

J D Women's College

Course Name- MBA (PG)

(1st semester)

Subject-Managerial Economics

Topic-Cost output relationship

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Cost-Output Relationship

Lecture-1

COST – OUTPUT RELATIONSHIP

- Cost-output relationship is one of the important concept in managerial economics.
- Cost function usually refers to the relationship between cost and the rate of output, keeping all other variables constant.
- Cost output relationship can be discussed under short run and long run separately.

Cost-output relationship plays an important role in determining the optimum level of production. Cost-output relation helps to understand cost control, profit prediction, pricing, promotion etc. Managerial Economics mainly concerned with the bahavoieur of cost. The cost of production depends on many forces and an understanding of relationship of cost to various forces, will help us to provide information for different cost forecast. These forces may vary from firm to firm in a industry and also from one type to another following are the forces of cost determinants in modern business:

1. Rate of output
2. Size of Plant
3. Price of factor of production
4. Efficiency of management and labour
5. Technology

6. Stability of output

The relation between cost and its determinants is technically described as the cost function. Proper understanding of the nature and behavior of costs is a must for regulation and control of cost of production. The cost of production depends on money forces and an understanding of the functional relationship of cost to various forces will help us to take various decisions. Output is an important factor, which influences the cost.

1. Cost-Output Relationship in Short-Run

Short run fixed cost	Variable cost	Short run total cost
<ul style="list-style-type: none">• Fixed cost is a cost which won't change with the changes in the output.• For example, Building rent, Insurance charges, etc	<ul style="list-style-type: none">• Variable cost is the cost which changes with the change in the output.• For example, Cost of raw material, Wages, Electricity, Telephone charges, etc.	<ul style="list-style-type: none">• The total actual cost that is supposed to be incurred to produce a given output is short run total cost• Total cost = Total Fixed Cost + Total Variable Cost

Cost concepts made use of in the cost behavior are Total cost, Average cost, and Marginal cost. Total cost is the actual money spent to produce a particular quantity of output. Total Cost is the summation of Fixed Costs and Variable Costs.

$$TC = TFC + TVC$$

Upto a certain level of production Total Fixed Cost i.e., the cost of plant, building, equipment etc, remains fixed. But the Total Variable Cost i.e., the cost of labor, raw

materials etc., vary with the variation in output. Average cost is the total cost per unit. It can be found out as follows.

$$AC=TC/Q$$

Total of Average Fixed Cost (TFC/Q) keep coming down as the production is increased and Average Variable Cost (TVC/Q) will remain constant at any level of output.

2. Cost-output Relationship in Long-Run

Cost-output Relationship in Long-Run – This is a period, during which all inputs are variable including the one, which are fixed in the short-run. In the long run a firm can change its output according to its demand. Over a long period, the size of the plant can be changed, unwanted buildings can be sold staff can be increased or reduced. The long run enables the firms to expand and scale of their operation by bringing or purchasing larger quantities of all the inputs. Thus in the long run all factors become variable.

Long-run cost-output relations therefore imply the relationship between the total cost and the total output. In the long-run cost-output relationship is influenced by the law of returns to scale. In the long run a firm has a number of alternatives in regards to the scale of operations. For each scale of production or plant size, the firm has an appropriate short-run average cost curves. The short-run average cost (SAC) curve applies to only one plant whereas the long-run average cost (LAC) curve takes in to consideration many plants.