}$$

If the standard price is more than the actual price, the variance would be favourable and in case the actual price is more than the standard price, it shows adverse variance. Adverse material price variance shows that unfavourable prices were paid for materials consumed and the Purchase Manager would be asked to explain the position.

**Material Usage (Quantity) Variance:** Material Usage Variance is that portion of material cost which arises due to the difference between the standard quantity specified and the actual quantity used. In other words, it is the difference between standard quantity for actual output and actual quantity, multiplied by standard price of material. The formula for material usage variance is as follows:

Material Usage Variance (MUV) = Standard Price (Standard Quantity for actual output - Actual Quantity)

$$\text{MUV} = \text{SP (SQ - AQ)}$$

This Variance will be considered favourable when standard quantity is more than actual quantity and vice versa. The production Manager will be held responsible for material usage variance.

Material usage variance will arise due to the following reasons:

- i) Use of sub-standard or defective materials,
  - ii) Carelessness in the use of materials,
  - iii) Use of substitute materials,
-

- iv) Inefficient production methods,
- v) Change in designs than those specified,
- vi) Pilferage of material,
- vii) Use of non-standard mix,

Direct Material Cost Variance is equal to the sum of Direct Material Price Variance and Material Usage Variance. Thus,

**Direct Material Cost Variance = Material Price Variance + Material Usage Variance**

**Classification of Material Usage Variance:**

When more than one type of material is used in producing a product, the total usage variance will be classified into (a) Material mix Variance and (b) Material Yield Variance. Let us study these two variances in detail:

a) **Material Mix Variance:** Material Mix Variance may be defined as that portion of the material usage variance which is due to the difference between the standard and actual composition of material mixture. It means that the cause of variance is due to a change in the ratio of actual material mix from the standard material mix. The variance results from a variation in the materials mix used in production. Material mix variance may arise in those industries where a number of raw materials are mixed in order to produce a final product. Examples are chemical industries, rubber industries etc.

Material Mix Variance is calculated as follows:

Material Mix Variance = (Revised Standard Quantity – Actual Quantity) X Standard Price

Or

RSQ = Total AQ X Standard Ratio

Where,

$$\text{Revised Standard Quantity} = \frac{\text{Standard Qty. for each Material}}{\text{Total Std. Qty for all Material}} * \text{Total of all Materials}$$

If the actual quantity is more than revised standard quantity, an adverse variance will occur and vice versa.

Material mix variance may arise due to the following reasons:

- i) Price actually paid for materials differs from standard prices
- ii) Delay in supply of raw materials
- iii) Non-availability of one or more components of the mix
- iv) Non-purchase of materials at proper time
- v) Inefficiency in production department to use proper mix
- vi) Actual mix may be different from standard mix, etc.

b) **Material Yield Variance (MYV) :** Material Yield Variance is calculated on the basis of output while the other variance are calculated on the basis of input. The variance is calculated as the difference between the standard output and the actual output. If the actual output is more than the standard output, then the variance would be favourable and vice versa. The formula for material yield variance is as follows:

Material Yield Variance = (Actual Yield – Standard Yield) Standard output price

Where, standard output price is the total standard material cost per unit of output,

$$\text{Standard Yield} = \frac{\text{Actual Usage of Material}}{\text{Standard Usage Per Unit of Output}}$$

This variance arises in the case of process industries where loss of material is inevitable in the process of production of final product. Therefore, in these industries normal loss is to be taken into account while setting standards. But the actual loss may be different from the normal loss during the process of actual production. This gives rise to the variance in the standard yield.

The material yield variance may be caused due to the following reasons:

- i) Defective method of operation
  - ii) Purchase of substandard quantity of material
  - iii) Lack of proper care in handling
  - iv) Lack of proper supervision etc.
-

It should be noted that where several types of materials are used Material Revised Usage Variance (MRUV) and Material Yield Variance (MYV) imply the same thing, though both are computed using different formulae.

### **Direct Labour Variances**

The labour directly engaged in the production of a product is known as direct labour. The wages paid to such labour is known as direct wages. For example, the wages paid to a machine operator is a direct labour cost. Labour variances arise when actual labour costs are different from standard labour cost. The setting up of standard direct labour cost will depend upon the following factors:

- a) **Methods of Production:** Standardized methods of production will be decided by studying motion study.
- b) **Labour time standards:** The time taken by different categories of workers is known as Labour time standard it will be ascertained by using past record performance, time and motion study.
- c) **Labour rate standards:** It refers to the expected wage rate to be paid to different categories of workers. While deciding standard labour rate past wage rates, demand and supply of labour, anticipated changes in wage rates etc. should be taken into account. The methods of wage payment like time rates or piece rates and incentive plans are also to be considered while fixing standard labour rate.
- d) **Different grade of labour mix:** Standard proportion of different grades of labour mix is another important factor in setting standard labour cost.

Direct labour variance is the difference between the standard direct labour cost specified for the activity achieved and the actual direct labour cost incurred. It is calculated as follows:

$$\text{Direct Labour Cost Variance} = \text{Standard Labour Cost} - \text{Actual Labour Cost}$$

or

$$= (\text{Std. hours} \times \text{Std. Rate}) - (\text{Actual hours} \times \text{Actual rate})$$

$$= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{AR})$$

Note: When the actual output differs from standard output, standard labour cost of actual output is to be worked out and then the following formula is to be applied:

$$\text{DLCV} = \text{Std. cost of actual production} - \text{Actual cost}$$

Direct Labour Cost Variance is sub-divided into:

1. Labour Rate Variance
2. Labour Efficiency Variance

Labour Efficiency or Time Variance may again sub-divide into:

- a. Labour Idle Time Variance
- b. Labour Mix Variance and Labour Yield Variance

### **Labour Rate Variance**

Labour rate variance is that portion of the usage variance which is due to the difference between standard rate specified and actual rate paid. It is calculated with the help of the following formula:

$$\text{Labour Rate Variance} = (\text{Standard Rate} - \text{Actual Rate}) \times \text{Actual Hours Paid}$$

$$\text{LRV} = (\text{SR} - \text{AR}) \times \text{AHP}$$

The variance will be favourable if actual rate is less than the standard rate and it will be adverse if actual rate is more than the standard rate. The responsibility for labour rate variance lies with the production centre. Labour rate variance is generally uncontrollable.

If the variance is due to wrong grade of labour, the responsibility lies on production foreman.

Labour rate variance arises due to the following reasons:

- i) Change in the basic wage rate of piece-work rate
  - ii) Employment of one or more workers of different grades than the standard grade
  - iii) Payment of more overtime than fixed earlier
  - iv) Higher or lower wage rates paid to casual labourers
  - v) Faculty recruitment and placement of workers
-

- vi) New workers not being paid at full wage rates etc.

### **Labour Time Variance or Labour Efficiency Variance**

Labour efficiency ratio is the difference between the standard labour hours specified for actual output and the actual hours paid for. This variance helps in controlling efficiency of workers and also labour cost. This variance can be calculated as follows:

Labour Efficiency Variance = (Standard hours for actual production – Actual hours worked) X Standard rate

OR

$$(LEV) = (SHAP - AHW) \times SR$$

If actual time taken for doing a work is more than the specified standard time, the variance will be unfavourable and vice versa. Labour efficiency ratio arises due to one or more of the following reasons:

- 1) Defective machinery and equipment
- 2) Lack of proper supervision
- 3) Use of defective or non-standard materials
- 4) Lack of proper training to workers
- 5) Poor working conditions
- 6) Labour turnover or change over of workers from one operation to another.
- 7) Alterations in the methods of production

Labour efficiency variance is the responsibility of Production Manager and is similar to materials usage variance. Both these variance measure the difference in performance.

