MANAGERIAL ECONOMICS MARKET STRUCTURE AND PRICING PRACTICES

INTRODUCTION

Ordinarily, the term "market" refers to a particular place where goods are purchased and sold. But, in economics, market is used in a wide perspective. In economics, the term "market" does not mean a particular place but the whole area where the buyers and sellers of a product are spread.

The essential features of a market are: (1) An Area:

In economics, a market does not mean a particular place but the whole region where sellers and buyers of a product are spread. Modem modes of communication and transport have made the market area for a product very wide.

(2) One Commodity:

In economics, a market is not related to a place but to a particular product. Hence, there are separate markets for various commodities. For example, there are separate markets for clothes, grains, jewellery, etc.

(3) Buyers and Sellers:

The presence of buyers and sellers is necessary for the sale and purchase of a product in the market. In the modern age, the presence of buyers and sellers is not necessary in the market because they can do transactions of goods through letters, telephones, business representatives, internet, etc.

(4) Free Competition:

There should be free competition among buyers and sellers in the market. This competition is in relation to the price determination of a product among buyers and sellers.

(5) One Price:

The price of a product is the same in the market because of free competition among buyers and sellers.

Market Structure

Market structure refers to the nature and degree of competition in the market for goods and services. The structures of market both for goods market and service (factor) market are determined by the nature of competition prevailing in a particular market.

Characteristics of Market Structure

1. Number and Nature of Sellers:

The market structures are influenced by the number and nature of sellers in the market. They range from large number of sellers in perfect competition to a single seller in pure monopoly, to two sellers in duopoly, to a few sellers in oligopoly, and to many sellers of differentiated products.

2. Number and Nature of Buyers:

The market structures are also influenced by the number and nature of buyers in the market. If there is a single buyer in the market, this is buyer's monopoly and is called monopoly market. Such markets exist for local labour employed by one large employer. There may be two buyers who act jointly in the market. This is called duopsony market. They may also be a few organised buyers of a product.

This is known as oligopsony. Duopsony and oligopsony markets are usually found for cash crops such as rice, sugarcane, etc. when local factories purchase the entire crops for processing.

3. Nature of Product:

It is the nature of product that determines the market structure. If there is product differentiation, products are close substitutes and the market is characterised by monopolistic competition. On the other hand, in case of no product differentiation, the market is characterised by perfect competition. And if a product is completely different from other products, it has no close substitutes and there is pure monopoly in the market.

4. Entry and Exit Conditions:

The conditions for entry and exit of firms in a market depend upon profitability or loss in a particular market. Profits in a market will attract the entry of new firms and losses lead to the exit of weak firms from the market. In a perfect competition market, there is freedom of entry or exit of firms.

But in monopoly and oligopoly markets, there are barriers to entry of new firms. Usually, governments have a monopoly in public utility services like postal, air and road transport, water and power supply services, etc. By granting exclusive franchises, entries of new supplies are barred. In oligopoly markets, there are barriers to entry of firms because of collusion, tacit agreements, cartels, etc. On the other hand, there are no restrictions in entry and exit of firms in monopolistic competition due to product differentiation

Factors That Determine Market Structure



- **Number of Sellers**: The number of firms selling a particular product on the market, determines the level of competition, ultimately choosing the structure of the market for that specific product.
- **Number of Buyers**: Buyers decide the demand for a particular product. A monopsony market has multiple sellers and a single buyer who influences the price of the product.
- Economies of Scale: The size of the firm or the level of production contributes to a market structure. If the output is done on such a large scale that it fulfils the market demand solely, it may create a monopoly market.
- **Nature of Product**: The product features determines the type of market structure to which it belongs. If the products offered by different sellers are homogeneous, it lies in a perfect competition market. If it is unique and has no other substitute, it creates a monopoly in the market.
- Entry Barriers: The profitability of a product invites the sellers to enter such markets. The market runs on the rule 'survival of the fittest' where weak firms exit and strong ones survive. There are some public utility service

markets which run on monopoly by the government like post offices, railways, water supply, etc.

