UNIT – I

Introduction to Managerial Economics, Demand & Supply Analysis

- Definition (s) of Managerial Economics
- Nature of Managerial Economics
- Scope of Managerial Economics
- Demand Analysis
- Demand Determinants
- Law of Demand and its Exceptions
- Elasticity of Demand: Definition
- Types of Elasticities- Measurement
- Significance of Elasticity of Demand

Economics

Economics is a study of human activity both at individual and national level. The economists of early age treated economics merely as the **science of wealth**. The reason for this is clear. Every one of us in involved in efforts aimed at earning money and spending this money to satisfy our wants such as food, Clothing, shelter, and others. Such activities of earning and spending money are called "**Economic activities**".

According to Adam Smith

"Economics as the study of nature and uses of national wealth".

According to Dr. Alfred Marshall

"Economics is a study of man's actions in the ordinary business of life: it enquires how he gets his income and how he uses it".

Micro Economics – Macro Economics – Management – Managerial Economics

Microeconomics

The study of an individual consumer or a firm is called microeconomics (also called the Theory of Firm). Micro means 'one millionth'. Microeconomics deals with behavior and problems of single individual and of micro organization. Managerial economics has its roots in microeconomics and it deals with the micro or individual enterprises. It is concerned with the application of the concepts such as price theory, Law of Demand and theories of market structure and so on.

Macroeconomics

The study of 'aggregate' or total level of economics activity in a country is called macroeconomics. It studies the flow of economics resources or factors of production (such as land, labour, capital, organisation and technology) from the resource owner to the business firms and then from the business firms to the households. It deals with total aggregates, for instance, total national income total employment, output and total investment.

It studies the interrelations among various aggregates and examines their nature and behaviour, their determination and causes of fluctuations in the. It deals with the price level in general, instead of studying the prices of individual commodities. It is concerned with the level of employment in the economy. It discusses aggregate consumption, aggregate investment, price level, and payment, theories of employment, and so on.

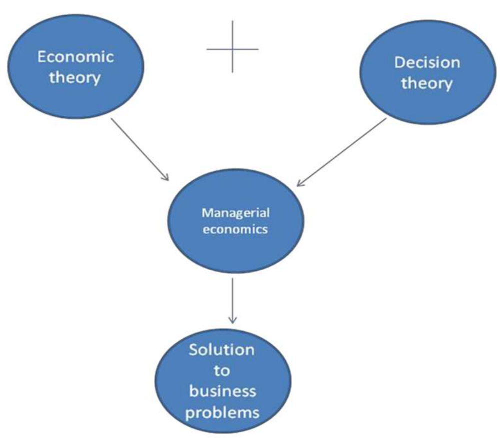
Though macroeconomics provides the necessary framework in term of government policies etc., for the firm to act upon dealing with analysis of business conditions, it has less direct relevance in the study of theory of firm.

Management

Management is the science and art of getting things done through people in formally organized groups. It is necessary that every organisation be well managed to enable it to achieve its desired goals. Management includes a number of functions: Planning, organizing, staffing, directing, and controlling. The manager while directing the efforts of his staff communicates to them the goals, objectives, policies, and procedures; coordinates their efforts; motivates them to sustain their enthusiasm; and leads them to achieve the corporate goals.

Managerial Economics

Managerial Economics refers to the firm's decision making process. It could be also interpreted as "Economics of Management". Managerial Economics is also called as "Industrial Economics" or "Business Economics".



Managerial Economics bridges the gap between traditional economics theory and real business practices in two days. First it provides a number of tools and techniques to enable the manager to become more competent to take decisions in real and practical situations. Secondly it serves as an integrating course to show the interaction between various areas in which the firm operates.

It converts the theoretical framework of economics into real business practice.

Definitions of Managerial Economics

M H Spencer and L Siegelman

Managerial Economics defined as "the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning by management".

Nature of Managerial Economics

(a) **Close to microeconomics**: Managerial economics is concerned with finding the solutions for different managerial problems of a particular firm. Thus, it is more close to microeconomics.

(b) **Operates against the backdrop of macroeconomics**: The macroeconomics conditions of the economy are also seen as limiting factors for the firm to operate. In other words, the managerial economist has to be aware of the limits set by the macroeconomics conditions such as government industrial policy, inflation and so on.

