

LESSON# 1**COST CLASSIFICATION AND COST BEHAVIOR****INTRODUCTION****Cost Accounting**

Cost Accounting is an expanded phase of financial accounting which provides management promptly with the cost of producing and/or selling each product and rendering a particular service.

Management Accounting

Management accounting is application of professional knowledge and skill in the preparation and presentation of financial information in such a way as to assist management in decision making and in the planning and control of operations of the entity

Objectives

Objective of *cost accounting* is computation of cost per unit, whereas the objective of *management accounting* is to provide information to the management for decision making purposes.

Users

Users of cost & management accounting are the decision makers and the managers of the entity/organization for which all this exercise is undertaken.

Uses of Cost and Management Accounting

1. It determines total cost of production and cost of sales
2. It determines appropriate selling price
3. It discloses the profitable products, areas and activity/capacity levels
4. It is used to decide whether to manufacture or purchase for outside
5. It helps in planning and controlling the cost of production

Elements of Cost

Any product that is manufactured is the result of consumption of some resources. The management, for its planning and controlling functions, must know the cost of using these resources. The constituent elements of cost are broadly classified into three distinct elements:

- 1 Direct Material Cost
- 2 Direct Labor Cost
- 3 Other Production Cost
 - a) Direct Cost
 - b) Indirect Cost

COST CLASSIFICATION

Elements of cost (Direct Material, Direct Labor, Other Production costs) can be classified as direct cost or indirect cost.

Direct Cost

A direct cost is a cost that can be traced in full to the product or service for which cost is being determined.

Costs that can be economically identified with a specific saleable product or service (cost unit).

- a) **Direct material costs** are the costs of materials that are known to have been used in producing and selling a product or rendering a service.

- b) **Direct labor costs** are the specific costs of the workforce used to produce a product or rendering a service.
- c) **Other direct production costs** are those expenses that have been incurred in full as a direct consequence of producing a product, or rendering a service.

Indirect Cost/Overhead Cost

An indirect cost or overhead cost is a cost that is incurred in the course of producing product or rendering service, but which cannot be traced in the product or service in full.

Expenditure incurred on labor, material or other services which cannot be economically identified with a specific cost product or service (cost unit).

Examples include:

Wages of supervisor, cleaning material, workshop insurance.

Material Cost	Labor Cost	Other Production Cost	Total Production Cost
Direct	Direct	Direct	<i>Price Cost</i>
Indirect	Indirect	Indirect	<i>Factory Overhead Cost</i>

1. Prime Cost

Direct Material
 +Direct Labor
+Other direct production cost
Prime cost

2. Total Production Cost

Prime Cost
+Factory overhead cost
Total production cost

3. Conversion Cost

Direct labor cost
+Factory overhead cost
Conversion cost

COST BEHAVIOR

Cost behavior is the way in which total production cost is affected by fluctuations in the activity (production) level.

Activity level

The activity level refers to the amount of work done, or the number of events that have occurred. Depending on circumstances, the level of activity may refer to the volume of production in a period, the number of items sold, the value of items sold, the number of invoices issued, the number of invoices received, the number or units of electricity consumed, the labor turnover etc. etc.

Basic principle

The basic principle of cost behavior is that as the level of activity rises, costs will usually raise. For example; it will cost more to produce 500 units of output than it will cost to produce 100 units; it will usually cost more to travel 10 km than to travel 2 km. Although the principle is based on the common sense, but the cost accountant has to determine, for each cost elements, whether which cost rises by how much by the change in activity level.

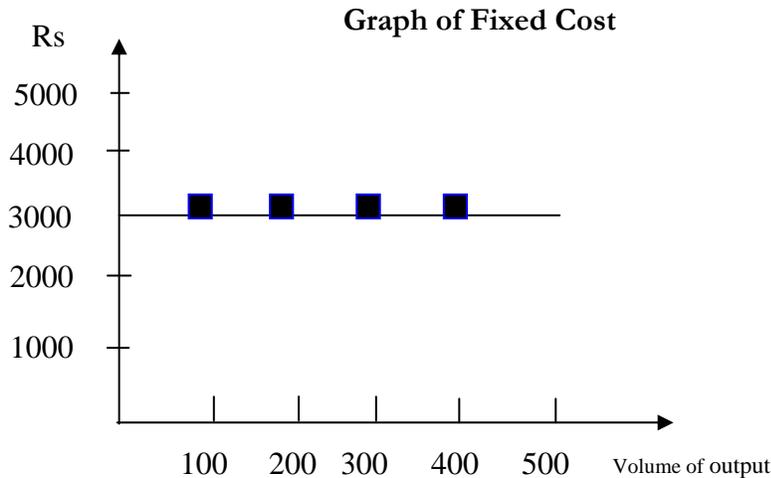
Division of cost by its behavior

Basically the cost of production has two behaviors:

1. Fixed Cost
2. Variable Cost

Fixed Cost

It is a cost which tends to be constant by increases or decreases in the activity level.



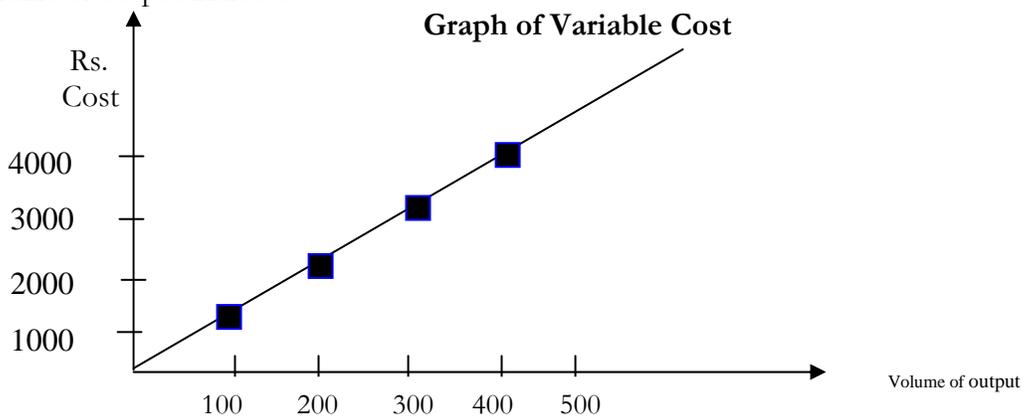
This graph shows that the cost remains fixed regard less of the volume of output.

Examples include:

- a. Salary of the production manager (monthly/annual)
- b. Insurance premium of factory work shop
- c. Depreciation on straight line method

Variable Costs

A variable cost is a cost which tends to vary directly with the change in activity level. The variable cost per unit is the same amount for each unit produced whereas total variable cost increases as volume of output increases.



This graph shows a proportionate increase in the cost by the increase in the activity level.

Examples include:

- a. Cost of raw-material consumed
- b. Direct labor cost
- c. Selling commission

Further division of cost behavior

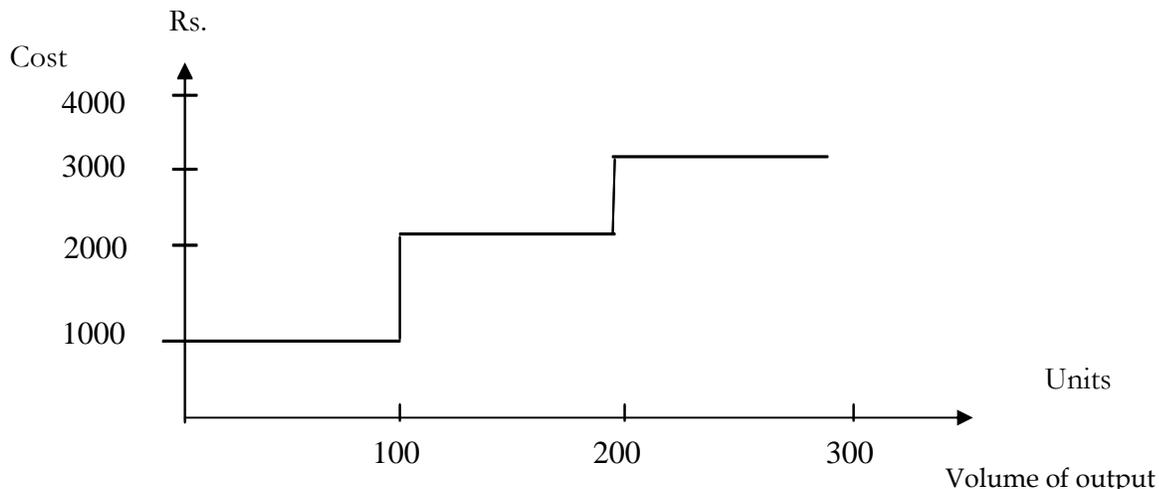
1. Step fixed cost
2. Semi variable cost

Step fixed cost

A step fixed cost is the cost which is constant for a specific range of activity and rises to a new constant level once the range exceeds. The range over which the fixed cost remains constant is known as the relevant range.