- The mobility of Goods: Easy transportation of goods from production place to the market ensures uniform prices by different sellers.
- **Government Intervention**: Some markets are indirectly controlled by the government. The government either imposes heavy taxes or makes the business license mandatory to restrict the entry of firms

Types of Market Structure

On the basis of competition, a market can be classified in the following ways:



1. PERFECT COMPETITION:

A perfectly competitive market is one in which the number of buyers and sellers is very large, all engaged in buying and selling a homogeneous product without any artificial restrictions and possessing perfect knowledge of market at a time. In the words of A. Koutsoyiannis, "Perfect competition is a market structure characterised by a complete absence of rivalry among the individual firms." According to R.G. Lipsey, "Perfect competition is a market structure in which all

firms in an industry are price- takers and in which there is freedom of entry into, and exit from, industry."

For Example; the farmers' market can be seen as the most common examples of a perfect competition market. Here, all the sellers are engaged in selling identical products at a single price.

Characteristics of Perfect Competition:

The following are the conditions for the existence of perfect competition:

(1) Large Number of Buyers and Sellers:

The first condition is that the number of buyers and sellers must be so large that none of them individually is in a position to influence the price and output of the industry as a whole. The demand of individual buyer relative to the total demand is so small that he cannot influence the price of the product by his individual action.

Similarly, the supply of an individual seller is so small a fraction of the total output that he cannot influence the price of the product by his action alone. In other words, the individual seller is unable to influence the price of the product by increasing or decreasing its supply. Rather, he adjusts his supply to the price of the product. He is "output adjuster". Thus no buyer or seller can alter the price by his individual action. He has to accept the price for the product as fixed for the whole industry. He is a "price taker".

(2) Freedom of Entry or Exit of Firms:

The next condition is that the firms should be free to enter or leave the industry. It implies that whenever the industry is earning excess profits, attracted by these profits some new firms enter the industry. In case of loss being sustained by the industry, some firms leave it.

(3) Homogeneous Product:

Each firm produces and sells a homogeneous product so that no buyer has any preference for the product of any individual seller over others. This is only possible if units of the same product produced by different sellers are perfect substitutes. In other words, the cross elasticity of the products of sellers is infinite.

No seller has an independent price policy. Commodities like salt, wheat, cotton and coal are homogeneous in nature. He cannot raise the price of his product. If he does so, his customers would leave him and buy the product from other sellers at the ruling lower price. The above two conditions between themselves make the average revenue curve of the individual seller or firm perfectly elastic, horizontal to the X-axis. It means that a firm can sell more or less at the ruling market price but cannot influence the price as the product is homogeneous and the number of sellers very large.

(4) Absence of Artificial Restrictions:

The next condition is that there is complete openness in buying and selling of goods. Sellers are free to sell their goods to any buyers and the buyers are free to buy from any sellers. In other words, there is no discrimination on the part of buyers or sellers.

Moreover, prices are liable to change freely in response to demand-supply conditions. There are no efforts on the part of the producers, the government and

other agencies to control the supply, demand or price of the products. The movement of prices is unfettered.

(5) Profit Maximization Goal:

Every firm has only one goal of maximizing its profits.

(6) Perfect Mobility of Goods and Factors:

Another requirement of perfect competition is the perfect mobility of goods and factors between industries. Goods are free to move to those places where they can fetch the highest price. Factors can also move from a low-paid to a high-paid industry.

(7) Perfect Knowledge of Market Conditions:

This condition implies a close contact between buyers and sellers. Buyers and sellers possess complete knowledge about the prices at which goods are being bought and sold, and of the prices at which others are prepared to buy and sell. They have also perfect knowledge of the place where the transactions are being carried on. Such perfect knowledge of market conditions forces the sellers to sell their product at the prevailing market price and the buyers to buy at that price.

(8) Absence of Transport Costs:

Another condition is that there are no transport costs in carrying of product from one place to another. This condition is essential for the existence of perfect competition which requires that a commodity must have the same price everywhere at any time. If transport costs are added to the price of the product, even a homogeneous commodity will have different prices depending upon transport costs from the place of supply.

(9) Absence of Selling Costs:

Under perfect competition, the costs of advertising, sales-promotion, etc. do not arise because all firms produce a homogeneous product.

Price Output Determination in Perfectly Competitive Market

Perfect competition refers to a market situation where there are a large number of buyers and sellers dealing in homogenous products. Moreover, under perfect competition, there are no legal, social, or technological barriers on the entry or exit of organizations.

