Marketing Management II

Prof. Jayanta Chatterjee
Dr. Shashi Shekhar Mishra
Department of Industrial and Management Engineering
Indian Institute of Technology, Kanpur

Lecture No. W5-L3
Determining the Demand and Cost Estimation

Hello Friends, Welcome to our course marketing management part II. We are in Week 5 and discussing about pricing. And as you can recall about the last two sessions, this is third sessions of this week are this module on pricing in the first two session we have discussed about what is the role of pricing. And we have talked about the use of pricing in strategic tool versus we have seen the blenders made by organizations marketeer way where they price a product in isolation with respect to marketing mix of the marketing strategies or something like you don't reinforce your positioning or your pricing is not linked with your positioning.

So, they are basically you are not doing it correctly in a sense like pricing is not used as a strategic tool. And then we have discussed about the consumer psychology about how the process pricing and we have talked about facts like reference pricing reference prices then we talked about a little bit about numerology where we have to tendency to process the information about pricing from left to right and that is where you will see that companies often pricing the product in a way like rupees 299 instead of 300.

And then we also talked about the basically how the what is the process pricing that is what we have started in the last class.

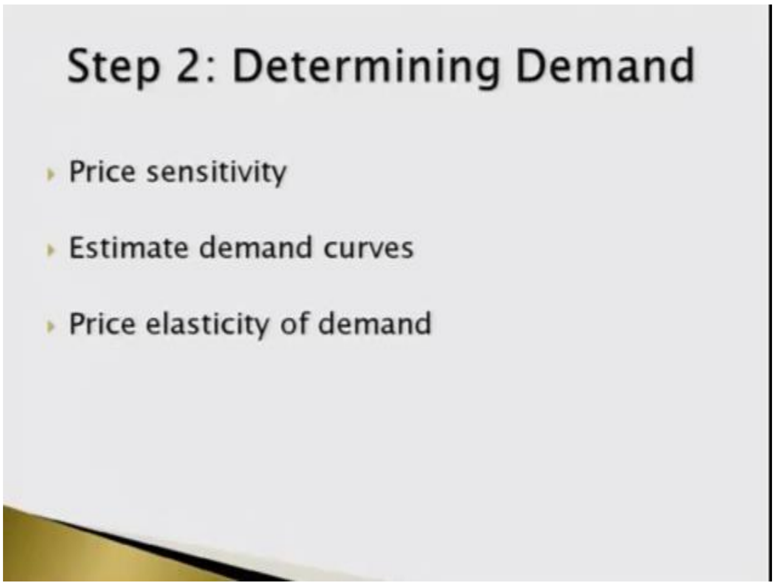
(Refer Slide Time: 01:53)

And when we started discussing we have looked into this six-stage process of pricing and we have discussed about the these steps that it setting the prices is basically starts with a pricing objective setting up the pricing objectives there envy. I have discussed about the five different types of strategies and it is important to understand at this point of time that your pricing has to be linked with your marketing strategies your business strategies.

It will happen that you will see that in an industry that within the same industry sector one player will be pricing it in one way on the other side the other player might be pricing it in a different way. Because they will have different kind of pricing objectives pricing and then we have talked about the remaining stages that we are going to discuss in detail. Now the second stage was determining the demand then estimating the cost and analyzing the competitor price mix select pricing method select final prices.

So, these were basically six steps in this setting the price as a process. We have discuss about the pricing objective. Now I am going to talk about the remaining steps.

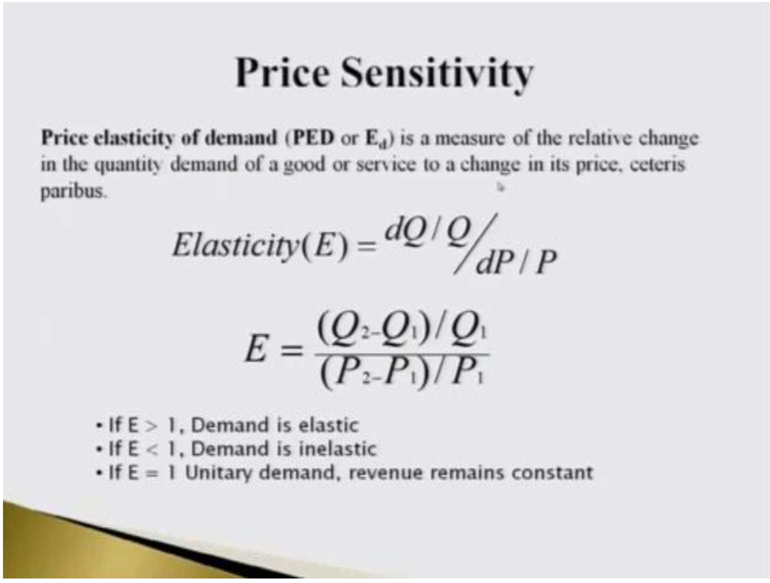
(Refer Slide Time: 03:12)



And the second step is, basically determining the demand now inside determining the demand the thing is that a marketeer. When he is planning or he is going to design the pricing program for a product he has to first determine, what is the relationship between this demand in the price. This you can do by various qualitative method called quantitative methods like regression analysis or if you have the historical data or if you have a point-of-sale data or if you can use conjoint analysis.