(c) **Normative statements**: A normative statement usually includes or implies the words 'ought' or 'should'. They reflect people's moral attitudes and are expressions of what a team of people ought to do. For instance, it deals with statements such as 'Government of India should open up the economy. Such statement are based on value judgments and express views of what is 'good' or 'bad', 'right' or ' wrong'. One problem with normative statements is that they cannot to verify by looking at the facts, because they mostly deal with the future. Disagreements about such statements are usually settled by voting on them.

(d) **Prescriptive actions**: Prescriptive action is goal oriented. Given a problem and the objectives of the firm, it suggests the course of action from the available alternatives for optimal solution. If does not merely mention the concept, it also explains whether the concept can be applied in a given context on not. For instance, the fact that variable costs are marginal costs can be used to judge the feasibility of an export order.

(e) **Applied in nature**: 'Models' are built to reflect the real life complex business situations and these models are of immense help to managers for decision-making. The different areas where models are extensively used include inventory control, optimization, project management etc. In managerial economics, we also employ case study methods to conceptualize the problem, identify that alternative and determine the best course of action.

(f) **Offers scope to evaluate each alternative**: Managerial economics provides an opportunity to evaluate each alternative in terms of its costs and revenue. The managerial economist can decide which is the better alternative to maximize the profits for the firm.

(g) **Interdisciplinary**: The contents, tools and techniques of managerial economics are drawn from different subjects such as economics, management, mathematics, statistics, accountancy, psychology, organizational behaviour, sociology and etc.

(h) **Assumptions and limitations**: Every concept and theory of managerial economics is based on certain assumption and as such their validity is not universal. Where there is change in assumptions, the theory may not hold good at all.

Scope of Managerial Economics

The main focus in managerial economics is to find an optimal solution to a given managerial problem, the problem may related to production, reduction or control of cost, determination of price of a given product or service, make or decisions, inventory decisions, capital management or profit planning and management, investment decisions or human resource management. While all these are the problems, the managerial economics makes use of the concepts, tools and techniques of economics and other related discipline to find an optimal solution to a given managerial problem.

The main Areas of Managerial Economics:

1. Demand Decision
2. Input-Output Decision
3. Price-Output Decision
4. Profit -related Decisions
5. Investment Decisions
6. Economic Forecasting and Forward Planning

DEMAND ANALYSIS

What is 'Demand?'

Demand is an economic principle that describes a consumer's desire and willingness to pay a price for a specific good or service. Holding all other factors constant, an increase in the price of a good or service will decrease demand, and vice versa.

Think of demand as your willingness to go out and buy a certain product. For example, market demand is the total of what everybody in the market wants.

BREAKING DOWN 'Demand'

Businesses often spend a considerable amount of money to determine the amount of demand the public has for their products and services. Incorrect estimations either result in money left on the table if demand is underestimated or losses if demand is overestimated.

Demand is closely related to supply. While consumers try to pay the lowest prices they can for goods and services, suppliers try to maximize profits. If suppliers charge too much, demand drops and suppliers do not sell enough product to earn sufficient profits. If suppliers charge too little, demand increases but lower prices may not cover suppliers' costs or allow for profits. Some factors affecting demand include the appeal of a good or service, the availability of competing goods, the availability of financing and the perceived availability of a good or service.

Introduction & Meaning

Demand in common parlance means the desire for an object. But in economics demand is something more than this. According to Stonier and Hague, "Demand in economics means demand backed up by enough money to pay for the goods demanded". This means that the demand becomes effective only it if is backed by the purchasing power in addition to this there must be willingness to buy a commodity.

Thus demand in economics means the desire backed by the willingness to buy a commodity and the purchasing power to pay. In the words of "Benham" "The demand for anything at a given price is the amount of it which will be bought per unit of time at that Price". (Thus demand is always at a price for a definite quantity at a specified time.) Thus demand has three essentials – price, quantity demanded and time. Without these, demand has to significance in economics.

LAW of Demand

Law of demand shows the relation between price and quantity demanded of a commodity in the market. In the words of Marshall, "the amount demand increases with a fall in price and diminishes with a rise in price".