In perfect competition, sellers and buyers are fully aware about the current market price of a product. Therefore, none of them sell or buy at a higher rate. As a result, the same price prevails in the market under perfect competition. Under perfect competition, the buyers and sellers cannot influence the market price by increasing or decreasing their purchases or output, respectively. The market price of products in perfect competition is determined by the industry. This implies that in perfect competition, the market price of products is determined by taking into account two market forces, namely market demand and market supply. In the words of Marshall, "Both the elements of demand and supply are required for the determination of price of a commodity in the same manner as both the blades of scissors are required to cut a cloth." As discussed in the previous chapters, market demand is defined as a sum of the quantity demanded by each individual organization in the industry.

On the other hand, market supply refers to the sum of the quantity supplied by individual organizations in the industry. In perfect competition, the price of a product is determined at a point at which the demand and supply curve intersect each other. This point is known as equilibrium point as well as the price is known as equilibrium price. In addition, at this point, the quantity demanded and supplied is called equilibrium quantity. Let us discuss price determination under perfect competition in the next sections

Demand under Perfect Competition:

Demand refers to the quantity of a product that consumers are willing to purchase at a particular price, while other factors remain constant. A consumer demands more quantity at lower price and less quantity at higher price. Therefore, the demand varies at different prices.



As shown in Figure-1, when price is OP, the quantity demanded is OQ. On the other hand, when price increases to OP1, the quantity demanded reduces to OQ1. Therefore, under perfect competition, the demand curves (DD') slopes downward.

Supply under Perfect Competition:

Supply refers to quantity of a product that producers are willing to supply at a particular price. Generally, the supply of a product increases at high price and decreases at low price.



Figure-2: Supply Curve under Perfect Competition

In Figure-2, the quantity supplied is OQ at price OP. When price increases to OP1, the quantity supplied increases to OQ1. This is because the producers are able to earn large profits by supplying products at higher price. Therefore, under perfect competition, the supply curves (SS') slopes upward.

Equilibrium under Perfect Competition:

As discussed earlier, in perfect competition, the price of a product is determined at a point at which the demand and supply curve intersect each other. This point is known as equilibrium point. At this point, the quantity demanded and supplied is called equilibrium quantity.





In Figure-3, it can be seen that at price OP1, supply is more than the demand. Therefore, prices will fall down to OP. Similarly, at price OP2, demand is more than the supply. Similarly, in such a case, the prices will rise to OP. Thus, E is the equilibrium at which equilibrium price is OP and equilibrium quantity is OQ.

2. IMPERFECT COMPETITION

a) MONOPOLISTIC COMPETITION

Monopolistic competition refers to a market situation where there are many firms selling a differentiated product. "There is competition which is keen, though not perfect, among many firms making very similar products." No firm can have any perceptible influence on the price-output policies of the other sellers nor can it be influenced much by their actions. Thus monopolistic competition refers to competition among a large number of sellers producing close but not perfect substitutes for each other.

It's Features:

The following are the main features of monopolistic competition:

(1) Large Number of Sellers:

In monopolistic competition the number of sellers is large. They are "many and small enough" but none controls a major portion of the total output. No seller by changing its price-output policy can have any perceptible effect on the sales of others and in turn be influenced by them. Thus there is no recognised interdependence of the price-output policies of the sellers and each seller pursues an independent course of action.

(2) Product Differentiation:

One of the most important features of the monopolistic competition is differentiation. Product differentiation implies that products are different in some ways from each other. They are heterogeneous rather than homogeneous so that each firm has an absolute monopoly in the production and sale of a differentiated product. There is, however, slight difference between one product and other in the same category.

Products are close substitutes with a high cross-elasticity and not perfect substitutes. Product "differentiation may be based upon certain characteristics of the products itself, such as exclusive patented features; trade-marks; trade names; peculiarities of package or container, if any; or singularity in quality, design, colour, or style. It may also exist with respect to the conditions surrounding its sales."

(3) Freedom of Entry and Exit of Firms:

Another feature of monopolistic competition is the freedom of entry and exit of firms. As firms are of small size and are capable of producing close substitutes, they can leave or enter the industry or group in the long run.

(4) Nature of Demand Curve:

Under monopolistic competition no single firm controls more than a small portion of the total output of a product. No doubt there is an element of differentiation nevertheless the products are close substitutes. As a result, a reduction in its price will increase the sales of the firm but it will have little effect on the price-output conditions of other firms, each will lose only a few of its customers. Likewise, an increase in its price will reduce its demand substantially but each of its rivals will attract only a few of its customers. Therefore, the demand curve (average revenue curve) of a firm under monopolistic competition slopes downward to the right. It is elastic but not perfectly elastic within a relevant range of prices of which he can sell any amount.