### **Classification of Labour Efficiency Variance**

Labour efficiency variance can be further sub-divided into:

- 1) Labour Idle Time Variance
  - 2) Labour Mix Variance
-



### 3) Labour Yield Variance

#### **Labour Idle Time Variance**

Labour Idle time variance is a sub-variance of labour efficiency variance. It is the standard wage payable during the idle hours due to abnormal circumstance like strikes, lockout, break-down or machinery, power cut, shortage or raw materials etc. The abnormal idle time should be separated from the labour efficiency variance as it is due to the reasons beyond the control of workers. Otherwise it will show inefficiency on the part of workers. This variance will always be adverse. It is calculated as follows:

Idle Time Variance = Idle Hours X Standard Rate

ITV = IH X SR

#### **Labour Mix Variance**

It is also known as Gang composition Variance. It is similar to Material Mix variance and is a part of labour efficiency variance. Labour mix variance arises only when two or more different types of workers employed and the composition of actual grade of workers differ from the standard composition of workers. The change in the labour composition may be due to shortage of one grade of labour. This variance indicate how much labour cost variance is there due to the change in labour composition. It is calculated with the help of the following formula:

Labour Mix Variance = Standard Cost of Standard Mix – Standard Cost of Actual Mix

LMV = SCSM – SCAM,

Or

Labour Mix Variance = (Revised Standard – Actual Hours Worked) X Standard Rate

Symbolically,

LMV = (RSH – AHW) X SR

Where,

*RSH = Actual Total Hours Worked \* Standard Ratio of Workers*

$$RSH = \frac{\text{Std. Hours of the grade}}{\text{Total Standard Hours}} * \text{Total Actual Hours Worked}$$

---

Where,

Actual Hours Worked = Actual hours – Idle Time

If the actual hours taken are less than the revised standard hours, the variance is favourable, and vice versa.

### Labour Revised Efficiency Variance (LREV)

This variance arises due to the difference between the total actual hours taken and the total standard hours specified for the actual output. This variance is a sub-variance of labour efficiency variance. It arises when there is difference between actual hours paid and actual hours worked, there will be revised efficiency variance and idle time variance. The formula for Labour Revised Efficiency Variance is:

$$\text{LREV} = (\text{Standard Hours for Actual output} - \text{Revised Standard Hours}) \times \text{Standard Rate}$$

Where,

$$\text{RSH} = \frac{\text{Standard Hours of the grade}}{\text{Total Standard Hours}} * \text{Total Actual Hours Paid}$$

Or

$$= \text{Total Actual Hours Paid} \times \text{Standard Ratio}$$

### Labour Yield Variance (LYV)

It is similar to Material Yield Variance. It studies the impact of actual yield on labour cost where output varies from the standard. The formula for LYV is:

Labour Yield Variance = (Actual yield – Standard yield) X Standard labour cost per unit of output

Where,

$$\frac{\text{Standard Output}}{\text{Total AH}} * \text{AHW} = \text{Std. Yield}$$

$$\text{Std. Labour Cost Per Unit} = \frac{\text{Standard Cost}}{\text{Standard Output (Units)}}$$

If the standard yield is more than the actual yield the variance will be adverse and vice versa.

### **Overhead Variances**

After having studied the variance analysis consisting of material and labour variances. Let us proceed to analysis of variances relating to overheads. Now the overheads variance analysis is different from variance analysis relating to materials and labour. Here the overheads and inputs are already determined. These pre-determined overheads and inputs are called the standard. The overhead is considered in terms of predetermined rate and is applied to the input. There can be different bases for the absorption of overheads e.g., labour hours, machine tools, output (in units), etc.

Overhead variances may be classified into fixed and variable overhead variances and fixed overhead variance can be further analysed according to the courses. In case of variable overheads, it is assured that variable overheads vary directly with production so that any change in expenditure can affect costs. Some authors say that a variance may arise through inefficiency, but as these costs are usually very small per unit of output, it is to be ignored and any variance in variable overhead is attributed to expenditure variance. Considering the fixed overheads cost, the difficulty arises in determining standard overhead rates. This is so because this is dependent on the volume or level of activity. Any change in volume or level of activity causes a change in the overhead rate. Therefore the fixing the volume or level of activity is a crucial aspect in determining standard overhead rate. Now if the management decides to change the normal volume or level of activity, without a corresponding change in the fixed amount of overheads, then a change occurs in the overhead rate. Here it may be noted that in the case of material or labour variances, the volume decision does not in any way influence the fixation of standard rate. So to resolve this problem, normally the Budget is used in place of the standard.

Another important thing to be noted in case of overhead analysis is that different writers use different modes of computation of overhead variance and also different terminologies. E.g. spending variance is same as expenditure variance and volume variance is same as capacity variance.

After having discussed the preliminary aspect of overhead variance, now we go about the analysis of the overhead cost variances.

---

Overhead cost variance is the difference between standard cost of overhead absorbed in the output achieved and the actual overhead cost. Simply, it is the difference between total standard overheads absorbed and total actual overheads incurred. Therefore, the formula for overhead cost variance is as follows:

Overhead Cost Variance (OHCV) = Total Standard Overheads – Total Actual Overheads

The overhead cost variance may be divided into variable overhead cost variance and fixed overhead cost variance. Fixed cost variance may be further divided as fixed expenditure variance and fixed volume variance. Fixed volume variance may again be sub-divided into efficiency variance, capacity variance and calendar variance. Let us study, how these variances are calculated.

#### **Variable Overhead Cost Variance (V.OH.C.V):**

This variance is the difference between the standard variable overhead and the actual variable overhead. The formula is:

Variable Overhead Cost Variance = Standard Variable overhead for actual output – Actual Variable Overhead

Where,

Standard Variable Overhead = Standard hours allowed for actual output X Standard Variable Overhead Rate

$$\text{Std. Variance OH Rate} = \frac{\text{Standard Variable Overheads}}{\text{Standard Output}}$$

It is stated earlier that there are two basic variances, price and volume. If volume does not affect the cost per unit the only variance to be calculated is price variance known as the variable overhead variance. But when assumed that variable overheads do not move directly with output, the variable overhead variances are to be calculated on similar lines as to fixed overhead variances which you will study later. In this unit, we are assuming that variable overheads do change directly with the output and infact it is the practice that many firms follow and by a number of writers on the subject.

Variable overhead cost variances arise due to the following reasons:

---

- 1) Advance payment of overheads
- 2) Outstanding overheads during the current period
- 3) Payment of past outstanding overheads during the current period

### **Fixed Overhead Variances**

The treatment of these variances differ from that of variable overhead variable because of the fact that the fixed overheads are incurred anyway and do not vary with change in production levels. These have to be apportioned to production on a basis. Now the standard recovery rate is fixed by considering the budgeted fixed overhead by budgeted or normal volume, regardless of actual activity. It also can be on the basis of management's idea of normal volume, which may considerably differ from actual volume or even actual time taken. So when overheads are actually incurred, they may be over recovered or under-recovered. This over or under recovery is known as the variance. Now this variance can be on the basis of output (in units) or standard time

### **Fixed Overhead Variance**

It is also called fixed overhead cost variance by some writers, and represents the total fixed overhead variance. Actually it is the difference between the Standard fixed overhead charged on the basis of actual fixed overhead.

Symbolically we can express it as:

Fixed Overhead Variance = Standard Fixed Overhead – Actual Fixed Overheads

Fixed Overhead Variance may be further subdivided into two:

- 1) Fixed overhead volume variance
- 2) Fixed overhead expenditure variance

1) Fixed Overhead Volume Variance: Also called as activity variance by some writers, this is the difference between the Budgeted hours based on normal volume and the standard hours for actual output. Now the variance occurs because all the overheads cannot actually be absorbed or may be over absorbed in some cases.

