UNIT-1

(Nature and Scope of Managerial Economics)

MODULE-5: FUNDAMENTAL CONCEPTS- II

CONTENTS

5.0: OBJECTIVES: The objective of this module is to familiarize you with different concepts of managerial economics as done in module-4.

After reading this module you will be able to understand and conceptualise the following concepts.

- Time perspective
- Break-even
- Opportunity cost
- Profit
- Risk and uncertainty

5.01: TIME PERSPECTIVE:

Decision making is the task of coordination along the time path i.e past, present and future. Whenever the management confronts a decision environment they must analyze their present problem with reference to past data of facts, figures and observation in order to arrive at a decision, contemplating clearly its future implications in terms of actions and reactions thereupon. Thus the time dimension plays a crucial role in decision making.

Economists often classify time element in terms of very short period, short period and long period. In the very short run (also known as market period),the supply of a commodity remains constant i.e. supply is equal to stock. As against this, in the short run supply can be changed by altering factor proportions. By employing increasing quantities of variable factors along with given fixed factors we can alter the factor proportion. In the long run all factors are variable and firms enjoy complete freedom to adjust its production process according to demand conditions.

Managers generally perceive these time element concepts in a different way. Managers face many a constraint in the very short period. The nature of time period is such that, it is not possible to increase supply even employing more variable factors of production. Contrary to this, in the long run constraints are minimized.

For a practicing manager, short run implies immediate future, whereas long run is the distant future. The manager must calculate the opportunity cost of his decision, if he has to choose between the present and the future. His decision principle is that he must take care of the short run as well as the long run. He must evaluate the short run and long run effects of a decision. Any decision taken by the manager has its impact in the short run and also in the long run. A manager cannot ignore either the short run or the long run impact of a decision.

Examples:

1.By fixing very high price a manager may realise more revenue today. But he should be prepared to face declining sales tomorrow.

2. At present the advertisement expenditure may inflate the cost. But tomorrow it contributes to increase in sales and increase in revenue.

3..With a view to earn more profit or to reduce other than production costs, a manager has taken a decision to withdraw all welfare payments like, festival advance, bonus, education loans to employees children, etc. In the short run manager may improve the cost side of the balance sheet but this decision may adversely affect the future growth of a business firm.

Thus a manager while arriving at decisions must evaluate the short run and also the long run impact of his decisions.

ACTIVITY-1

1. List out the welfare payments made by your organisation to its employees.

5.02: BREAK- EVEN:

This is also called as no profit and no loss situation. When the total revenue is equal to total cost, we can say that the firm has reached the break-even. This concept is very useful to managers to know the minimum volume of output they have to produce or minimum volume of sales revenue they have to realize in order to reach break -even. Managers can identify break- even in two ways.

1. Break- even in physical terms: If a firm is producing a single product , we can identify break even quantity i.e. minimum quantity required to equate total cost with total revenue.

$$\text{Break even quantity} = \frac{TFC}{P-AVC}$$

TFC is total fixed cost, P is price, AVC is average variable cost.

Example: Total fixed cost = Rs 10000, Price = Rs 25 Average variable cost is Rs 15

$$\text{Break even quantity} = \frac{10000}{25-15} = 1000 \text{ units.}$$

Given the price and cost conditions, a firm has to produce at least 1000 units to reach break even situation.

Proof: Total revenue = quantity x price =1000 x 25 =Rs 25000.

Total fixed cost = Rs 10000

Total variable cost = quantity x AVC = 1000 x 15 = Rs 15000

Total cost = Total fixed cost + Total variable cost = Rs10000 + Rs 15000 =Rs 25000

Therefore total cost =Total revenue.

2. Break- even sales revenue: If a firm is producing multiple products, we can identify break even sales revenue i.e minimum sales revenue required to cover all costs.

$$\text{Break even sales revenue} = \frac{TFC}{CMR}$$

$$CMR = \frac{SR. - TVC}{SR}$$

TFC is total fixed cost, CMR is contribution margin ratio, SR is sales revenue, TVC is total variable cost. Given the values we can identify break- even sales revenue.

ACTIVITY-2

1. TFC=Rs 25000, TVC =Rs 75000, SR = Rs 150000. Estimate break even sales revenue and provide proof.

5.03: OPPORTUNITY COST:

Though it is called as cost, it is always measured in terms of sacrificed alternatives. Opportunity cost is the revenue that a factor unit could have earned by working in some other best alternative. Whenever the manager chooses one course of action he has to sacrifice the other alternative due to scarcity of available resources. We can therefore evaluate the one which is chosen in terms of the other alternative which is sacrificed.

