

Subject: Microeconomic Theory I

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Cost of Production

Costs are very important in business decision-making. Cost of production provides the floor to pricing. It helps managers to take correct decisions, such as what price to quote, whether to place a particular order for inputs or not whether to abandon or add a product to the existing product line and so on.

Ordinarily, costs refer to the money expenses incurred by a firm in the production process. But in economics, cost is used in a broader sense. Here, costs include imputed value of the entrepreneur's own resources and services, as well as the salary of the owner-manager.

There are various concepts of cost that a firm considers relevant under various circumstances. To make a better business decision, it is essential to know the fundamental differences and uses of the main concepts of cost.

Accounting and Economic Costs:

Money costs are the total money expenses incurred by a firm in producing a commodity. They include wages and salaries of labour; cost of raw materials; expenditures on machines and equipment; depreciation and obsolescence charges on machines; buildings and other capital goods; rent on buildings; interest on capital borrowed; expenses on power, light, fuel, advertisement and transportation; insurance charges, and all types of taxes.

There are the accounting costs which an entrepreneur takes into consideration in making payments to the various factors of production. These money costs are also known as explicit costs that an accountant records in the firm's books. But there are other types of economic costs called implicit costs. Implicit costs are the imputed value of the entrepreneur's own resources and services.

The salary of the owner-manager who is content with having normal profits but does not receive any salary, estimated rent of the building if it belongs to the entrepreneur, and interest on capital invested by the entrepreneur himself at the market rate of interest. Thus economic costs include accounting costs plus implicit costs, that is, both explicit and implicit costs.

Production Costs:

The total costs of production of a firm are divided into total variable costs and total fixed costs. The total variable costs are those expenses of production which change with the change in the firm's output. Larger output requires larger inputs of labour, raw materials, power; fuel, etc. which increase the expenses of production. When output is reduced, variable costs also diminish. They cease when production stops altogether. Marshall called these variable costs as prime costs of production.

The total fixed costs, called supplementary costs by Marshall, are those expenses of production which do not change with the change in output. They are rent and interest payments, depreciation charges, wages and salaries of the permanent staff, etc. Fixed costs have to be incurred by the firm, even if it stops production temporarily. Since these costs are over and above the usual expenses of production, they are described as overhead costs in business parlance.

Actual Costs and Opportunity Costs:

Actual costs refer to the costs which a firm incurs for acquiring inputs or producing a good and service such as the cost of raw materials, wages, rent, interest, etc. The total money expenses recorded in the books of accounts are the actual costs.

Opportunity cost is the cost of sacrifice of the best alternative foregone in the production of a good or service. Since resources are scarce, they cannot be used to produce all things simultaneously. Therefore, if they are used to produce one thing, they have to be withdrawn from other uses. Thus the cost of the one is the alternative foregone. It is the opportunity missed or alternative foregone in having one thing rather than the other or in putting a factor-service to one use instead of the other.

The cost of using land for wheat growing is the value of alternative crop that could have been grown on it. The real cost of labour is what it could get in some alternative employment. The cost of capital to the capitalist is the amount of interest he could earn elsewhere. The normal earnings of management are what an entrepreneur could earn as a manager in some other joint stock company. In this way, opportunity cost is the cost of the opportunity missed or alternative foregone.

Importance of Opportunity Cost:

The concept of opportunity cost is very important in the following areas of managerial decision making:

(i) Decision-Making and Efficient Resource Allocation:

The concept of opportunity cost is very important for rational decision-making by the producer. Suppose, a producer has to decide whether he should produce black and white T.V. or colour T.V. from his given resources. He can come to rational decision only by measuring opportunity cost of production of both types of T.V. and by comparing these products with existing market prices.

As a result, efficient allocation of resources will also be possible. A resource will always be used in that business where it will have the highest opportunity cost. For example, if a graduate is receiving Rs. 3,000 as a shop assistant but can earn Rs. 5,000 as a clerk, then he will join the job of a clerk leaving the shop because his opportunity cost is high.

(ii) Determination of Relative Prices of Goods:

If the same group of resources can produce either a colour T.V. or four black and white T. V.s, the price of a colour T.V. will be kept equal to at least a four-fold price of a black and white T.V. Hence, the concept of opportunity cost is useful in the determination of relative prices of various goods.