Symbolically we can compute this variance as follows:

---

Fixed overhead volume variance = Standard Rate of recovery of fixed overheads X (Standard hours – Budgeted hours)

Where,

$$\text{Standard Rate of Recovery of Fixed OH} = \frac{\text{Budgeted fixed Overheads}}{\text{Budgeted Hours}}$$

### **Classification of Fixed overhead volume**

Fixed overhead volume variance can be sub-divided into:

- i) Fixed overhead efficiency variance
- ii) Fixed overhead calendar variance
- iii) Fixed overhead capacity variance

i) Fixed Overhead Efficiency Variance: This is the difference between actual hours taken to complete a work and standard hours that should have been taken to complete a work and standard hours that should have been taken to complete the work.

It measures the efficiency of performance. Symbolically we can express it as

Fixed overhead efficiency variance

$$= \text{Standard fixed rate of recovery} \times (\text{Standard Hours} - \text{Actual hours})$$

ii) Fixed Overhead Calendar Variance: This variance arises due to the actual time consumed, expressed in terms of hours or days as the case may be, being different from standard time that should have been taken. In other words, it is due to the difference between the number of working days in the budgeted period and the number of actual working days in the period to which the budget is applied. This variance is obtained by multiplication of the standard rate of recovery of fixed or overhead by difference between revised budgeted hours and budgeted hours.

Symbolically it can be expressed as:

Fixed Overhead Calendar Variance

$$= \text{Standard Rate of Recovery of fixed overheads (per hour)} (\text{Revised Budgeted Hours} - \text{Budgeted Hours}) \text{ or}$$

= (Actual no. of working days – Standard no. of working days) X Standard rate of recovery of fixed overheads (per day)

The calendar variances arise due to the extra holidays declared to celebrate the anniversary of the firm or on the death of a national leader or any other reason. It arises only in exceptional circumstances as normal holidays are taken into account while setting the standards. When there is no change in the working days then there should be no need for a calendar variance. Generally, this variance is adverse, but sometimes it shows favourable variance where there are extra working days.

iii) Fixed Overhead Capacity Variance: This variance arises due to difference between Revised Budgeted Hours and the actual hours taken multiplied by the standard rate of recovery of fixed overheads. Symbolically we can express this as:

Fixed overhead capacity variance = Standard rate of recovery of fixed overheads X (Actual hours – Revised Budgeted hours)

Where, Revised Budgeted Hours = Standard hours per day X Actual no. of days

This variance arises when there is difference between utilization of plant capacity of planned and actual utilization of plant capacity. It may be due to the factors like idle time, strikes, power failure etc. This variance can be both favourable as well as unfavourable. If the actual hours worked is more than revised budgeted hours it is favourable and vice versa.

Check:

Fixed overhead volume variance = Fixed overhead efficiency variance + Fixed overhead capacity variance + Fixed overhead calendar variance

Note: When there is no calendar variance, the calculation of capacity variance has to be modified as follows:

Capacity variance = Standard Rate of recovery of fixed overheads X (Actual hours – Budgeted Hours)

Check

Fixed overhead Volume Variance = Efficiency Variance + Capacity Variance

---

## **Module V**

Demerits of Traditional Costing, Activity Based Costing, Cost Drivers, Cost Analysis under ABC (Unit level, Batch level and Product Sustaining Activities), Benefits and weaknesses of ABC, Simple Problems under ABC.

---

### **Introduction**

To support compliance with financial reporting requirements, a company's traditional cost-accounting system is often articulated with its general ledger system. In essence, this linkage is grounded in cost allocation. Typically, costs are allocated for either valuation purposes (i.e., financial statements for external uses) or decision-making purposes (i.e., internal uses) or both. However, in certain instances costs also are allocated for cost-reimbursement purposes (e.g., hospitals and defense contractors).

The traditional approach to cost-allocation consists of three basic steps: accumulate costs within a production or nonproduction department; allocate nonproduction department costs to production departments; and allocate the resulting (revised) production department costs to various products, services, or customers. Costs derived from this traditional allocation approach suffer from several defects that can result in distorted costs for decision-making purposes. For example, the traditional approach allocates the cost of idle capacity to products. Accordingly, such products are charged for resources that they did not use. Seeking to remedy such distortions, many companies have adopted a different cost-allocation approach called activity-based costing (ABC).

### **Activity-Based Costing**

In contrast to traditional cost-accounting systems, ABC systems first accumulate overhead costs for each organizational activity, and then assign the costs of the activities to the products, services, or customers (cost objects) causing that activity. As one might expect, the most critical aspect of ABC is activity analysis. Activity analysis is the processes of identifying appropriate output measures of activities and resources (cost drivers) and their effects on the costs of making a product or providing a service. Significantly, as discussed in the next section, activity analysis provides the foundation for remedying the distortions inherent in traditional cost-accounting systems.

---



## **Traditional Cost Accounting Systems Versus ABC**

Geared toward compliance with financial reporting requirements, traditional cost-accounting systems often allocate costs based on single-volume measures such as direct-labor hours, direct-labor costs, or machine hours. While using a single volume measure as an overall cost driver seldom meets the cause-and-effect criterion desired in cost allocation, it provides a relatively cheap and convenient means of complying with financial reporting requirements.

In contrast to traditional cost-accounting systems, ABC systems are not inherently constrained by the tenets of financial reporting requirements. Rather, ABC systems have the inherent flexibility to provide special reports to facilitate management decisions regarding the costs of activities undertaken to design, produce, sell, and deliver a company's products or services. At the heart of this flexibility is the fact that ABC systems focus on accumulating costs via several key activities, whereas traditional cost allocation focuses on accumulating costs via organizational units. By focusing on specific activities, ABC systems provide superior cost allocation information—especially when costs are caused by non-volume-based cost drivers. Even so, traditional cost-accounting systems will continue to be used to satisfy conventional financial reporting requirements. ABC systems will continue to supplement, rather than replace, traditional cost-accounting systems.

### **Implementation**

In most cases, a company's traditional cost-accounting system adequately measures the direct costs of products and services, such as material and labor. As a result, ABC implementation typically focuses on indirect costs, such as manufacturing over-head and selling, general, and administrative costs. Given this focus, the primary goal of ABC implementation is to reclassify most, if not all, indirect costs (as specified by the traditional cost-accounting system) as direct costs. As a result of these reclassifications, the accuracy of the costs is greatly increased.

According to Ray H. Garrison and Eric W. Noreen, there are six basic steps required to implement an ABC system:

1. Identify and define activities and activity pools
  2. Directly trace costs to activities (to the extent feasible)
-

3. Assign costs to activity cost pools
4. Calculate activity rates
5. Assign costs to cost objects using the activity rates and activity measures previously determined
6. Prepare and distribute management reports

## Costs & Benefits

While ABC systems are rather complex and costly to implement, Charles T. Horngren, Gary L. Sundem, and William O. Stratton suggest that many companies, in both manufacturing and nonmanufacturing industries, are adopting ABC systems for a variety of reasons:

1. Margin accuracy for individual products and services, as well as customer classifications, is becoming increasingly difficult to achieve given that direct labor is rapidly being replaced with automated equipment. Accordingly, a company's shared costs (i.e., indirect costs) are becoming the most significant portion of total cost.
2. Since the rapid pace of technological change continues to reduce product life cycles, companies do not have time to make price or cost adjustments once costing errors are detected.
3. Companies with inaccurate cost measurements tend to lose bids due to over-cost products, incur hidden losses due to under-costed products, and fail to detect activities that are not cost-effective.
4. Since computer technology costs are decreasing, the price of developing and operating ABC systems also has decreased.

In 2004 John Karolefski cited the following benefits realized by foodservice distributors and restaurants that have converted to activity-based costing practices:

1. Understanding the true costs and productivity of capital equipment
  2. Understanding which products are most profitable and where to focus sales efforts
  3. More accurate pricing and determination of minimum order size
  4. Less time, money, and effort spent on the wrong products
-

Implementation costs are an obstacle to some, who feel that ABC is just a fad or will show little benefit. According to Karolefski, "ABC works better if it's kept simple" (2004, pp. 18). Nevertheless, when implemented properly ABC yields benefits to the company, its business partners, and to consumers.

