CHAPTER – 1

INTRODUCTION TO MANAGERIAL ECONOMICS

INTRODUCTION

The subject matter of managerial economics consists of two important disciplines which should be learned before entering into the actual part.

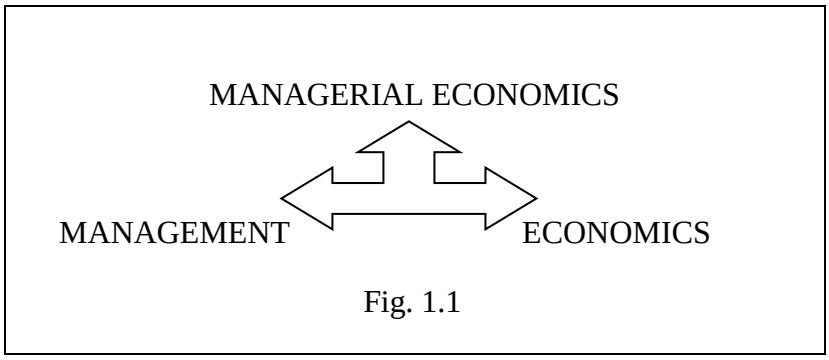

Fig. 1.1

The above fig.1 explains that, the managerial economics is the combination of Management and Economics. As stated above these two are to be studied carefully….

1. MANAGEMENT

Management is the function that co-ordinates the efforts of the people to accomplish goals and objectives by using all the available resources. Management concept is very old and it has universal application. It was practiced in one form or another in all the business organizations since many centuries. Proper and efficient management is always a critical and crucial task at the growth of the organization and economic development of the country. Management comprises of the following functions…..

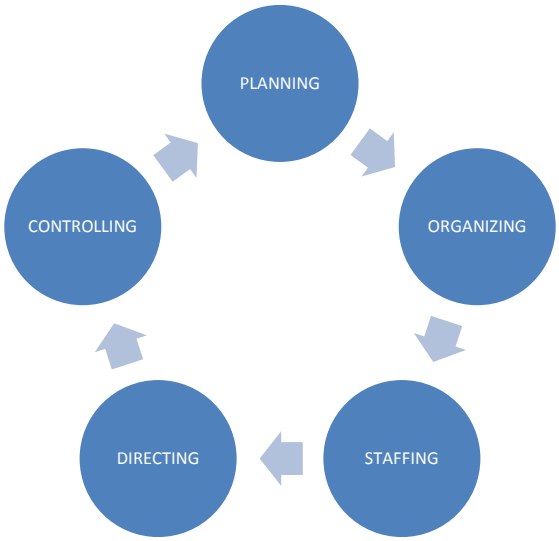

Fig: 1.2

Basic functions of Management

Management involves Planning, Organizing, Staffing, Leading/ Directing and Controlling the activities and all the resources to accomplish the goals more efficiently and effectively. Management is academic discipline, and a social science whose main objective is to study social organization.

1.1 DEFINITIONS OF MANAGEMENT

Management in general sense is defined as, the process of performing tasks in a systematical order." Managers achieve organizational goals by enabling others to perform the necessary tasks more effectively by identifying the right person for a right job. Some of popular definitions of management are given by the following.

"To manage is to forecast and to plan, to organize, to command, to co-ordinate and to control."

--- *HENRY FAYOL*

"**Management is the effective utilization of human and material resources to achieve the enterprise objectives."**

--- *WILLIAM F. GLUECK*

“Management is the art of getting things done through people.”

--- *MARY PARKER FOLLET*

“Management is the art of getting things done through and with people in formally organized groups.”

--- *HAROLD KOONTZ*

“Management is the process consisting of planning, organizing, actuating and controlling, performed to determine and accomplish the objectives by the use of people and resources.”

--- *GEORGE R. TERRY*

“Good management is the art of making problems so interesting and their solutions so constructive, that every one wants to get to work and deal with them.”

--- *PAUL HAWKEN (U.S ENTREPRENEUR)*

1.2 NATURE AND FEATURES OF MANAGEMENT

1. **Management, a systematic process:**

Management is a systematic process which begins with the identification of the predetermined goals and objectives, and then planning the operations, organizing necessary activities, directing and guiding the people and resources in the organization to perform the activities which leads to the attainment of organizational goals. This process of management involves many functions which are inter-twined and inter-dependent. Functions of management are performed in a systematic process which helps the entrepreneur to attain his organizational goals more efficiently and effectively.

2. **Dynamic in nature:**

The principles of management are dynamic in nature as the tools, techniques, principles of the discipline may vary from person to person, firm to firm, time to time and place to place.

3. **Goal oriented:**

The process of management and the activities involved are always performed in a better manner as to achieve the goals of the enterprise and hence it can be stated that the management functions are always goal oriented.

4. Integrative function:

Management process integrates all the human and physical resources in a manner which can lead to effective performance of the organization. It creates and also developes harmony and co-operation between the human and all other resources viz.. men, money, machines and materials..

5. Management "both Science and Art":

To know whether management is science or art, first we have to know what is a science? And what is an art?

Science is a systematized body of knowledge with well defined concepts and definitions. It helps us **"to know"** the things practically through experiments and examinations.

Art is that which proves the effectiveness and efficiency while performing the task. For example, A person can be called as an artist as and when he is very capable and efficient in performing the tasks (drawing, painting etc) in an effective manner. So, by this example it is observed that Art helps us **"to do"** the things or to perform the tasks effectively and efficiently.

While coming to management theory, the concepts, tools and techniques are academically taught. After getting sufficient knowledge, theory of management is practically implemented and applied to the problems to get the apt solutions by the manager in the enterprise. Hence, management is also a systematized body which provides the knowledge through academics as well as experiments just like **"Science."** It first let the managers and the people **"know"** the things in a proper manner and then learn **"how to do", "what to do"** and **"when to do"** the things just like as an **Art.**

Hence, it can be concluded that **management is both science and art.**

2. ECONOMICS

Economics is a social science. It has its origin from a greek term "OIKONOMIKOS", which means" house hold management." It reveals the knowledge about how to make the use of limited/scarce resources to satisfy unlimited wants of the human beings. Economics explains how different individuals behave while managing their economic activities.

2.1 ECONOMIC ACTIVITY

The activities which are concerned with the aim of satisfying the human wants / desires by putting some effort is simply called as an economic activity. Here the effort is made by the people to earn income. Human wants are unlimited, but the resources are limited. Wants are

classified into three types viz. NECESSARIES,COMFORTS AND LUXURIOUS NEEDS. Firstly, every human being aims to satisfy the necessaries through which he/she will be secured for some extent. These needs comprises of food, clothing and shelter.. After getting satisfied with all the necessaries people will try to lead their life as comfortable as possible. So to achieve all the comforts they will try to earn some excess income with which it is possible to fulfill their comforts. Bike, small sofa, tv, refregerator etc comes under comforts. While leading a comfortable life people get bored or otherwise influenced by some others like friends or colleagues and then they automatically turn themselves towards luxuries. These luxuries include all prestigious goods. Economic activity cycle can be better understood with the help of following figure.

Fig. 1.3 Economic activity

For example, if you want to purchase a bike, you will put an effort towards earning some money or asking the money from your parents. After obtaining sufficient amount you will try to satisfy your want with the help of that money. So here, the efforts are aimed at earning and spending the money towards human wants. Hence, the activities which are related to earning and then spending the money to satisfy the needs are called as "Economic activities."