(5) Independent Behaviour:

In monopolistic competition, every firm has independent policy. Since the number of sellers is large, none controls a major portion of the total output. No seller by changing its price-output policy can have any perceptible effect on the sales of others and in turn be influenced by them.

(6) Product Groups:

There is no any 'industry' under monopolistic competition but a 'group' of firms producing similar products. Each firm produces a distinct product and is itself an industry. Chamberlin lumps together firms producing very closely related products and calls them product groups, such as cars, cigarettes, etc.

(7) Selling Costs:

Under monopolistic competition where the product is differentiated, selling costs are essential to push up the sales. Besides, advertisement, it includes expenses on salesman, allowances to sellers for window displays, free service, free sampling, premium coupons and gifts, etc.

(8) Non-price Competition:

Under monopolistic competition, a firm increases sales and profits of his product without a cut in the price. The monopolistic competitor can change his product either by varying its quality, packing, etc. or by changing promotional programmes.

Price Output Determination in Monopolistic Competition

Under monopolistic competition, organizations need to make optimum adjustments in the prices and output sold to attain equilibrium.

Apart from this, under monopolistic competition, organizations also need to pay attention toward the design of the product and the way the product is promoted in the market. Moreover, an organization under monopolistic competition is not only required to study its individual equilibrium, but group equilibrium of all organizations existing in the market. Let us first understand individual equilibrium of an organization under monopolistic competition.

As we know every seller, irrespective of the market structure, is willing to maximize his/her profits. In monopolistic competition, profits are maximized at a point where marginal revenue is equal to marginal cost. The price determined at this point is known as equilibrium price and the output produced at this point is called equilibrium output.

If the marginal revenue of a seller is greater than marginal cost, he/she may plan to expand his/her output. On the other hand, if marginal revenue is lesser than marginal cost, it would be profitable for the seller to reduce his/her output to the level where marginal revenue is equal to marginal cost.

Equilibrium in Short Run:

The short-run equilibrium of a monopolistic competitive organization is the same as that of an organization under monopoly. In the short run, an organization under monopolistic competition attains its equilibrium where marginal revenue equals marginal cost and sets its price according to its demand curve. This implies that in the short run, profits are maximized when MR=MC.



In Figure-2, AR is the average revenue curve, MR represents the marginal revenue curve, SAC curve denotes the short run average cost curve, while SMC signifies the short run marginal cost. In Figure-2, it can be seen that MR intersects SMC at output OM where price is OP' (which is equal to MP). This is because P is the, point on AR curve, which is price.

From Figure-2, it can be interpreted from that the organization is earning supernormal profit. Supernormal profit per unit of output is the difference between the average revenue and average cost. In Figure-2, average revenue at equilibrium point is MP and average cost is MT.

Therefore, PT is the supernormal profit per unit of output. In the present case, supernormal profit would be measured by the area of rectangle P'PTT' (which is output multiplied by supernormal profit per unit of output).

On the other hand, when marginal cost is greater than marginal revenue, organizations would incur losses, as shown in Figure-3:



Figure-3: Equilibrium in the Short Run in Case of Losses

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Figure-3 shows the condition of losses in the short run under monopolistic competition. Here, OP' is smaller than MT, which implies that average revenue is smaller than average cost. TP is representing the loss that has incurred per unit of output. Therefore total loss is depicted from rectangle T'TPP'.

Equilibrium in Long Run:

In the preceding sections, we have discussed that in the short run, organizations can earn supernormal profits. However, in the long run, there is a gradual decrease in the profits of organizations. This is because in the long run, several new organizations enter the market due to freedom of entry and exit under monopolistic competition.

When these new organizations start production the supply would increase and the prices would fall. This would automatically increase the level of competition in the market. Consequently, AR curve shifts from right to left and supernormal profits are replaced with normal profits.

In the long run, the AR curve is more elastic than that of in the short run. This is because of an increase in the number of substitute products in the long- run. The long-run equilibrium of monopolistically competitive organizations is achieved when average revenue is equal to average cost. In such a case, organizations receive normal profits.



