Managerial Economics
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Lecture - 16

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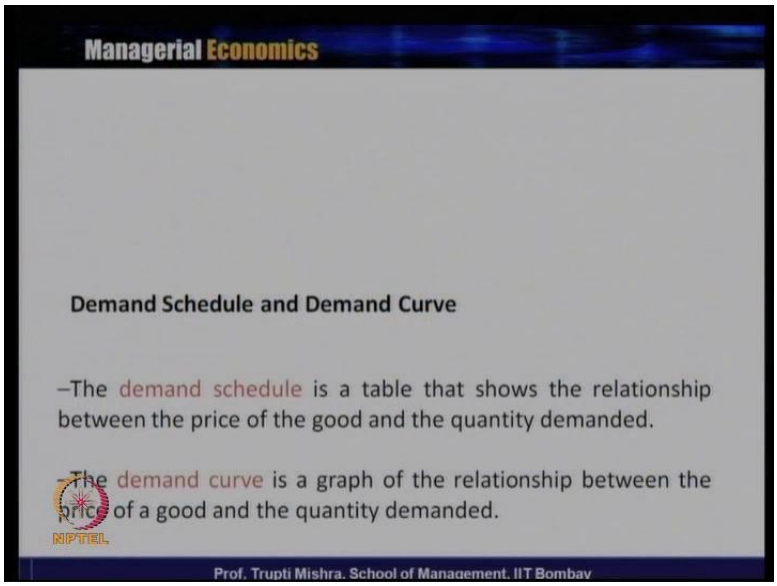

Then we will talk about the demand schedule and the demand curve, demand schedule is a table that shows the relationship between the price of the good, and the quantity demanded; and demand curve is a graph of the relationship between the price of the goods and the quantity demanded. So, if you look the relationship between the price and the quantity demanded, it is again on the basis of inverse, there is a inverse relationship between the price and quantity demanded.

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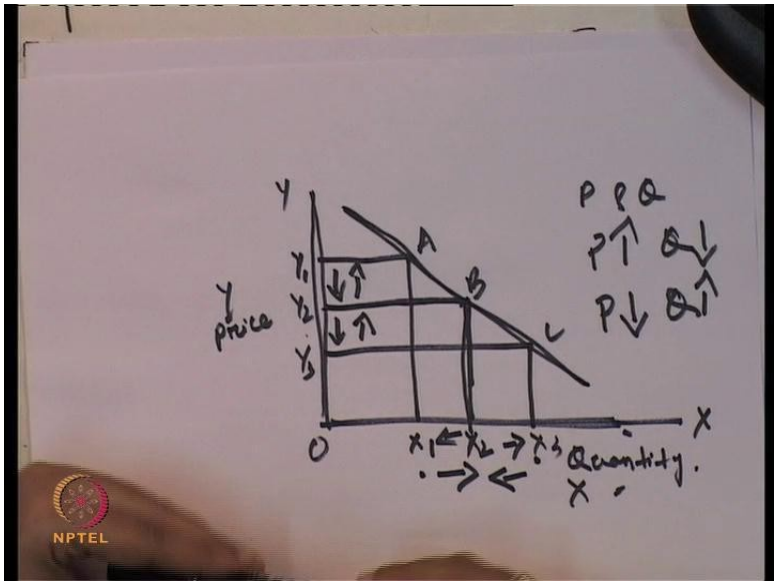

So, when you graphically plot this price of price and quantity in a graph, looking at their principle or how they are related, we generally take quantity on the X axis, and price on the Y axis. And we know that there is a inverse relationship between the price and quantity demanded. So, on that basis demand curve always slopes down ward, because whenever there is a increase in the price, that leads to decrease in the quantity demanded; whenever there is a decrease in the price, that leads to increase in the quantity demanded.

So, suppose we take point A, point B and point C, and this point A is combination Y 1, X 1, point B is combination Y 2, X 2, and point c is combination Y 3, X 3. X is our quantity and Y is our price, when the price is Y 1 the quantity is X 1, when price is Y 2 the the quantity is X 2, why there is a increase in the quantity from X 1 to X 2, because there is a decrease in the price from Y 1 to Y 2. Similarly, when the price is Y 3, the quantity is X 3, why there is a increase in the quantity from X 2 to X 3, because there is a decrease in the price from Y 2 to Y 3.

