

Introduction to Overhead Overhead

Overheads are the aggregate of all indirect costs such as indirect materials, indirect wages and other indirect expenses. They are also common costs. They are called common costs because they are common expenses incurred for different products and departments. Similarly, these are also known as on costs as they are the costs over and above the prime cost (i.e. total of all direct costs).

Overheads is the sum of cost of ~~individuals~~ indirect materials, indirect labour and such other expenses including services as cannot conveniently charged to a specific unit. Overheads are such production costs which are indirect and are, therefore, not traceable directly to a particular unit of product. The overheads is the total ~~sum of~~ amount of all indirect costs such as indirect materials, indirect wages and other indirect expenses which are not directly allocated, traceable, and identifiable to a particular unit of output.

Classification of Overheads

Overheads are classified on the basis of functions, behaviour, ~~obj~~ elements and control. They are explained herewith:

## 1) Classification of Overheads based on functions

a) Manufacturing Overheads: Manufacturing overheads are also known as production overheads or works or factory overheads. These are indirect expenses which are incurred in carrying out manufacturing activities of the concern. Manufacturing overheads include all the indirect expenses incurred in converting raw materials into finished goods. For example, motive power, factory rent, factory insurance, indirect materials, indirect wages, depreciation and repair and maintenance of factory building, plant and machinery.

b) Non-Manufacturing Overheads: There are two types of non-manufacturing overheads. They are: administrative overheads and selling and distribution overheads.

i) Administrative overheads: These are indirect expenses which are incurred for the daily operation of general administration of the organization. For example: salaries, rent, printing and stationery, telephone and electricity, depreciation and repair and maintenance of office building, furniture and equipment, legal charges and director's remuneration.

ii) Selling and distribution overheads: All the indirect expenses incurred for selling and distribution of finished goods are known as selling and distribution overheads.

Selling overheads are incurred for creating demand, attracting present and potential customers and retaining old customers. For example, remuneration to sales personnel, advertisement, showroom expenses, samples and free

gifts and after sales service expenses.

Distribution overheads are incurred in maintaining stocks and carrying the goods to customer destinations.

They are incurred while transporting the goods from factory to warehouse, showroom or customer's place.

For example: packing charges, carriage and freight out, warehouse expenses, depreciation and repair and maintenance of delivery van.

## 2) Classification of overheads based on behaviour

a) Fixed Overheads: These overheads are also called period costs or capacity costs. They are incurred for creating an output capacity of the concern for a fixed period of time, say, a month or a year. They are the costs which remain fixed or constant in total despite changes in the volume of production or sale. Fixed overheads remain fixed in total up to a certain level of activity which is known as relevant range of activity but fixed overheads per unit always vary with the production or sales volume in an opposite direction. Cost per unit of fixed overheads decreases with an increase in the production or sales volume and vice versa. For example: rent, salaries, depreciation, interest and legal expenses.

b) Variable overheads: These are the overheads which vary positively with the production and sales volume. They vary directly in proportion to the volume. Total amount of variable overheads increases with the increase in volume and vice versa, but, cost per unit remains constant. For example, indirect materials, indirect wages, and power expenses.

c) Semi-variable overheads: These overheads are neither completely fixed nor variable. They are also called semi-fixed costs. These overheads comprise the feature of both the fixed and variable costs. Their total cost and cost per unit both changes in different volume of output. They do not vary directly in proportion to the volume. They are the mixed type of overheads. For example: telephone, electricity, repair and maintenance, heating, lighting, supervision and inspection, salesmen ~~rem~~ remuneration.

d) Step fixed overheads: These overheads remain fixed within a certain range of output level and jump up once the range of output level exceeds. They remain constant for a given volume, but increase by another fixed amount the moment there is addition of volume, and keep on increasing by a fixed amount with the addition of volume. Such overheads increase step by step according to the relevant range of output level.

3) Classification of Overheads based on elements

a) Indirect materials: All materials other than direct ones are indirect materials. They do not form the part of the finished product. They cannot be identified with or traceable to a particular cost unit or cost centre. They ~~are~~ cannot be allocated but can be apportioned to a number of cost units or centres. For example, the cost of lubricants, cotton waste, grease and materials used by service department.

b) Indirect labour (wages): The labour cost which is not directly involved in production process is called indirect labour. The amount of wages paid to supporting labour forces is called indirect wage. Indirect labour, however, assists in the production process. The costs of such indirect labour cannot be identified and allocated to a particular cost centre but can be apportioned to a number of cost centres. For example, the wages paid to watchman, sweepers, workers of service department, supervisors, and works clerical staff.

c) Other indirect expenses: The indirect expenses other than indirect materials and indirect labour are called other indirect expenses. These expenses cannot be traced to any particular product unit or cost centre. They are apportioned to a number of cost centres. For example, rent, insurance, telephone charges, lighting, office salaries and depreciation.

#### 4) Classification of Overheads based on Control

a) Controllable overheads: These are the indirect expenses which the management of a manufacturing concern can keep under its control, as they are influenced by its decisions. Those overheads which vary due to the management decisions are called controllable overheads. For example: indirect materials, power expenses and lighting expenses.

b) Uncontrollable overheads: Those indirect expenses which are beyond the control of the management are known as uncontrollable overheads. The management cannot influence such expenses by its decisions and therefore,

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they are uncontrollable. For example, factory rent, office salaries, depreciation, and legal expenses.