2.2 DEFINITIONS

Economics has been defined in different ways by many economists. There has been great controversy about proper definition of the discipline. Some economists feel that "definitions" for any discipline is essential to know the limits of that particular theory. And so, it is very important to know some of the popular definitions of economic theory which helps us to know the concept of economics, tools and techniques, principles and also the limits.

Now, let us study the various definitions of economic theory to understand its evolution. Economic definitions are broadly classified into four popular and main definitions. Which are discussed by the following…

a. WEALTH DEFINITION:

The definition was proposed by a Scotish Economist Prof. ADAM SMITH in his book entitled "An inquiry into the nature and causes of wealth of nations" in the year 1776. The book got its popularity as "Wealth of Nations." Prof. Adam smith is considered as the "FATHER OF ECONOMIC THEORY." In his words, he defined economics as, "***the study of nature and causes of the generations of wealth of nations.***"

Followers of Prof. Adam smith also stressed the role of economics as a study of wealth. Some of the definitions proposed by the classical economists are given below:

"Economics is a science which deals with wealth."

--- J. B. SAY

"The theory is related to the practical science of production and distribution of wealth."

J. S. MIL

b. WELFARE DEFINITION

In the words of a Cambridge Economist, Prof. ALFRED MARSHALL, the emphasis was shifted from 'wealth' to 'welfare'. He stressed that the wealth is the only means to satisfy the human needs and to promote the human welfare. He stated that wealth is only important and precious if and only if it can promote human welfare.

Prof. Marshall in his book, "Principles of Economics" has defined Economics as, "***Economics is the study of mankind in the ordinary business of life; it enquires how he gets his income and how he uses it.***"

According to Prof. Marshall, he emphasized that, "Economics is on one side the study of wealth, and on the other and most important side, it is a part of the study of man and his welfare." Welfare definition of Prof. Marshall is one side a criticism of wealth definition and on the other side it is treated as continuation…..

c. SCARECITY DEFINTION

Prof. LIONEL ROBBINS in his book, "Nature and significance of Economics" which was published in the year 1932, defined economics as, ***"a science which studies the human behavior as a relationship between the "ends" and "scarce" means which have alternative uses."***

The terms in the above definition "ends" refers to the wants/needs/desires of human beings. Human wants are unlimited and the "means" (resources) to satisfy those needs are "scarce" i.e.., limited. For example, you are walking on road on a sunny day. You feel thirst and need some water. But, there is no water available for you. Instead, buttermilk, lemon soda etc are available. You will be content with whatever is available for you to satisfy your immediate requirement. That means human wants are unlimited but the means to satisfy the wants are limited. But, there are substitutes for every need, which means they have alternative uses and one means could be used for several purposes

d. GROWTH DEFINITION

Paul Samuelsson has defined economics as, ***"the study of how men and society choose, with or without the use of money, to employ scarce productive resources which could have alternative uses, to produce various commodities over time, and distribute them for comsumption now and in the future amongst various people and groups of society."***

3. MICRO AND MACRO ECONOMICS

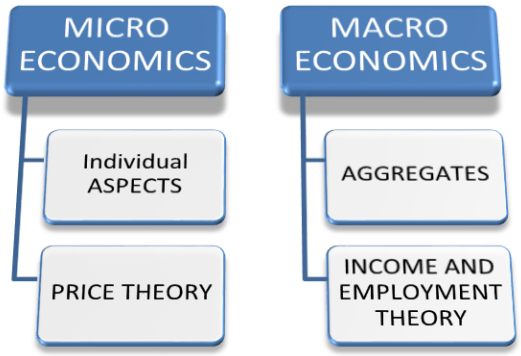

Fig .1.4 micro and macro economics

Micro and macro economic terms are coined and used by RAGNAR FIRSH. Let us now study the above mentioned theories in detail.

3.1 MICRO ECONOMICS

The term Micro has been derived from a greek word "micros" which means small. The theory was popularized by Prof. Alfred Marshall. Micro Economic theory is defined as, "a branch of economic science which studies the economic behavior and economic activities of an individual household, individual firm. And so, it is a study of a particular and individual unit.

"Micro economics is the study of particular firm, particular household, individual price, wage, income, industry and a particular commodity"

"Micro economics is the study of individuals, households and firms' behavior in decision making and allocation of resources. It generally deals with the individual economic issues."

Micro economics is also known as PRICE THEORY as the prices of the products and factors of production occupy the central place.

SCOPE:

a. Demand analysis
b. Consumption laws and theories
c. Theory of production and cost function
d. Theory of factor pricing etc..

1. MACRO ECONOMICS

Macro refers to aggregate/ large. The term macro has been derived from a greek term "MAKROS" which means "LARGE". The theory was popularized by Prof. J. M. KEYNES. Macro economics is the study of overall economy as a whole or at aggregate.

"Macro economics is the study of aggregate aspects like national income, general price level, total savings, total production and total consumption etc.."

The theory is otherwise called as "INCOME AND EMPLOYMENT THEORY"

SCOPE:

a. National Income
b. Inflation, Banking systems
c. Povery and unemployment
d. External debt etc

4. INRODUCTION TO MANAGERIAL ECONOMICS

Managerial economics has its origin in the early years of 19th century around 1950's. The theory is also known as "Applied Economics" and "Business Economics". The theory got its name as Applied economics because, economic tools and techniques are applied to the business problems to get better solutions.

Economic tools and techniques like demand, supply, law of diminishing marginal utility, demand forecasting methods (to forecast the demand for both existing and new products), determinations of price to the products under various market conditions…, etc are used in the process of decision making. Managerial Economics is the study of allocation of the available resources in a way that the organization / firm can achieve its goals most efficiently. ***"managerial economics is the application of economic tools, techniques, and also the phenomenon to the business in order to get the problems to be solved in a better way."***

DEFINTIONS

"The integration of economic theory with business practice for the purpose of facilitation decision making and farword planning by the management"

----SPENCER AND SIEGELMAN.

"The purpose of managerial economics is to show how economic analysis can be used in formulating business policies"

-----JOEL DEAN

"Managerial Economics refers to the application of economic theory and the tools of analysis of decision science to examine how an organization can achieve its objectives most effectively"

-----DOMINICK SALVATOR

"Managerial Economics is concerned with the application of economic principles and methodologies to the decision making process within the firm or organization under the conditions of uncertainty"

-----Prof. EVAN. J. DOUGLAS

"Managerial Economics applies economic theory and methods to business and administrative decision making." ***-----HAYNES, MOTE & PAUL***

NATURE OF MANAGERIAL ECONOMICS

Managerial economics is the youngest of all the social sciences, which have a basic and fundamental feature of economics. It is a theory which helps the manager to application of economic tools to business situations to get better and apt solutions. Nature of managerial economics is better understood by the following features.

1. MICRO ECONOMIC CHARACTER:

Micro economics deals with the individual aspects i.e.., individual household, individual firm, particular product etc.. Managerial economics also deals with individual aspects same as micro economics. Manager can only take the decisions related to the operations of a particular firm and industry, but, not at an aggregate. These decisions may include demand & supply, pricing decisions, input & output decisions, investment decisions, profit related decisions etc.