So, price and quantity since both are in inversely related, whenever there is a decrease in the price that leads to increase in the quantity demanded, and in similar way again we can explain that, when there is a increase in the price. Suppose, initially the price is Y 3 and quantity demanded is X 3, now price of Y 3 price is increases from Y 3 to Y 2, if you look at the quantity will decrease from X 3 to X 2, and again if the price is increasing from Y 2 to Y 1, the quantity will again decrease from X 2 to X 1.

So, price and quantity they are both inversely related, whenever there is increase in the price that leads to increase in the quantity decrease in the quantity demanded and whenever there is a decrease in the price that leads to increase in the quantity demanded. And demand curve is always a downward sloping demand curve, because both price and quantity they are inversely related to each other.

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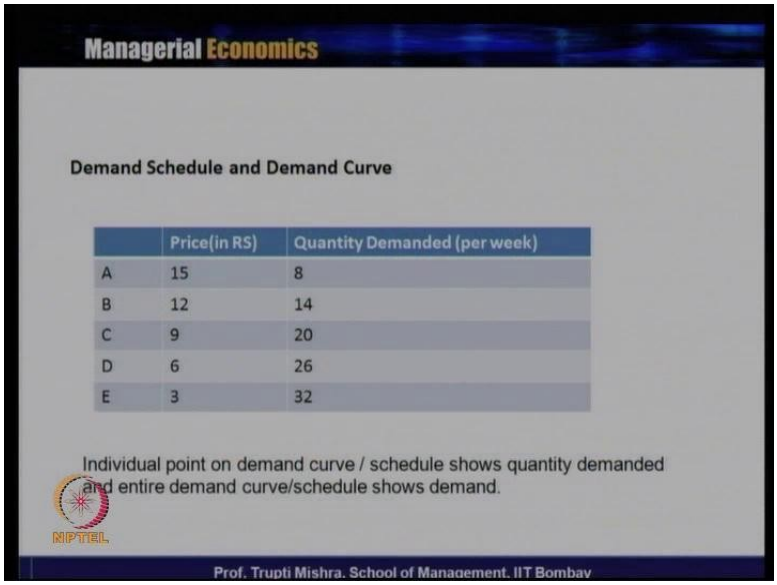

Then next we will see a demand schedule this basically jot downs the relationship between the price and quantity demanded, so if you look at there are five points A, B, C, D, E and each each point gives a combination of both the price and quantity. So, at the point A, like if you look at the graph, again we can put this into graph suppose when the price is 15, quantity demanded is 8; and again when the price is 12, quantity demanded is 14, price is 9, quantity demanded is 20.

So, if you plot this again in a graph taking the number rather than Y Y 1, Y 2, Y 3, if you are putting 15, 12 and 9, and in this case X 1, X 2, X 3, again if we can put 8, 14 and 20, again it shows the same relationship that. Whenever there is a decrease in the price that leads to increase in the quantity demanded, and whenever there is a increase in the price that leads to decrease in the quantity demanded.

So, the same relationship is again shown in case of a demand schedule if you look at, and if you look at the trend over here the price is decreasing like 15, 12, 9, 6, 3 and correspondently the quantity demanded is increasing, because there is a decrease in the price. Again if you

read it from the below you will find that, if your moving from point E to point A, you will find that when the price is increasing that again again leading to the decrease in the quantity demanded. Any individual point on demand curve or demand schedule, so as the quantity demanded or the entire demand or the entire demand curve or schedule that shows the demand.

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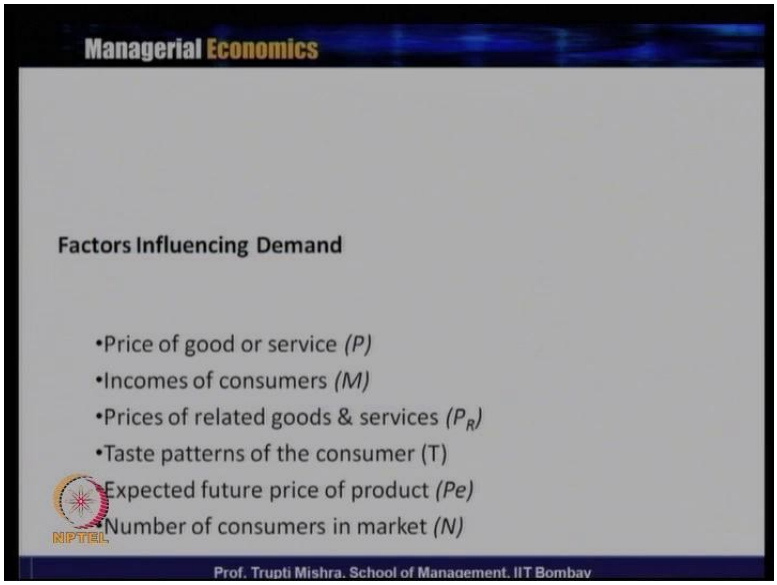

