

Methods of Costing

1. Job Costing

Is a system of costing in which the elements of cost are accumulated separately for each job or works order, undertaken by an organization.

The primary function of job costing is to bring together all the costs incurred for completing a job.

Methods of Costing

1. Job Costing

The system is sub divided into

- a] Factory Job Costing and
- b] Contract Costing

A variant of job costing system is batch costing in which costs are accumulated for specific batches of products of similar nature.

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1. Job Costing

The system is well suited for industries like

- Engineering
- Construction
- Auto Garages
- Ship Building
- Furniture Making
- Machine Tools

Methods of Costing

1. Job Costing

Production Planning prepares job order with design of the product
a bill of materials
operation schedule
quantity required
time allowed.

This works as an order to proceed with manufacture.

Methods of Costing

1. Job Costing

In addition job order can also contain
Sales Price.

Customer's name & details.

Despatch instructions.

Value of labour & material.

With this data it serves as a cost sheet.

All orders are numbered for reference and
collection of costs.

Methods of Costing

1. Job Costing : Accounting for materials-

- ▶ Materials required for a job are withdrawn from stores against a requisition bearing the job order number.
- ▶ On a periodic basis material issues analysis sheet is prepared showing the cost of materials issued against various job orders.
- ▶ Direct material cost is transferred to respective jobs & indirect materials to overheads.

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1. Job Costing : Accounting for labour costs -

- ▶ On the authority of operation schedule, actual time spent on a job is booked against a job card.
- ▶ Job cards are valued by the costing department and labour analysis prepared.
- ▶ Direct labour cost is charged to job order numbers and indirect labour cost to overheads.
- ▶ Costs arising out of overtime, idle time, shift differentials, fringe benefits are also included in this analysis.

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1. Job Costing : Accounting for Manufacturing overheads

- ▶ Overhead costs are accumulated against standing order numbers and against cost centers.
- ▶ Overhead rates, either actual or pre-determined, are worked for each center.
- ▶ On completion of jobs, the amount of overhead cost recoverable from each job order is summarized in Overhead Absorption Analysis sheet.

Methods of Costing

1. Job Costing : Accounting for Manufacturing overheads

At the end of the accounting period overheads are applied to incomplete jobs to arrive the extent of over- or under- absorption of overheads.

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1. Job Costing :

Completion of jobs:

During the course of manufacture, direct material, direct labour & manufacturing overheads are posted on the job card.

On receipt of job completion notice, expense booked under each element of cost is totalled up to arrive at total cost of the job.

Methods of Costing

1. Job Costing : Job Account :

No. _____	Date : _____		Total Cost	Rs. _____
Particulars. _____	Date _____	completed : _____		
Date	Particulars	Materials	Wages	Material xx
May xx	Material Analysis	xxx		Labour xx
May xx	Labour Analysis		xx	Prime Cost xx
				Factory Overheads xx
				x% of Wages
				Works Cost xx
				Office/Admin overheads xx
		_____	_____	Total Cost Rs. _____
		_____	_____	

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1. Job Costing :

Work-in-progress

An incomplete job on which some manufacturing is carried out is known as work-in-progress (WIP) .

At the end of accounting period stock lying in WIP is correctly valued to arrive at income for the period.

Valuation of WIP is essential where periodic profit and loss is prepared.

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1. Job Costing :

Cost Control in Job Order System.

Control on job costs is exercised by comparing actual costs with

- previous actual costs
- predetermined costs
- cost of similar product manufactured in other factory, if any.
- standard cost of the product.

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1. Job Costing :

Advantages of Job Order Costing.

- ✓ Allows management to detect which jobs are profitable & which not.
- ✓ Availability of previous costs of the product allows management to quote prices for similar jobs without difficulty.
- ✓ Efficiency of operations, material and machines is controlled with the help of trends of costs available under the system.

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1. Job Costing :

Advantages of Job Order Costing. contd.

- ✓ Application of pre-determined overhead rates , requires management to adopt budgetary control.
- ✓ Responsibility for spoilage and defective work is fixed as these costs are associated with specific jobs.
- ✓ Very beneficial in an industry where price is based on cost plus principle.

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1. Job Costing :

Report in Job Order Costing.

