

COSTING: INTRODUCTION

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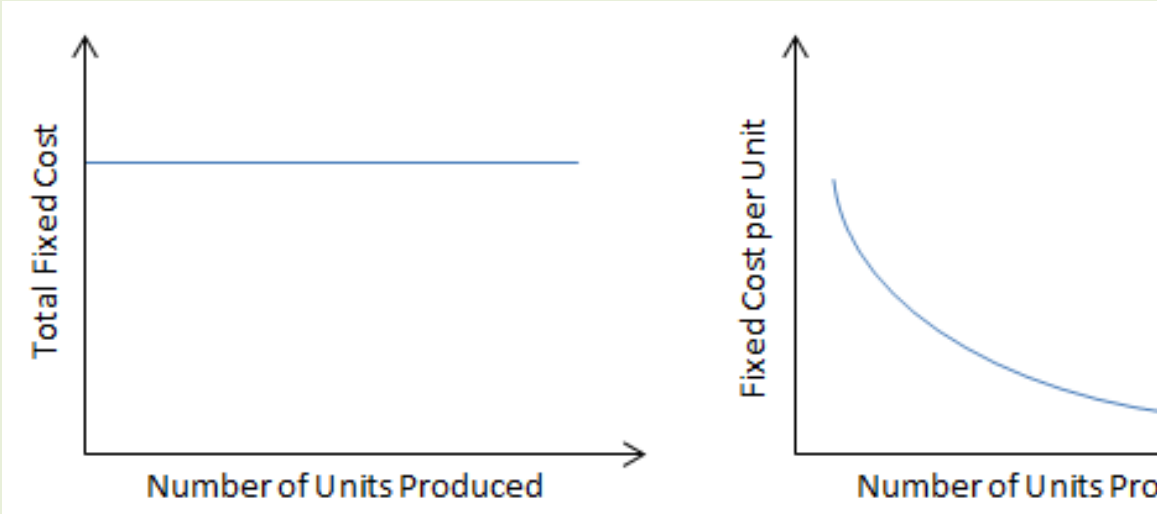
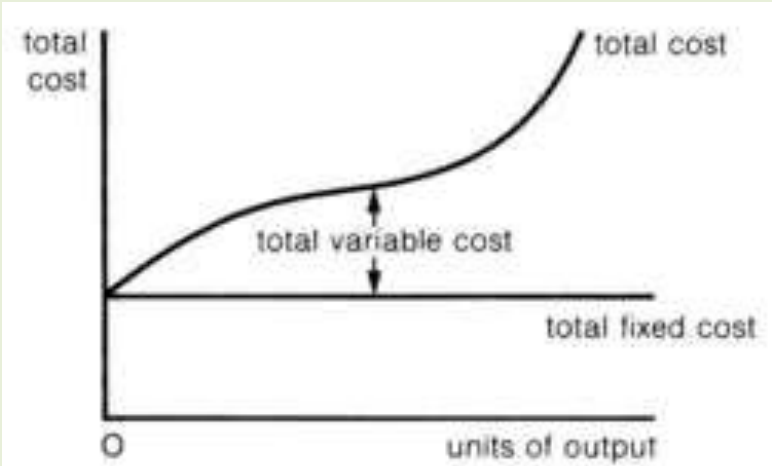
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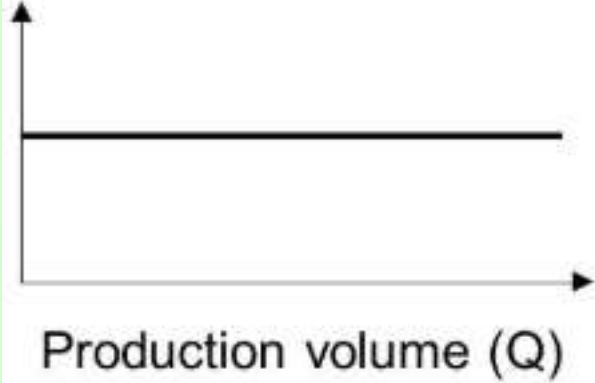
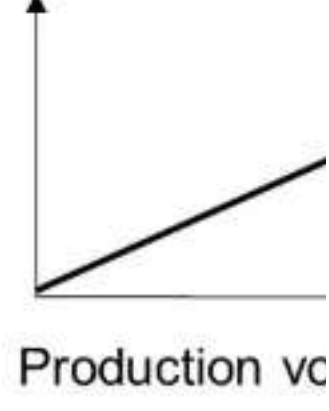
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Understand and accept the limitation of your brain. You won't be able to retain anything unless you are not reading it 5-7 times. Do not commit the same mistakes that 99% of aspirants commit - Reading everything and retaining nothing.