(iii) Determination of Normal Remuneration of a Factor:

Opportunity cost determines the price for the best alternative use of a factor of production. Suppose a manager can earn Rs. 20,000 per month as a lecturer in a management school, the firm will have to pay him at least Rs. 20,000 for continuing his service as a manager.

Hence, it is obvious that the concept of opportunity cost has special importance in management.

Direct Costs and Indirect Costs:

Direct costs are the costs that have direct relationship with a unit of operation, i.e., they can be easily and directly identified or attributed to a particular product, operation or plant. For example, the salary of a branch manager, when the branch is a costing unit, is a direct cost. Direct costs directly enter into the cost of production but retain their separate identity.

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On the other hand, indirect costs are those costs whose source cannot be easily and definitely traced to a plant, a product, a process or a department, such as electricity, stationery and other office expenses, depreciation on building, decoration expenses, etc. All the direct costs are variable because they are linked to a particular product or department. Therefore, they vary with changes in them. On the contrary, indirect costs may or may not be variable.

Private and Social Costs:

Private costs are the costs incurred by a firm in producing a commodity or service. These[^] include both explicit and implicit costs. However, the production activities of a firm may lead to economic

benefit or harm for others. For example, production of commodities like steel, rubber and chemicals, pollutes the environment which leads to social costs.

On the other hand, production of such services as education, sanitation services, park facilities, etc. leads to social benefits. Take for instance, education which not only provides higher incomes and other satisfactions to the recipients but also more enlightened citizens to the society. If we add together the private costs of production and economic damage upon others such as environmental pollution, etc., we arrive at social costs.

Incremental Costs and Sunk Costs:

Incremental costs denote the total additional costs associated with the marginal batch of output. These costs are the additions to costs resulting from a change in the nature and level of business activity, e.g., change in product line or output level, adding or replacing a machine, changes in distribution channels, etc. In the long-run, firms expand their production, employ more men, materials, machinery and equipment. All these expenses are incremental costs.

Sunk costs are the costs that are not affected or altered by a change in the level or nature of business activity. It cannot be altered, increased or decreased by varying the level of activity or the rate of output. All past or actual costs are regarded as sunk costs. Thus, sunk costs are irrelevant for decision making as they do not vary with the changes expected for future by the management, whereas incremental costs are relevant to the management for business making.

Explicit Costs and Implicit Costs:

Explicit costs are those payments that must be made to the factors hired from outside the control of the firm. They are the monetary payments made by the entrepreneur for purchasing or hiring the services of various productive factors which do not belong to him. Such payments as rent, wages, interest, salaries, payment for raw materials, fuel, power, insurance premium, etc. are examples of explicit costs.

Implicit costs refer to the payments made to the self-owned resources used in production. They are the earnings of owner's resources employed in their best alternative uses. For example, a businessman utilises his services in his own business leaving his job as a manager in a company.

Thus, he foregoes his salary as a manager. This loss of salary becomes an implicit cost of his own business. Implicit costs are also known as imputed costs. They are important for calculation of profit and loss account. They play a crucial role in the analysis of business decisions.

Historical and Replacement Costs:

The historical cost is the actual cost of an asset incurred at the time the asset was acquired. It means the cost of a plant at a price originally paid for it. In contrast, replacement cost means the price

that would have to be paid currently for acquiring the same plant. So historical costs are the past costs and replacement costs are the present costs.

Price changes over time cause a difference between historical costs and replacement costs. For example, suppose that the price of a machine in 1995 was Rs. 1, 00,000 and its present price is Rs. 2, 50,000, the actual cost of Rs. 1, 00,000 is the historical cost while Rs. 2, 50,000 is the replacement cost.

The concept of replacement cost is very useful for the management. It projects a true picture while the historical cost gives poor projection to the management. Historical cost of assets is used for accounting purposes, in the assessment of net worth of the firm, while the replacement cost is used for business decision regarding the renovation of the firm.

Past Costs and Future Costs:

Past costs are the costs which have been actually incurred in the past. They are beyond the control of the management because they are already incurred. These costs can be evaluated with retrospective effect. On the contrary, future costs refer to the costs that are reasonably expected to be incurred in some future periods.