### **Activity-Based Management**

In order to manage costs, a manager should focus on the activities that give rise to such costs. Accordingly, given the activity focus of ABC, managers should implement ABC systems in order to facilitate cost management. Using ABC systems to improve financial management is called activity-based management (ABM). The goal of ABM is to improve the value received by customers and, in doing so, to improve profits.

The key to ABM success is distinguishing between value-added costs and non-value-added costs. A value-added cost is the cost of an activity that cannot be eliminated without affecting a product's value to the customer. In contrast, a non-value-added cost is the cost of an activity that can be eliminated without diminishing value. Some value-added costs are always necessary, as long as the activity that drives such costs is performed efficiently. However, non-value-added costs should always be minimized because they are assumed to be unnecessary. Examples of non-valued-added activities include storing and handling inventories; transporting raw materials or partly finished products, such as work-in-process inventory items, from one part of the plant to another; and redundancies in production-line configurations or other activities. Oftentimes, such non-value activities can be reduced or eliminated by careful redesign of the plant layout and the production process.

### **Responsibility Accounting**

As the title suggests, responsibility accounting is a cost accounting system established on a responsibility basis. A basis is said to be responsible where actual results are as close to planned results as possible. As such, the variances are minimal. Planned results could be stated in budgets and standards. Properly speaking, responsibility accounting is a method of budgeting and performance reporting created around the structure of the organization. Individual managers

---

are hold accountable for the costs within their jurisdiction. The purpose, obviously, is to exercise control over the operations.

Hence, in simple words, it could be described as a system of collecting and reporting accounting data on the basis of managerial level. Moore and Jaedicke rightly define it as –the approach to accountability- identification of cost, with the persons responsible for their incurrence. Performance is evaluated by assigned responsibilities. Reporting on performance is on the lines of organizational structure. There is a separate report for each box of the organization chart.

Responsibility accounting considers both historical and future costs. For some purposes, the activity of responsibility centres is expressed in historical amounts. For others, these are expressed in estimated future amounts.

## **Module VI**

Cost Audit – Objectives, Advantages, Areas and Scope of Cost Audit, Cost Audit in India – Practical – Read the contents of the report of Cost Audit and the annexure to the Cost Audit Report.

Management Audit – Aims and the objectives, Scope of Management Audit.

---

### **Cost Audit**

The institute of cost and management accountants, London says –“Cost audit is the verification of cost accounts and a check on the adherence to cost accounting plan”. The term stands for a detailed checking of the costing records system and techniques of periodical intervals with a view to verifying their correctness. It seeks to ensure that all the routines and directions relating to cost accounts have been duly compiled with and the cost has been correctly ascertained with reference to the circumstances and relevant data available.

### **Cost audit procedure**

A cost auditor flows more or less the same procedure as the financial auditor and could be stated as below

- An audit programme is laid down and observed
- Only a proportion of day to day transactions are checked .fully checking is undertaken only when amounts are large or precisely exact analysis is insisted upon
- Audit note sheets are compiled
- Unusual items are examined and queries followed up until the auditor is certain that he has obtained the full explanation.

### **Merits of cost audit**

- Improves performance
  - Cost audit reports are highly desirable basis to enter into contract
  - It reveals centers of excessive costs
  - Helps in Fair pricing policy
  - Helps in inter and intra firm comparison
-

## Overview

India was the first country in South Asia (and perhaps in the world) to make cost audit mandatory for some of its business sectors. The Institute of Cost and Works Accountants of India (ICWAI) refers to cost audit as an audit of efficiency of minute details of expenditure while the work is in progress and not a post-mortem examination. Objectives of cost audit include the determination and control of cost together with providing data for making judgements and decisions on various matters, such as operational efficiency. GOI has added industries involved in the manufacturing of plantation products together with the petroleum and telecommunication industries in 2002 to the list of industries requiring mandatory cost audits.

## Objectives

From the perspective of management: Cost audit detects errors, frauds and misappropriation and hence enhances efficiency. 2. From the perspective of shareholders: Cost audit ensures that the valuation of closing stock and work-in-progress are correct, hence helps in the computation of more accurate profit figures. 3. From the perspective of the government: To curb the profiteering by the manufacturing concerns and help in the decision to provide tariff protection to any industry. 4. From the perspective of customers: Customers may obtain more benefit if the cost is reduced due to effective control, implemented as a result of a cost audit. 5. From the perspective of cost accountants: Cost accountants, who are employees of a company, obtain a share of all benefits derived by the company from a cost audit.

## Financial Audit vs Cost Audit

- **Financial Audit** :The Companies Act 1956, which has been amended several times, and is now known as Companies (Amendment)/(Second Amendment) Act 2002 contains the detailed provisions concerning the preparation of annual accounts and reporting.
  - **Cost Audit** :A cost accountant offers to perform or perform services concerning the costing or pricing of goods and services or the preparation, verification or certification of cost accounting and related statements.
  - **COST AUDIT PROGRAMME** The Cost Auditor should pay his attention to the following records: Record of Materials Labour Records Record of Overhead Charges
-

Depreciation Work-in-Progress Records Incomplete Records Stores and Spare Parts Records

### **Cost Audit (Report) Rules, 1996**

\* This Rules have been amended vide the Cost Audit Report Rules 2001, dated 27.12.2001, notification No.G.S.R. 924(E)

In exercise of the powers conferred by sub-section (4) of section 233B, read with sub-section (1) of section 227 and clause (b) of sub-section (1) of section 642, of the Companies Act, 1956 (1 of 1956), and in supersession of the Cost Audit (Report) Rules, 1968, except as respect things done or omitted to be done, before such supersession, the Central Government hereby makes the following rules, namely:-

#### 1. Short title and commencement-

- (1) These rules may be called the Cost Audit (Report) Rules, 1996.
- (2) They shall come into force on the date of their publication in the Official Gazette.

#### 2. Definitions

In these rules, unless the context otherwise requires,

- (a) "Act" means the Companies Act, 1956 (1 of 1956) ;
- (b) "Cost Auditor" means an auditor appointed under sub-section (1) of section 233B of the Act;
- (c) "Form" means the Form of Cost Audit Report specified in the Schedule ; and includes Annexure to the Cost Audit Report and Proforma specified in the Schedule.
- (d) "Product under reference" means the product to which the rules made under clause (d) of sub-section (1) of section 209 of the Companies Act, 1956 (1 of 1956) apply;
- (e) "Schedule" means Schedule annexed to these rules ;
- (f) All other words and expressions used in these rules but not defined, and defined in the

Act and rules made under section 209 of the Act shall have the same meanings respectively assigned to them in the Act or rules, as the case may be.

#### **Application –**

---

These rules shall apply to every company in respect of which an audit of the cost accounting records has been ordered by the Central Government under sub-section (1) of section 233B of the Act.

#### **4. Form of Report-**

(1) Every Cost Auditor who conducts an audit of the cost accounting records of the company shall submit a report in triplicate to the Central Government in the Form (including Annexures and proforma) in accordance with the procedure specified in the Schedule annexed to these rules and at the same time forward a copy of the report to the company.

(2) Every Cost Auditor, who submits a report under sub-rule (1), shall also give clarifications, if any, required by the Central Government on the Cost Audit Report submitted by him, within thirty days of receipt of the communication addressed to him calling for such clarifications.

#### **5. Time limit for submission of report -**

The Cost Auditor shall send his report referred in sub-rule (1) of rule 4 to the Central Government and to the concerned company within one hundred and eighty days from the end of the company's financial year to which the Cost Audit Report relates.