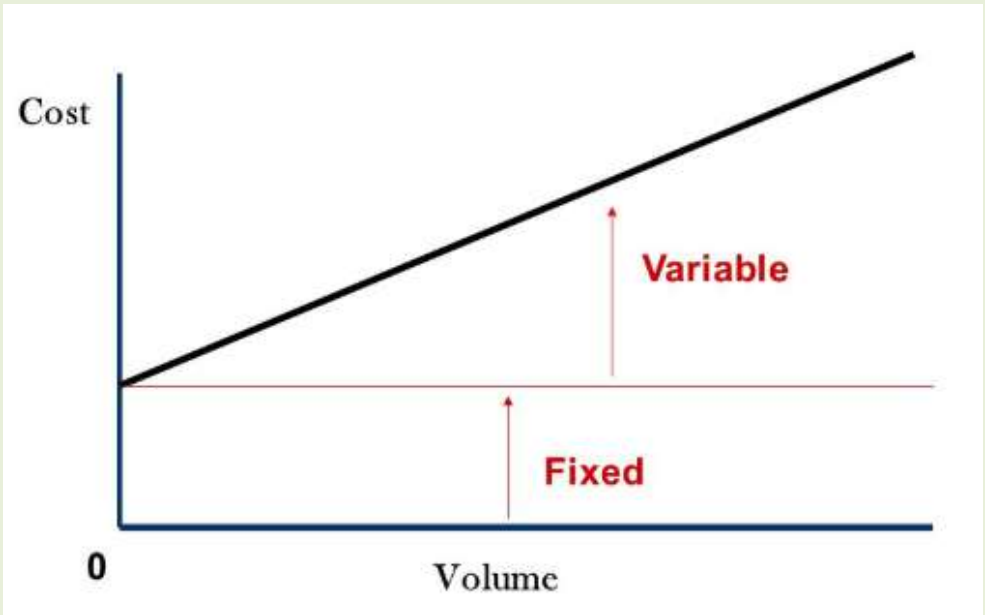
Costing	Defined as the technique and process of ascertaining costs .																			
Cost Accounting	- Process of accounting that - Begins with recording of income and expenditure or the bases on which they are calculated and - Ends with the preparation of periodical statements and reports for ascertaining and controlling costs.																			
Objectives & Nature of Cost Accounting	Analyzing: Break down of total costs into various elements Recording: In historical, standard, budgeted, forecasted costs Standardizing: To make more meaningful comparisons Forecasting: For setting standards Comparing: Actuals with standard/ budgeted Reporting: For variance analysis Recommendin g: Give suggestions for improvement																			
Distinction with Financial Accounting	<table><tr><th></th><th>Financial Accounting</th><th>Cost accounting</th></tr><tr><td>Objectives</td><td>Safeguarding assets and interests</td><td>Assisting or guiding management</td></tr><tr><td>Need</td><td>Compulsory</td><td>Voluntary</td></tr><tr><td>Users</td><td>Internal & External</td><td>Management & Govt</td></tr><tr><td>Emphasis</td><td>Profits & State of affairs</td><td>Planning, Controlling</td></tr><tr><td>Analysis</td><td>Gross</td><td>Detailed/ Minute</td></tr></table>		Financial Accounting	Cost accounting	Objectives	Safeguarding assets and interests	Assisting or guiding management	Need	Compulsory	Voluntary	Users	Internal & External	Management & Govt	Emphasis	Profits & State of affairs	Planning, Controlling	Analysis	Gross	Detailed/ Minute	
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	Periodicity Normally on a yearly basis Daily, weekly, monthly, quarterly, long period reporting, etc. Accuracy Absolute Fairly
Functions & Scope of Cost Accounting	- Ascertaining costs - Determining selling prices - Cost control and cost reduction - Ascertaining profit of each product and each activity - Assisting management in decision making
Cost Sheet	- A statement which shows various components of total cost of a product. - It classifies and analyses components of cost of a product and shows per unit cost in addition to the total cost. - It can be prepared in the basis of Historical costs (Past) or Estimated costs (Future).
Cost Classification in Accounting	
Direct Costs	What - Direct costs are expenses a company has that are directly related to the activities of a project or a department. Importance - Analyzing direct costs is an important activity because it helps managers understand if projects are profitable, if expenses are out of line for one department versus another, and if managing a project directly is more cost effective than outsourcing it. - Being able to analyze the costs of each internal group is important, especially when budget cuts are necessary or when searching for ways to trim costs. - By looking at each group, management can look for expenses that could be cut while having the least negative effect on company performance. Types: It is of two types - Production Cost and Operating expenses Calculating Production Cost - The cost of goods sold (COGS) is the amount of all of the supplies used for creating a product, the labor costs from employees working on a product, the space needed to create the product, packaging costs, utilities used in production, and equipment use. All of these expenses are added together to calculate what it costs to create a product. Understanding the cost of a product is vital in creating a sales price that is profitable and ensuring the product is making money, not losing money. Calculating operating expenses - Direct costs that a department may incur include payroll for department employees, office or work space for the members of the team, training expenses, travel and entertainment costs incurred by a department, and any other expenses that are specifically associated with each department.
Indirect Costs	What - Indirect costs are expenses a company may incur that are not associated to a specific product or project within a company. These costs may also be called administrative expenses or overhead costs. Importance - In a small business, indirect costs can be more easily identified and managed. However, in a larger businesses, it can be very difficult to understand which costs are necessary, if they are legitimate to the operations of the company and how they contribute to the success of the business. As a result, overhead or indirect costs can become excessive and may be