For example; the depreciation of a machine may be fixed if production remains below 100 number of units per month, but if the production exceeds 100 number of units, a second machine may now be required, and the cost of depreciation would go up a step. Other examples include:

- a. Rent of workshop (in case of increase in the production one needs to rent one more workshop)
- b. Salary of supervisor (increase in output will be supervised by increased number of supervisors)

Graph of Step fixed Cost

This graph shows a stepwise increase in the total cost. Relevant range in this graph is of 100 numbers of units.

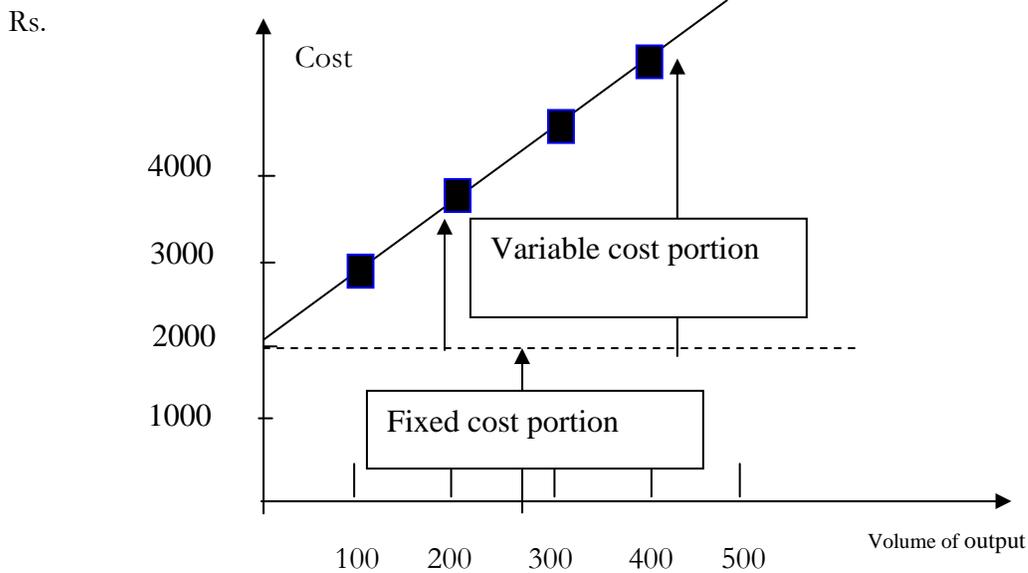
Semi Variable Cost

It is also known as mixed cost. It is the cost which is part fixed and part variable. It is in fact the mixture of both behaviors.

Examples include: Utility bills – there is a fixed line rent plus charges for units consumed.

Salesman's salary – there is a fixed monthly salary plus commission per units sold.

The graph of semi variable cost is as follow:



This graph shows a fixed cost of Rs. 2,000 and there after the cost is variable.

COST BEHAVIOR PER UNIT OF PRODUCTION

Cost per unit behaves differently than the total cost of production. Following tables show the difference in behavior.

Increasing Production Volume Situation

Decreasing Production Volume Situation

	Per Unit	Total
Fixed Cost	Increase	Constant
Variable Cost	Constant	Decrease
Total Cost	Increase	Decrease

Increase or decrease in production volume causes no change to the variable cost per unit it remains constant, assuming there is not rebate in case of bulk purchase and the labor receives constant rate despite change in production volume.

Whereas, increase in production volume causes a decrease in fixed cost per unit and in the same way a decrease in production volume causes an increase in fixed cost per unit.

Following example helps understanding this concept.

