

Week-02-L-05

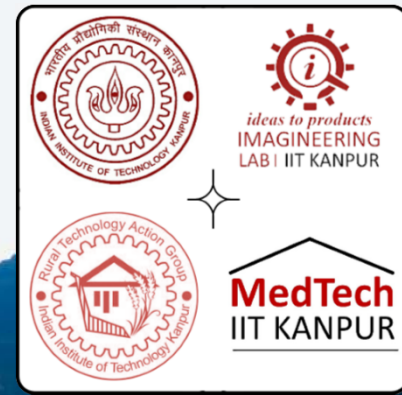
Value Engineering Agricultural Plan

Information & Function Phase

Cost Analysis

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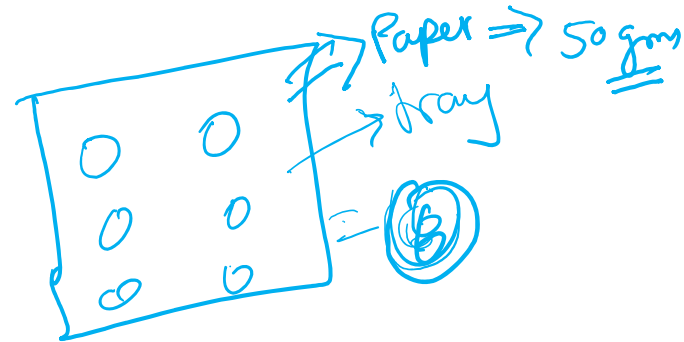
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Cost Analysis

- The basic anatomy of cost consists of three elements. They are:
 1. Direct material cost ✓
 2. Direct labour cost ✓
 3. Overhead cost ✓

Direct Material Cost



- Direct material cost pertains to the materials directly used in a product, process, service, or system.
- This cost element is identified by its direct correlation with the production unit; if one unit requires 'x' quantity, then two units would need '2x' quantity.
- In different items or scenarios, a material may be classified as direct material, while in others, it may not. This categorization varies based on the specific application.
- The goal is to identify and allocate as much direct material as possible, although practical constraints might limit the extent of this allocation in real-world situations.

Direct Material Cost

- Direct material cost concerns materials directly used in a product, process, service, or system.
- It's determined by its direct association with the production unit; doubling the units doubles the material quantity.
- Material categorization as direct or not varies between items or contexts.
- The objective is to allocate as much direct material as possible, within practical constraints.



Direct Labour Cost

- Direct labor cost is the cost that can be directly linked or attributed to a specific item or task.
- In this context, if producing one unit involves '1 hour' of labor, then producing two units should require '2 hours' of labor.
- The principle here is that the labor cost is directly proportional to the quantity of items being produced or the extent of the task.



Cost of Labor

[ˈkɒst əv ˈlɑːbər]

The sum of all wages paid to employees, as well as the cost of employee benefits and payroll taxes paid by an employer.

Overhead Cost

- Overhead consists of cost elements that cannot be directly linked to a product, process, service, or system.
- Under the absorption costing method, overhead is categorized into three main types:
 1. Production overhead ✓
 2. Administrative overhead ✓
 3. Selling and distribution overhead ✓
- Management often relies on historical costs for future decision-making.



Overhead Rate

[,ō-ˈvər-ˈhed ˈrāt]

A cost allocated to the production of a product or service.

Overhead Cost

- However, this absorption method may not be the most effective for this purpose. To address this, the concept of 'marginal cost' was introduced, not as a costing method but as a technique.
- Marginal cost involves dividing overhead costs into three categories:
 1. Variable overhead ✓
 2. Semi-variable overhead ✓
 3. Fixed overhead ✓
- Variable overhead relates directly to the volume of production, while fixed overhead does not. Marginal cost analysis focuses on understanding the impact of fixed costs on products, aiding in decision-making processes.

Example

Consider, an agricultural scenario:

- The fixed cost for a farmer is Rs.10,000, which includes expenses like land maintenance & equipment.
- The variable cost per unit (like kg) of crop cultivation is Rs. 10.00, accounting for factors such as seeds, fertilizers, and labor.

At a production level of 10,000 units of a specific crop:

- The fixed cost per unit of cultivation is Rs.1, meaning each unit of the crop has a Rs.1 portion of the fixed cost included in its cost.
- Consequently, the total cost to produce one unit of the crop is Rs.11.

Example

Now, if the production increases to 20,000 units of the same crop while the variable cost remains at Rs.10 per unit:

- The fixed cost per unit of cultivation decreases to Rs.0.50, signifying that the fixed costs are spread over a larger production volume.
- Consequently, the total cost to produce one unit of the crop is reduced to Rs.10.50.
- This demonstrates how an increase in production can lead to a reduction in the fixed cost per unit and, consequently, a decrease in the overall product cost in agriculture.

Thank You