A rise in the price of a commodity is followed by a reduction in demand and a fall in price is followed by an increase in demand, if a condition of demand remains constant.

In a nutshell, Law of Demand says: Price is inversely proportional to Quantity Demanded

The law of demand may be explained with the help of the following demand schedule.

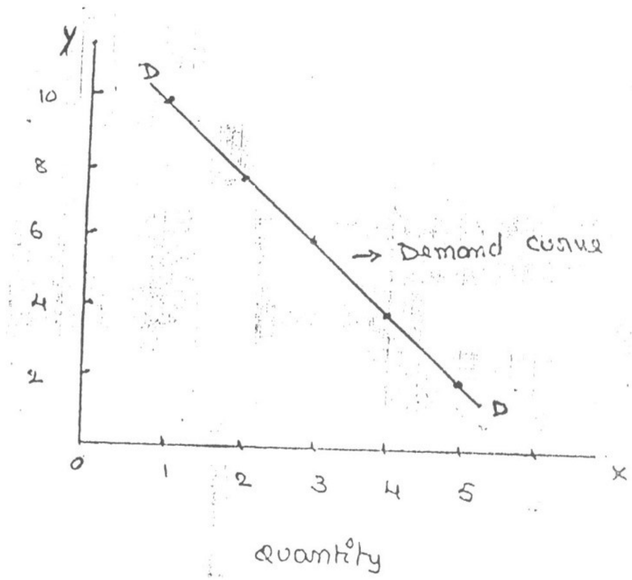
Demand Schedule

Price of Appel (In. Rs.)	Quantity Demanded
10	1
8	2
6	3
4	4

2	5

When the price falls from Rs. 10 to 8 quantity demand increases from 1 to 2. In the same way as price falls, quantity demand increases on the basis of the demand schedule we can draw the demand curve.

Price



The demand curve DD shows the inverse relation between price and quantity demand of apple. It is downward sloping.

Assumptions

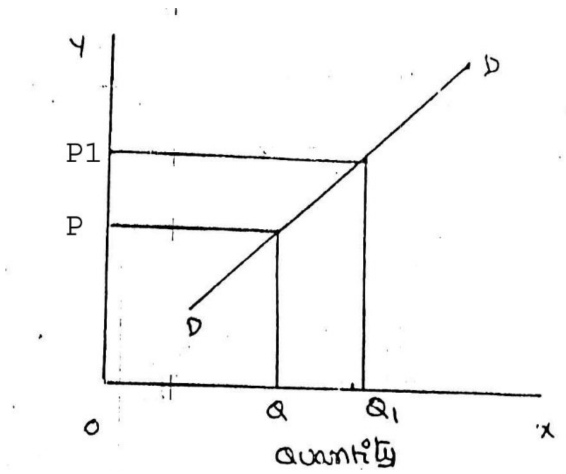
Law is demand is based on certain assumptions:

1. This is no change in consumers taste and preferences.
2. Income should remain constant.
3. Prices of other goods should not change.
4. There should be no substitute for the commodity
5. The commodity should not confer at any distinction
6. The demand for the commodity should be continuous
7. People should not expect any change in the price of the commodity

Exceptional demand curve

Sometimes the demand curve slopes upwards from left to right. In this case the demand curve has a positive slope.

Price



When price increases from OP to Op1 quantity demanded also increases from to OQ1 and vice versa. The reasons for exceptional demand curve are as follows.

1. Giffen paradox:

The Giffen good or inferior good is an exception to the law of demand. When the price of an inferior good falls, the poor will buy less and vice versa. For example, when the price of maize falls, the poor are willing to spend more on superior goods than on maize if the price of maize increases, he has to increase the quantity of money spent on it. Otherwise he will have to face starvation. Thus a fall in price is followed by reduction in quantity demanded and vice versa. "Giffen" first explained this and therefore it is called as Giffen's paradox.

2. Veblen or Demonstration effect

'Veblan' has explained the exceptional demand curve through his doctrine of conspicuous consumption. Rich people buy certain good because it gives social distinction or prestige for example diamonds are bought by the richer class for the prestige it possess. It the price of diamonds falls poor also will buy is hence they will not give prestige. Therefore, rich people may stop buying this commodity.