2. MACRO ECONOMIC FACTORS AS LIMIT

Macro economic conditions of the economy are seen as limiting factors to the firm. Manager has to be aware of the limit set by the macro economic factors while operating and decision making. For example, Govt. Industrial policy, pricing policy etc

3. NORMATIVE RATHER THAN POSITIVE

To understand this feature of managerial economics two things are to be studied as a part. i.e., "What is positive science?" and "What is a normative science?"

Positive science is descriptive in nature. It deals with the things "as they are" and also about their "cause and effect". Theories under positive science do not discuss any rightness or wrongness of the things and do not pass any valuable judgements. Economists are not enough to offer any suggestions and pass any valuable facts about the theories under. Thus, positive science is strictly towards ends. It is more logical and therefore helps in formulation of new theories.

Scarecity definition given by Robbins is considered as a best example for positive science.

NOTE:

Positive science always deals with the things "as they are" and it explains the "cause and effect relationship". In the given example, it is observed that a person feeling thirsty can satisfy his need with the help of water or any other substitute of water say buttermilk, lemon soda, soft drink etc. Here the theory goes with the situation and it explains the cause and effects, i.e., it explains the situation as," the person is feeling thirsty" and then its cause as "moving towards some other substitute due to limited means. And then, the effect is that he is satisfied his desire without water.

In this situation, changing nature of human behavior was clearly observed when there are limited means to satisfy unlimited human wants.

Normative science is always prescriptive in nature. It deals with the things as they "ought to be". It discusses the rightness or wrongness of the actions and situations. The science is concerned with welfare preposition, and it posses valuable judgements. It also offers suggestions for solving the problems. Therefore, normative science is more practical, realistic and useful science. Marshall definition of welfare is the best example.

Managerial economics is a normative science which always possess valuable judgements and a clear approach. It deals with the things " what should be?" and " what ought to be?" Application of economic principles and phenomenon to the problems and situations provides better solutions which leads to the better performance of the firm. It explains the duties and responsibilities of the manager as well.

4. EVALUATION OF ALTERNATIVE USES

Managerial economics always focuses on determining and evaluating each and every alternative in terms of its cost and revenue. It provides the knowledge in choosing the best alternative which can minimize the cost of production and maximize the rate of profits.

5. INTERDISCIPLINARY:

Managerial economic concepts, tools and techniques are drawn from different disciplines like Management, Economics, Accountancy, Statistics, Psychology, Organizational behavior etc (for detailed explanation ref. to the linkages of managerial economics).

6. ASSUMPTIONS AND LIMITATIONS:

The theory is based on some assumptions. As such, it may not hold good at all. Hence, they are not universally acceptable.

7. DECISION MAKING:

Managerial economic concepts and techniques helps the manager in the process o decision making. Managerial economics plays a vital role in the process with reference to the firm operations, product sales and promotion, pricing policy of the firm, cost and revenue aspects etc.. Hence, the theory is otherwise known as "Applied Science" and "Business Economics"

4.3 SCOPE OF MANAGERIAL ECONOMICS

Managerial Economics is a discipline which has its main focus towards the decisions related to the operations and management of the firm. These decisions include capital management, demand analysis and forecasting, cost and output analysis, pricing decisions, profit management decisions and national income analysis.

1. CAPITAL MANAGEMENT:

Investment is one of the most important elements which plays a prominant role in the establishment and also during the operations. It has its importance in the survival of the firm. In simple, capital is called as "the blood of business." The future prospectus of the firm is depended upon capital. It is the main responsibility of every firm to mobilize enough capital to the maximum extent. Finding out adequate capital investments is the most complex problem of an enterprise. So, after getting adequate amount of capital, efficient and effective planning and control of capital expenditure adds as a main task under capital management. It is necessary for the manager to analyze the cost of capital, choice of capital structure and investment projects before commiting the investment.

2. DEMAND ANALYSIS & FORECASTING

The foremost step of a managerial economist is to analyze and forecast the demand. At this stage the requirements and needs of the consumer, consumer response to the product and price of the product and supply and analyzed in a scientific manner.

Demand forecasting helps the producer to know the rate of the demand and thus helps the entrepreneur in formulation of necessary strategies to maximize the profits by minimizing the cost of production.

3. COST – OUTPUT ANALYSIS:

The study of cost-output of firm is essential part of managerial economics. Profits depends upon the total cost of production and total output. To achieve, maximum profits the firm should be in a position to produce maximum output at minimum cost. Detailed analysis of cost and output provides scope to the entrepreneur in taking right decisions in the process of achieving the main objective of the firm i.e., maximum profits.

4. PRICING DECISIONS:

Pricing is the main basis of revenue. It determines the profits and the success of the firm. These decisions include the problem of "how to determine the price" in different market structures. Once the market structure of the product is disclosed, it makes the entrepreneur feel more comfortable in choosing suitable method and policy of pricing and then fixation of price.

5. PROFIT MANAGEMENT:

Aim of making , maintaining and also maximizing profits is considered as a primary objective of the enterprise. The firm may face the problem of uncertainty of profits due to the fluctuations occurred in the total cost and total revenue. The techniques of cost control and cost reduction are used in a manner to reduce the wastage, and thus to reduce the cost of production. If the firm is in a position to minimize the cost, thereby it can maximize the profits.

6. INVENTORY DICISIONS:

Operations of Inventory management begins with planning about the materials, it precedes throughout the production operation and ends up when the final product got distributed to the consumer. Therefore, it is to be considered as a critical task to manage the inventory. Inventory management has a wide scope, as it involves in the pre-production process and also post-production process. Optimum utilization of materials by reducing the wastage can bring down the overall material cost, thereby, product cost, which turns as an advantage to the enterprise in maximizing the revenue.

4.4 RELATION OF MANAGERIAL ECONOMICS WITH OTHER DISCIPLINES

Managerial economics is youngest of all the social sciences. It has a combined features of management and economics which is discussed earlier. Some other disciplines with which managerial economics is closely linked are Accountancy, Statistics, Psychology, Organizational behavior, Operations research and Mathematics. Which of these are explained in detail..

1. ACCOUNTANCY

Accounting is the process of recording, classifying, summarizing and interpretation of financial statements. Financial statements acts as a base and helps the managerial economist in knowing the accounting information related to the cost, revenue, payables and receivables, final profits and losses of the firm. Thus, managerial economists depend upon the accounting information to make better decisions of the firm.

2. STATISTICS

Statistics is basically a branch of mathematics. It deals with different type of techniques which helps the manager to analyze and estimate future uncertainty and therefore supports the management to act wise in crucial situations. Techniques of estimation and probability can help the manager in analyzing the future demand and then to make necessary arrangements to get on with the uncertain situations if and when occurred.

3. PSYCHOLOGY

Psychology is a science which studies the human behavior, attitude, tastes etc.. It has its importance in studying the nature of the people both inside and outside the organization. Entrepreneur at the stage of pre-production has to identify the needs, wants of the people and produce the products accordingly. Failing of this can lead to the decrease in the demand. So, it is important to the management to know how to motivate the people in and around the organization which can prevent the firm from the occurence of uncertain situations. Psychology contributes towards the human attitude, motivation of each and every micro element as consumers, suppliers, debtors, creditors, employees and workers.