So different methods can be used for understanding this relationship between demand and the price. Now once you have this very important relationship that how the demand changes with the change in the price you have to do another very important thing in this determining demand is you need to understand the price sensitivity of the customers. So, another important very important thing in this determining the demand is that you have to understand the price sensitivity.

(Refer Slide Time:04:24)



So, price sensitivity is or the price elasticity of the relative change quantity change is a good or service to a change in its price ceteris paribus. All the conditions remaining is to as same how the demand of the product with as the change in the price. So, this relative change in the quantitative of the demand respect to the price its tagged as the price elasticity of demand is a measure of the relative change in the quantity of a good or service to a change in its price so of ceteris paribus all the conditions remaining the same.

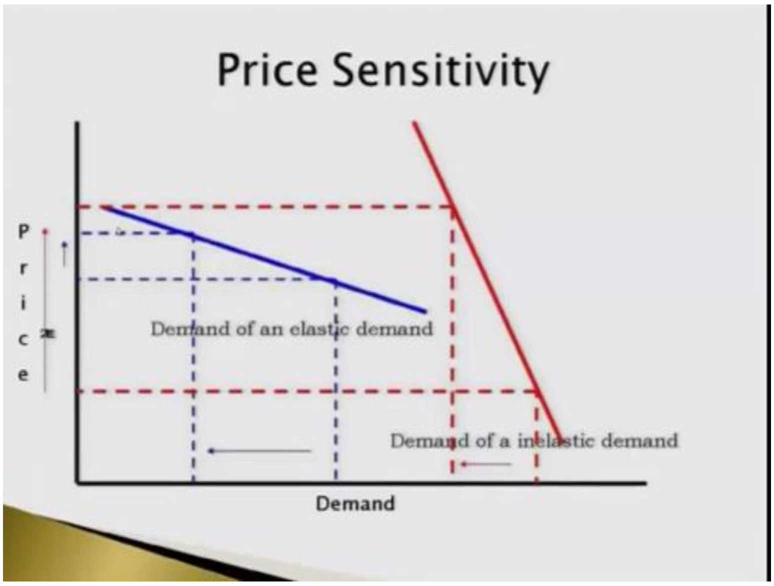
How the demand of a product changes with the change in the price so this relative change in the quantity of demand with respect to the change in the price is termed as this price elasticity of demand. As you can see in these equations one is basically this differential equation where you can understand this elasticity is dQ by Q upon dP upon dP upon that is the change in the Q with respect to the change in P and moreover in a more simplified manner as a point measure of a price elasticity of the demand.

You can say that when you move from one point to other point in terms of the price is how the quantity to changes. So, these are basically the two-different type of formulation of this price sensitivity of demand. Now you will see in this equation if E is greater than 1 which means demand is elastic that means you can understand if this ratio is greater than the this ratio then what will happen is the change in the price will lead to the change in demand at a faster place.

On the other side when the E is less than 1 you can understand that demand is inelastic. So, the change in the price does not bring the change in the demand at a similar place. So, in that case the demand is said to be more of inelastic nature. We will discuss about some of the reasons why this kind of thing happens. But another thing another possibility in this formula is that if E is equal to 1 that you will find out that the way the as you change the price the quantity will also change in the similar proportion though the sign of E will be negative.

Because one will go up so the second when the other one will go on the other side so the sign of E will be most likely in the in the negative sign.

(Refer Slide Time:06:43)



I think this graph depicts are makes you understand things in a better way that how the changes in the price in these two graphs. The Red one and the Blue one you can see that one is basically E elastic demand of the blue one. So, the small change in the price you can see this small change in the price you can see that the corresponding change in the demand is relatively huge.

So, this is a basically demand of elastic good we are probably to price list your very short change in the demand. On the other side, this is an inelastic demand in the sense that despite the huge change in the price the change in the demand is very meniscal. So, we can understand that the demand is not varying at the same similar pace as probably the demand is as probably the prices are changing.

(Refer Slide Time:07:41)

Now the thing is what leads to less price sensitivity that is very important as the marketeer to understand as a marketeer probably by effort. It should be that customers should have an attitude or they should have a behavior behavioral pattern or the intension. So, they are less price sensitive. We have discussed about in brands that that customer generally tend to be less price sensitivity that is what a marketeers aim that any basically competitive threat will not affect you so much so what are the factors leading to less price sensitivity.

The first one is that product is more distinctive. So, the more the product is distinctive from its competitive offering. In terms of whether its functionality or it is image is even difficult to break in terms of its distinctivity that you can make a similar kind of product. But it is very difficult to basically have the similar kind of image to basically occupying the minds of the customer so the more product is distinctive the customers are less sensitive to the price changes or any competitive offering for that matter then the buyers are less aware of the substitute.

That is another very important fact about this price sensitivity is the cases where you see that as a customer as a customer. We do not know much about what are the substitute which are available in that case also we probably may not look too much into the price or price negotiation will not be an important factor in the purchase process. Because we are not aware of too many options. So are basically approach is limited by that you will see that in the case of a pharmaceutical products.