On completion of a job two reports are issued.

1. Report on 'Profit on Completed jobs' :

The report is released periodically indicating the extent of gross profit earned on jobs completed during the period.

Useful in evaluating past performance.

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1. Job Costing :

Report in Job Order Costing.

On completion of a job two reports are issued.

2. Report on 'Cost Variances':

The report is released periodically indicating the variances of actual costs, from estimates / standards, on jobs completed during the period.

Useful in identifying and correcting causes for deviations and/or revising estimates / standards .

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2. Contract Costing :

Contract or Terminal costing is a form of job order costing applied to business concerned with building or engineering projects or structural or construction contracts.

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2. Contract Costing :

Distinctive Features :

- ▶ Allocation of costs to cost centers common in job order costing is not applicable to contract costing as all costs are chargeable to contracts.
Only Head Office or Central Warehouse costs, which are a small percentage, need to be allocated.

2. Contract Costing :

Distinctive Features : contd.

- ▶ Pricing under job order costing is determined by conditions of the specific job. Under contract costing, it is a matter of contract clauses & conditions.
- ▶ Unlike the job costing, each contract is a cost unit in contract costing.

2. Contract Costing :

Distinctive Features : contd.

- ▶ Under contract costing , the work is carried out at a site away from customer's own premises. In case jobs are carried out at contractee's own premises, Job Costing is applicable.

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2. Contract Costing :

Contract Ledger Account.

Normally a ledger account is opened for each contract in Financial Accounts.

All direct & indirect expenses incurred in relation to the contract are debited to this ledger account.

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2. Contract Costing :

Contract Ledger Account.

It is credited with the amount of contract price on completion of the contract.

The balance represents profit (loss) made on the contract & is transferred to the Profit & Loss a/c.

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3. Specific Aspects of Contract Costing :

Materials:

Materials are purchased and either issued to contract directly or stored in a warehouse & issued from there when required against requisitions.

In former case purchases are directly charged to contract. In latter case materials are charged against requisitions.

3. Specific Aspects of Contract Costing :

Labour :

Normally wages of all workers employed at the contract site are charged to the contract, irrespective of jobs performed by them.

In case cost of operations is required workers book time spent on operation on a job card. Labour Analysis is prepared and cost allocated to various operations.

Similar allocation procedure adopted when workers work on more than one (nearby) sites.

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3. Specific Aspects of Contract Costing :

Direct expenses:

Cost of special tools, cost of designs, electricity charges, insurance and similar direct expenses are charged to the contract ledger a/c.

Plant :

The value of the plant used at site is charged to the contract & written down value at the time of completion credited to it.

Or only depreciation of the plant is charged.

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3. Specific Aspects of Contract Costing :

Indirect expenses:

Only Head Office or Central Warehouse costs, which are a small percentage, need to be allocated.

Usually these are charged as percentage of direct cost or distributed on the basis of labour hours spent.

Sites located at remote or hazardous locations need to be charged extra overheads on a quota basis.

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3. Specific Aspects of Contract Costing :

Extras:

Costs incurred on additional items not forming a part of original contract are segregated from general expenses and shown as 'extras'.

These then can be separately charged to the customer depending on the clauses of the contract.

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3. Specific Aspects of Contract Costing :

Sub-contracts :

It is a common practice for contractors to assign specialized work like installation of lifts or laying of special flooring to sub-contractors.

The cost of such sub-contracts is a direct charge against the contract for which work carried out.

3. Specific Aspects of Contract Costing :

Escalation Clause:

To safeguard interests of both the parties against inflation, normally this clause is added in contracts for large sums and with long completion period.

The clause provides formula for adjustment to the contract price, in the event there is rise in prices of materials or labour beyond an agreed limit.

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3. Specific Aspects of Contract Costing :

Cost plus contract:

Cost plus contract is a contract in which the value of the contract is ascertained by adding an agreed percentage / amount of profit over the total cost of the work.

There is a clear, prior agreement as to items of cost to be included, type of material used, rates payable to workers, normal wastages etc.

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3. Specific Aspects of Contract Costing :

Cost plus contract:

This type of contract is undertaken -

- ♠ when the contractee is a government body.
- ♠ work is being carried for the first time & past data is not there.
- ♠ contract involves manufacture of special articles.