In Figure-4, P is the point at which AR curve touches the average cost curve (LAC) as a tangent. P is regarded as the equilibrium point at which the price level is MP (which is also equal to OF) and output is OM.

In the present case average cost is equal to average revenue that is MP. Therefore, in long run, the profit is normal. In the short run, equilibrium is attained when marginal revenue is equal to marginal cost. However, in the long run, both the conditions (MR=MC and AR=AC) must hold to attain equilibrium.

b) Oligopoly Market

Oligopoly is a market situation in which there are a few firms selling homogeneous or differentiated products. It is difficult to pinpoint the number of firms in 'competition among the few.' With only a few firms in the market, the action of one firm is likely to affect the others. An oligopoly industry produces either a homogeneous product or heterogeneous products.

The former is called pure or perfect oligopoly and the latter is called imperfect or differentiated oligopoly. Pure oligopoly is found primarily among producers of such industrial products as aluminium, cement, copper, steel, zinc, etc. Imperfect oligopoly is found among producers of such consumer goods as automobiles, cigarettes, soaps and detergents, TVs, rubber tyres, refrigerators, typewriters, etc.

Characteristics of Oligopoly:

In addition to fewness of sellers, most oligopolistic industries have several common characteristics which are explained below:

(1) Interdependence:

There is recognised interdependence among the sellers in the oligopolistic market. Each oligopolist firm knows that changes in its price, advertising, product characteristics, etc. may lead to counter-moves by rivals. When the sellers are a few, each produces a considerable fraction of the total output of the industry and can have a noticeable effect on market conditions.

He can reduce or increase the price for the whole oligopolist market by selling more quantity or less and affect the profits of the other sellers. It implies that each seller is aware of the price-moves of the other sellers and their impact on his profit and of the influence of his price-move on the actions of rivals. Thus there is complete interdependence among the sellers with regard to their price-output policies. Each seller has direct and ascertainable influences upon every other seller in the industry. Thus, every move by one seller leads to counter-moves by the others.

(2) Advertisement:

The main reason for this mutual interdependence in decision making is that one producer's fortunes are dependent on the policies and fortunes of the other producers in the industry. It is for this reason that oligopolist firms spend much on advertisement and customer services.

As pointed out by Prof. Baumol, "Under oligopoly advertising can become a lifeand-death matter." For example, if all oligopolists continue to spend a lot on advertising their products and one seller does not match up with them he will find his customers gradually going in for his rival's product. If, on the other hand, one oligopolist advertises his product, others have to follow him to keep up their sales.

(3) Competition:

This leads to another feature of the oligopolistic market, the presence of competition. Since under oligopoly, there are a few sellers, a move by one seller immediately affects the rivals. So each seller is always on the alert and keeps a close watch over the moves of its rivals in order to have a counter-move. This is true competition.

(4) Barriers to Entry of Firms:

As there is keen competition in an oligopolistic industry, there are no barriers to entry into or exit from it. However, in the long run, there are some types of barriers to entry which tend to restraint new firms from entering the industry.

They may be:

(a) Economies of scale enjoyed by a few large firms; (b) control over essential and specialised inputs; (c) high capital requirements due to plant costs, advertising costs, etc. (d) exclusive patents and licenses; and (e) the existence of unused capacity which makes the industry unattractive. When entry is restricted or blocked by such natural and artificial barriers, the oligopolistic industry can earn long-run super normal profits.

(5) Lack of Uniformity:

Another feature of oligopoly market is the lack of uniformity in the size of firms. Finns differ considerably in size. Some may be small, others very large. Such a situation is asymmetrical. This is very common in the American economy. A symmetrical situation with firms of a uniform size is rare.

(6) Demand Curve:

It is not easy to trace the demand curve for the product of an oligopolist. Since under oligopoly the exact behaviour pattern of a producer cannot be ascertained with certainty, his demand curve cannot be drawn accurately, and with definiteness. How does an individual seller s demand curve look like in oligopoly is most uncertain because a seller's price or output moves lead to unpredictable reactions on price-output policies of his rivals, which may have further repercussions on his price and output.

Price and Output Determination in Oligopoly

A diversity of specific market situations works against the development of a single, generalized explanation of how an oligopoly determines price and output. Pure monopoly, monopolistic competition and perfect competition, all refer to rather clear cut market arrangements; oligopoly does not.