#### **6. Cost auditor to be furnished with the cost accounting records, etc.**

(1) Without prejudice to the powers and duties the Cost Auditor shall have under sub-section (4) of section 233B of the Act, the company and every officer thereof, including the persons referred in sub-section (6) of section 209 of the Act, shall make available to the Cost Auditor within ninety days from the end of the financial year of the company such cost accounting records, cost statements, other books and papers that would be required for conducting the cost audit, and shall render necessary assistance to the Cost Auditor so as to enable him to complete the cost audit and send his report within the time limit specified in rule 5.

(2) If the cost accounting records, cost statements, other books and papers are not made available by the company within the time limit specified in sub-rule (1), the Cost Auditor shall intimate the fact of not having made available to him such records, statements, books and papers to the Central Government within ten days after expiry of time limit of ninety days specified in sub-rule (1).

---



## **7. Penalties -**

(1) If default is made by any Cost Auditor in complying with the provisions of rule 4 or rule 5, he shall be punishable with fine which may extend to five hundred rupees.

(2) If a company contravenes the provisions of rule 6, the company and every officer of the company including the persons referred to in sub-section (6) of section 209 of the Act, who is in default, shall, subject to the provisions of section 233B of the Act, be punishable with fine which may extend to five hundred rupees and where the contravention is a continuing one, with a further fine which may extend to fifty rupees for every day after the first day during which period such contravention continues.

## **8. Saving-**

Saving of action taken or that may be taken for contravention of the Cost Audit (Report)

Rules, 1968- It is hereby clarified that the supersession the Cost Audit (Report) Rules, 1968, as amended from time to time, shall not in any way affect-

- (i) any right, obligation or liability acquired, accrued or incurred there under ;
- (ii) any penalty, forfeiture or punishment incurred in respect of any contravention committed there under ;
- (iii) any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty, forfeiture or punishment as aforesaid, and ; any such investigation, legal proceeding or remedy may be instituted, continued or enforced and any such penalty, forfeiture or punishment may be imposed as if those rules had not been superseded.

## **ANNEXURE TO THE COST AUDIT REPORT**

[See rule 2(c) and 4]

### **1. General**

- (1) Name and address of the registered office of the company whose accounts are audited.
  - (2) Name and address of the Cost Auditor.
  - (3) Reference number and date of Government Order under which the audit is conducted.
-

(4) Reference number and date of the Government letter approving the appointment of the Cost Auditor.

(5) The company's financial year for which the Audit Report is rendered.

(6) Location of factory/factories.

(7) Date of first commencement of commercial production of the product under reference.

(If more than one factory under the same company produces the product under reference, particulars in respect of each may be given).

(8) If the company is engaged in other activities besides the manufacture of the product under reference, give a brief note on the nature of such other activities.

(9) A copy of the Annual Report, along with the audited Profit and Loss Account and Balance Sheet in respect of the company's financial year for which the report is rendered, shall be enclosed with the Cost Audit Report.

## **2. Cost Accounting System**

(1) Briefly describe the cost accounting system existing in the company and comment on the same, keeping in view the requirements of the Cost Accounting Records Rules applicable to the class of companies manufacturing the product under reference and also its adequacy or otherwise to determine correctly the cost of production of the product.

The description of the system shall cover, inter alia, the procedure for accounting of materials, labour, depreciation, overheads and their allocation apportionment and absorption to products, treatment of by-products, joint products, scrap etc. Specify persistent deficiencies in the system pointed out in earlier reports but not rectified.

(2) Give specific comments on the inventory valuation system followed for raw materials, for work-in progress and for finished products in respect of the product under reference.

(3) Briefly specify the changes, if any made in the costing system, method of overhead allocation, apportionment, etc. during the current financial year as compared to the previous financial year.

## **3. Financial Position**

---

Indicate separately the particulars of amounts in respect of each items (1)(a), (2), (3)(a) and 4(a) mentioned below, duly reconciled with the financial accounts of the company and in respect of each item 1(b), 3(b), 4(b), 5 and 6 mentioned below duly reconciled with cost accounts of the company.

(1) Capital employed - Capital employed as average of fixed assets at net book values (excluding intangible assets, value of revalued fixed assets, investment outside the business, capital works in progress, miscellaneous expenditure and losses) and current assets minus current liabilities existing at the beginning and close of the financial year.

(a) For the company as a whole ; and

(b) For the product under reference.

(2) Net Worth- Net-worth as share capital plus reserves and surplus (excluding revaluation reserve) less accumulated losses and intangible assets. If there is any change in the composition of the net worth during the current financial year of reporting, special mention may be made with the reasons there for.

(3) Profit- Profit as the profit after providing for depreciation and all other expenses except interest on borrowings including debentures but before providing for taxes on income :-

(a) For the company as a whole; and

(b) For the product under reference.

**Note:-**

The profit arrived at for the company and the product shall not include interest received on investments outside the business, capital gains, and any other income which is neither normal nor of recurring nature. The profit so arrived shall be the normal profit earned during the current financial period of the company.

(4) Net sales-

Define net sales as sales excluding sales returns, excise duties, sales tax, octroi and other local taxes :-

(a) For the company as a whole; and

---

(b) For the product under reference.

(5) Operating profit-

Define operating profit as the excess of the operating revenue over the operating expenses for the product under reference.

(6) Value addition-

Define value addition as the difference between the net output value (net sales) and cost of bought out materials and services for the product under reference.

(7) Ratios-

Indicate ratios expressed in terms of value in rupees and as percentage separately in respect of following, namely:-

(a) For the company as a whole;

(i) Profit arrived at item 3(3)(a) to capital employed as per item 3(1)(a) ;

(ii) Profit arrived at item 3(3)(a) to net sales as per item 3(4)(a) ;

(iii) Current assets to current liabilities;

(iv) Net worth arrived at item 3(2) to capital employed as per item 3(1)(a) ;

(v) Net worth arrived at item 3(2) to long term borrowings and liabilities.

(b) For the product under reference:

(i) Profit arrived at item 3(3) (b) to capital employed as per item 3(1) (b) ;

(ii) Profit arrived at item 3(3) (b) to net sales as per item 3(4) (b);

(iii) Operating profit arrived at item 3(5) to

(a) Capital employed as per item 3(1) (b);

(b) Net sales as per item 3(4) (b) ; and

(c) Value addition as per item 3(6);

(iv) Value addition arrived at item 3(6) as a percentage of net sales as per item 3(4)(b) ;

---

(v) Working capital requirement in terms of number of months of cost of sales excluding depreciation.

#### **4. Production**

The following information is to be given for each type of product under reference and for each factory, namely :-

- (1) Licensed/registered capacity (give reference to licence/registration number, etc.)
- (2) Installed capacity.
- (3) Production capacity enhanced by leasing and all details of added capacities and other utilisations.
- (4) Actual Production.
- (5) Percentage of production to installed capacity.

#### **Notes-**

- (i) It should be clarified whether the installed capacity is on single shift or multiple shift basis..
- (ii) In order to have a meaningful comparison of production and installed capacity wherever necessary, these should also be expressed in appropriate units e.g. standard hours or equipment/plant/vessel occupancy hours, crushing hours, spindle/loom shifts etc. If there is any shortfall in production of the product under reference as compared to the installed capacity, brief comments should be furnished as to the reasons for the shortfall bringing out clearly the extent to which they are controllable both in short term as well as long term

#### **5. Process of manufacture**

A brief note regarding the process of manufacture along with a flow chart of the product under reference shall be given.

#### **6. Raw materials.**

- (1) Show the cost of major raw materials (raw materials constituting eighty per cent and more of the total raw material cost) consumed both in terms of quantity and value.
-

Where the cost of transport, etc. of raw material is significant, specify the same separately. In the case of imported raw materials, FOB value, ocean freight, insurance, customs duty and inland freight charges may be indicated. If both indigenous and imported materials are consumed, the percentage mix of the same may be indicated for each item

- (2) (a) Quantity of consumption of major raw materials (raw materials constituting eighty per cent and more of the total raw material cost) per unit of production ;
- (b) Standard requirement/theoretical norm per unit of production in terms of quantity ;
- (c) Explanation for variations, if any, in the quantity of consumption of major raw materials (raw materials constituting eighty per cent and above of the total raw material cost) per unit of production as compared to standard consumption/theoretical requirement, and also of the consumption of the preceding two years ;
- (d) Indicate the value of raw materials and components, finished and semi-finished which have not moved for over twelve months and above and indicate their proportion to the value of stock at the end of the year.