3. Ignorance

Sometimes, the quality of the commodity is Judge by its price. Consumers think that the product is superior if the price is high. As such they buy more at a higher price.

4.Speculative effect

If the price of the commodity is increasing the consumers will buy more of it because of the fear that it increase still further, Thus, an increase in price may not be accomplished by a decrease in demand.

5. Fear of shortage

During the times of emergency of war People may expect shortage of a commodity. At that time, they may buy more at a higher price to keep stocks for the future.

6.Necessaries

In the case of necessaries like rice, vegetables etc. people buy more even at a higher price.

Factors Affecting Demand

There are factors on which the demand for a commodity depends. These factors are economic, social as well as political factors. The effect of all the factors on the amount demanded for the commodity is called Demand Function.
These factors are as follows:

1. Price of the Commodity:

The most important factor-affecting amount demanded is the price of the commodity. The amount of a commodity demanded at a particular price is more properly called price demand. The relation between price and demand is called the Law of Demand. It is not only the existing price but also the expected changes in price, which affect demand.

2. Income of the Consumer:

The second most important factor influencing demand is consumer income. In fact, we can establish a relation between the consumer income and the demand at different levels of income, price and other things remaining the same. The demand for a normal commodity goes up when income rises and falls down when income falls. But in case of Giffen goods the relationship is the opposite.

3. Prices of related goods:

The demand for a commodity is also affected by the changes in prices of the related goods also. Related goods can be of two types:

(i). Substitutes which can replace each other in use; for example, tea and coffee are substitutes. The change in price of a substitute has effect on a commodity's demand in the same direction in which price changes. The rise in price of coffee shall raise the demand for tea;

(ii). Complementary foods are those which are jointly demanded, such as pen and ink. In such cases complementary goods have opposite relationship between price of one commodity and the amount demanded for the other. If the price of pens goes up, their demand is less as a result of which the demand for ink is also less. The price and demand go in opposite direction. The effect of changes in price of a commodity on amounts demanded of related commodities is called Cross Demand.

4. Tastes of the Consumers:

The amount demanded also depends on consumer's taste. Tastes include fashion, habit, customs, etc. A consumer's taste is also affected by advertisement. If the taste for a commodity goes up, its amount demanded is more even at the same price. This is called increase in demand. The opposite is called decrease in demand.

5. Wealth:

The amount demanded of commodity is also affected by the amount of wealth as well as its distribution. The wealthier are the people; higher is the demand for normal commodities. If wealth is more equally distributed, the demand for necessaries and comforts is more. On the other hand, if some people are rich, while the majorities are poor, the demand for luxuries is generally higher.

6. Population:

Increase in population increases demand for necessaries of life. The composition of population also affects demand. Composition of population means the proportion of young and old and children as well as the ratio of men to women. A change in composition of population has an effect on the nature of demand for different commodities.

7. Government Policy:

Government policy affects the demands for commodities through taxation. Taxing a commodity increases its price and the demand goes down. Similarly, financial help from the government increases the demand for a commodity while lowering its price.

8. Expectations regarding the future:

If consumers expect changes in price of commodity in future, they will change the demand at present even when the present price remains the same. Similarly, if consumers expect their incomes to rise in the near future they may increase the demand for a commodity just now.

9. Climate and weather:

The climate of an area and the weather prevailing there has a decisive effect on consumer's demand. In cold areas woolen cloth is demanded. During hot summer days, ice is very much in demand. On a rainy day, ice cream is not so much demanded.

10. State of business:

The level of demand for different commodities also depends upon the business conditions in the country. If the country is passing through boom conditions, there will be a marked increase in demand. On the other hand, the level of demand goes down during depression.

ELASTICITY OF DEMAND

What is 'Elasticity'?

Elasticity is a measure of a variable's sensitivity to a change in another variable.

Or

Elasticity is defined as the rate of responsiveness in the demand of a commodity for a given change in price or any other determinants of demand.

In business and economics, elasticity refers the degree to which individuals, consumers or producers change their demand or the amount supplied in response to price or income changes. It is predominantly used to assess the change in consumer demand as a result of a change in a good or service's price.

Elasticity of demand explains the relationship between a change in price and consequent change in amount demanded. "Marshall" introduced the concept of elasticity of demand. Elasticity of demand shows the extent of change in quantity demanded to a change in price.