It consists of the 'tight' oligopoly situation in which two or three firms dominate the entire market and the 'loose' oligopoly situation where six or seven firms occupy the maximum share of the market.

Other firms share the balance. It includes both differentiation and standardization. It encompasses the cases in which firms are acting in collusion and in which they are acting independently. Therefore, the existence of various forms of oligopoly prevents the development of a general theory of price and output. The element of mutual interdependence in oligopolistic market further complicates the determination of price and output.

Theories on Price and Output Determination

No single theory can explain how the price is determined under Oligopoly. Several theories suggest various ways on how the price determination under oligopoly is done. Here we will discuss the important theories of price and output determination.

Cournot's Model

According to Cournot, Each firm in a duopolist market thinks that instead of its action and effect on the market, The other firm will keep on producing the products. The Cournot model suggests that the most profitable pricing is when a firm's output is two-third of its competitor's output, and the price is also two-third.

Stackelberg Model

Under Stackelberg's model, a leader and follower relationship is formed. The firm with good brand equity is called the leader, and the one with lower brand equity is called the follower. The leader decides the price and quality of the commodity, and then the follower observes the leader and decides the price, to maintain its market share.

Bertrand Model

Bertrand model can be explained when there exists a symmetry in the industry, i.e. there are firms which are equal in size and operations. The Bertrand model suggests that the firms set a low price until the price matches the cost of production. This is done to dominate the market.

Edgeworth Model

The Edgeworth Model suggests that each firm in a duopoly market thinks that his competitor will charge the same price, so it changes its price to make a greater profit. This thinking of the firm keeps the price war continued.

PRICE DETERMINATION MODELS OF OLIGOPOLY

1. Kinked Demand Curve: The kinky demand curve model tries to explain that in non-collusive oligopolistic industries there are not frequent changes in the market prices of the products. The demand curve is drawn on the assumption that the kink in the curve is always at the ruling price. The reason is that a firm in the market supplies a significant share of the product and has a powerful influence in the prevailing price of the commodity. Under oligopoly, a firm has two choices:

(a) The first choice is that the firm **increases the price** of the product. Each firm in the industry is fully aware of the fact that if it increases the price of the product, it will lose most of its customers to its rival. In such a case, the upper part of demand curve is more elastic than the part of the curve lying below the kink.

(b) The second option for the firm is to **decrease the price.** In case the firm lowers the price, its total sales will increase, but it cannot push up its sales very much because the rival firms also follow suit with a price cut. If the rival firms make larger price cut than the one which initiated it, the firm which first started the price cut will suffer a lot and may finish up with decreased sales. The oligopolists, therefore avoid cutting price, and try to sell their products at the prevailing market price. These firms, however,

compete with one another on the basis of quality, product design, aftersales services, advertising, discounts, gifts, warrantees, special offers, etc.



Fig. 1 : Kinked Demand Curve under oligopoly

2. Price Leadership Model: Under price leadership, one firm assumes the role of a price leader and fixes the price of the product for the entire industry. The other firms in the industry simply follow the price leader and accept the price fixed by him and adjust their output to this price. The price leader is generally a very large or dominant firm or a firm with the lowest cost of production. It often happens that price leadership is established as a result of price war in which one firm emerges as the winner.

In oligopolistic market situation, it is very rare that prices are set independently and there is usually some understanding among the oligopolists operating in the industry. This agreement may be either tacit or explicit.

Types of Price Leadership: There are several types of price leadership. The following are the principal types:

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(a) Price leadership of a dominant firm, i.e., the firm which produces the bulk of the product of the industry. It sets the price and rest of the firms simply accepts this price.

(b) Barometric price leadership, i.e., the price leadership of an old, experienced and the largest firm assumes the role of a leader, but undertakes also to protect the interest of all firms instead of promoting its own interests as in the case of price leadership of a dominant firm.

(c) Exploitative or Aggressive price leadership, i.e., one big firm built its supremacy in the market by following aggressive price leadership. It compels other firms to follow it and accept the price fixed by it. In case the other firms show any independence, this firm threatens them and coerces them to follow its leadership.

Price Determination under Price Leadership: There are various models concerning price-output determination under price leadership on the basis of certain assumptions regarding the behaviour of the price leader and his followers. In the following case, there are few assumptions for determining price-output level under price leadership:

(a) There are only two firms A and B and firm A has a lower cost of production than the firm B.