Now, we will see what are the factors, generally that influence the demand, we know that one that is already we have been discussing in last couple of minutes that price and quantity they are inversely related. So, apart from price, what are the other factors that influence the demand? The first one is price of goods and services; second one is the income of the consumer. How income of the consumer is related to quantity demanded? If the income increases they are positively related, if the income increases the people the demand more, the consumer demand more for the product.

And the third factor what influence the demand is the price of related goods and services, like we are taking the example of tea and coffee, if you are consuming, if the price of coffee decreases obviously, the demand for quantity demanded for tea generally decreases. Because, the consumer will move from tea to coffee, because coffee is now a low cost product as compared to the tea, so that is how the price of related goods like, price of substitute good, price of compliment goods that also influence the demand for the product.

So, one is price of the product, second one is the income of the consumer, third one is the price of related goods and services, the related goods and services in question can be substitute good can be complimentary good. So, price of substitute good, price of complimentary good also influence the demand for this typical good. Then the taste pattern of the consumer, if the consumer has developed a taste for it, if the consumer has, consumer has liked the product, if they are happy about the usefulness of the product they have developed a taste for it.

And if they have developed a taste for it, they will always the prefer this product as compared to the other product, which will again influence the demand for the product. So, taste pattern of the consumer is again a positive relationship with the demand, if the taste pattern is good generally the demand for the product is also good. Then the expected future price of the product, if the future price is going to increase, the demand is going to, demand is going to be more now, because if they are postponing their consumption they are paying more in the future, rather than whatever the price they are paying now.

So, expected future price of the product again plays a important role, when it comes to the demand for the product, then the number of consumer in the market, more consumer consuming the product the demand for the product is more. And they are positively related, the number of the consumer is positively related to the quantity demanded for the product.

So, the demand for the product essentially dependent on all this six factor that is prices of goods and services, income of the consumer, because that reflects the purchasing power of the consumer. Price of related goods and services, taste pattern of the consumer expected future price of the product and finally, the number of consumers in the market they, they generally leads that, what what should be the demand for the product.

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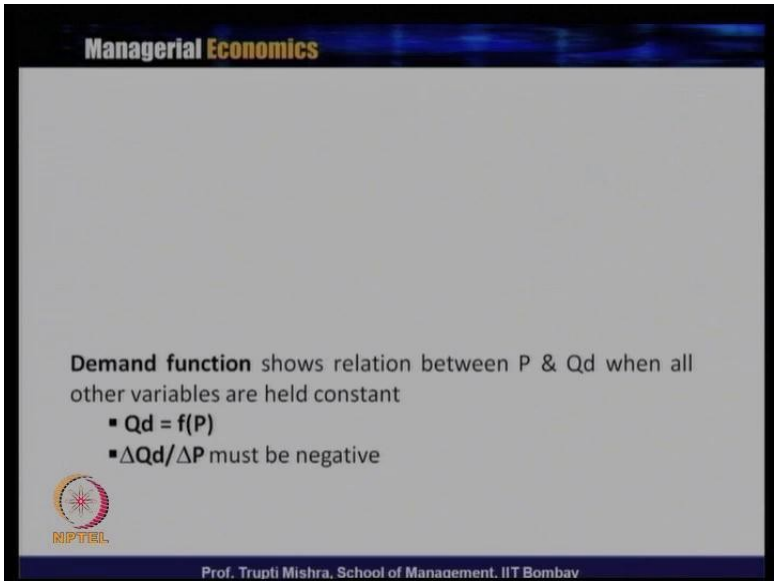

Now, what is a demand function, so mathematically when you when you analyze the relationship between the price and quantity demanded, that through a demand function. And demand function it shows a relationship between the price and quantity demanded, represented as P and Qd when all other variables are remain constant. So, the relationship of price and quantity demanded, in term of a mathematical function we generally call as the demand function.

So, in this case, suppose we assume that all other fixed, all other variable are constant, like income, price of the related goods and services, future price, number of consumers all other variables are constant; they are not influencing demand at this point of time. Demand function is specifically the mathematical relationship between the quantity demanded and price, so if you look at Qd is a function of price, so quantity demanded is dependent on the price.