Total fixed cost = Rs. 4,000

Per unit variable cost = Rs. 3

Cost per unit at different activity levels 1000, 2000, 4000, and 5000 units

	1000 units		2000 units		4000 units		5000 units	
	Rs. Per Unit	Total Rs.						
Fixed Cost	4	4,000	2	4,000	1	4,000	0.8	4,000
Variable Cost	3	3,000	3	6,000	3	12,000	3	15,000
Total Cost	7	7,000	5	10,000	4	16,000	3.8	19,000

IMPORTANT TERMINOLOGIES

Cost Unit

It is a unit of a product or service in relation to which the cost is ascertained, i.e. it is the unit of the out put or product of the business. In simple words the unit for which cost of producing the units is identified /allocated.

Example

- Ball point for a Ball point manufacturing entity
- Bottle for Beverage producing entity
- Fan for a Fan manufacturing entity

Cost Center

Cost centre is a location where costs are incurred and may or may not be attributed to cost units.

Examples

- Workshop in a manufacturing concern
- Auto service department
- Electrical service department
- Packaging department
- Janitorial service department

Revenue Centre

It is part of the entity that earns sales revenue. Its manager is responsible for the revenue earned not for the cost of operations.

Examples

- Sales department
- Factory outlet

Profit Centre

Profit centre is a section of an organization that is responsible for producing profit.

Examples

- A branch
- A division

Investment Centre

An investment centre is a segment or a profit centre where the manager has significant degree of control over his/her division's investment policies.

Examples

- A branch
- A division

Relevant Cost

Relevant cost is which changes with a change in decision. These are future costs that effect the current management decision.

Examples

- Variable cost
- Fixed cost which changes with in an alternatives
- Opportunity cost

Irrelevant Cost

Irrelevant costs are those costs that would not affect the current management decision.

Example

- A building purchased in last year, its cost is irrelevant to affect management decisions.

Sunk Cost

Sunk cost is the cost expended in the past that cannot be retrieved on product or service.

Example

The entity purchase stationary in bulk last moth. This expense has been incurred and hence will not be relevant to the management decisions to be taken subsequent to the purchase.

Opportunity Cost

Opportunity cost is the value of a benefit sacrificed in favor of an alternative.

Example

An investor invests in stock exchange he foregoes the opportunity to invest further in his hotel. The profit which the investor will be getting from the hotel is opportunity cost.

Product Cost

Product cost is a cost that is incurred in producing goods and services. This cost becomes part of inventory.

Example

Direct material, direct labor and factory overhead.

Period Cost

The cost is not related to production and is matched against on a time period basis. This cost is considered to be expired during the accounting period and is charged to the profit & loss account.

Example

Selling and administrative expenses

Historical Cost

It is the cost which is incurred at the time of entering into the transaction. This cost is verifiable through invoices/agreements. Historical cost is an actual cost that is borne at the time of purchase.

Example

A building purchased for Rs 400,000, has market value of Rs. 1,000,000. Its historical cost is Rs. 400,000.

Standard Cost

Standard cost is a Predetermine cost of the units.

Example

Standard cost for a unit of product 'A' is set at Rs 30. It is compared with actual cost incurred for control purposes.

Implicit Cost

Implicit cost imposed on a firm includes cost when it foregoes an alternative action but doesn't make a physical payment. Such costs are related to forgone benefits of any single transaction, and occur when a firm:

Example

Uses its own capital or
Uses its owner's time and/or financial resources

Explicit Cost

Explicit cost is the cost that is subject to actual payment or will be paid for in future.

Example

Wage
Rent
Materials

Differential Cost or Incremental cost

It is the difference of the costs of two or more alternatives.

Example

Difference between costs of raw material of two categories or quality.

Costing:

The measurement of cost of a product or service is called costing; however, it is not a recommended terminology.

Cost Accounting:

It is the establishment of budgets, standard cost and actual costs of operations, processes, activities or products and the analysis of variances, profitability or social use of funds. It involves a careful evaluation of the resources used within the business. The techniques employed are designed to provide financial information about the performance of a business and possibly the direction which future operations should take.

Prime Cost:

The total costs which can be directly identified with a job, a product or service is known as Prime cost. Thus prime cost = direct materials + direct labor + other direct expenses.

Conversion Cost.

This is the total cost of converting the raw materials into finished products. The total of direct labor other direct expenses and factory overhead cost is known as conversion cost

Cost Accumulation

Cost accumulations are the various ways in which the entries in a set of cost accounts (costs incurred) may be aggregated to provide different perspectives on the information.