### **7. Power and fuel**

- (1) Give details of quantity, rate per unit and total cost in respect of each major form of power and fuel used in production e.g. coal, furnace oil, electricity (separately for purchased and generated) and other utilities separately.
- (2) Compare the actual physical consumption per unit of production of the product under reference with standards/budgeted if any and with the preceding two years consumption and give comment on the differences, if any, noticed.
- (3) Give impact on the unit cost of production of the product under reference due to measures taken for the conservation or energy.

### **8. Wages and salaries**

- (1) Give total wages and salaries paid for all categories of employees, separately in respect of the following ; namely :-
    - (a) direct labour cost on production ;
-

- (b) indirect employee costs on production ;
  - (c) employee costs on administration ;
  - (d) employee costs on selling and distribution ;
  - (e) other employee costs, if any (specifying purpose) ;
  - (f) total employee costs [Total of items (a) to (e) above].
- (2) Total mandays of direct labour available and actually worked for the year.
  - (3) Average number of workers employed for the year.
  - (4) Direct labour cost per unit of output of the product under reference (if more than one type of product, give information in respect of each).
  - (5) Brief explanation for variation in item 8(4) above, if any, as compared to the previous two years.
  - (6) Comments on the incentive schemes, if any, with particular reference to its contribution towards increasing productivity and its effect on cost of production.

### **9. Repairs and maintenance**

- (1) Furnish the expenditure per unit of output of the product under reference separately for the current financial year and for the preceding two financial years for the following namely :-
  - (a) stores and spares ;
  - (b) labour charges ;
  - (c) outside contract repair charges.
- (2) Indicate the amount and also the proportion of closing inventory of stores and spare parts Representing items which have not moved for over twenty-four months.

### **10. Depreciation**

- (1) State the method of depreciation adopted by the company. If the company has not provided in full for the depreciation worked out in accordance with the provisions of sub-section 2 of section 205 of the Companies Act, 1956, the extent of amount included or excluded in the cost statement shall be indicated.
-

(2) State the basis of apportionment of depreciation on common assets to the different departments/cost centres and final absorption in the product (s) under reference.

**Note-**

The depreciation, if any, provided on the amount of revalued assets shall not form part of cost of production

**11. Overheads**

(1) Give separately the total amounts of the following overheads both for the company and factory and the product under reference, namely:-

- (a) Factory overheads;
- (b) Administration overheads;
- (c) Selling overheads;
- (d) Distribution overheads;

(2) Indicate the basis followed for allocation and apportionment of the common overheads including head office expenses to the product, capital works and other activities of the company.

(3) Indicate the basis adopted for absorption of overheads to the cost centres and products.

(4) Indicate reasons for any significant variations in the overheads incurred in respect of item 11(1) as compared with the previous two financial years.

**12. Sales:-**

(1) Indicate the sales in quantities and net sales realisation of the product under reference showing the average sales realisation per unit. (If more than one type of product is sold, information to be given in respect of each).

(2) If product under reference is exported, give details of quantity exported, net realization per unit, countries to which exported and also indicate the profit/loss incurred in exports.

(3) Where the product (such as sugar, drugs etc.) is sold at different prices in accordance with government policy, sales realisation of each product at different prices shall be shown separately along with quantity and value. Also indicate profit or loss per unit of production separately.

---



(4) Indicate whether net sales realisation includes cost of packing, freight and delivery charges, recoverable from the customers or not.

### **13. Abnormal non-recurring costs**

If there were any abnormal features affecting production during the year e.g. strikes, lock outs, major break downs in the plant, substantial power, cuts, serious accidents, etc. they shall, wherever practicable, be briefly mentioned indicating their effect on the unit cost of production.

### **14. Auditor's observations and conclusions**

A. (1) The Cost Auditor shall report on-

- (a) matters which appear to him to be clearly wrong in principle or apparently unjustifiable ;
- (b) cases where the company's funds have been used in a negligent or inefficient manner ;
- (c) factors which could have been controlled but have not been done resulting in increase in the cost of production ;
- (d) contracts or agreements, if any, between the company and other parties relating to selling, purchasing, etc. by bringing out any peculiar features, undue benefits ;
- (e) the adequacy or otherwise of budgetary control system, if any, in vogue in the company.

(2) The Cost Auditor shall suggest measures for improvements in performance, if any, in respect of the following, namely :-

- (a) rectification of general imbalance in production facilities ;
  - (b) fuller utilisation of installed capacity ;
  - (c) concentration on areas offering scope for ;
    - (i) cost reduction ;
    - (ii) increased productivity ;
    - (iii) key limiting factors causing production bottlenecks ;
-

(d) improved inventory policies.

(3) The Cost Auditor may give his other observations and conclusions, if any, relevant to the cost audit.

(4) The report, suggestions, observations and conclusions given by the Cost Auditor under this paragraph shall be based on verified data, reference to which shall be made here and shall, wherever practicable, be included after the company has been afforded an opportunity to comment on them.

B. (1) If as a result of the examination of the books of account, the Cost Auditor desires to give a qualified report, he shall indicate the extent to which he has to qualify the report and the reasons there for.

(2) A statement showing the reconciliation of the profit or loss as indicated in paragraph 3(3)(a) with the profit or loss relating to the product under reference as arrived at on the basis of the cost statements annexed to the report and also the net sales realisation as indicated in item 12(1) shall be appended by the Cost Auditor.

(3) Cost Auditor shall give figures for the year under audit and for the two preceding years in respect of paragraphs 3, 4, 6, 7, 8, 9, 11 and 12

(4) If the company has more than one factory producing the product under reference, Cost Auditor shall give separately details indicated in the Annexure for each factory.

(5) If different varieties/types of products under reference are manufactured by the company, Cost Auditor shall give details of cost in respect of each variety, type of such product in the Annexure and Proforma.

(6) The matters contained in the Annexure and Proforma shall be duly authenticated by the Cost Auditor.

(7) The Cost Auditor shall ensure that the report along with Annexures and Proforma is to be neatly stitched and bound in a file and sent by registered post or otherwise delivered in person to the Central Government through messenger and acknowledgment obtained.

(8) All cost statements and other statements in respect of intermediate and finished products as prescribed in Schedules I and II of the relevant cost accounting records rules made under clause

---

(d) of sub-section (1) of section 209 of the Companies Act, 1956 (1 of 1956), duly audited and signed by the Cost Auditor, shall be filed with the company in respect of which the audit has been ordered by the Central Government under sub-section (1) of section 233B of the Companies Act, 1956 (1 of 1956).

### **Management Audit**

A systematic assessment of methods and policies of an organization's management in the administration and the use of resources, tactical and strategic planning, and employee and organizational improvement.

The objectives of a management audit are to

Establish the current level of effectiveness

Suggest improvements and lay down standards for future performance.

### **Scope**

The present organizational structure is reviewed in relation to current and prospective demand of business and study must related to aims and objectives of enterprise. It includes the study of present return on investor capital. Whether the return is adequate, fair or poor. Management audit also requires the study of relationship of business with shareholders and investing public in general. The performance of the concern should be compared with that of the other firms in the same field. By comparing the different ratios we can get the comparative position of the business. .The aims, objectives, duties should also be kept in mind of the auditor. Financial planning and control also is a part of the management audit. . The reviews of the production and sales function are also a important part of the management audit.

