



Module-D Unit-4

JAIIB PAPER-3

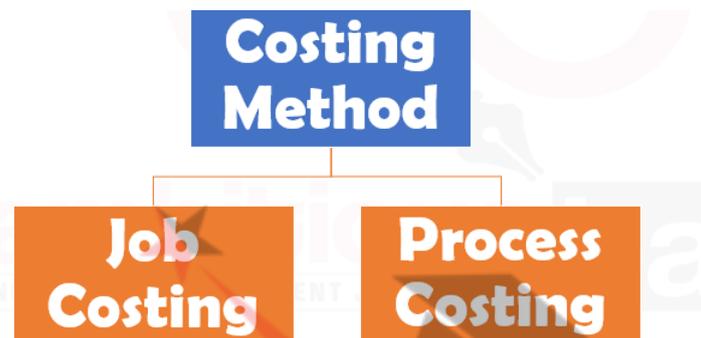
Accounting & Financial Management for Bankers(AFM)



JAIIB Paper 3 (AFM) Module D Unit 4- Costing Methods

Introduction

- Costing is the process of determining the expenditure incurred in producing a product or providing a service.
- Correct costing is crucial for any business organisation as it has a direct bearing on all its sales and marketing strategies.
- Basic principles of costing do not change with the system of costing adopted.
- Costing methods are broadly classified into two categories



- Some methods make part use of job costing and part use of processing costing.
- Under these broad categories, Unit or output Costing, Job Costing, Batch costing, Contract costing, Process costing and Service costing are amongst the widely used methods of costing, in the industry.

Unit And Single-Output Costing

This method of costing

Finding out the cost of the total output

Cost per unit = total cost / the number of units produced

Example: A company produces television sets of only one type. During one month, its total production was 3000 sets. The total cost incurred by the company was ₹ 3 crore = cost of one television set is ₹ 3 crore / 3000 = Rs.10000

Suitable: Assembly department in a factory producing a mechanical article as also in industries like brick-making, mining, sugar, cement etc.

When using this method of costing, it may not be necessary to maintain separate cost accounts as the required information can be derived from the financial records maintained under financial accounting.

This method has some limitations and can be used in the following cases:

- ✓ Where a firm is producing a single article on large scale by continuous manufacture.

- ✓ Where the units produced are identical.
- ✓ Where the products are homogenous.
- ✓ Where a firm is producing two or more grades of one product.

Cost Sheet

- The cost sheet, maintained under the single-output/ unit cost, is a periodic statement.
- It is a document which records the detailed cost of a cost centre or cost unit.
- It contains information on expenditure incurred on material, labour and direct expenses.
- The administration expenses actually incurred are also included in the total cost.
- Indirect expenses, payable at periodical intervals, are included in the cost sheet on the basis of estimates.
- Selling and distribution expenses may or may not be included in cost sheets, depending upon the management decision.
- **Not recorded:** Taxes/interest/dividends paid, provisions and write offs, cash discounts, profit or loss on sale of assets, etc.

Job Costing

- Job costing system is required by the industries where each unit or batch of output of a product is different from the other units or batches.
- This is in contrast to process costing system, which is used in industries where production units are similar and the production takes place on a continuous basis.
- When the production is not on a continuous basis and each job is different from the other
- Also known as Job Order Costing

Applications of Job Costing

- Companies manufacturing products or rendering services against specific orders or jobs use this system of costing.
- **Examples are:** Engineering and construction companies, ship-building/furniture making, machine manufacturing companies, repair shops, automobile garages and such other industries where jobs or orders can be segregated.
- The aim of job costing is to record all the costs incurred for completing a job so that it may be appropriately priced.

Features of Job Costing

Execution of a job order involves meticulous planning of resources to control the costs. Execution of a specific job, as per the specifications of the customer, is more difficult compared to production under continuous process, where the systems and procedures

are stable and standardised. The job execution may not be just arranging for materials and labour but may also involve design and innovation.

The main features of job costing system can be summarised as under:

- It is costing of a specific order for production or rendering of services as per the requirements of the customer.
- It involves recording all the costs incurred for completing a job so that it may be appropriately priced.
- Estimation of costs is difficult as very little data may be available due to uniqueness of the job.
- At the end of the job, the materials left may be difficult to value due to uncertainties about their use in other jobs.

Job Cost Cards/Sheets

- A job cost card is used for each job, which is the object of costing, to record the costs of materials, labour and overheads pertaining to that particular job.
- Job card basically provides a record to the management for their decision making and controlling the cost.
- The job cost card also records the time spent by operators on each job.
- Any breaks or idle time taken by the operators is also recorded in the job cost card.