4. ORGANIZATIONAL BEHAVIOR:

Organizational behavior is the study of how individuals and group of people act with respect to the organizational systems. It is in other words termed as organizational psychology, which can be defined as, "the branch of science that seeks to build and develop the theories, which can be applied to predict, understand and control the behavior in the organization." It is thereby, enables the managerial economist to study and to develop the behavioral theories of the enterprise, integrating the behavior of the manager with the owner and also with the work groups.

5. OPERATIONS RESEARCH:

Operations research helps the manager in a way to find out a optimal solution to a given problem. Many techniques of O.R are used by the managers at the point of allocation of scarce resources like men, materials, machinery and money in a proper and efficient manner that these resources are used to the optimum extent without any wastage, and to reach at the desired level of output. It is mainly concerned with "solving the managerial problems" by finding the tool which is appropriate or exact one.

5. DEMAND ANALYSIS

5.1 CONCEPT OF DEMAND*:*

Demand is the most important and a crucial element for any enterprise for its existence and survival. The primary objective of any business organization is to earn maximum profits and to obtain maximum sales. This, completely depends upon the demand of the products and services. Demand analysis includes the tasks related to identifying the need of the consumer, production, advertising, sales promotion, cost allocation and pricing etc.,

Demand refers to the amount of commodity which an individual household is willing to purchase at a reasonable price. It is defined as, “Desire of a commodity along with the ability to purchase and willingness to pay the required price to acquire the product.” It is observed that demand on a product implies..

- Desire of a commodity (Need , desire)
- Ability to purchase (Financial ability)
- Willingness to pay

1. DESIRE

Desires are quite common to every individual living in the society. Sometimes we may have to purchase the things without any interest on them. Thereby, it leads to dissatisfaction. Hence, without desire there is no demand.

For example, A father bought a new bike to his son. But the son is not satisfied with the model of the bike as he feels that it is an old model bike. In this situation father has a desire on the bike he bought, he is economically able to purchase and gave the amount willingly. So, here the bike got demand at father. But, son is not satisfied with the model, even though his father has an ability and willingness from his side there is no desire so there is no demand. In this situation consumer is not satisfied and the customer is fullu satisfied with what he bought. Hence, there is a demand on the product with the customer and there is no demand at the view of consumer.

2. ABILITY

Ability refers to financial ability without which one cannot purchase any commodity. Ability without desire does not mean demand. Similarly, desire without ability does not mean demand.

For example, A poor man may have a desire to own AUDI car. But, his financial status may not allow him to do so. Hence, no ability, no demand.

3. WILLINGNESS

Mere desire to purchase the product, even with having ability will not increase the demand of the product without the willingness. Even though, there is a desire and ability, without “willingness” to pay for it, one cannot purchase the product.

For example, A miser’s desire for and ability to pay for a mobile is not demand because he is not willing to pay the offered price.

5.2 DEMAND DEFINITIONS

Demand refers to ***"the desire of a commodity along with the ability to purchase and willingness to pay for it."*** Demand implies "How much of the quantity is demanded at the given price?" Product has to successfully fulfill all the three necessary conditions to increase its demand in the market. Failing which, these factors acts as the determinants and may cause negative effect towards the growth of the product in the market.

5.3 TYPES OF DEMAND

Demand analysis includes the analysis of the type of demand to which the product is mostly connected with. It is necessary to the managerial economist to find out, analyze the nature and types of demand before the process of forecasting. Here are some of the types of demand :

1. CONSUMER GOOD AND PRODUCER GOODS

The goods which are used for the final consumption are called as consumer goods. These include, the goods which can directly satisfy the desires and needs of the consumer. Mobiles, chairs, books etc comes under this category.

Producer goods are those which are used as production factors through which the producer produces the products and earn profits. It includes machinery, buildings etc

2. PERISHABLE GOODS AND DURABLE GOODS

The demand is based on the durability of the product. Perishable goods have very small life span say one hour, a day and a week. These products are to be consumed only once, and becomes useless after some time. These include milk, curd, vegetables and fruits.

Goods which consists long life are called durable goods. Some goods which have extended durability for more or less than a decade are known as consumer durables. Which include refregirators, television sets, furniture, home theatres etc.

3. AUTONOMOUS DEMAND Vs DERIVED DEMAND

Autonomous demand refers to the demand for the products and services directly. Which also refers to, "individual product demand." Features, quality, quantity, packing, design etc are the reasons behind which the product can increase its demand and also attract the consumers in the market. Autonomous demand refers only when a product have its own individuality in the market.

For example, if the students are willing to take admission in a college by considering the educational benefits provided and the academic performance then it can be said that the college has autonomous demand.

Derived demand is that where some products arises out of the purchase of the parent product. i.e., college surrounded by theatres, restaurants, shopping malls etc

4. INDIVIDUAL DEMAN Vs DERIVED DEMAND

Individual demand refers to the quantity demanded by an individual consumer in the market. Where as, market demand is the aggregate of overall quantity demanded by "n" number of consumers. Demand curve under both the situations slopes downwards as per the laws of demand and diminishing marginal utility.

Following table illustrates Individual demand and Market demand schedule

PRICE	QUANTITY DEMANDED
5	20
4	40
3	60
2	80
1	100

Table.1.1(a) Individual demand schedule

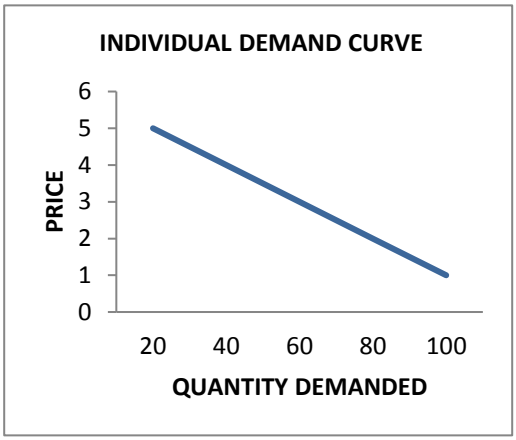

Fig. 1.5 Individual demand curve

PRICE	Quantity Demanded by			TOTAL MARKET DEMAND
	"X"	"Y"	"Z"	
5	10	5	2	17
4	12	7	5	24
3	15	10	8	33
2	18	13	12	43
1	20	15	15	50

Table 1.1(b) Market demand schedule

5. FIRM DEMAND AND INDUSTRY DEMAND:

Firm is a single business unit. Whereas, Industry refers to the group to firms carrying similar kind of activities. The amount of goods and services demanded by a single firm is called firm demand. And, the quantity demanded by the industry as a whole is called industry demand.

6. NEW PRODUCT DEMAND Vs REPLACEMENT DEMAND:

New product demand refers to the demand on a new product. It includes the demand on a new bike, new car, new mobile etc. Replacement demand refers to the demand on the products which are purchased to maintain the asset in a good condition. In simple, demand on spare parts refer to replacement demand. Where the parts are purchased only to replace them and maintain the asset. These products/spare parts do not constitute any individuality when got separated from the asset.

7. TOTAL MARKET Vs MARKET SEGMENT DEMAND

When a commodity is purchased by all the consumers in a region it is called as Total market demand. For example, rice, sugar etc are some of the examples of total market demand where the products are used by all the consumers in the market i.e all segments in the market.