Methods of cost accumulation**Process costing**

It is a method of cost accounting applied to production carried out by a series of operational stages or processes.

Job order costing

Generally, it is the allocation of all time, material and expenses to an individual project or job.

Assignment Questions

Answer to each of the following question should not exceed five lines.

1. Define Cost Accounting
2. What are the three broad elements of cost?
3. Give any five examples of factory overhead cost. Also explain.
4. Give any two examples of distribution overheads.
5. Give any two examples of office overheads
6. Define direct cost and give two examples.
7. What is indirect cost? Give three examples.
8. What is meant by step fixed cost and semi-variable cost? Also show graphs.
9. What is fixed cost? Give three items of fixed cost, also show its graph.

Exam Type Questions

1. What is a cost unit? Give two example
2. Define cost centre. How does it differ from cost unit
3. What is the difference between direct and indirect materials? Give two examples of each.
4. Fixed cost per unit remains fixed. Do you agree?
5. How variable cost per unit behaves? Give two examples.
6. What are semi-variable costs? Draw graph for such costs

Multiple Choice Questions

Choose the correct answer in each of the following MCQ.

1. The main purpose of cost accounting is to
 - a Maximize profits
 - b Help in inventory valuation
 - c Provide information to management for decision making
 - d Aid in the fixation of selling price;
2. Fixed cost per unit increases when
 - a Variable cost per unit increase
 - b Variable cost per unit decreases
 - c Production volume increases
 - d Production volume decreases
3. Variable cost per unit
 - a Varies when output varies
 - b Remains constant
 - c Increases when output increases
 - d Decrease when output decreases
4. Which of the followings is the reason of increase in total variable cost:
 - a Increase in fixed cost
 - b Rise in interest on capital
 - c Increase in direct material cost
 - d Depreciation of machinery
5. Which of the followings is an example of fixed cost:
 - a Direct material cost
 - b Works manager's salary
 - c Depreciation of machinery
 - d Chargeable expenses

6. Cost accounting concepts include all of the following except
- a Planning
 - b Controlling
 - c Sharing
 - d Costing
7. The three elements of product cost are all but
- a Direct material cost
 - b Factory overhead cost
 - c Indirect labor cost
 - d Direct labor cost

Answers:

Q1	Q2	Q3	Q4	Q5	Q6	Q7
c	d	b	c	c	c	c

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FINANCIAL STATEMENTS

Purpose of preparing financial statements

Financial statements are prepared to demonstrate financial results to the users of financial information. These are the reports, which are prepared by the accounting department and are used by the different people inclusive of the management.

According to IASB framework:

“Financial statements exhibit its users the financial position, financial performance, and cash inflow and outflow analysis of an entity.”

Components of Financial Statements

According to IASB framework there are five components of financial statements:

Balance Sheet:	Statement of financial position at a given point in time.
Income Statement:	Incomes minus expenses for a given time period ending at a specified date.
Statement of changes in Equity:	Also known as Statement of Retained Earnings or Equity Statement.
Cash Flows Statement:	Summarizes inflows and outflows of cash and cash equivalents for a given time period ending at a specified date.
Notes (to the accounts):	Includes accounting policies, disclosures and other explanatory information.

It is not possible for all the business entities to prepare all of the components of the financial statements, it depends upon the size, nature and statutory requirements of each of the entities that whether all components are to be prepared or not.

For example a small business entity (like a washer man) does not need to prepare statement of changes in equity or notes to the accounts as the size of information is very little and not complex

Financial statements prepared by the Cost Accountant

Cost accounting department prepares reports that help the accounting department in preparing final accounts, these include;

- Cost of goods manufactured statement
- Cost of goods sold statement

Both of the statements represent production cost function or the function of expenses that are incurred to make the goods or services available for sale. It depends upon the form of the business entity whether what should be disclosed in these statements and what should be the extent of the details to be given into these statements.

Forms of business entities

Manufacturing Entities

Manufacturing entities purchase materials and components and convert them into finished goods.

Costing department of these entities works very much efficiently, a complete cost accounting system is followed in manufacturing concerns in which procedures of cost accumulation, methods of product costing, process of calculating per unit cost and determining the cost of inventories are defined.

Trading Entities

Trading entities purchase and then sell tangible products without changing their basic form.

