INDUSTRIAL ECONOMICS

UNIT- I

Firm: Size of the Firm – Measures of Size - Optimum Firm - Factors determining the optimum firm – Representative firm.

INDUSTRIAL ECONOMICS

- It is a distinctive branch of economics which deals with the economic problems of the firms and the industries and their relationship with the society.

  It has both micro aspect and macro aspect.

Role of General Economics in Industrial Economics

- The proDier«s decision making

+ The problem uncertainty and risk

Imperfect market conditions, government policies, import and export

- The problem forecasting

Position of raw materials, the prices of factors of producéon etc.

*x*BJEGTIVES

- Achieving industrial development
- Information related to the natural resources, industrial climate, supplies of factors of production etc-

SCORE OF INDUSTRIAL ECONOMICS

- Industrial Efficiency- Determined by production function
- □diversification
- Industrial Finance-

Two Oimensions- Source of finance & its efiective uñlization

- Industrial location

- The determinants of profitability-

Government policies, Advertisement, Size of a 6rm, market concenVation etc.

- The organizational form and its motives
- Theory of demand- Consumer behavior
- Theory of production- Rroducer*s behavior

- Gost Analysis- Relation between cost and quantity of output.
- Rrofit Analysis- common objective
- Analysis of pricing theory- Di@erent market conditions, price discrimination.

Firm, Industry and Market

*Concept of the Firm :

A firm is a Business unit which owns,controls and manages a plant.Such a Business unit may be a sole Proprietor,a partnership,a company or a cooperative enterprise.The Firm is the owner of the plant and it controls the operation of plants.

A plant is an aggregate of the physical facilities like land and building,machines and equipment meant for production.The Plant owned by the firm may be engaged in the production of the same product or in

†be production of differen gDods Dad services

Firm, Industry and Market

•Concept of the Industry :

An Industry may be defined as a group of firms producing and distributing similar products and services.We can classify various firms into different industries on the basis of type of products,use of raw material,use of process of manufacture.

The Concept of industry serves a lot of purposes.

- Helps to group the firm in terms of specified criteria.
- Makes it possible to derive a set of rules that constitute industry behaviour of competing members.
- Provides framework for the analysis of effect of entry on behaviour,equilibrium price & output of the firm.
- The Bussinessman design their strategy in view of industry they belong to.
- Government policy is designed with refernce to industry..

Firm, Industry and Market

***Concept of the Market:**

For understanding the concept of firm,understand the following kinds Of market.

i. Perfect Competition:It refers to the market situation where there are many firms in the industry,producing homogeneous products,enjoying freedom of movement,having neither transportation cost nor information cost and selling product at a single price.
ii. Monopoly:Situation where single firm constitutes the entire industry.Entry of other firms is blocked.
iii. Oligopoly:It exist in the market with the small number of firms,grouped together ,producing either homogeneous or different products.Individual sellers are consious of their interdependance and therefore take care of rival's actions and reaction in a variety of ways.

Objectives of Business Firms

- Profit Maximization
- Sales Maximization
- Growth Maximization
- Maximization Of Satisfaction
- Security Profits
- Maximization Of Managerial Utility
- Output Maximization
- Cyert & March's Behavioral Theory
- Satisfying Theory

Rationale Behind Profit Maximization

1. Essential for survival of the firm.
2. Greater relevance to competitive firm
3. Based on Empirical Analysis.
4. Strongest motive.

The Size of a Firm: Definition, Measures and Concepts

- **Definitions of the Size of a Firm:**
- In an industry there are firms of varying sizes. The costs of production in these firms of different sizes vary. Economists are concerned with the best size of a business unit, that is, a firm in which the average cost of production per unit is the lowest.
- But while taking decision about the size of a business unit or scale of operations often the various terms such as the plant or the establishment, the firm and the industry are used in a confused way. To have clear understanding of the concept of the size of a business unit it is advisable to keep in mind the differences between these terms, i.e., the plant, the firm, and the industry.

The Plant:

Plant or establishment means a factory, a mill, a shop or an establishment. It refers to a place where goods are produced such as a cement pipe factory or wherefrom goods are distributed such as a department store or wherefrom the services are supplied such as the transport depot. The term plant includes not only the machinery and equipment installed in the factory building but also the workers employed therein.

The Firm:

- The term ‘firm’ refers to the business unit or undertaking which owns the plant (the factory, the shop, the warehouse or transport depot), controls and manages it. Thus this term (firm) is broader in its scope. It is essentially a unit of control, ownership and management.
- The firm owns the land on which the plant or establishment is situated, the building along with the machines and equipment installed in it and the raw materials, the semi-finished and finished goods of the plant.
- It controls the workers employed in the plant, finances the needs of the plant, arranges for the marketing of goods produced (or purchased in case of a selling shop) and bears the risks involved. It may be noted that a firm may own only one plant or more than one plants.
- Again, the various plants owned by a firm may be engaged in the production of the same product such as a number of cotton textile mills or different plants may be engaged in the production of different goods.

The Industry

- The term ‘industry’ is wider in coverage than the firm. It includes all the firms, controlling and managing plants engaged in the production of similar products. For example, by sugar industry is meant all the firms which are engaged in the production of sugar; cotton textile industry is the aggregation of all the firms which own the plants producing cotton yarn and cloth.

Measures of Size:

1. **Capital Invested:**

- The Amount of capital invested is one measure of size that can be used to compare the size of like and unlike firms.

2. **Value of the Product:**

- The second measure is the value of the products in terms of rupees turned out by a firm. This measure has the advantage of making all comparisons in terms of rupees, which is convenient.