And the slope of Qd and P it should be, it must be negative, because quantity demanded and price they are negatively related, they are inversely related; if one is increasing, the other one should be decreasing, and if the other one should be decreasing, then the one should be increasing. So, the slope of quantity demanded and price has to be negative, and demand function essentially it is the mathematically a relation, mathematical relationship between the price and quantity demanded.

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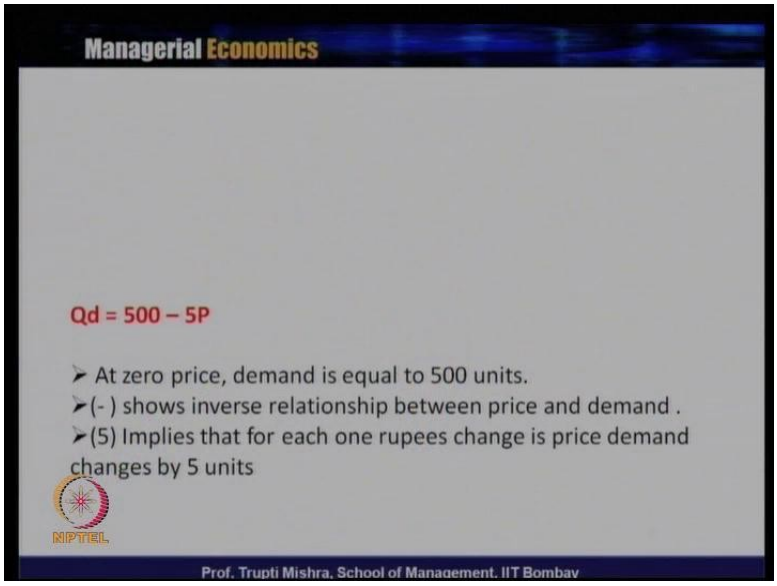

So, if you take a simple example Qd is equal to 500 minus 5 P, a typical example of the demand function, so how do we interpret this, at this typical demand function. Here, if you look at all other variable are constant, because we do not have the value for income, we do not have the value of the prices of other goods, future prices, number of consumers taste pattern. So, we can, we can say that the quantity demand is only dependent on price, so Qd is equal to 500 minus 5 P.

Now, how do we interpret this typical demand function, at zero price demand is equal to 500 units means, if the, if you are getting the product at free the demand is 500 units, because the consumer who requires the product there the number is only 500 minus negative sign shows inverse relationship between the price and demand. And 5 implies that each 1 rupee change in the price demand, price demand changes by 5 unit, because Qd is again it is a minus 5 P 500 minus 5 p, so 500 gives us the value of the, value of the intercept and minus 5 gives us the value of the slope. So, 5 imply that for each 1 rupee change in the price, demand changes by 5 units, negative sign shows the inverse relationship between the price and demand, and at 0 price demand is equal to 500 unit.

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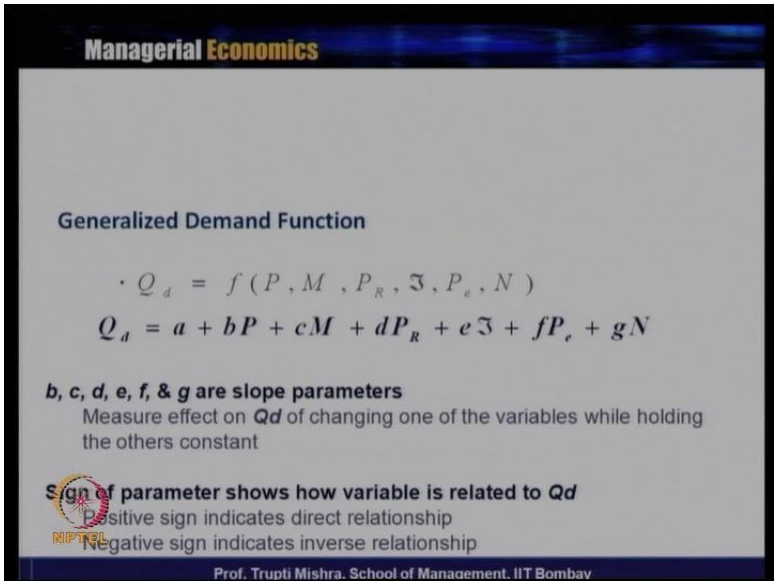

Now, if we consider a generalized demand function, demand is not only dependent on price, rather it depends on all the factors as we discussed before few minutes that number of factors that decides the, that influence the demand. So, taking all this variable Qd is a function of price of the goods denoted by 5 M that is income, P R that is price of the related goods, T is the taste pattern, P is the expected future price of the product, and N is the number of consumer.