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3. Specific Aspects of Contract Costing :

Cost plus contract: Advantages :-

1. A reasonable profit is earned by the contractor , even when prices fluctuate.
2. Simplifies tendering and quoting processes.
3. Provides escalation clause that protects contractor.

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3. Specific Aspects of Contract Costing :

Cost plus contract:

Advantages :- contd.

4. Customer pays only normal profit to the supplier and is protected from being overcharged.

5. Customer has a right to conduct cost audit and assure himself that there is no overcharge.

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3. Specific Aspects of Contract Costing :

Cost plus contract:

Disadvantages :-

1. Since profit is assured the contractor has no incentive to increase efficiency and reduce cost.
2. Customer does not know the final price that is payable, and hence cannot plan for it.
3. Negligence on the part of contractor causes extra costs which customer has to bear with resultant higher profit payable on it.

3. Specific Aspects of Contract Costing :

Surveyor's or architect's certificate:

When a contractor is engaged on a contract that lasts several years, he cannot wait for payment until completion of the contract.

In such cases a Surveyor or an architect certifies the extent to which work has been completed at regular intervals. Based on these certificates, partial payments are made to the contractor

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4. Batch Costing :

This is another form of job costing adopted in case of manufacturing a large quantity of components of machines or other article.

All costs for the batch of components are collected together. Cost of each component in a batch is calculated by dividing the cost of the batch by number of components produced in the batch.

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5. Process Costing :

This is the method according to which cost data of production are collected according to departments or processes and thereafter total cost is divided by the quantity of production, to arrive at cost per unit.

The method is suitable for industries where production flows from the beginning to the end continuously through various stages.

e.g. textile mill that has carding, warping, spinning, drawing, sizing, winding, weaving and dyeing stages.

Methods of Costing

5. Process Costing :

Other industries where process costing is adopted:

Cotton, paper, sugar, chemicals, rubber, paints and food where the final product is large, mass of a uniform quality.

Methods of Costing

5. Process Costing :

Principles of process costing.

The majority of costs can ordinarily be identified with specific processes and collected and accumulated for each period.

Production records of each process are so designed that as would show the quantum of production for each period.

Total cost of each process divided by total production provides unit costs of production.

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5. Process Costing : comparison with job costing

Job Costing

Production against specific orders.

Costs accumulated and applied to specific jobs.

Costs computed on completion of jobs.

Process Costing

Production is Continuous.

Costs accumulated and applied process wise.

Costs computed after expiry of cost period

Methods of Costing

5. Process Costing : comparison with job costing - contd

Job Costing

Jobs independent of each other.

No transfer of products from one job to another.

Process Costing

Continuous production, lots indistinguishable.

Costs are transferred from process to process and finished product of one process is a raw material of the next.

Methods of Costing

5. Process Costing : comparison with job costing - contd

Job Costing

Each job is different hence more management control reqd.

Jobs may not have work in progress.

Process Costing

Standard, mass and continuous production eases mgmt control.

Opening and closing Work in progress is always there, as production continuous.

6. Process Losses and Wastages:

In process industries some loss or wastage is caused by evaporation, shrinkage, chemical changes, moisture content, or spoilage.

This process loss can be normal or abnormal.

6. Process Losses and Wastages:

NORMAL process loss is

- **unavoidable because of the nature of the raw material or the production technique.**
- **inherent in the normal course of production.**
- **estimated in advance.**
- **forms a part of the product cost.**
- **recorded in quantity for monitoring.**

6. Process Losses and Wastages:

ABNORMAL process loss is caused by

- unexpected conditions.
- sub-standard materials'
- careless workers
- accidents
- faulty machines etc.

6. Process Losses and Wastages:

ABNORMAL process loss - accounting

Units representing abnormal loss are valued like good units, but their cost is debited to abnormal loss account and credited to process account.

Thus process cost consists only for good units.

6. Process Losses and Wastages:

Abnormal gains:

If the quantum of process loss is less than the determined percentage, the difference is called abnormal gain of effectives.

Like with abnormal loss these abnormal effectives are also valued at the cost of good units. Their cost is debited to the process cost and credited to abnormal gain account.