Market segmentation refers to the process of dividing the market into sub-categories basing on the taste and preferences of the consumer, age, income levels, gender etc. the process of segmentation helps the entrepreneur to identify and concentrate on the needs, taste and preferences and trends of the particular segment and behave in such a manner which can increase the profits of the firm. Toys for children, cosmetics for women, cotton and khaddar garments for old generations, superior goods for rich people and inferior goods for poor or low paid people.

5.4 DETERMINANTS OF DEMAND:

Demand is said to exit when the product satisfies the given conditions viz., Desire, Ability and Willingness. A part from these, demand depends on several factors which can show their effect towards increasing and decreasing the rate of demand. These factors which can focus their impact on demand are termed as demand determinants.

a. Price of the product (P)
b. Income of the consumer (I)
c. Price of the related good (P_R)
d. Taste and preference of the consumer (T_P)
e. Expectations of price in future (E_P)
f. Expectations of income in future (E_I)
g. Size of population (S_P)

h. Advertising efforts and cost (A_E)
i. Any other factor capable of effecting demand.

5.4(A) EXPLATIONS FOR DETERMINANTS

1. PRICE OF THE PRODUCT

Price is one of the most important determinants of demand. When other things remains constant, relation between price and demand of a particular product are inversely proportional(as per the law of demand). When price increases, consumer tends to purchase less quantity and if price decreases, consumer purchases more and more quantity.

2. INCOME

The relation exists in between demand and income of the consumer is directly proportional i.e., increase in the income of the consumer leads to the increase in the quantity demanded in the case of normal goods. For inferior goods the income and quantity demanded by the consumer are inversely proportional ie., if income increases the consumer will be no more interested in purchasing inferior goods. And the demand for these goods decreases when income increases.

3. PRICE OF THE RELATED GOOD

Sometimes, the demand for a product is affected by the price of the related goods. Ultimate increase in the price of one product can increase the demand for its related good and vice versa. The demand and price of related goods are always directly proportional. Hence, the demand curve moves in a same direction. Examples for related goods are petrol and diesel, coffee and tea etc.

Whereas, the demand and price for complementary products are inversely proportional in nature. If the price of one product reduces, the demand for the other increases. In this case the demand curve moves in opposite direction. Examples for complementary goods are bike and petrol, printers and ink cartridges etc.

4. TASTE AND PREFERENCE OF CONSUMER

Consumer usually purchase the products according to their taste and preferences as to satisfy his/her needs in a more effective manner. As studied earlier, human beings are one. But, the thoughts, wants, taste, attitude etc of the human beings are unconuntable. It is the primary responsibility of every producer to produce the product as per the specifications and preferences of the consumer. Failing of which can affect the demand and the growth of the product in the market.

5. EXPECTATIONS

Expectations of the consumer are broadly categorized as:

a. Expectations about price
b. Expectations about income

In case, the consumer expects price to raise in the nearest future, he will demand more quantity at present. If the price is expected to decrease in the future consumer stops consuming/purchasing the purchasing the product at present. So, current demand of the product is inversely proportional to the future expected price.

In the same way, if the consumer expects that there will be an increase in his income in the nearest future, at present he increases the purchases.. and vice versa.

6. SIZE OF POPULATION

Most important determinant is that the goods are to be supplies by the producer as per the requirement of the consumers in the market.

7. ADVERTISING

Advertising and various promotional activities are to be carried out by the producer to let the product information know to the consumer and also to attract them towards the product. Incase the producer is not able to invest such effort on advertising it leads negative effect of demand. No consumer is ready to purchase any product without proper advertising and publicity.

5.5 DEMAND FUNCTION

The demand function can be defined as, "the functional relationship between one variable and its determinants." In short, demand function describes the functional relationships in between the determinants of demand. It can be expressed by the following terms.

$Q_d = f \{ P, I, P_R, T_P, E_P, E_I, S_P, A_E, \ldots\}$

5.6 LAW OF DEMAND

Law of demand is considered as one of the fundamental laws of economics. Law of demand states that, " when other things remains constant, the demand of a particular commodity goes inversely proportional to the price of the particular commodity." In the above definition the term "other things" refer to:

- Taste and preference of the consumer
- Income of the consumer

- No change occurred in the price of the related goods and complementary goods
- Expectations regarding the change in price and income in the nearest future.

Theory of law of demand is explained with the help of following demand schedule followed by a diagram.

PRICE	QUANTITY DEMANDED
5	15
4	18
3	24
2	30
1	40

Table 1.2 demand shedule

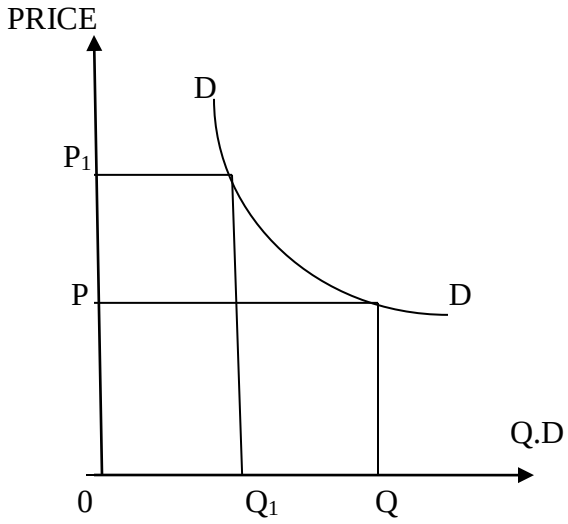

Fig. 1.6

In the above fig.1.6 on X-axis Quantity Demanded (Q.D) by the consumer and on Y-axis Price of the product(P) are placed. It is observed in the above mentioned demand schedule that when the price raises from Rs. 1/- to Rs.5/- , demand has decreased from 40 units to 15 units of the product. For every increase in price there is a decrease in the quantity demanded by the consumer. Similarly, for every decrease in price there is an increase in demand. "DD" is the demand curve sloping downwards from left toward the right.

5.6(A) REASONS FOR DOWNWARD SLOPING OF DEMAND CURVE

1. Law of diminishing marginal utility

Law of Diminishing Marginal Utility states that, "Marginal utility derived on the consumption of every additional unit goes on diminishes, when other things remains constant." Where, "Other things" refers to the taste and preference of the consumer, nature and size of the product, quantity of the product, zero time interval between two levels of consumption, prices of related good etc." If there exists any change in the "other things" it indicates the law is invalid. Following schedule illustrates the law of diminishing marginal utility.

NO.OF UNITS(APPLES)	TOTAL UTILITY (T.U)	MARGINAL UTILITY (M.U)
1	25	-
2	40	15
3	52	12
4	60	8
5	60	0
6	-54	-6

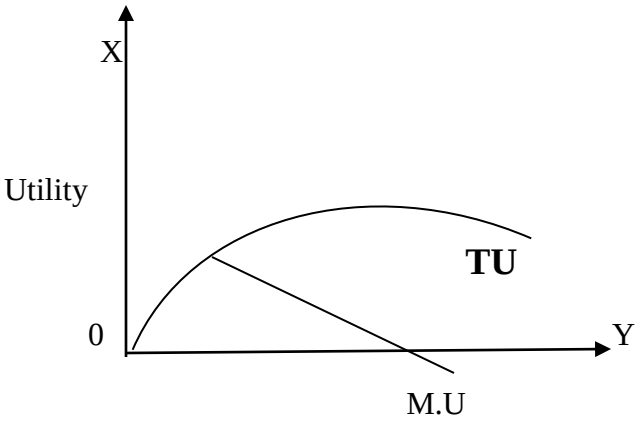

Fig. 1.7 Law of diminishing marginal utility

The above table and diagram explains the law. No of units are taken as "6". It is observed that "total utility" goes on increasing at a decrease rate, at a particular point it remains constant and then slowly decreases. While, the marginal utility for every additional consumption goes on diminishes (decreases) and finally becomes negative.