Example: At a given point of time a machine can produce 100 units of X or 200 units of Y commodity. If we use the machine to produce X, we can not use it for the production of Y at the same time. With the same logic we can say that if the machine is used for the production of Y , it cannot be available for the production of X. The opportunity cost of producing 100 units of X is 200 units of Y. In other words, the opportunity cost of 1 unit of X is 2 units of Y. The opportunity cost of 1 unit of Y is .5 (half) units of X. The morale of this concept from the firm's point of view is that since the resources are scarce, managers have to minimize the opportunity cost. Keeping in mind minimization of opportunity cost they have to allocate resources among competing uses.

ACTIVITY-4

1. Spell out the rationality of the opportunity cost concept.

5.04: PROFIT:

Profit is the difference between total revenue and expenditure. If revenue exceeds cost, a firm can enjoy profits. For example total revenue is Rs 10000 and total cost is Rs 8000. Profit is = Rs2000. There are different types of profit concepts. They are:

1. Absolute profit or abnormal profit: Volume of profits realized by a firm by charging price, higher than average cost of production are known as abnormal profits.

2. Normal profits: Business firms generally make payments to all other factors of production from its total revenue. After making payments to other factors of production, if the leftover income is just sufficient to cover the remuneration of the organizer (profit) or entrepreneur, it is called as normal profit.

3. Accounting and economic profit: While estimating profit, accountants subtract explicit cost items from total revenue. They never consider implicit cost also known as opportunity or economic cost i.e. the cost of employing own factors of production in the business.

Example: A business employed own and purchased factors of production to produce certain quantity of output. The value of own factors like building (rent Rs2000), family members (wages Rs5000), capital (interest Rs1000) = Rs8000. The value purchased factors of production such as rawmaterial (Rs 2000) hired-in workers (salaries and wages Rs 5000), power charges (Rs1000), Interest on borrowed capital (Rs 2000) = Rs 10000.

Total revenue received by the firm Rs 20000.

Accounting profit = Total revenue – value of purchased factors

Rs 20000 - Rs10000 = Rs 10000.

Economic profit = Accounting profit – value of own factors.

Rs 10000 – Rs 8000 = Rs.2000.

ACTIVITY-4

1. What is the difference between accounting and economic profit?
2. List out the examples of economic cost items.

5.05: RISK AND UNCERTAINTY:

Business firms have to conduct production operations in an uncertain environment. It is not possible to forecast future movement of economic variables with accuracy. The future involves changes. There is no guarantee that the present trend of economic variables will continue in the future. Thus the decision environment is uncertain.

Even then the firms take the decisions with great degree of optimism. The changes in environment may be known or unknown. The definite outcome from a known change is called certainty. The indefinite outcome from a known change is called risk. The indefinite outcome from an unknown change is called as uncertainty. Risk can be measured using statistical techniques and insured where as uncertainty cannot be measured and insured.

ACTIVITY-5

1. Define risk and uncertainty with suitable examples.

5.06: SUMMARY:

In this module we discussed in detail few fundamental concepts of managerial economics. While taking decisions managers should evaluate the short run and long run impact of their decisions keeping in mind the future growth of a business firm. In the same way managers have to estimate opportunity cost to select projects. Break- even concept helps the managers to know the minimum quantity of output required to cover all costs. Since the future is uncertain, risk analysis will guide the managers in arriving at least to approximate decisions rather than accurate decisions.

5.07: ADDITIONAL RFERENCES:

1. Dominick Salvatore: *Managerial Economics in a Global Economy*, McGRAW-HILL international edition.

2. H.Craig Petersen and W.Lewis: *Managerial Economics*, Prentice –Hall of India.

3. William F.Samuleson and Stephen G.Marks: *Managerial Economics*, Wiley Student Edition

4. Brigham, E.F & Pappas: *Managerial Economics*, the Dryden Press, Illinois,USA

5.08: SELF ASSESSMENT TEST:

1. Discuss the importance of time element in decision making.
2. Break even is an important tool in the hands of management to determine minimum physical quantity or sales revenue required- comment.
3. List out and discuss different concepts of profit.