	unnecessary. Managing the indirect costs is an important part a manager's job. Negatives Such costs can be difficult to manage because they are not tied to revenue-generating activities, nor are they typically tied to products or services offered by a company.
Fixed Cost	What - All business costs can be classified as either variable costs or fixed costs. Fixed costs are those costs that do not change based on production levels, while variable costs increase or decrease based on production. Important - Total FC remains constant. - FC per unit decreases with increase in units produced as the same TFC is distributed over more number of units. - FC per unit = Total FC / Number of Units => FC per unit is inversely proportional to number of Units produced  Example - Fixed costs can be assets like buildings and equipment. - For example, a beverage company that bottles water is going to need a physical building and an assembly line that includes specialized equipment. If we assume the building and equipment are leased, there is a monthly payment for each of them. The company is responsible for paying 100% of the monthly payments, whether they produce one case of bottled water or 10,000 cases of bottled water. Fixed vs Variable - Fixed costs are one part of the total cost formula. The formula used to calculate costs is FC + VC * Q = TC, where FC is fixed costs, VC is variable costs, Q is quantity, and TC is total cost.  Fig. 185 Total cost See entry.

	Calculation - It is important to understand that variable costs, as opposed to fixed costs, are those costs that change based on the amount of product being produced. - If we return to our bottled water company and say that the monthly lease for their building is INR10,000 and the monthly lease for the equipment is \$15,000, then our total fixed costs are INR25,000. - If the cost of labels, bottles, packaging, and water that go into each case of bottled water is two dollars, then our variable costs are INR2 per unit. - At this point, we have our cost structure as $\text{INR}25,000 + \text{INR}2(Q) = \text{TC}$. - With this information, per unit total costs can be calculated by dividing the quantity produced into the total cost.
Variable Cost	What - Variable costs are expenses that fluctuate proportionally with the quantity of output. - Variable costs are directly tied to the activities of producing volume, which rises when these activities increase and falls when activities decrease. - Also called Engineered Costs. - This effect can be related to materials, labor, and sales commissions. Important - Total VC increases with increase in number of units produced VC per unit remains constant for any number of units produced. Variable costs Per unit of product (V)  Total Variable (VQ)  Example - For example, consider a firm, spark plug manufacturing operation that has three different variable costs: materials, labor, and sales commissions. Pretend incurred costs for last year were INR50,000 of raw materials, INR30,000 of labor, and INR10,000 in sales commissions. The total variable costs for last year would be INR90,000 ($50,000 + 30,000 + 10,000$). These expenses are specifically tied to the production activities for last year. Calculation Total Variable Cost = Total Quantity of Output * Variable Cost Per Unit of Output
Mixed Cost	What - A mixed cost is an expense that has both a fixed cost and a variable cost. Also called Semi Variable cost. - On the one hand, a variable cost is a cost that changes with production. - On the other hand, a fixed cost is a cost that stays the same no matter the production. These costs cannot be eliminated because they have to be paid

no matter what.



Example

- When you own a car, you need insurance to drive it. You pay the same amount for insurance every month no matter how much or how little you drive the car. So, insurance is a fixed cost because it doesn't change and can't be eliminated. Fuel, on the other hand, is a variable cost. The amount you pay for fuel depends on how much you drive your car. The more you drive, the more gas money you spend. As you can see, car ownership involves both a variable and a fixed cost, so it involves mixed costs.