The main advantages of a job cost card are as under:

- ✓ It gives clear and relevant information to the management to enable them to take appropriate decisions
- ✓ It is an effective tool for cost control
- ✓ It helps in reducing the idle time of labour involved in the job
- ✓ Job card information can be used to check the accuracy of job account
- ✓ It acts as a link between the production control and costing departments

Following is a specimen of a simple costing card/sheet, only for the purpose of illustrating its concept:

Job cost card/sheet (specimen)

Customer _____

Name of Job _____

Job No _____

Date of start _____

Date of completion _____

Materials costs			Labour costs			Manufacturing overheads			
Date	Requisition No.	Amount	Date	Hours	Rate	Amount	Hours	Rate	Amount

Summary of cost sheet

1. Direct materials cost Rs. _____
 2. Direct labour cost Rs. _____
 3. Direct overheads/manufacturing overheads Rs. _____
 4. Allocation of fixed overheads/non-manufacturing overheads Rs. _____
- _____
- Total Rs** _____

Collecting Direct Costs

The job costing collects the following direct costs pertaining to a job:

- ✓ Direct material costs
- ✓ Direct labour costs
- ✓ Direct overhead costs or production overheads

Direct material costs

- On receipt of a production order, the production department submits a requisition note to the stores to issue the requisite materials. Surplus, excess or incorrect materials are returned by the production department to the stores with materials return note.
- The job cost sheet records all these issues and returns of materials.

Direct labour costs

- Each day, the time spent by various types of labour on a particular job, is recorded.
- Labour summaries or wages analysis sheets are prepared for each week or any other suitable accounting period.
- This analysis also includes the amounts on account of overtime, idle time, shift-differential etc.
- Direct labour costs are posted on the respective job cost-sheets.
- **Direct overhead costs or production overheads**
- Direct overhead costs for a job are recorded for all the cost centres through which the job passes in the course of its completion.
- The amount of direct overhead costs for each job order is summarised in an analysis sheet and is posted in the relevant cost cards/sheet of that job

Allocation of Fixed/Non-Manufacturing Overheads

- This is done on the basis of a pre-decided percentage of the total Fixed/Non-manufacturing overhead costs.
- The criteria for this percentage could be the time taken, labour input, complexity of job or any other suitable parameter. Normally, these overheads are added only after completion of the job.

Job Account

- For each job, a Job account is maintained so that the cost of that job is known readily.
- The Job Account is different from the job cost sheet.
- Job account contains only the monetary information, while the job cost sheet records other information also.
- As in the case of job sheet, depending upon the nature of the job and the requirements of the organisation, the format of the Job account is devised and used.

An illustrative format of a job account may be as under:

Date	Particulars	Materials ₹	Labour ₹	Direct overheads ₹	Total ₹	Analysis of total cost

Contract Costing

- Contract costing is a form of job costing applied to relatively large jobs which take a considerable time to complete (normally, more than one year).
- Like in job costing, in contract costing also, each contract is treated as a cost unit and its costs are separately ascertained.
- Examples where contract costing is suitable include shipbuilding, engineering projects, construction contracts, infrastructure projects etc.
- In some industries and government contracting, contract costing is the primary task of the accounting department.
- Proper contract costing is crucial to earn adequate profits, and so is usually staffed with experienced accountants.

Features of Contract Costing

- Under Contract Costing, a separate contract account is maintained for each contract.
- All the direct costs related to execution of contract, are allocated to the contract.
- The overheads for a contract are allocated in the same way as under the job costing. A contract usually involves a lower amount of overheads but these require appropriate allocation.
- Work-in-progress is an important aspect in contract costing.

Distinction Between Job and Contract Costing

- The work is usually carried out at a site different from contractor's workplace, in a contract. In execution of a job, the job is usually carried out at the contractor's workplace.
- A contract and a job are differentiated on the basis of size and time taken also. Contracts are usually larger and take longer time compared to jobs.
- In a contract, most of the costs are of direct nature, unlike in a job.
- In costing a contract, each contract is treated as a cost unit while in job costing, there can be more than one cost units.

Types of Contracts

- **Fixed price: Under this type** of contracts, the price is not dependent on any factor like materials, labour, time etc. but is a fixed total amount.
- **Cost plus:** Under this type of contracts, the contract price is based on the costs actually incurred, plus a percentage profit or fixed profit. This is used in those contracts whose exact cost cannot be correctly estimated at the time of starting a work. In this type of contracts, the customer may use the services of an auditor to examine the contractor's **contract costs, and may not allow some of them.**
- **Time and material:** This is similar to the cost plus arrangement, except that the contractor includes a profit into its billings, rather than being given a specific profit. In this arrangement also, the customer may verify all the costs in detail.