The law states that the marginal utility goes on diminishes and will be equal to price. When price reduces, marginal utility also reduces. So, the consumer buys more and more quantity when price decreases and viceversa. Thus, the demand curve slopes downwards.

2. When price of a particular commodity reduces, existing consumers buy more quantity.
3. It is also due to the differences in desire of the consumer and income.

5.6(B) EXCEPTIONS TO THE LAW

Law of demand explains that, "when other things remains constant, price of the product goes inversely proportional to the demand." But, under some circumstances the theory of law of demand does not work. So, the situations at which the law doesn't work are called as exceptions to the law. Some of the exceptions of the law are:

a. GIFFENS PARADOX

Sir. Robert Giffen in the early 19^{th} century observed that low paid workers in Britain purchased more bread when its price increased by decreasing the purchase of meat. Increase in price in this situation did not affect the demand to reduce. Hence, it can be treated as one of the exceptions of law of demand.

b. If consumer ignore the price he will demand the quantity as per his wish.
c. Speculation
d. Scarcity among resources
e. Conventional goods etc…

5.7 CHANGE IN DEMAND

When there is a change in the price of the commodity, there will be a change in the demand of the product. These changes are mainly categorized as:

- Expansion and Contraction of Demand
- Increase and Decrease in Demand

1. EXPANSION AND CONTRACTION OF DEMAND

When the changes in demand are caused only due to the changes occurred in the price of the commodity these expansion and contractions of demand will occure.

"Expansion of demand refers to a fall in price leads to increase in demand."

While, ***"Contraction refers to a rise in price leads to a decrease in quantity demanded."***

Fig. 1.8 is the diagrammatic representation of expansion and contraction of demand. On the x-axis quantity demanded by the consumer and on the y-axis price of the commodity is placed. "OP" is the original price and "OQ" is the original demand. When the price increases from OP to OP_1 the consumer tends to buy less quantity and thus the demand decreases from OQ to OQ_1. (Contraction of demand) Similarly, if the price falls from OP to OP_2 the consumer purchases more and more quantity of the product which leads to the change in demand from OQ to OQ (Expansion of demand). These expansion and contraction of demand are based on the concept of law of demand.

Hence, the movement of expansion and contraction of demand takes place on the same demand curve.

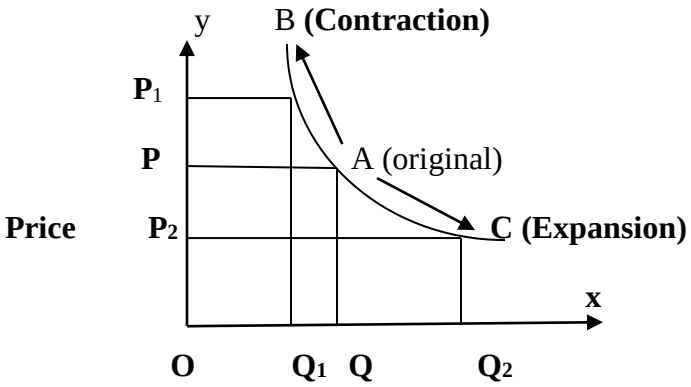

Fig. 1.8 Expansion and Contraction of demand

2. INCREASE AND DECREASE IN DEMAND

Increase and decrease in demand are caused by the factors other than price. This leads to the demand curve to shift towards right or towards the left. Here the shift and movement of the demand curve takes place.

Increase in demand refers to, ***"more quantity at the same price or same quantity at higher price."*** When there is an increase in demand, it can be shown as shift in demand curve towards right. Decrease in demand refers to, ***"less quantity at same price or same quantity at less price."*** This can be shown as the movement of demand curve towards the left. Increase and decrease in demand with the help of the following fig 1.9

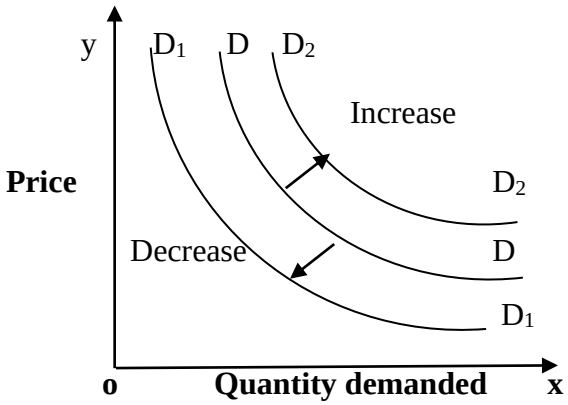

Fig. 1.9 Increase an decrease in deamand

6. ELASTICITY OF DEMAND

When we take a rubber band, and try to expand it by applying some force it will get expanded for some extent. In the same way if we slowly remove our fingers in between the band it gets compressed and reaches its original state. Why the rubber band is expanding? Why it is getting compressed? The only thing we can say is that it has elastic nature.

Previously, we have dealt with the direction of the demand curves. But, the elasticity of demand deals with the measurement of the demand (length).

6.1 DEFINITION

Elasticity of demand (E_d) is defined as, ***"the rate of responsiveness given the consumer to a product when there is a change in the price or any other demand determinants."*** It is the response in the demand of a commodity for a given change in the price or any other determinants of demand.

6.2 TYPES OF ELASTICITY OF DEMAND

Elasticity of demand is broadly classified into four major types. These are:

- Price elasticity of demand {Ed_P}
- Income elasticity of demand {Ed_I}
- Cross elasticity of demand {Ed_C}
- Advertising elasticity of demand{Ed_A}

6.2(A) PRICE ELASTICITY OF DEMAND

Price is treated as one of the main determinant of demand. Price and demand of a commodity are always inversely proportional. Price elasticity refers to the rate of responsiveness given by the consumers to the goods and services when there is a change in the price of the commodity. It can be computed as:

$$Ed = \frac{\%\ change\ in\ demand}{\%\ change\ in\ price}$$

Or

$$Ed = \frac{(Q2-Q1)/Q1}{(P2-P1)/P1}$$

6.2(A)(i) MEASUREMENT OF PRICE ELASTICITY OF DEMAND:

Elasticity of demand is one of the technique which is useful for the producer to know the length of the demand and to forecast the future demand. Price elasticity of demand is responsiveness given by the consumer when there is a change in the price of the product. This can be measured in five ways. Which of these are explained under

- ✓ Perfectly elastic
- ✓ Perfectly inelastic
- ✓ Relatively elastic
- ✓ Relatively inelastic
- ✓ Unitary elastic

1. PERFECTLY ELASTIC

When the demand for a commodity changes without any change in price, the situation is called perfectly elastic. Where, the demand is perfectly elastic. In such case, even a small change in the price (increase) may lead to fall in whole demand. So, the changes in demand reaches infinite when there is no change in the price and hence the demand curve is horizontal and parallel to x-axis as shown in the fig 1.10(a)