Relevant & Irrelevant Costs

Relevant Costs

- Relevant costs are those that are directly tied to a specific management decision.
- These costs change in the future as a direct cause of that management decision.
- In other words, relevant costs are those costs that experience some change, whether negative or positive, because of a decision that management makes.
- Eg: Any incremental fixed costs incurred in buying a new machine for management plan of expansion.

Irrelevant Costs

- Irrelevant costs are those that are not tied to a particular management decision.
- They do not change as an effect of a given management decision.
- While one cost may not be affected by a particular decision, it is important to keep in mind that these same costs could be affected by other management decisions.
- Eg: Existing fixed costs of the business irrespective of management plan of expansion

Product Costs

What

- Product costs are all of the costs associated with the manufacturing of a product that is intended for sale to customers.

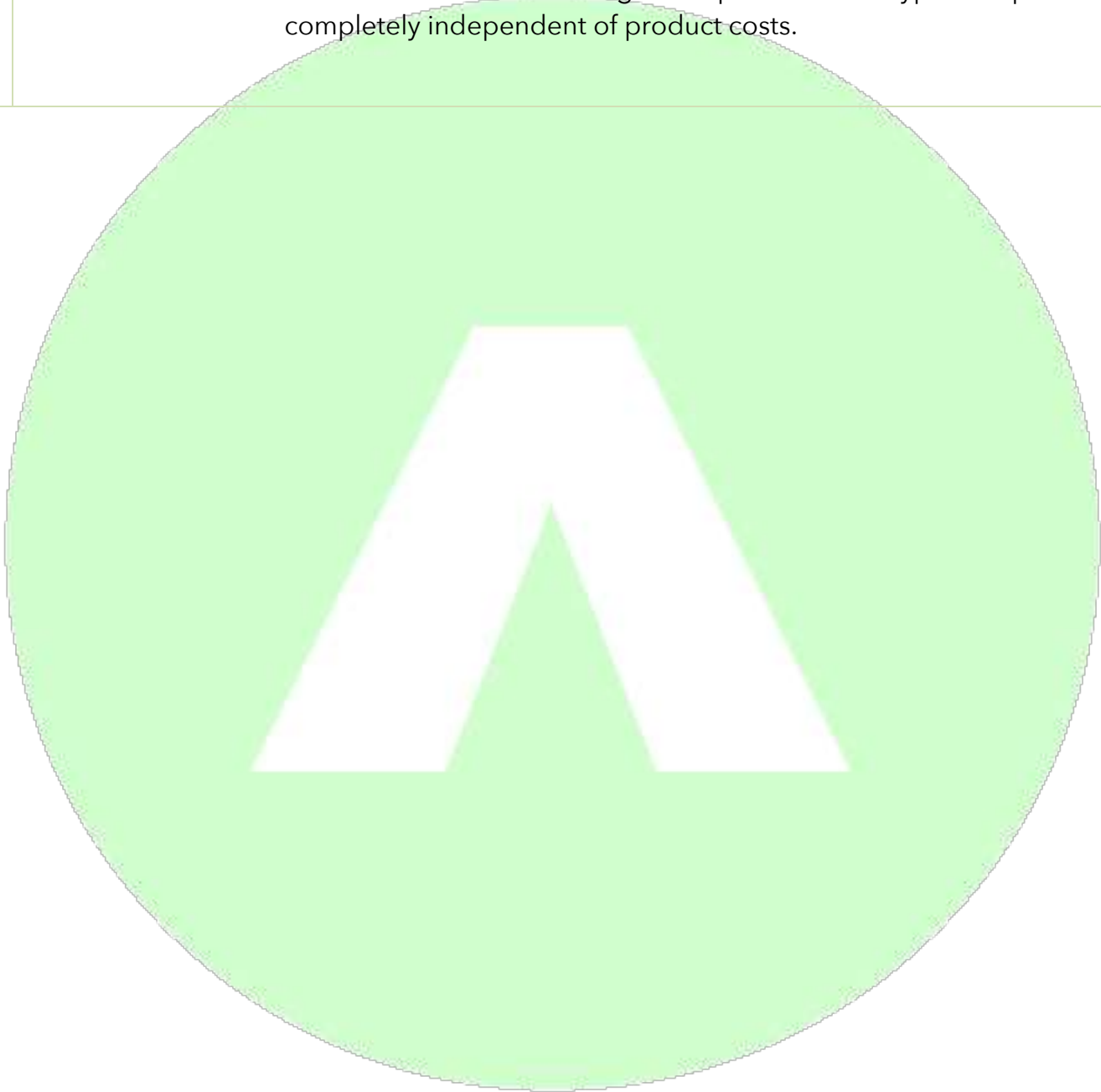
Types:

- Eg: XYZ, Inc. is a company that manufactures telephone wire.
- For the purpose of company XYZ, the product costs are direct materials, direct labor, and manufacturing overhead.