Progress Payments and Retention Money

- When a contractor undertakes to execute a large contract for a customer, the two parties agree on the terms of reimbursement to the contractor. As a contract involves considerable period of time, large amount of contractor's working capital may get stuck up if there is no periodic payment by the customer. Thus, it is always suggested to have a system of progress payments. Normally, this progressive payment is based, at least in part, on the costs incurred by the contractor in execution of the contract. Therefore, the contractor must keep a track of the costs associated with the execution of that contract to justify its billings to the customer.
- The progress billing is normally decided by the experts, such as architects, engineers, and surveyors etc.
- Based on this certificate, the proportionate billing is done by the contractor.
- Retention money is normally an integral part of every contract. The customer keeps some amount of money, out of the progressive bill payments, with himself as retention money/security deposit, to ensure that the work is carried out as per the plan agreed to in the contract and that there are no defects in the end work.
- The amount is used to compensate the customer for any **shortcomings in execution of contract by the contractor.**

- The retention money is given back to the contractor by the customer after examining the quality of the work after the contract is fully executed.
- Retention money is aimed at providing inspiration to the contractor to provide quality work.

Escalation Clause

- As a contract is spread over a long period of time, the contractor runs the risk of price escalation of input costs. Therefore, an escalation clause is normally included in the contracts to safeguard the contractor against any likely changes in the prices of material and labour.
- This clause provides that in case prices of materials, labour etc. specified in the contract, change beyond a specified limit over the prices prevailing at the time of signing the contract, during the execution of the contract, the contract price will be suitably adjusted.
- This clause may be useful in safeguarding the interest of the customer also in case of decline in the prices of material, labour etc. which is highly unlikely in present inflationary environment.

Profit on Incomplete Contracts

- As a contract is spread over a long period, the contract work may not be complete during an accounting period.
- Financial accounting normally recognises profit when the goods are sold. But, it may not be fair to adopt this principle in case of contracts, because it will result in low or no profit during the accounting periods in which the contract is continuing and abnormal profit in the accounting period in which the contract is finished.
- It is therefore, necessary to determine the profit relating to a contract for each accounting period during which the contract is under execution.
- AS 7 and Ind AS 115 also recognise this principle and provide guidelines in this respect.
- While precise calculation of profit on an incomplete contract is difficult due the uncertainties involved during the time remaining for completion of the contract, the broad principle applied can be as under:

Profit to date = (Cost of work completed/ Total estimated contract cost) * Estimated contract profit.

For arriving at the cost of work completed, a contract account is maintained.

Illustration

In a factory, refining the groundnut oil, total production of refined oil during the month was 1000 ton. The unrefined oil used in the production was 1020 ton. This loss of 20

ton was considered to be a normal process loss. If the total cost during the month, including the cost of unrefined oil used was ₹ 10 crore, what is the cost of one ton of refined oil, assuming that no scrap is generated?

Solution:

The total cost during the month = ₹ 10 crore

Quantity of unrefined oil consumed = 1020 ton

Quantity of refined oil produced = 1000 ton

Value of scrap = 0

Cost of one ton of refined oil = $10,00,00,000 / (1020 - 20) = ₹ 1,00,000$ per ton

Abnormal Loss:

- The normal losses are estimated assuming that the production will take place under normal circumstances. However, in practice, the actual losses may be more due to abnormal conditions such as power failures, machine or plant breakdowns, inferior quality of materials, carelessness of workers, accidents etc.
- Such losses are in excess of the estimated normal losses. The difference between the actual losses and the expected normal losses is called Abnormal Loss.

Value of Abnormal Loss = (Total Cost - Scrap Value of Normal Loss) / (Input Units - Normal Loss of Units) × Units of abnormal loss

Abnormal Gain

- If the actual process loss is less than the estimated normal loss, it is called Abnormal Gain.
- Due to the increased efficiency of workers, favourable process conditions or expected loss not materializing.
- Abnormal gain does not mean that the output is more than the input. It only means that the extent of reduction in output quantity, compared to input quantity, which was estimated by us before starting production, **was higher than that actually achieved. Therefore, the abnormal gain is equal to normal loss minus the actual loss.**
- **Calculation:** Gain is not used to reduce the cost of units of production, but is taken into the Profit and Loss A/c.

Work-In-Progress and Equivalent Units

- In process industries, as the production is continuous, there is always some Work-in-Progress at any particular point of time.
- units which are not yet finished are known as Work-in-Progress.

- Also, all these unfinished units may have different stages of completion. Some may be 90% complete while some may be only 10% complete.
- In such a situation, it becomes difficult to assign cost to one unit because though the total cost incurred during the day is known, all units cannot be assigned the same cost.
- **This issue is addressed through the concept of “Equivalent units”.**
- If 60 units are at the stage of 50% completion, we treat them equivalent to 30 fully finished units.
- If 10 units are at the stage of 80% completion, we treat them equivalent to 8 fully finished units, and so on.