### Allocation, Apportionment And Absorption of Overheads

Allocation of overheads: Allocation of overheads is the process of charging overhead costs to a particular department or cost centres. It is the allotment or assignment of ~~of~~ an overhead cost to a particular cost unit. If the overhead cost is associated with a single department or cost centre, the whole amount is charged among the units of output of that particular department. Allocation of overheads is the process of distributing indirect costs among the products of a particular department or cost centre. Allocating of overheads is important for ascertaining the product cost, fixing a competitive selling price and maintaining a strict control over indirect costs.

Apportionment of Overheads: Distribution of an overhead cost to several departments or cost centres is known as apportionment of overheads. It is the process of charging or apportioning costs to a number of cost centres or cost units. If a given cost is common to ~~or~~ two or more departments or cost centres, such cost should be apportioned or divided among these departments on an equitable basis. Therefore, apportionment of overheads is the process of distributing indirect costs to a number of departments or cost centres.

## Differences Between Allocation & Apportionment of Overheads

Allocation	Appropriation
1) It involves a particular department or cost centre.	1) It involves two or more departments or cost centres.
2) The process of charging the costs to a particular department or cost centre is allocation of overheads.	2) The process of charging the costs to a number of departments or cost centres is <del>apportionment</del> apportionment of overheads.
3) It is applicable when the overhead cost is associated with a single department or cost centre.	3) It is applicable when the overhead cost is associated with two or more departments or cost centres.
4) It is based on direct distribution.	4) It is distributed on some equitable bases like direct labour hours, number of workers, machine hours and space and area occupied.
5) It deals with the whole amount of overhead costs.	5) It deals with the proportionate amount of the overhead costs.

## Absorption of Overheads

The absorption of overheads is also called the recovery of the overhead costs. It is the process of sharing the overhead costs by all the products of a particular department. It is the application of overheads to each unit of output. In other words, the process of ascertaining the total overhead costs of each unit of output or job by using overhead rate is known as

absorption of overhead. Labour hour rate or machine hour rate is used to distribute the overheads of a department into different products.

- Labour hour rate =  $\frac{\text{Total overhead}}{\text{Total labour hours}}$
- Machine hour rate =  $\frac{\text{Total overhead}}{\text{Total machine hours}}$

### Importance of Allocation, Apporportionment and Absorption of Overheads

- Useful for pricing the product.
- Useful for making the product pricing competitive.
- Useful for the optimum use of ~~recor~~ resources.
- Useful for effective control of overhead cost.
- Useful for the determination of cost accurately.
- Useful for disclosing the reasons for variances.
- Useful for taking corrective action in order to minimize such variances in future.

### Homework Problems

#### Labour Hour Rate

HW-1

Here;

Total overheads charged = Rs 96,000

Total labour hours worked = 8,000 hours

$$\therefore \text{Labour hour rate} = \frac{\text{Total overhead}}{\text{Total labour hours}} = \frac{96000}{8} = \text{Rs. } 12$$



HW-2

For Department - X

Total overheads cost = Rs 180,000

Total labour hours = 60,000 hrs

$$\therefore \text{Labour hour rate} = \frac{\text{Total overhead}}{\text{Total labour hours}} = \frac{180,000}{60,000} = \text{Rs. } 3$$

For Department - Y

Total overhead cost = Rs 250,000

Total labour hours = 50,000 hrs

$$\therefore \text{Labour hour rate} = \frac{\text{Total overhead}}{\text{Total labour hours}} = \frac{250,000}{50,000} = \text{Rs. } 5$$

HW-3 Machine Hour Rate

HW-3

Here;

Total overheads charged = Rs 30,000

Total machine hours = 60,000 hrs

$$\therefore \text{Machine hour rate} = \frac{\text{Total overhead}}{\text{Total machine hours}}$$

$$= \frac{30,000}{60,000}$$

$$= \text{Rs. } 0.5$$

HW-4

For Department-X

$$\begin{aligned}\text{Total overheads} &= \text{Supervisor's salary} + \text{Maintenance cost} + \\ &\quad \text{Depreciation} \\ &= \text{Rs } 6,000 + \text{Rs } 3,000 + \text{Rs } 3,000 \\ &= \text{Rs } 12,000\end{aligned}$$

$$\text{Total machine hours} = 3,000 \text{ hours}$$

$$\begin{aligned}\therefore \text{Machine hour rate} &= \frac{\text{Total overhead}}{\text{Total machine hours}} \\ &= \frac{12,000}{3,000} \\ &= \text{Rs. } 4\end{aligned}$$

For Department-Y

$$\begin{aligned}\text{Total overheads} &= \text{Supervisor's salary} + \text{Maintenance cost} + \\ &\quad \text{Depreciation} \\ &= \text{Rs. } 8,000 + \text{Rs } 2,000 + \text{Rs } 2,000 \\ &= \text{Rs } 12,000\end{aligned}$$

$$\text{Total machine hours} = 4,000 \text{ hours}$$

$$\begin{aligned}\therefore \text{Machine hour rate} &= \frac{\text{Total overhead}}{\text{Total machine hours}} \\ &= \frac{12,000}{4,000} \\ &= \text{Rs. } 3\end{aligned}$$