Costing department of these entities is not involved in that much minute calculations and procedures. It simply has to keep records of the cost of goods purchased and cost of inventory.

Servicing Entities

Servicing entities provide services or intangible products to their customers.

Costing department of these entities is also concerned with calculation of the cost of service provided. Inventory of service is also determined in this type of concerns.

Inventory

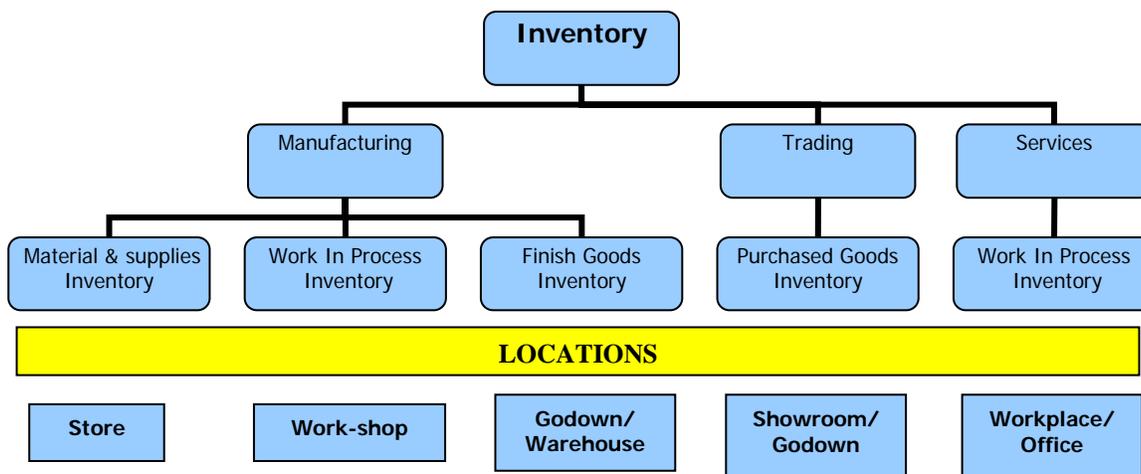
It is the cost held in material & supplies, work in process and finished goods that will provide economic benefits in future, it is also known as stock.

Adjustment for inventories is pivotal in calculation of cost of goods sold. The basic reason for its adjustment is that profit and loss account is prepared on the basis of accrual concept. Adjustments of opening and closing inventories in the cost of production (for manufacturing entities), cost of purchases (for trading entities) is essential to match the cost with its revenue.

For manufacturing entities inventories are classified into three categories:

1. Material and supplies inventory
2. Work in process inventory
3. Finished goods inventory

Following is a self explanatory chart for different categories of inventories.



Standard format of the cost of goods sold statement:

	Rupees
Entity Name	
Cost of Goods Sold statement	
for the year ended_____	
Direct Material Consumed	
Opening inventory	10,000
Add Net Purchases	<u>100,000</u>
Material available for use	110,000
Less Closing inventory	<u>20,000</u>
Direct Material used	90,000
Add Direct labor	<u>60,000</u>
Prime cost	150,000
Add Factory overhead Cost	<u>80,000</u>
Total factory cost	230,000
Add Opening Work in process	<u>30,000</u>
Cost of good to be manufactured	260,000
Less Closing Work in process	<u>50,000</u>
Cost of good manufactured	210,000
Add Opening finish goods	<u>100,000</u>
Cost of good to be sold	310,000
Less closing finish goods	<u>10,000</u>
Cost of good to sold	<u>300,000</u>

(Important tip for students)

To prepare cost of goods sold statement, firstly one needs to collect six elements. Three of these belong to the cost and three belong to the inventory.

Six Elements of Cost of Goods Manufactured and Sold Statement

<u>Cost</u>	<u>Inventory</u>
Material & Supplies	Material & Supplies
Labor	Work in Process
FOH	Finished goods

Following is the stepwise calculation of the information that is produced in the cost of goods sold statement:

Material Consumed	Rupees
Direct material opening inventory	10,000
Add Net purchases	<u>100,000</u>
Material available for use	110,000
Less raw material closing stock	<u>20,000</u>
	<u>90,000</u>

Note: Amount of net purchases comes up with the help of following calculation:

Purchases of direct material
Less trade discounts and rebates
Less purchases returns
Add carriage inward

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