They involve forecasting for control of expenses, appraisal of capital expenditure decisions on new projects as well as expansion programmes and profit-loss projections through proper costing under assumed cost conditions.

The management is more interested in future costs because it can exercise some control over them. If the management considers the future cost too high, it can either plan to reduce them or find out sources to meet them. These costs are also called avoidable costs or controllable costs.

Business Costs and Full Costs:

Business costs are the costs which include all the payments and contractual obligations made by the firm together with the book cost of depreciation on plant and equipment. They are relevant for the calculation of profits and losses in business, and for legal and tax purposes.

In contrast, full costs consist of opportunity costs and normal profit. Opportunity costs are the expected earnings from the next best use of the firm's resources. Normal profit is the minimum profit required for the existence of a firm.

Common Production Costs and Joint Costs:

Sometimes, two or more than two products emerge from a common production process and from a single raw material. For example, the same piece of leather may be used for slippers or shoes.

Such products present some peculiar and important problems for the management. They are identifiable as separate products only at the end of the process. So the costs incurred upto this point are common costs. Thus, common costs are the costs which cannot be traced to separate products in any direct manner.

When an increase in the production of one product results in an increase in the output of another product, such products are joint products and their costs are joint costs. For example, when gas is produced from coal, coke and other products also emerge automatically. Likewise, wheat and straw, cotton and cotton seeds may be its other examples.

Shutdown Costs and Abandonment Costs:

Shutdown costs are the costs that are incurred in the case of a closure of plant operations. If the operations are continued, these costs can be saved. These costs include all types of fixed costs, the costs of sheltering plant and equipment, lay-off expenses, employment and training of workers when the operation is restarted.

On the other hand, abandonment costs are the costs which are incurred because of retiring altogether a plant from use. These costs are related to the problem of disposal of assets. For example, the costs are related to the discontinuance of tram services in Delhi.

These concepts of costs are very important for the management when they have to make decisions regarding the continuance of existing plant, suspension of its operations or its closure.

Out-of-Pocket Costs and Book Costs:

The costs which include cash payments or cash transfers that may be recurring or non-recurring are called out-of-pocket costs. All the explicit costs such as rent, wages, interest, transport charges, etc. are out-of-pocket costs. They are also called explicit costs.

Book costs are the actual business costs which enter into book accounts but are not paid in cash. They are considered while finalising the profit and loss accounts. For example, depreciation which does not require current cash payments. They are also called imputed costs. Book costs may be converted into out-of-pocket costs. If a factor of production is owned, that is book cost. But, if it is hired, that is out-of-pocket cost.

Urgent Costs and Postponable Costs:

Urgent costs are those costs that are necessary for the continuation of the firm's activities. The cost of raw materials, labour, fuel, etc. may be its examples which have to be incurred if production is to take place. The costs which can be postponed for some time, i.e., whose postponement does not affect the operational efficiency of the firm are called postponable costs. For example, maintenance costs which can be postponed for the time-being. This distinction of cost is very useful during war and inflation.

Escapable Costs and Unavoidable Costs

Escapable costs are the costs which can be reduced by contraction in business activities. Here, net effect on costs is important. However, it is difficult to estimate indirect effects such as the closure of an unprofitable business unit which will reduce costs but will increase the other related expenses like transportation charges, etc. On the other hand, unavoidable costs are the costs which do not vary with changes in the level of production, but they are unavoidable such as fixed costs.

Incremental Costs and Marginal Costs

There is close relation between marginal cost and incremental cost. But they have difference also. In reality, incremental cost is used in a broad sense in relation to marginal cost. Marginal cost is the cost of producing an additional unit of output, while incremental cost is defined as the change in cost resulting from a change in business activities.

In other words, incremental cost is the total additional cost related to marginal quantity of output. The concept of incremental cost is very important in the business world because, in practice, it is not possible to use every unit of input separately.

Books

1. Pindyck and Rubinfeld with Mehta (2005), Microeconomics- latest available Edition in market.
2. D.N Dwivedi (2016), Microeconomics Theory and Application-- latest available Edition in market.
3. Koutsoyiannis, A., Modern Microeconomics, Macmillan, London.