## Module VII

**Reporting to Management** – Purpose of reporting – Requisites of a good report, Classifications of Report, Segment reporting, Applicability of Accounting Standard 17, Objectives, Users of Segment reporting. Cost Reduction, and Cost Control, Target Costing – its Principles, Balanced Scorecard as a performance measure – Features, Purpose, Reasons for use of Balanced Scorecard.

---

**Management Reporting Overview:** A significant output of management reporting systems, but by no means their sole output, is a recasting of the firm's overall financial results into profit and loss statements arrayed by, for example:

- Organization (such as division, business unit or department)
- Geographic Region
- Product
- Client Segment
- Individual Client

### Introduction

Management reporting is the process of providing agency management with timely, accurate and relevant information that is designed to assist in the strategic and operational management of an agency.

This Information Sheet is intended to assist agencies to design and implement effective management reporting.

### Benefits of effective management reporting

Effective management reporting is critical to management in making appropriate decisions for the efficient, effective and economical delivery of agency objectives and services.

By focusing on timely and effective management reporting, agencies benefit by:

- improved decision making
  - improved management effectiveness
  - more efficient use of resources in the delivery of agency services
-

- increased confidence in the quality of management decisions by agency staff, and
- improved responsiveness to issues as they arise.

### **Effective management reporting**

Developing management reporting structures and formats are fundamental elements in providing agency management and staff with appropriate, accurate and timely information. For example, reporting provided to senior management would normally be ‘summary’ reports on various aspects of agency operations. These reports would be supported, ideally, by ‘drill-down’ functionality allowing for transactional review by management, if required.

Reporting provided to line management and staff would generally provide more targeted and transactional reporting on agency functions than the higher level management reports. Reporting at the lower level should also be supported by drill-down functionality as a quick and efficient means of reviewing transactional details if needed. Where appropriate, high level summary reports may also be made available to line management.

When designing effective management reports, consideration may be given to:

- presenting reports in form and content that satisfy users’ needs
- recognizing specific reporting preferences for users, for example, in the presentation of financial data, some management members may better understand the data when presented graphically, rather than in numeric table form
- Ensuring reports are free from bias, errors or material misstatement
- ensuring that reports are checked for accuracy prior to release
- Completing and distributing reports in a timely manner
- recognizing changing reporting requirements, and adapting reports accordingly
- reviewing report formats that may be available from similar agencies, and adopting, after discussion, elements of these reports to enhance the quality of current agency reports, and
- seeking feedback from agency management on changes to report formats.

Reports can be set up as standard reports which are generated on a regular basis, or ad hoc reports which are developed in response to specific agency demands. Standard report formats

---

should provide management with the information required for day to day agency activities and may, depending on user requirements, include:

Reports on key performance indicators, achievement of government commitments, operational/service delivery

Capital project reports, including information such as:

o budget and actual cost review

o project timelines

o project variations, and

o estimated time to completion.

Budget/forecast versus actual results (financial and non-financial performance), and other reports, such as:

- staffing levels
- revenue and expenses by line item, program, category, asset class or project
- schedules of assets, including estimates of remaining useful lives
- schedules of liabilities, including payment due dates, and
- cash flow reports.

While the timing of standard reports will differ depending upon the nature of the information, many of the above reports should be prepared on a monthly basis.

Ad hoc reports should be available to management in timeframes and formats that allow effective and timely decision making by management. For example, performance reporting on high risk projects might be more regularly reported than those considered to be low risk. A simple "traffic light" approach may be incorporated to draw attention to urgent or problem areas requiring immediate attention.

Assessment of the effectiveness of management reporting can be enhanced through:

- management seeking feedback from users on the format, content and usefulness of reports
  - implementation of a formal feedback process
-

- presentation of options to users (based on management reporting systems capabilities), and
- presentation and discussion of revised formats with users prior to release of revised reports.

### **Applications of Management Reporting:**

Management reporting systems frequently are critical tools for evaluating the performance of organizations and managers, and sometimes that of lower level employees as well. The results can be key determinants of compensation, such as the setting of bonus pools. For example, the head and staff of a business unit might have their bonuses driven off the profit that a management reporting system ascribes to that unit. Likewise for a product manager, if the firm has a well developed product profitability measurement system. Also for a marketing manager with responsibility for the development and profitability of a given client segment, if the performance of that segment is measured.

### **Accounting Standards Objective**

The objective of this Standard is to establish principles for reporting financial information, about the different types of products and services an enterprise produces and the different geographical areas in which it operates. Such information helps users of financial statements:

- (a) Better understand the performance of the enterprise;
- (b) Better assess the risks and returns of the enterprise; and
- (c) Make more informed judgements about the enterprise as a whole.

Many enterprises provide groups of products and services or operate in geographical areas that are subject to differing rates of profitability, opportunities for growth, future prospects, and risks. Information about different types of products and services of an enterprise and its operations in different geographical areas - often called segment information - is relevant to assessing the risks and returns of a diversified or multi-locational enterprise but may not be determinable from the aggregated data. Therefore, reporting of segment information is widely regarded as necessary for meeting the needs of users of financial statements

## **Applicability Of Accounting Standards**

For the purpose of applicability of Accounting Standards, enterprises are classified into three categories, viz.; Level I, Level II and Level III. Under this classification, Level II and Level III enterprises are considered as Small and Medium Enterprises.

### **Criteria for Classification of Enterprises**

#### **1. Criteria for classification of non-corporate entities as decided by the Institute of Chartered Accountants of India**

##### ***Level I Entities***

Non-corporate entities which fall in any one or more of the following categories, at the end of the relevant accounting period, are classified as Level I entities:

- i. Entities whose equity or debt securities are listed or are in the process of listing on any stock exchange, whether in India or outside India.
- ii. Banks (including co-operative banks), financial institutions or entities carrying on insurance business.
- iii. All commercial, industrial and business reporting entities, whose turnover (excluding other income) exceeds rupees fifty crore in the immediately preceding accounting year.
- iv. All commercial, industrial and business reporting entities having borrowings (including public deposits) in excess of rupees ten crore at any time during the immediately preceding accounting year.
- v. holding and subsidiary entities of any one of the above.

##### ***Level II Entities (SMEs)***

Non-corporate entities which are not Level I entities but fall in any one or more of the following categories are classified as Level II entities:

- i. All commercial, industrial and business reporting entities, whose turnover (excluding other income) exceeds rupees forty lakh but does not exceed rupees fifty crore in the immediately preceding accounting year.



ii. All commercial, industrial and business reporting entities having borrowings (including public deposits) in excess of rupees one crore but not in excess of rupees ten crore at any time during the immediately preceding accounting year.

iii. Holding and subsidiary entities of any one of the above.

### ***Level III Entities (SMEs)***

Non-corporate entities which are not covered under Level I and Level II are considered as Level III entities.

#### **1. Criteria for classification of companies under the Companies (Accounting Standards) Rules, 2006**

Small and Medium-Sized Company (SMC) as defined in Clause 2(f) of the Companies (Accounting Standards) Rules, 2006:

–Small and Medium Sized Company” (SMC) means, a company-

- i. whose equity or debt securities are not listed or are not in the process of listing on any stock exchange, whether in India or outside India;
- ii. which is not a bank, financial institution or an insurance company;
- iii. whose turnover (excluding other income) does not exceed rupees fifty crore in the immediately preceding accounting year;
- iv. which does not have borrowings (including public deposits) in excess of rupees ten crore at any time during the immediately preceding accounting year; and
- v. which is not a holding or subsidiary company of a company which is not a small and medium-sized company.

**Explanation:** For the purposes of clause (f), a company shall qualify as a Small and Medium Sized Company, if the conditions mentioned therein are satisfied as at the end of the relevant accounting period.

### **Cost control and cost reduction**

Cost control is operated through setting standards of targets and comparing actual performance therewith, with a view to identify deviations from standards or norms and taking corrective action in order to ensure that future performance conforms to standards or norms.