(b) The product is homogenous or identical so that the customers are indifferent as between the firms.

(c) Both A and B have equal share in the market, i.e., they are facing the same demand curve which will be the half of the total demand curve.



In the above diagram, MCa is the marginal cost curve of firm A and MCb is the marginal cost curve of firm B. Since we have assumed that the firm A has a lower cost of production than the firm B, therefore, the MCa is drawn below MCb.

Now let us take the firm A first, firm A will be maximising its profit by selling OM level of output at price MP, because at output OM the firm A will be in equilibrium as its marginal cost is equal to marginal revenue at point E. Whereas the firm B will be in equilibrium at point F, selling ON level of output at price NK, which is higher than the price MP. Two firms have to charge the same price in order to survive in the industry. Therefore, the firm B has to accept and follow the price set by firm A. This shows that firm A is the price leader and firm B is the follower.

Since the demand curve faced by both firms is the same, therefore, the firm B will produce OM level of output instead of ON. Since the marginal cost of firm B is greater than the marginal cost of firm A, therefore, the profit earned by firm B will be lesser than the profit earned by firm A

3. MONOPLY

Monopoly is a market situation in which there is only one seller of a product with barriers to entry of others. The product has no close substitutes. The cross elasticity of demand with every other product is very low. This means that no other firms produce a similar product. According to D. Salvatore, "Monopoly is the form of market organisation in which there is a single firm selling a commodity for which there are no close substitutes." Thus the monopoly firm is itself an industry and the monopolist faces the industry demand curve.

The demand curve for his product is, therefore, relatively stable and slopes downward to the right, given the tastes, and incomes of his customers. It means

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that more of the product can be sold at a lower price than at a higher price. He is a price-maker who can set the price to his maximum advantage.

However, it does not mean that he can set both price and output. He can do either of the two things. His price is determined by his demand curve, once he selects his output level. Or, once he sets the price for his product, his output is determined by what consumers will take at that price. In any situation, the ultimate aim of the monopolist is to have maximum profits.

Characteristics of Monopoly:

The main features of monopoly are as follows:

1. Under monopoly, there is one producer or seller of a particular product and there is no difference between a firm and an industry. Under monopoly a firm itself is an industry.

2. A monopoly may be individual proprietorship or partnership or joint stock company or a cooperative society or a government company.

3. A monopolist has full control on the supply of a product. Hence, the elasticity of demand for a monopolist's product is zero.

4. There is no close substitute of a monopolist's product in the market. Hence, under monopoly, the cross elasticity of demand for a monopoly product with some other good is very low.

5. There are restrictions on the entry of other firms in the area of monopoly product.

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6. A monopolist can influence the price of a product. He is a price-maker, not a price-taker.

7. Pure monopoly is not found in the real world.

8. Monopolist cannot determine both the price and quantity of a product simultaneously.

9. Monopolist's demand curve slopes downwards to the right. That is why, a monopolist can increase his sales only by decreasing the price of his product and thereby maximise his profit. The marginal revenue curve of a monopolist is below the average revenue curve and it falls faster than the average revenue curve. This is because a monopolist has to cut down the price of his product to sell an additional unit.

Price and Output Determination In Monopoly Market

Short Run:

Pricing under monopoly, like that under perfect competition, is determined by demand and supply conditions in the market. Since the number of consumers is large even under monopoly, the monopoly is similar to the pure competitive market so far as the demand side as a whole i.e. industry demand is concerned. The difference lies in the demand curve facing a firm. Under monopoly, there is no difference between the industry and the firm, and thus the demand curve facing the monopolist firm is the one faced by the purely competitive industry, which is downward sloping.

Further, the downward sloping demand curve implies that more could be sold only at a lower price and vice versa, thus the firm is a price maker. Given the consumer's demand, the monopolist could either set the price or the output, and the remaining of the two variables will be determined by the demand function. Since the monopolist takes part in pricing his product and the demand for its product varies with the product price. Accordingly under monopoly, the relevant curves are revenue curves.



Fig. 4.10. Short- run Price and Output Determination.

The monopolist hires his factors of production from the factors market just as a purely competitive firm does. Thus, there is no significant difference with regard to cost curves between the two market structures. Accordingly, the cost curves of the monopolist would be of usual shapes.