So, generalized demand function consider all the factors that influence the demand for the product that is P is the price of product, M is the income, P R is the price of related goods and services, T is the taste pattern of the consumer, P is the expected price of the product, future price of the product, and N is the number of consumer. Then if you formulate at generalized demand function, then Qd is equal to a, which is the value of intercept plus b P plus c M plus d P R plus e T plus f P e and g N where b, c, d, e, f, g are the slope parameters. And the slope parameters measure effects and quantity demanded of changing one of the holding the other constant.

So, slope variable says that what, how they are related that is typical variable, how they are related with the quantity demanded, and the sign of parameter shows how variable is related to quantity demanded. If it is positive sign, there is a direct relationship between that variable and the quantity demanded, and if it is negative sign then there is a inverse relationship between that variable and the quantity demanded.

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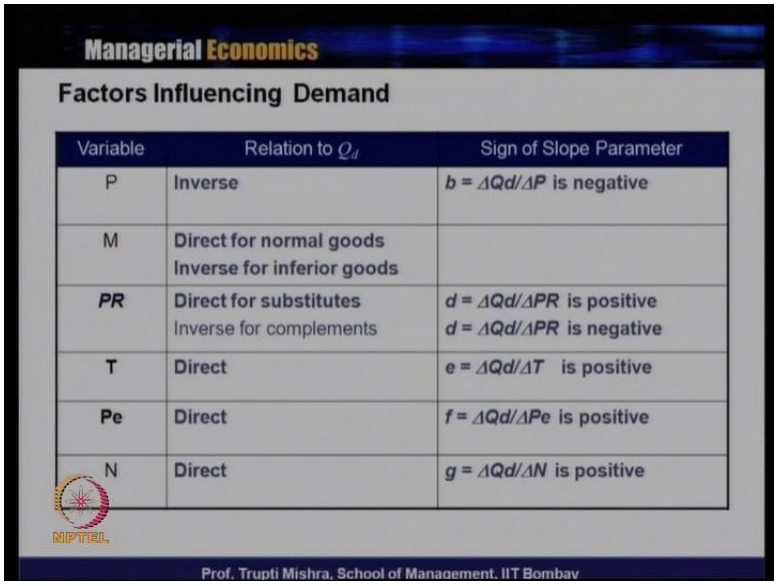

So, now if you will see all this variable, and how they are related price is inversely related to quantity demanded and the slope, that is b which is del Qd by del P is negative, M is the income direct for normal good, and inverse for inferior goods. It means when the consumer increases, the consumer money income increases, the quantity demanded for the normal goods increases whereas, the quantity demanded for the inverse good is, inferior good is decreases. Because, when income increases people always prefer to buy the superior goods what they can afford now.

So, that is the reason the normal goods there is a increase in the quantity demanded for the normal goods, and there is a decrease in the quantity demanded for the inferior good. Like when the income increases, you prefer to buy your own vehicle rather than going by the public transport, so in this case own vehicle is a normal good, and in a public transport is a inferior good.

So, when if the consumer money income increases, the consumer prefer to spend more on the normal goods and less on the inferior good, that leads to the fact that income increases, that leads to increase quantity demanded for more for the normal goods and less for the, less for the inferior good. And that is the reason that relationship is direct between the income and the quantity demanded, and inverse for between the quantity demanded, and the quantity demanded of inferior good and the income.

Again the price of related goods it is direct for substitute inverse for compliment, now take the example of tea and coffee, when the price of coffee increases, quantity demanded of coffee decreases, but the quantity demanded of tea increases; it means when there is a increase in the price of substitute good that leads to increase in the quantity demanded of this good. So, if t being the normal good or goods in typical goods in this context, a price of coffee increases that leads to increase in the quantity demanded of tea, and that is why there is a direct relationship between the price of related good and the substitute good.

Whereas, in case of complimentary goods, how it works suppose complimentary goods is tea and sugar, a price of tea is price of sugar is increasing obviously, the price of tea will also, a price of sugar is increasing that leads to decrease in the quantity demanded of sugar and that also leads to decrease in the quantity demanded of tea. Or may be you can put it in a other or a other way round that if the price of tea is increasing that leads to decrease in the quantity demanded of tea, and also it leads to decrease in the quantity demanded of sugar. Because, when tea is not demanded, there is no demand for sugar specifically in this content.