7. Equivalent Production

Is defined as notional whole units representing uncompleted work and is used to apportion costs between work in progress (WIP) and completed output.

Equivalent units of work in progress are calculated by multiplying actual units in WIP by percentage of work completed.

If there are 1,500 units in WIP at 30% of completion stage, equivalent production is 450 units.

8. By-Products and Joint Products

By-product:

Any saleable or usable value incidentally produced in addition to the main product is known as by-product.

In a refinery processing crude oil refined oil is the main product. sulfur, bitumen, chemicals, fertilizer are by-products.

8. By-Products and Joint Products

Joint Products

Two or more products separated in processing, each having a sufficiently high saleable value to merit recognition as a main product are termed joint products.

Features : i] produced from the same material. ii] carry equal importance. iii] produced simultaneously by the process. iv] normally require further processing after separation.

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8. By-Products and Joint Products

Co-Products

Two or more products of similar nature like table fan, ceiling fan, pedestal fan, cabin fan etc. are termed co-products.

These are independently produced, in different quantities, from different raw materials.

Methods of Costing

8. By-Products and Joint Products

Objectives of Joint Cost Analysis

1. Correct collection and compilation of process costs.
2. Determination of profit & loss on each line.
3. Data for price collection.
4. Determination of the pattern of production & most profitable product mix.

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8. By-Products and Joint Products

Objectives of Joint Cost Analysis

5. Marginal contribution analysis.
6. Study of the effect on costs and profit due to increase or decrease in production of joint products.
7. Determining the profitability of selling products and by-products as they come out or after further processing.

8. By-Products and Joint Products

Limitations and Problems of Joint Cost Analysis

Apportionment of costs is arbitrary.

Different methods do not provide the same results.

Inter-firm comparisons not meaningful.

Analysis is not economic, if by-products have insignificant sale value.

Several assumptions required & must be adhered to.

9. Operating Costing

Suitable for service industries where articles are not produced but service provided.

It is a variant unit or output costing. and differs from manufacturing as

- ▶ adoption of multiple cost units.
- ▶ a cost unit is not a job or process but service unit like kwh, tonne km.
- ▶ collection and allocation of costs in a different manner.

9. Operating Costing

Operating costs are collected under following headings.

- A] Fixed or standard charges.
- B] Semi fixed or maintenance charges.
- C] Variable or running costs.

Fixed expenses are apportioned to cost units based on availability - number of buses in a fleet or beds in a hospital. Running costs to cost units based on use - km traveled or occupied bed days.

10. Operation Costing

Under this method each operation in each stage of production is separately costed.

The procedure followed is same as for process costing.

Rejections occur at each operation, hence when a series of operations is carried out to convert raw material into a finished product, cumulative effect on conversion cost at each operation is considered.

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11. Single/ Output / Unit Costing

Suitable for firms producing a single article on a large scale by continuous manufacture. e.g.

Breweries, collieries, cement works etc.

Under this method, by proper organization of financial accounts, all cost data is obtained without a separate cost accounting system.

The cost sheets are prepared at regular intervals.

Methods of Costing

11. Single/ Output / Unit Costing

contents of the cost sheet -

Cost of materials - with quantity/ value of main items.

Total wages.

Works indirect expenses. - with details.

Office & administrative expenses in lump sum.

The costs are expressed in total ^ per unit, as % of total cost. For comparison figures of the previous period are provided along side. Abnormal losses / gains are separated.

Methods of Costing

11. Single/ Output / Unit Costing

Valuation

Raw materials – (Opening stock plus purchases) less closing stock = **materials consumed.**

Work in progress (WIP) – (Prime cost plus factory overheads) plus (opening wip less closing wip) = **Works cost.**

Finished Goods – (Works cost of production plus opening stock of finished goods) less closing stock of finished goods = **Cost of Goods sold.**

11. Single/ Output / Unit Costing

Uses of cost sheet.

- ☺ Total & unit cost available for each period.
- ☺ Data available to management for cost control
- ☺ comparison with earlier cost data pin points causes of inefficiencies, wastage for corrective action by management.

**Next 'Standard Costing & Variance Analysis'
bye**