Direct Material

- Direct materials are the raw materials used to manufacture the telephone wire.

	Direct Labor • Direct labor is all of the manufacturing labor required to complete the manufacturing process. Manufacturing overheads • Manufacturing overhead are the auxiliary costs to manufacture the telephone wire, such as electricity to run the machines.
Period Costs	What • The selling and administrative costs associated with the sale of goods are recorded as an expense. This is called a period cost. • This type of expense can occur at any time before, during, or after the manufacturing process but must be recorded in the time period in which it occurs. Period vs Product Costs • This cost is differentiated from product costs because it is not directly related to the manufacturing of the product. This type of expense is completely independent of product costs.





Example

- Let's look at an example with XYZ, Inc. showing the manufacturing process and how the product costs are allocated to financial statements.
- The other objective of the example is to make you accustomed with
- XYZ, Inc. began Quarter 1 of 2015 with INR50,000 in cash. They buy raw materials for INR2,000. This is all of the raw materials required to manufacture a batch of telephone wire. On the balance sheet, we add INR2,000 to inventory and subtract INR2,000 from cash for the purchase.
-

Balance Sheet, 2015 Quarter 1	
Assets	
Cash	INR48,000
Inventory	INR2,000
Equity	
Stock	INR50,000

- XYZ, Inc. manufactures the batch of telephone wire during Quarter 1 of 2015. They use all of the raw materials on hand. The cost of manufactured goods schedule shows the total of product costs for the manufacturing of the telephone wire:
-

Cost of Goods Manufactured Schedule	
Direct Material Used	INR2,000
Direct Labor Used	INR600
Manufacturing Overhead Used	INR400
Total Cost of Manufacturing	INR3,000

- The manufacturing of the telephone wire is completed and recorded on the balance sheet as unsold finished goods.
-

Balance Sheet, 2015 Quarter 1	
Assets	
Cash	INR47,000

Finished Goods Inventory	INR3,000
Equity	
Stock	INR50,000

- XYZ, Inc. sells the batch of telephone wire for INR12,000 during Quarter 1 of 2015. The sale is recorded on the income statement. Selling and administrative expenses are also recorded on the income statement for the sale of the batch of telephone wire. The difference between the gross profit and the total expenses is net profit, the money left over at the end of the day.

-

Income Statement, 2015 Quarter 1	
Revenue from Sales	INR12,000
Less: Cost of Goods Sold	INR3,000
Gross Profit	INR9,000
Selling Expense	INR1,000
Administrative Expense	INR600
Total Expenses	INR1,600
Net Profit	INR7,400

- XYZ made a profit of INR7,400 on the sale of the batch of telephone wire. It is recorded as retained earnings on the balance sheet.

-

Balance Sheet, 2015 Quarter 1	
Assets	
Cash	INR59,000
Liabilities	
Selling & Admin Expense	INR1,600
Equity	

Stock	INR50,000
Retained Earnings	INR7,400

Prime Cost

- What**
- The business expense of purchasing materials and paying laborers to actually manufacture the product are the direct costs that add up to the prime cost.
- Formula**
- $\text{Prime Cost} = \text{Raw Materials} + \text{Direct Labor}$
- Importance**
- Knowing the prime cost can help measure production costs.
 - Monitoring the cost of production can help businesses lower costs to increase profits.
 - Calculating the prime cost can also project the price a business must charge in order to make a profit, or at least break even.

Inventory Costs

- What**
- Inventory costs are not only the price that was paid to purchase an item but also the cost of storing and maintaining that item for however long it takes it to sell.
- Types:**
- Inventory costs can be broken down into three categories: ordering costs, carrying costs, and shortage costs.
- Ordering Costs**
- Ordering costs are the costs that are incurred to prepare and process purchase orders and to receive and inspect merchandise that has been ordered.
 - If purchase orders are written up or printed, the cost of the purchase orders is also considered an ordering cost.
- Carrying Costs**
- Carrying costs are the costs that are related to keeping inventory in stock.
 - These include the electricity that is needed to provide lights, air, and heat for the warehouse.
 - They also include any building rent that's paid on the warehouse and business locations, the purchase cost if a building is purchased, and the real estate taxes associated with each.
 - Storage space costs are also part of carrying costs.
 - Another important part of carrying costs comes in the form of risks that are made by a company when inventory purchases are made.
- Shortage Costs**
- Shortage costs are the costs that a business incurs when they run out of stock.
 - Eg: Having to pay a higher wholesale cost on an item to quickly replenish inventory.