Given the revenue and cost curves and firm's objective of profit-maximization price-output determination can easily be explained.

The monopolist maximizes his short-run profits at the point where marginal cost is equal to the marginal revenue and the slope of the marginal cost is greater than the slope of the marginal revenue at the point of intersection. In Figure 4.10 the monopolist attains his equilibrium at point E where the MC intersects the MR curve from below. Price is OA and the quantity is OQ.

The monopolist enjoys supernormal profit equal to the shaded area PBCD. A change in either the demand curves or in cost curves or in both would cause a change in the equilibrium price and output. It is easy to see that while an increase in demand, which would cause an upward shift in AR and MR curves, ceteris paribus, would lead to an increase both in price and quantity, and an increase in supply, causing cost to shift downward, ceteris paribus, would lead to an increase in quantity but a decline in price.

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Long Run Equilibrium:

In the long run the monopolist has the time to expand his plant, or to use his existing plant at any level that will maximize his profit. Since the monopolist does not face the threat of entry of new firms, it is not necessary for him to reach an optimal scale.

A monopolist will not stay in business if he makes losses in the long run. He will most probably continue to make supernormal profits even in the long run, given that entry is barred. However, the size of his plant and the degree of utilization of any given plant size depend entirely on the market demand. He may reach the optimal scale or remain at sub-optimal scale or surpass the optimal scale depends on the market conditions. Figure 4.11 portrays the situation in which the market size is such that does not allow the monopolist to reach the optimal scale.



Figure 4.11. Long run Price and Output Determination.

In case of monopoly, one can know about price determination or equilibrium position with the help of marginal revenue and marginal cost analysis.

According to this analysis, a monopolist will be in equilibrium when two conditions are fulfilled:

(i) MC =MR and

(ii) MC curve cuts MR curve from below.

Price Discrimination under Monopoly

In monopoly, there is a single seller of a product called monopolist. The monopolist has control over pricing, demand, and supply decisions, thus, sets prices in a way, so that maximum profit can be earned.

The monopolist often charges different prices from different consumers for the same product. This practice of charging different prices for identical product is called price discrimination.

Types of Price Discrimination:

Price discrimination is a common pricing strategy' used by a monopolist having discretionary pricing power. This strategy is practiced by the monopolist to gain market advantage or to capture market position.



i. Personal:

Refers to price discrimination when different prices are charged from different individuals. The different prices are charged according to the level of income of consumers as well as their willingness to purchase a product. For example, a doctor charges different fees from poor and rich patients.

ii. Geographical:

Refers to price discrimination when the monopolist charges different prices at different places for the same product. This type of discrimination is also called dumping.

iii. On the basis of use:

Occurs when different prices are charged according to the use of a product. For instance, an electricity supply board charges lower rates for domestic consumption of electricity and higher rates for commercial consumption.

Degrees of Price Discrimination:

Price discrimination has become widespread in almost every market. In economic jargon, price discrimination is also called monopoly price discrimination or yield management. The degree of price discrimination vanes in different markets.

i. First-degree Price Discrimination:

Refers to a price discrimination in which a monopolist charges the maximum price that each buyer is willing to pay. This is also known as perfect price discrimination as it involves maximum exploitation of consumers. In this, consumers fail to enjoy any consumer surplus. First degree is practiced by lawyers and doctors.

ii. Second-degree Price Discrimination:

Refers to a price discrimination in which buyers are divided into different groups and different prices are charged from these groups depending upon what they are willing to pay. Railways and airlines practice this type of price discrimination.

iii. Third-degree Price Discrimination:

Refers to a price discrimination in which the monopolist divides the entire market into submarkets and different prices are charged in each submarket. Therefore, third-degree price discrimination is also termed as market segmentation.

Advantages and Disadvantages of Price Discrimination:

A monopolist practices price discrimination to gain profits. However, it acts as a loss for the consumers.

Following are some of the advantages of price discrimination:

i. Helps organizations to earn revenue and stabilize the business

ii. Facilitates the expansion plans of organizations as more revenue is generated

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iii. Benefits customers, such as senior citizens and students, by providing them discounts

In spite of advantages, there are certain disadvantages of price discrimination.

Some of the disadvantages of price discrimination as follows:

i. Leads to losses as some consumers end up paying higher prices

ii. Involves administration costs for separating markets.