Cost reduction is a continuous process of critical cost examination, analysis and challenge of standards. Each aspect of business viz., products, process, procedures, methods, organization, personnel, etc. is critically examined and reviewed with a view of improving efficiency and effectiveness and reducing the costs.

Cost control lacks the dynamic approach which planned cost reduction demands. In cost reduction, standards which are the basis of control are constantly challenged for improvement.

### **Important aspects or elements of cost control**

- A standard performance
- A system for accumulating actual loss
- Clearly defined authority
- A timely comparison
- An effective reporting system
- Investigating variances
- Corrective action
- Motivated employees

### **Tools and techniques to control and reduce costs**

- Budgetary control
  - Standard costing
  - Control Ratios
  - Value analysis
  - Works study
-

- Standardization and methods study
- Production Planning and control
- Operations research

**Distinction between Cost Control and Cost Reduction:**

<b>COST CONTROL</b>	<b>COST REDUCTION</b>
Controls costs towards achievement of predetermined target or goals	Represents real and permanent decrease in costs.
It is a routine exercise.	It is a planned process.
It is a preventive function	It is a corrective function.

**Target costing**

Target costing is a system under which a company plans in advance for the product price points, product costs, and margins that it wants to achieve. If it cannot manufacture a product at these planned levels, then it cancels the product entirely. With target costing, a management team has a powerful tool for continually monitoring products from the moment they enter the design phase and onward throughout their product life cycles. It is considered one of the most important tools for achieving consistent profitability.

The primary steps in the target costing process are:

1. *Conduct research.* The first step is to review the marketplace in which the company wants to sell products. The team needs to determine the set of product features that customers are most likely to buy, and the amount they will pay for those features. The team must learn about the perceived value of individual features, in case they later need to determine what impact there will be on the product price if they drop one or more of them. It may be necessary to later drop a product feature if the team decides that it cannot provide the feature while still meeting its target cost. At the end of this process, the team has a good idea of the target price at which it can sell the proposed product with a certain set of features, and how it must alter the price if it drops some features from the product.

2. *Calculate maximum cost.* The company provides the design team with a mandated gross margin that the proposed product must earn. By subtracting the mandated gross margin from the projected product price, the team can easily determine the maximum target cost that the product must achieve before it can be allowed into production.
3. *Engineer the product.* The engineers and procurement personnel on the team now take the leading role in creating the product. The procurement staff is particularly important if the product has a high proportion of purchased parts; they must determine component pricing based on the necessary quality, delivery, and quantity levels expected for the product. They may also be involved in outsourcing parts, if this results in lower costs. The engineers must design the product to meet the cost target, which will likely include a number of design iterations to see which combination of revised features and design considerations results in the lowest cost.
4. *Ongoing activities.* Once a product design is finalized and approved, the team is reconstituted to include fewer designers and more industrial engineers. The team now enters into a new phase of reducing production costs, which continues for the life of the product. For example, cost reductions may come from waste reductions in production (known as kaizen costing), or from planned supplier cost reductions. These ongoing cost reductions yield enough additional gross margin for the company to further reduce the price of the product over time, in response to increases in the level of competition.

### **Balanced Scorecard:**

Balanced scorecard was made popular by Kaplan and Norton. It is a management tool that presents a holistic view of the company measures. It is a reporting tool that shows the financial and non-financial metrics of a company. It can be used for real time monitoring of the company metrics. The balanced scorecard is a single report consisting of mainly four perspectives. The idea is to monitor not only the financial but also the non financial parameters that are critical to a company's success.

---



### Key Performance Indicators (KPI) –

Key performance indicators are the metrics that may be the part of the balanced scorecard. KPIs are used to present actionable results across the organization. The selection of KPIs is a tricky area and can sometimes be an art. However, any KPI selected should be actionable and should be relevant. Here's one way to select KPIs

1. List down the organizations vision and goals.
2. Prepare a strategy map that is in line with the company goals.
3. Divide the strategy map into different components (financial, non-financial etc).
4. List down business processes for each strategy.
5. List down the critical success factors (CSF) for each business process.
6. Design metrics that monitor these critical success factors on an on-demand basis.

### KPIs have the following characteristics:

-> *The KPI should be actionable.* The management should be able to use the KPI dashboard for decision making. The employees should use the dashboard to align and modify their activities so that the activities are in line with the company goals.

-> *The KPI should be mutually exclusive and collectively exhaustive* - Two KPIs that give the same kind of information are redundant. Each KPI should be responsible for causing a unique action. Each KPI should try and encompass multiple Critical Factors.

## **Benefits Of balanced score card**

### 1) Scorecards drive better performance.

The evidence is clear that solid feedback enhances performance—at all levels and across all organizational units. When people and groups throughout an enterprise know how they are doing and what needs improving, they do better.

### 2) Scorecards implement strategy.

Scorecards translate your strategy into concrete terms and help you track its implementation. Though scorecards also reflect operational issues, they are developed in a way that specifically directs attention to your strategy and future direction.

### 3) Scorecards help ensure that you have the right measures.

A group of measures implemented without a well-thought-out performance model in mind or, worse yet, imposed from the outside, seldom bring new focus or drive desired actions. Effective performance scorecards are, by nature, consciously and purposefully constructed. In building one, you develop a logical structure that helps everyone know what should be measured, what belongs on the scorecard and what does not belong.

### 4) Scorecards encourage balanced performance.

Executing today's work is absolutely crucial, but so is implementing the strategic initiatives that prepare the enterprise for tomorrow. The proper scorecard design keeps the right balance of operational and strategic factors on your radar screen.

### 5) Scorecards point out what's missing.

Because your scorecard is designed to offer a comprehensive view of how the enterprise is doing and where it's going, the scorecard will help you see if any key factors are missing—the gaps stand out. Those who use unstructured measures without an underlying performance model have no way of knowing what may be missing.

### 6) Scorecards encourage good management.

As noted earlier, scorecards make it possible to readily monitor all the measures in a complex organization. As a result, reviews are more regular and more thorough. When performance issues

---

stand out on a top-level scorecard, it's possible to "drill down" to layers of data that give further details. The bottom line is that scorecards encourage thorough monitoring and timely corrective actions.

#### 7) Scorecards communicate

Many individuals and groups take a keen interest in the performance of an enterprise.

Strong scorecards help you tell the full story of performance—how the complex variables are being balanced and optimized as a group. This allows you to present a compelling picture of performance that is undistorted by focus on an individual issue.

#### **Segmental Reporting**

Segment reporting is the reporting of the operating segments of a company in the disclosures accompanying its financial statements. Segment reporting is required for publicly-held entities, and is not required for privately held ones. Segment reporting is intended to give information to investors and creditors regarding the financial results and position of the most important operating units of a company, which they can use as the basis for decisions related to the company.

Under Generally Accepted Accounting Principles (GAAP), an operating segment engages in business activities from which it may earn revenue and incur expenses, has discrete financial information available, and whose results are regularly reviewed by the entity's chief operating decision maker for performance assessment and resource allocation decisions. Follow these rules to determine which segments need to be reported:

- Aggregate the results of two or more segments if they have similar products, services, processes, customers, distribution methods, and regulatory environments.
  - Report a segment if it has at least 10% of the revenues, 10% of the profit or loss, or 10% of the combined assets of the entity.
  - If the total revenue of the segments you have selected under the preceding criteria comprise less than 75% of the entity's total revenue, then add more segments until you reach that threshold.
-

- You can add more segments beyond the minimum just noted, but consider a reduction if the total exceeds ten segments.

The information you should include in segment reporting includes:

- The factors used to identify reportable segments
- The types of products and services sold by each segment
- The basis of organization (such as being organized around a geographic region, product line, and so forth)
- Revenues
- Interest expense
- Depreciation and amortization
- Material expense items
- Equity method interests in other entities
- Income tax expense or income
- Other material non-cash items
- Profit or loss

The segment reporting requirements under International Financial Reporting Standards are essentially identical to the requirements just noted under GAAP.