In the words of "Marshall", "The elasticity of demand in a market is great or small according as the amount demanded increases much or little for a given fall in the price and diminishes much or little for a given rise in Price"

Elastic demand: A small change in price may lead to a great change in quantity demanded. In this case, demand is elastic.

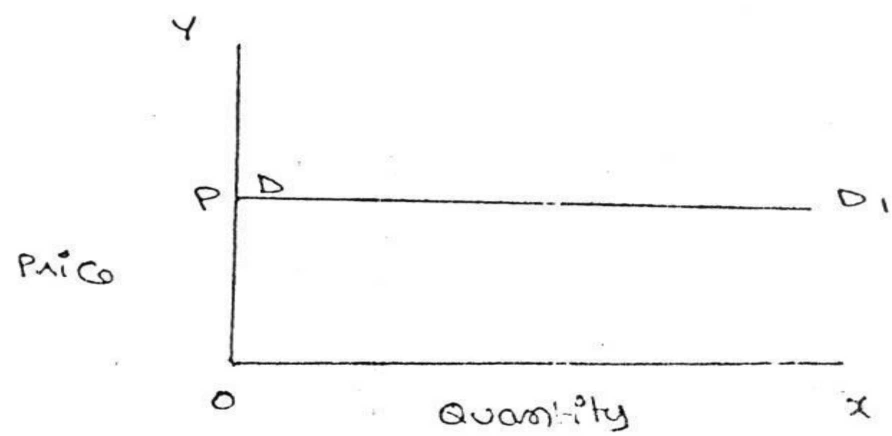
In-elastic demand: If a big change in price is followed by a small change in demanded then the demand in "inelastic".

Measurement Elasticity of Demand

1. Perfectly elasticity of demand
2. Perfectly inelasticity of demand
3. Relatively elasticity of demand
4. Relatively inelasticity of demand
5. Unity elasticity of demand

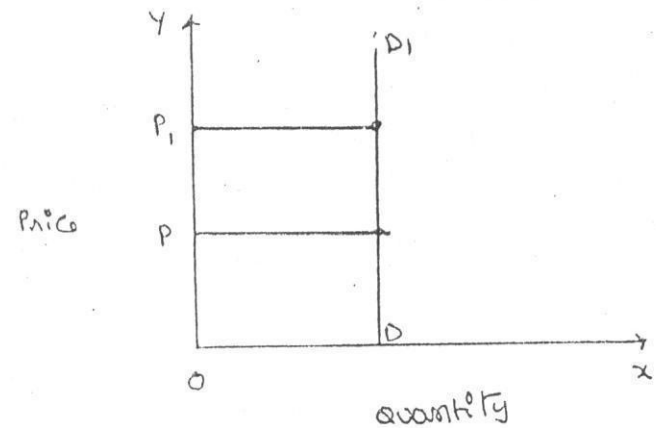
Perfectly elasticity of demand:

When any quantity can be sold at a given price, and when there is no need to reduce price, the demand is said to be perfectly elastic. In such cases, even a small increase in price will lead to complete fall in demand.



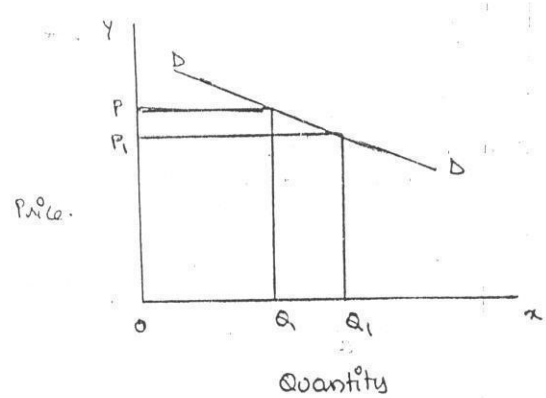
Perfectly inelasticity of demand:

When a significant degree of change in price leads little or no change in the quantity demanded, then the elasticity is said to be perfectly inelasticity. In other words, the demand is said to be perfectly inelasticity when there is no change in the quantity demanded even though there is a big change in the price.