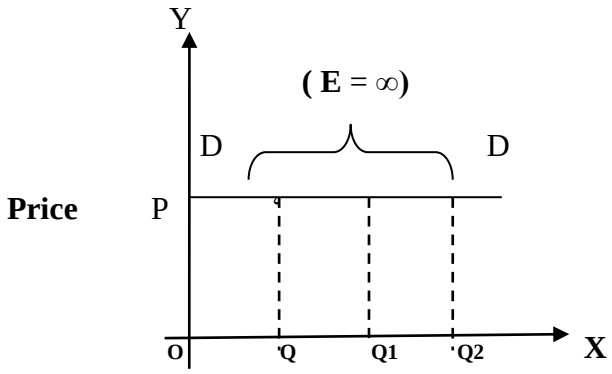

Fig. 1.10(a) Perfectly elasticity of demand

2. PERFECTLY INELASTIC

The demand is said to be perfectly inelastic when there is no change in the quantity demanded for a particular product even though there is a dramatic change in the price of the product. Basic needs are to be considered as one of the examples in this situation. It can be illustrated by the following fig.1.10(b)

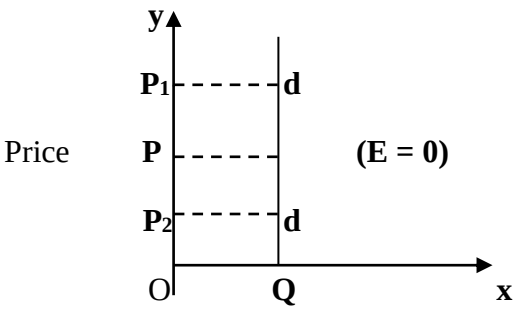

Fig.1.10(b) Perfectly inelastic

NOTE: *The concepts of Perfectly Elastic and Perfectly Inelastic of demand do not match manifest in real life.*

3. RELATIVELY ELASTIC

Relatively elasticity of demand is said to be exist when the change in demand is more than the change in the price of the product. And hence it is denoted as (E > 1). Plotting of demand curve under this situation is shown in fig 1.10(c)

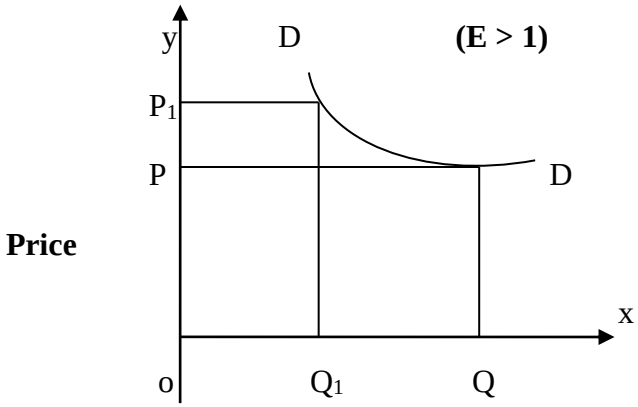

Fig. 1.10(c) Relatively elastic

4. RELATIVELY INELASTIC

The demand is said to be relatively inelastic when the change in demand is less than the change in the price. It is indicated as (E<1)

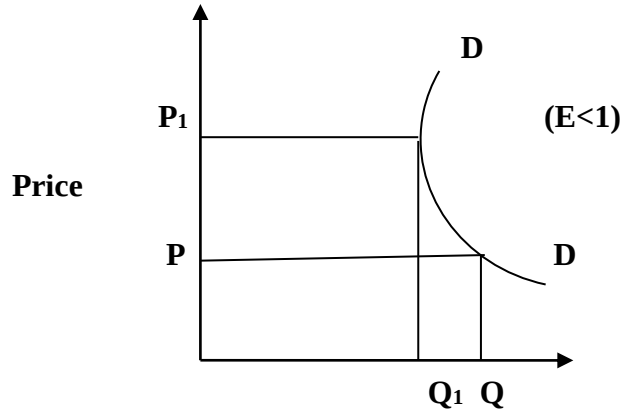

Fig. 1.10(d) Relatively IN-Elastic

5. UNITARY ELASTIC

Unitary elasticity also known as unit elasticity. The demand is said to be unitary elastic when the change in demand is equal to the change in the price of the product. It is represented as **(E = 1).** It can be easily understood with the help of the following fig. 1.10(e).

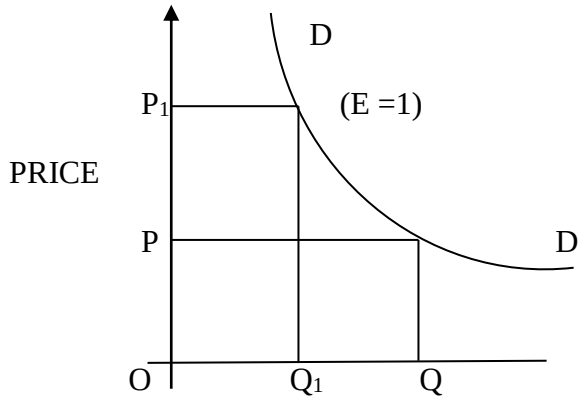

Fig. 1.10(e) Unitary elasticity

6.2(A)(ii) METHODS OF MEASURING PRICE ELASTICITY

Methods to measure the price elasticity of demand are categorized into four types. Viz

- Total outlay method
- Point method
- Arc method
- Proportionate / Percentage method

1. TOTAL OUTLAY METHOD

Total outlay method is also known as total expenditure method. The total outlay method is associated with the name Prof. Alfred Marshall.

Under this method, to know the elasticity of demand, firstly, it is essential to know how much and in what direction the total expenditure has changed as a result of change in the price of the product.

Price elasticity is measured by comparing the total expenditure of the consumer (or total revenue i.e., total sales value from the point of view of the seller) before and after variations in price. Following table illustrates the measurement of price elasticity of demand under total outlay method.

TABLE SHOWING THAT HOW TOTAL EXPENDITURE CHANGE		
PRICE INCRESES	**PRICE DECREASES**	**TYPE OF PRICE ELASTICITY OF DEMAND**
TOTAL EXPENDITURE INCREASES	**TOTAL EXPENDITURE DECREASES**	**RELATIVELY IN-ELASTIC {E<1}**
NO CHANGE IN TOTAL EXPENDITURE	**NO CHANGE IN TOTAL EXPENDITURE**	**UNITARY ELASTIC {E=1}**
TOTAL EXPENDITURE DECREASES	**TOTAL EXPENDITURE INCREASES**	**RELATIVELY ELASTIC {E>1}**

A) RELATIVELY IN-ELASTIC (E <1)

When there is a rise in the price, total expenditure also rise and when the price decreases, the total expenditure also decreases. Hence, there is a direct relationship between the price and total expenditure. The point at which the change in price leads to a change in total expenditure in the same direction is said to be as relatively inelastic.

B) UNITARY ELASTIC (E=1)

A product is said to have a unitary elastic when the change in price has no effect on the total expenditure.

C) RELATIVELY ELASTIC (E>1)

When there is a rise in the price, the total expenditure on the product falls and when the price reduces, the total expenditure rises. Hence there is a inverse relationship between the price and total expenditure. In other words, change in price results into change in total expenditure in opposite direction. Under this situation demand on the product is said to be relatively elastic.