COGS

- What**
- The cost of goods sold, which is also known as COGS, is the total amount, including inventory costs, that a business paid for items sold.
- Calculation**
- In order for a business to calculate how much money that it actually made from sales, the cost of goods sold is subtracted from the total sales to get the bottom line proceeds made from the sales of goods.

Formula

Cost of Goods Manufactured Formula



$$\begin{aligned} &= \text{Direct Materials Cost} \\ &(+)\text{ Direct Labor Cost} \\ &(+)\text{ Manufacturing Overhead} \\ &(+)\text{ Beginning WIP Inventory} \\ &(-)\text{ Closing WIP Inventory} \end{aligned}$$

Example

I paid INR5990 for a 52-inch television. The wholesale cost of the television was INR3300.

It cost INR290 for shipping and a total of INR470 for warehousing costs.

The total COGS (cost of goods sold) was INR4060.

The profit from the sale of the television was \$599 - \$406 = \$193.

Out of Pocket & Sunk Costs

Out of Pocket

- Cost which requires current or future cash expenditure as a result of a decision.
- Require high consideration during decision making.

Sunk

- Cost incurred that cannot be refunded or recovered. They are a normal part of doing business, and should never be used as criteria for decision-making.
- Eg: Depreciation, Amortization, Depletion

Opportunity & Imputed Costs

Opportunity Cost

- Benefits foregone by not using the second best available alternative.
- Eg: A company using its own building as office foregoes the rent that could have been earned on it by letting the building. The rent is thus, the opportunity cost.

Imputed Cost

- An imputed cost is a cost that is incurred by virtue of using an asset instead of investing it or undertaking an alternative course of action.
- Suppose a company owns an office building in the central business district of a city where managerial and administrative staff work. The company's manufacturing site is located outside the city. The company could decide to relocate the workers to the manufacturing location and sell or rent the downtown office building. The imputed costs, in this case, are the proceeds from the sale of the building or amount of rental income the company could earn from leasing it to another party
- Hypothetical costs, not recorded in the books of accounts which are similar to Opportunity costs, thus must be taken into consideration while taking any decision.

Costing of Service Sectors	Service - A service is work performed for a customer. They do not manufacture and sell products but rather sell services that they perform for their customers. - Examples of service companies include attorneys or advertising firms. Method of Costing - The most used costing system in service companies is the job order costing system. This system assigns costs to a specific unit or product. In this case, it assigns costs to a specific service. Service vs Manufacturing firm - A manufacturing company uses the term 'raw materials inventory,' but since service companies don't use raw materials, they use the term 'parts inventory,' or just simply 'supplies.' - Similarly, a manufacturing company considers its work 'in progress inventory' compared to a service company's 'service contracts in process.' - There is no substitute for finished goods, but 'cost of goods sold' turns into 'cost of completed service contracts.' - And finally, rather than 'manufacturing overhead,' a service company has 'service overhead costs' to consider. - The service company account names reflect the service contract that the company enters into with customers - there is no product being sold.
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Absorption Costing Formula

=



(Direct Labor Cost + Direct Material Cost + Variable Manufacturing Overhead Cost + Fixed Manufacturing Overhead)



No. of Units Produced

Activity based Costing

What

Activity-based costing systems allocate manufacturing overhead by assigning indirect costs to several different cost pools and dividing each **cost pool** by its associated **cost driver** to obtain several different rates that can then be used to allocate overhead to different products.

Application

Activity-based costing systems allow manufacturing companies to more accurately allocate overhead expenses to specific products, as multiple cost drivers are used. Like traditional costing systems, machine hours and direct labor hours are typical cost drivers used.

Cost pool

A cost pool is a group of individual costs.

Cost Driver

An activity is a cost Driver

Cost Driver Rate

The cost driver rate, which is the cost pool total divided by cost driver, is used to calculate the amount of overhead and indirect costs related to a particular activity.

Formula



Activity Based Costing Formula

=



Cost Pool in Total



Cost Driver