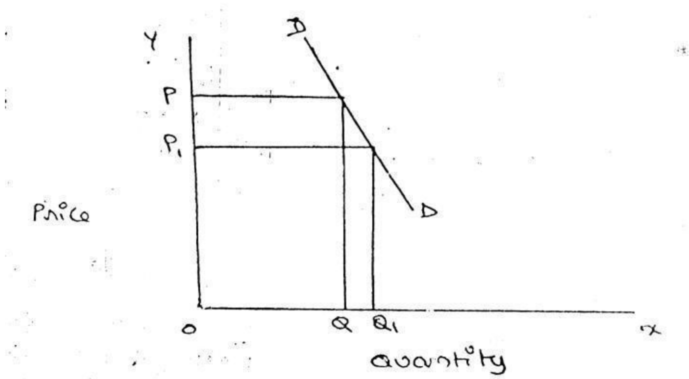
Relatively elasticity of demand:

The demand is said to be relatively elasticity when the change in demand is more then the change in the price.



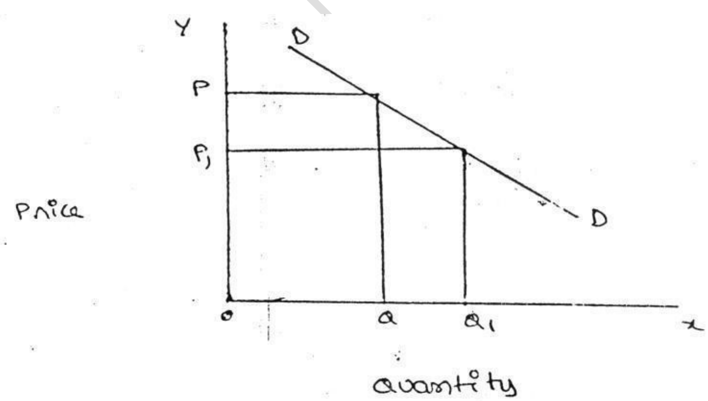
Relatively inelasticity of demand:

The demand is said to be relatively inelasticity when the change in demand is less than the change in the price.



Unity elasticity:

The elasticity in demand is said to be unity when the change in demand is equal to the change in price.



Types of Elasticity of Demand

There are four types of elasticity of demand:

1. Price elasticity of demand
2. Income elasticity of demand
3. Cross elasticity of demand
4. Advertising elasticity of demand

Price elasticity of demand:

Elasticity of demand in general refers to price elasticity of demand. In other words, it refers to the quantity demanded of a commodity in response to a given change in price. Price elasticity is always negative which indicates that the customer tends to buy more with every fall in the price, the relationship between the price and the demand is inverse.

$$\textbf{Price elasticity} = \frac{\text{Proportionate change in the quantity demand of commodity}}{\text{Proportionate change in the price of commodity}}$$

$$Edp = \frac{Q2\ - Q1/\ Q1}{P2 - P1\ /P1}$$

Where:

Q1 = quantity demand price before change

Q2 = quantity demand price after change

P1 = price before change

P2 = price after change

Income elasticity of demand:

Income elasticity of demand refers to the quantity demand of a commodity in response to a given change in income of the consumer.

$$\textbf{Income Elasticity} = \frac{\text{Proportionate change in the quantity demand of commodity}}{\text{Proportionate change in the income of the people}}$$

$$EdI = \frac{Q2 - Q1/ Q1}{I2 – I1 /I1}$$

Where:

Q1 = quantity demand price before change

Q2 = quantity demand price after change

I1 = income before change

I2 = income after change

Cross elasticity of demand:

Cross elasticity of demand refers to the quantity demanded of a commodity in response to a change in the price of a related good, which may be substitute or complement.