CASE	PRICE Per kg (in Rs.)	QUANTITY DEMANDED (kg)	TOTAL OUTLAY (Rs)	ELASTICITY OF DEMAND
1	5 4	200 300	1000 1200	RELATIVELY ELASTIC [E > 1]
2	4 3	300 400	1200 1200	UNITARY ELASTIC [E = 1]
3	3 2	400 560	1200 1120	RELATIVELY INELASTIC [E < 1]

2. POINT METHOD

Point method is used to measure the price elasticity of demand at any point on the demand curve. This can be calculated by using the formula

$$Ed = \frac{\text{lower segment}}{\text{upper segment}}$$

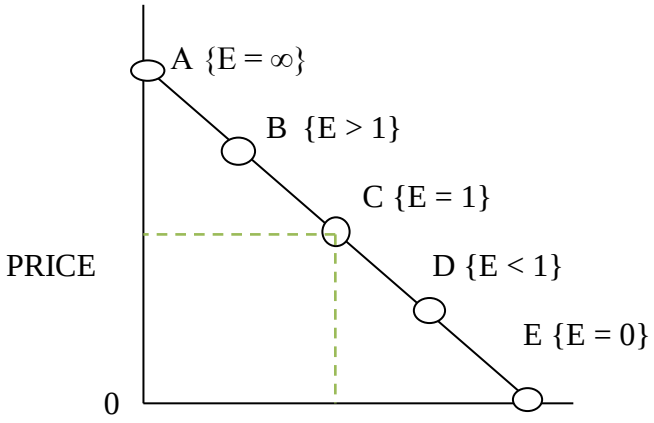

Fig . 1.11 Point elasticity

In the above fig. 1.11, it is seen that the price elasticity is measured at any point on the demand curve by drawing a tangent to the point. The tangent is "AE" Basing on the given formula the lower segment is "CE" and the upper segment is "AC". Then CE/AC = 1. So, the elasticity is {E = 1} [UNITARY ELASTIC]

At point D, the lower segment is "DE" and the upper segment is AD. Then DE/AD ≠ 1 and DE < AD. So, the elasticity is relatively elastic where {E <1}

Similarly, at point B, the lower segment is "BE" and the upper segment is "AB". Here BE>AB. So, the elasticity is relatively elastic {E<1}

At point "A" the elasticity of demand is infinite. And at the point "E" elasticity of demand is "zero"

At point "A" elasticity is infinite and is said to be as perfectly elastic. And at point "E" elasticity is zero and is said to be as perfectly inelastic. Hence, it can be observed that the **elasticity lies between zero to infinity.**

3. ARC METHOD

The measure of elasticity of demand between two finite points on a demand curve is known as Arc elasticity. Two points that are equidistant along the supply or the demand curve from the point desired are chosen. The averages from those two points are then substituted in the given formula.

$$\text{Ed} = \frac{\Delta Q}{\Delta \text{P}} X \frac{(\text{P} + \text{P1})/2}{(Q + Q1)/2}$$

(OR)

$$Ed = \frac{\Delta \text{Q}}{\Delta P} X \frac{(\text{P1} + \text{P2})}{(Q1 + Q2)}$$

Where, P1 refers to Initial / original price of the commodity (price before change)

P2 – New price (Price after change)

Q1- Original quantity (Quantity demanded before price change)

Q2- Quantity demanded after change

ΔQ- Change in quantity demanded

$\Delta P = Change\ in\ the\ price$

4. PROPORTIONAL METHOD

This method is also called as proportionate method or percentage method under which the elasticity of demand is measured as

$$Ed = \frac{\text{Percentage change in demand}}{\text{Percentage change in price}}$$

6.2(B) INCOME ELASTICITY

Income elasticity of demand refers to the rate of change in the quantity demanded in response to the given change in the income of the consumer. Income of the consumer is directly proportional to the quantity demanded. This reveals that whether the product is a superior good (luxury), normal good or inferior good.

If the income elasticity of demand is positive and is greater than one then the good is said to be a superior good. Where E<1.

In the case of inferior goods, the income elasticity of demand is negative, and for neutral goods it becomes zero. It means even though there is a change (increase or decrease) the quantity demanded remains constant.

Income elasticity of demand is measured as

$$Ed = \frac{\%\ \text{change in demand}}{\%\ \text{change in income of consumer}}$$

6.3(C) CROSS ELASTICITY

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

Substitute goods – coffee and tea

Diesel and petrol etc are the examples

Complementary goods – Paint and Paint brush, Fountain pen and ink

The goods which are depended on the other goods are called as complementary goods. Where one good is considered as useless without the other. Cross elasticity can be measured as

$$Ed = \frac{\%\ \text{change in demand of Product} - \text{A}}{\%\ \text{change in price of Product} - \text{B}}$$

Where Product-A and Product-B are related goods/substitutes/complementary goods.

6.4(D) ADVERTISING ELASTICITY

Advertising has a very prominent role in the promotion of the product. Without proper and efficient advertising policy no consumers are ready to purchase the product. It mainly helps the products and services reach the consumer more effectively. It helps the consumer to know the product information, features, model, design, etc. Every producer has to pay some attention and invest some amount of capital in order to make publicity of the products and services. And thus, this can help in rising the demand of the product.

Advertising elasticity of demand refers to the direct relationship between the amount of money spent on advertising and its impact on sales.

$$\text{Ed} = \frac{\%\ \text{change in sales}}{\%\ \text{change in Advt. cost}}$$

AT A GLANCE

1. *Managerial economics is the combination of two important disciplines viz., Management and Economics.*
2. *The art of getting things done through the people is known as management.*
3. *Economics is defined in four ways i.e., Prof. Adam Smith has defined as wealth, Prof. Marshall defined economics as the study of human welfare, Lionel Robbins defined economics as a study of changing human behavior when there are limited means to satisfy their unlimited wants.*
4. *The aim of satisfying human needs and wants by putting some effort towards earning the income and satisfying the needs with the use of that income is called Economic Activity.*
5. *Micro economics and Macro economics are the sub-categories under Economics. These terms are first coined by Ragnar Frisch Micro deals with the individual aspects as individual household, individual firm etc. It is otherwise called as Price theory.*

   Macro economics deals with the aggregates. It is otherwise known as "Income and Employment theory."

6. *Managerial economics is the science which helps the manager in analyzing and deciding the things in a optimal manner.*
7. *Demand is the desire of the commodity along with the ability to purchase and willingness to pay the required amount to acquire the product.*
8. *Determinants of demand are the factors which can affect the demand of the product in the market.*
9. *Law of demand states that the price and demand of the commodity goes inversely proportional; when other things remains constant.*
10. *Elasticity is the way to measure the length of the demand. It is the rate of responsiveness given by the consumer to a product in response to the change in the price or other demand determinants.*

I. SHORT ANSWER QUESTIONS:

1. Define Management?
2. Define Wealth definition of Economics?
3. Define Managerial Economics?
4. Explain the term "Demand"
5. How does Psychology helps the manager?
6. Explain the concept of Elasticity of Demand?
7. Briefly explain the Law of Diminishing Marginal Utility?

II. *LONG ANSWER QUESTIONS*

1. Write a note on the nature and scope of managerial economics.
2. Explain the law of demand along with its exceptions.
3. What are the demand determinants? Explain in detail.
4. Explain about the law of diminishing marginal utility?
5. What are the disciplines with which managerial economics is related to? Explain.

Or

What are the linkages of managerial economics?

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