3. The Number of Wage-earners Employed

- The third measure is the number of wage-earners employed by each firm. This measure is much used and is advantageous in the comparison of the firms of similar nature. However, in case of its application to unlike firms results may be misleading.
- Also, it can be used only for the firms at the same stage of development because as firms grow in size all of them may not employ increasing number of workers, some may actually install more machines for increased production rather than increasing their labour force.

4. Power Used:

The amount of power used per unit is also “an index of the size and growth” of firms engaged in manufacturing.

However, the amount of power consumed may be more or less even due to the factors other than the scale of operations of a firm. Therefore, it may not always prove to be a reliable measure.

5. Amount of Raw Materials Consumed:

In case of the firms whose output are of similar nature the annual consumption of raw materials by a firm may be a good measure.

6. Volume of Output:

This is a good measure of size in case of firms producing products which are uniform or homogeneous in nature or characteristics.
But it will not give perfect picture in case of the firms which produce variety of goods such as is the case with the cotton textile industry.

7. Productive Capacity of the Plant:

This is a good measure of size especially for the industries producing a variety of products. For example, number of plants in case of iron and steel industry with their productive capacity may provide a good standard of measure.

Various Concepts of Size of Firm:

(1) The Concept of Representative Firm by Alfred Marshall.

(2) The Concept of Equilibrium Firm by Pigou.

(3) The Concept of Optimum Firm by E.A.G, Robinson.

1. The Representative Firm

By representative firm Marshall meant a firm “which has had a fairly long life and fair success, which is managed with normal ability and which has normal access to the economies, external and internal.

The representative firm as defined by Marshall is essentially an average firm which has been running with normal success over a sufficiently long period of time. Such a firm can naturally be found only if a broad survey of the firms under various patterns of management is undertaken.

2. The Equilibrium Firm:

The concept of ‘Equilibrium Firm’ was introduced by Pigou, An equilibrium firm is one which has reached a stage where there is no urge for the entrepreneur to expand further. In other words, a firm is said to be in equilibrium when the entrepreneur is so much satisfied with its profitability that he does not want any further expansion or reduction in its size.

3. The Concept of Optimum Firm:

The concept of optimum firm has been developed by E.A.G. Robinson. In his words by the optimum firm we must mean that firm which in existing conditions of technique and organising ability
has the lowest average cost of production per unit, when all those costs which must be concerned in the long run are included.

As Beacham wrote: **"In an ideal world all firms should grow up to the point at which they are making the most effective and economical use of productive resources. That is to say, all firms should expand until they reach their optimum size."**

The main implications of the optimum firm are as given below:

(1)Production of the required output at the level of minimum average cost per unit.

(2) Costs should include all the elements that need to be met not only in the short run but also in the long run. Average costs mean total costs divided by the aggregate output. The total costs consist of not only direct costs like those on materials and labour but also indirect costs like depreciation, selling expenses, a reasonable rate of profit and such other costs that have to be met in the long run if the firm is to survive as a visible unit.

(3) Fullest possible utilisation of technological potentials available under the existing conditions.

(4) Operating to the maximum scale of the installed capacity through tapping of productive techniques and organising talents.

(5) Existence of perfect competition whereby there will be large number of buyers and sellers in the market and homogeneity of the product.

(6) Market is sufficiently large to absorb the level of output produced at the least average cost.

4. Passimum Firm:

At the initial stage of its operation a business firm continues to grow towards the optimum size. In the process of this growth a stage is reached when organisation and coordination tend to become more complicated Management by individuals is replaced by group management. Local market is replaced by national market. But the firm may not be able to reap the advantages of technical economies.

This is of course a temporary phase in the life of an expanding firm which can be overcome by expanding with speed and dynamism. The firm at this temporary phase of its expansion has been called by Robinson the "Passimum Firm". In his words it is **"a size of firm which combines the technical disadvantages of smallness with the managerial disadvantages of being too large for individual control".**

Factors determining the optimum firm

Professor Robinson has grouped the factors determining the optimum size of a business unit into five classes. They are: 1. Technical factors, 2. Financial factors, 3. Managerial factors, 4. Risk factors and 5. Marketing factors:

Each class of factors decides the optimum size of unit. The optimum depending upon the group of factors is known as the optimum technical unit, optimum financial unit, optimum managerial unit, together may give the optimum size.

1. Optimum technical unit:

Technical factors are concerned with methods of production. They may include specialization, division of labour, mechanization and the like.
Production methods become economical when these steps are taken. Technical forces decide the minimum and the maximum limits to size.

2. Optimum Financial unit:

Generally, the size of a unit depends upon the volume or size of capital and, in turn, the volume of capital depends on its size. Larger the size of a unit, larger the volume of capital required and easier to obtain capital because large volume of production and operational efficiency insure adequate return on capital. The optimum financial unit is governed by the volume of funds.

3. Optimum managerial unit:

Management expenses may vary with size. If the size is small it may be relatively costly to manage its affairs whereas with the growth of size there is an economy in such expenses. The growth of size may bring in complexities of organization and management. But in a larger unit the advantages of specialization and division of labor may be obtained and managerial efficiency improved.

4. Optimum survival unit:

The production of a commodity depends upon its demand in the market. Since demand may fluctuate from time to time, there is risk and uncertainty before the firm. Therefore, conditions of demand may influence the size of a unit because the risk or uncertainty is influenced by such conditions. The changes in demand may be permanent cyclical and seasonal. Changes in demand due to the development of a substitute or a change in the taste and habits of the consumers may be taken as a permanent change.

5. Optimum marketing unit:

Marketing optimum has to seek a balance between large scale marketing operations with a view to having some economies in selling and buying and better quality of commodities and services by limiting the size to a manageable limit. Demand estimates are to be prepared to decide the size of marketing operations.