Cross elasticity = $\frac{\text{Proportionate change in the quantity demand of commodity "X"}}{\text{Proportionate change in the price of commodity "Y"}}$

$$EdP = \frac{Q2 - Q1/ Q1}{P2 – P1 /P1}$$

Where:

Q1 = quantity demand price before change

Q2 = quantity demand price after change

P1 = price before change

P2 = price after change

Advertising elasticity of demand:

It refers to increase in the sales revenue because of change in the advertising expenditure. In other words, there is a direct relationship between the amount of money spent on advertising and its impact on sales. Advertising elasticity is always positive.

$$\text{Advertising elasticity} = \frac{\text{Proportionate change in the quantity demand of product "}\mathbf{X}\text{"}}{\text{Proportionate change in advertisement costs.}}$$

$$EdP = \frac{Q2 - Q1/ Q1}{A2 - A1 /A1}$$

Where:

Q1 = quantity demand price before change

Q2 = quantity demand price after change

A1 = advertising before change

A2 = advertising after change

Note:

In all the cases, If e>1 Elastic;

If e<1 In-Elastic;

If e=1 Unity Elastic.

Significance of Elasticity Of Demand

a. **Price of factors of production**:

The factors of production are land, labour, capital, organizations and technology. These have a cost; we have to pay rent, wages, interest, profits and price for these factors of production.

b. **Price fixation**:

the manufacturer can decide the amount of price that can be fixed for his product based on the concept of elasticity, if there is no competition, in other words in the case of a monopoly, the manufacture is free to fix his price as long as it does not attract the attention of the government, when there are close substitutes, the product is such that its consumption can be postponed, it cannot be put to alternative uses and so on, then the price of the product cannot be fixed very highly.

c. **Government policies**

1. **Tax policies**: government extensively depends on this concept to finalize its polices relating to taxes and revenues. Where the product is such that the people cannot postpone its consumptions, the government tends to increase its, price, such as petrol and diesel, cigarettes, and so on.
2. **Raising bank deposits** : if the government wants to mobilize larger deposits from the consumer it propose to raise the rates of fixed deposits marginally and vice versa.
3. **Public utilities**: government uses the concept of elasticity in fixing charges for the public utilities such as elasticity tariff, water charges, ticket fare in case of road or rail transport .

d. **Planning the levels of output and price**:

The knowledge of price elasticity is very useful to producers. The producer can evaluate whether a change in price will bring in adequate revenue or not. In general, for items whose demand is elastic, it would benefit him to charge relatively low price. On the other hand, if the demand for the product is inelastic, a little higher price may be helpful to him to get huge profits without losing sales.

Factors Governing Elasticity of Demand

Elasticity of governed by a number of factors change in any one of these factors is likely to affect the elasticity of demand.

The factors are:

Nature of the Product:

The products and services are classified into necessities, comforts & Luxuries. Necessaries imply the absolute or basic necessities such food, clothing, shelter comforts refer to Refrigerator etc. luxuries we mean sofa sets marble flooring in a house and such others. Based on the requirement goods will get demand for necessities comforts and luxuries.

Number of Alternative Uses:

If the numbers of alternatives uses are more the demand is said to be highly in elastic and vice versa. Take the case of power or electricity it is used for a number of alternative uses such as running of machines in industries, offices, households, trains etc.

Tastes and Preferences of the Consumers:

Where the customers is particular about his taste and preferences the product is said to be inelastic for the customers who are particular or total to certain brands such as Colgate, Tata tea etc, prices increases do not matter they tend to buy that brand in spite of the price changes.

Price of the Products:

If the price of a product is expensive or very cheap then the product is likely to have or inelastic demand. If the price is too high a fall in it will not increase the demand much similarly if the price is too low a further fall in its price is not likely to result in more demand. The demand of the relatively poor people is more sensitive to price changes. In order to derive maximum satisfaction from their limited income they try to plan their purchases in response to changes in prices the rich may not bother about price changes.

Durability of the product:

Where the product is durable in case of consumer durable such as T.V. the demand is elastic. In the case of possible goods such as milk the demand is inelastic.

Government Policy:

The important aspect to get more demand for a product is Govt policy. If the Govt policy is liberal the product it likely to have elastic demand (More demand for the product).

Availability of Subsidies:

Subsidy refers to money paid by a Government or other public authority in order to help a company financially or to make something cheaper for the public. There is need for subsidies in case of goods with inelastic demand such as LPG, Sugar, and Wheat are so on.

Change of Income:

The demand for various commodities are affected in different degrees due to change in income in case of increase in the income of consumers the demand for luxuries will fall. As such demand for luxuries is more elastic in relation to change in income in care of comforts it is less elastic and in casep of necessaries it is probably inelastic.