Formula

**“Equivalent units” of work in progress = Actual no. of units in progress
x Percentage of work completed**

Inter-Process Profit

- Sometimes, production of a product in process industries, may involve more than one process.
- All these processes are internal, the organisation may not be interested in knowing the cost involved in each stage as marketing decisions are based on the cost of the finished goods only.
- However, sometimes the management may be interested in knowing the cost involved in each stage and the notional profit involved in it.
- The notional profit at each processing stage may be based on current market price or at cost plus an agreed percentage.
- This may be useful in taking a make or buy decision regarding intermediate products.

Joint- Products

- If we examine the working of a petroleum refinery, we will see that while the input is crude oil, the finished goods produced include petrol, diesel, LPG, kerosene and aviation fuel, apart from some minor products called by products) like coal tar, lubricating oils etc.
- There are many such process industries where more than one products of significant proportion and value are simultaneously produced.
- Such products are called joint products.
- As per the definition of CIMA, London, joint products are “two or more products separated in processing, each having a sufficiently high saleable value to merit recognition as a main product.”

By-Products

- When the quantity and sales value of a product, compulsorily produced in a process, is much lower compared to the main products, manufactured in the process, that product is classified as “**by-product**”. These are the products incidental to the production of the main products.
- Taking the same example of petroleum refinery, as above, products like coal tar, lubricating oils are also produced in the refining process of the crude oil.
- But the value and quantity of these products is very small in comparison
- To the value of joint products which are petrol, diesel and LPG.
- By-products usually do not influence the decision regarding manufacture of main products.
- A by-product is different from scrap/waste which is a material of insignificant value.

Accounting for Joint Products

- **Split point** : In the production process, joint products are identifiable only after a stage of common raw material processing is achieved.
- After the split point a joint product may or may not require further processing.
- After the split point, the processing cost of each product is separate and is allocated to that product only

Batch Costing

- The cost accumulation system may not, always, be classified into job costing and process costing.
- If the products have some common characteristics and also some individual characteristics, we may have to use a combination of both the systems.
- For example; a company manufacturing tables manufactures same type of tables except that some tables are given extra polishing.
- In such a case, the costs of common processes through which all the tables pass are calculated by applying the job costing system, while the cost of extra work done on some items is calculated by applying the process costing system in which a product goes to another process centre after completion of previous process.

Features and Applications

- Important features of batch costing system that costing is done not for an individual unit but for a batch of identical units.

The cost of one unit = Batch cost / number of units in the batch.

Illustration

A furniture manufacturer has received order for supplying 100 identical wooden chairs. The company estimates the requirements of materials at ₹ 1,00,000, labour at ₹ 50,000, and manufacturing overheads at ₹ 20,000. As per company's policy, the fixed/non-manufacturing overheads are allocated at 20% of material cost. What will be cost of one table, applying the batch costing system?

Answer

The total variable cost of the batch of 100 tables is $1,00,000 + 50,000 + 20,000 = ₹ 1,70,000$.

The fixed cost allocated to the batch is 20% of ₹ 1,00,000 = ₹ 20,000. Total cost for the batch is ₹ 1,90,000.

So, cost of one table is $1,90,000/100 = ₹ 1,900$.

Batch costing is useful in industries like pharmaceuticals, readymade garments, toys, tyres and tubes etc.

Service Costing

- Service Costing is also known as operating costing. Service costing is a method of costing used by the organisations which provide service rather than produce commodities.
- It is used for establishing costs of services rendered. CIMA London, defines Service Costing as "that form of operation costing which applies where standardized services are rendered either by an undertaking or by a service cost renter with in an undertaking".
- Service costing is used in service organizations like transport companies, utility companies like electricity and water supply, hotels, hospitals, education institutions etc.
- An example of internal services is canteen services.
- When services are provided to outside parties, these are termed as external. For example, hospitals, transport companies, water and electricity supply companies.

Application of Service Costing

- Service costing provides the basis for pricing the services rendered. It helps service sector organisations like hospitals, hotels, transport companies, utility companies etc. Service costing helps an organisation in not only pricing its services but also in tracking and controlling the costs by benchmarking them against standard costs of the industry.

Unit Costing And Multiple Costing

- Unit Costing is used to where the production consists of units which are identical and are normally mass produced.
 - Examples are mining, brick making, cement production etc
 - Multiple Costing refers to the costing method used in cases where a large variety of articles are produced.
 - The difference may be in regard to material required and/or the process involved in manufacturing.
 - In such cases, one costing method may not be sufficient.
 - Therefore, more than one method of costing may be used to compute the cost of each unit separately.
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