So, there is a inverse relationship between the price of complimentary goods, and the quantity demanded of this typical goods. Taste pattern they are direct, because if the consumer likes the product, the more demand is there for this typical product. So, the slope variable is again positive that is del Qd by del t which is positive, more the consumer more like the product, more is the quantity demanded for this product, then the expected future price of the product is again directly related to the quantity demanded.

If the price of the product is going to increase in the future, quantity demanded is more now because, the consumer prefers to buy more at this point, because the price is going to use increase in the future. And if the price of expected price is going to decrease, the consumer is again postponed all its consumption to the time period when the price is going to decrease. So, expected future price of the product is directly related to quantity demanded, because if it is going to increase then quantity demanded is increasing, if it is going to decrease then quantity demanded is decreasing. And the last factor which influence the quantity demanded is the number of consumer in the market. If the number of consumers are more, the quantity demanded is going to be more, because more the demand for this product and if it is less, the quantity demanded is less.

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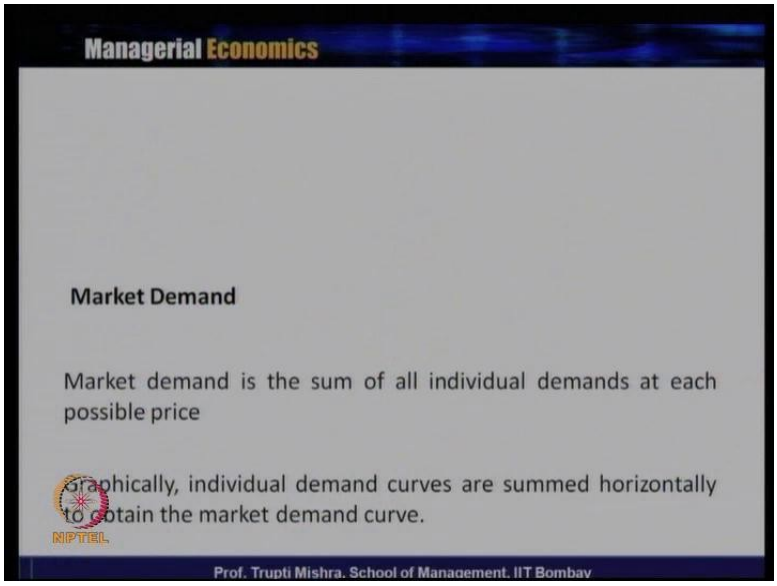

And market demand is again, if you remember the difference between the individual demand and the market demand, market demand is the sum total of all individual demand at each possible price. And graphically if you look at market demand is the summation of all individual demand curves, horizontally and generally all demand curve is some horizontally, in order to get the market demand curve.

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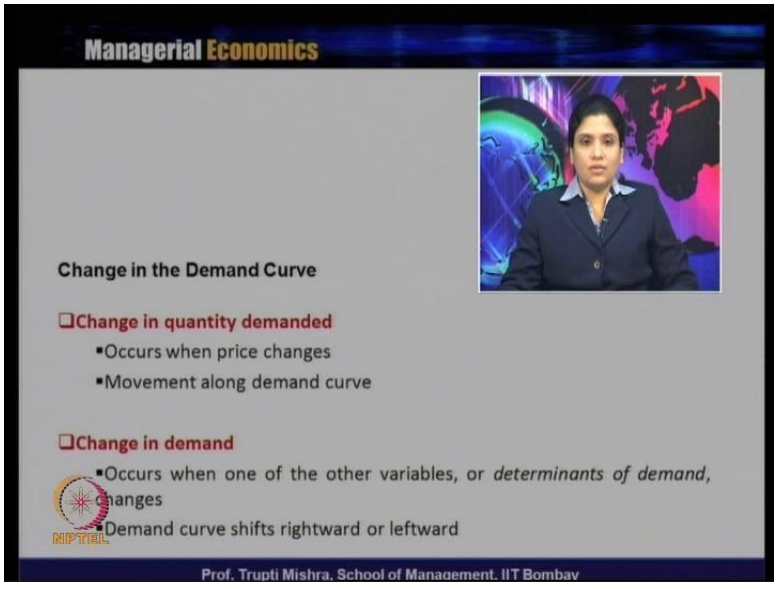

So, there is a change in the demand curve, either due to change in the quantity demanded or due to change in the demand. So, demand changes either, when there is a change in the price or when there is change in the all other factors that influence the quantity demanded for the product.