Some of the pharmaceutical product that this case exists that we do not know what is the substitute of a particular medicines. Whatever brand has been written and then that case we mean we will be ready to pay if we can afford. So whatever price is labeled on that buyers cannot easily compare the quality of the substitute. Another important thing the substitutes are available you know the substitute.

But the problem lies in the fact that you do not differentiate are you as a consumer do not possess the knowledge or you do not have the expertise to compare the two substitutes. In that case what happens is like again you cannot compare. So, you cannot decide which one is better and in that case your attitude will more or less be similar to what like previous situation that you will be less price sensitive in those situation.

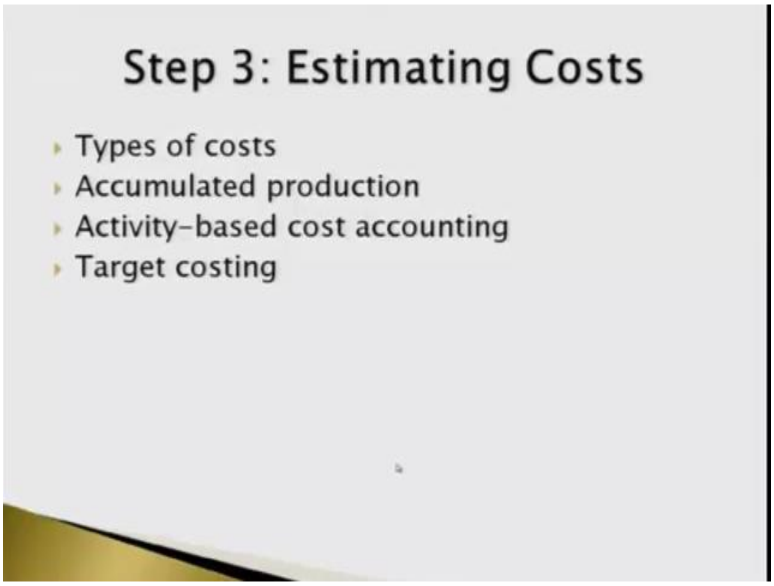
Then the expenditure is a small part of buyers total income the fact is that when something is very small as so the changes is maybe even a higher change so you see if something is just one percent of your total monthly expenditure. Now supposedly the price of that product changes from one rupees to 1.5 for you the same as a monthly change in your expenditure this is just 100.5.

So, more expenditure sent change gets reflected only 0-point 5 percent of the change in your oval overall over expenditure and that will also make you in most of the cases less price sensitive another fact is the expenditure is small compared to total cost of the end product. And one more thing is part of the cost is paid by another party, so this is what is another important aspect of the purchase process that as a marketeer you have to understand who is actually the person who is paying for that kind of purchase.

So, if there is a third party which is paying for the particular purchase. In that case also you will see that consumers are less sensitive to price like probably in the case of a what do you say an insurance company that a little bit of change in the probably. In that case the customer will be ready to purchase the parts from the company directly. Because the insurance company is paying on the other side when he has to pay from his side in that case he may go to the secondary market and look for the negotiations.

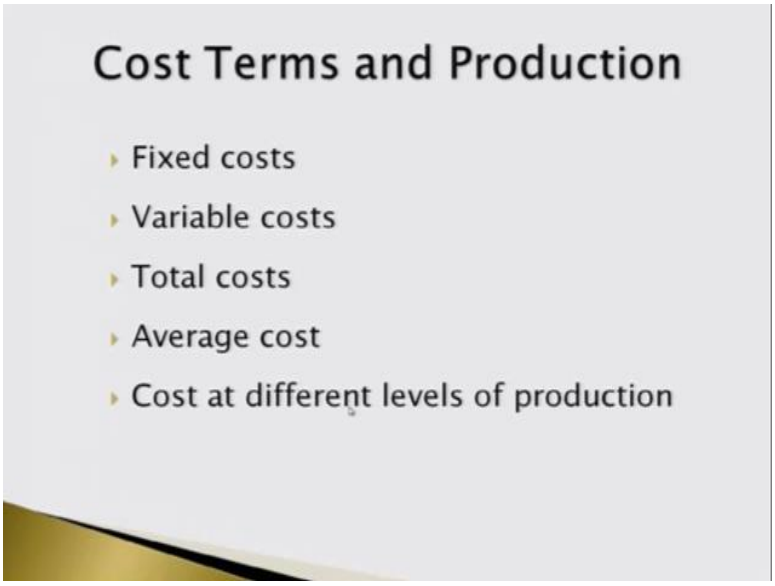
So those kind of situations also exists the product is used with the previously purchase assets. The product is assumed to have high quality and prestige. Now this is another very important fact related to price sensitivity is that in the case of luxury product which are associated with the our stream or our social status we don't look for a price that much in fact sometimes the more the price the better is the quality is a sort of perception that we hold and in that case, we also exhibit lesser amount of price sensitivity.

(Refer Slide Time: 12:48)



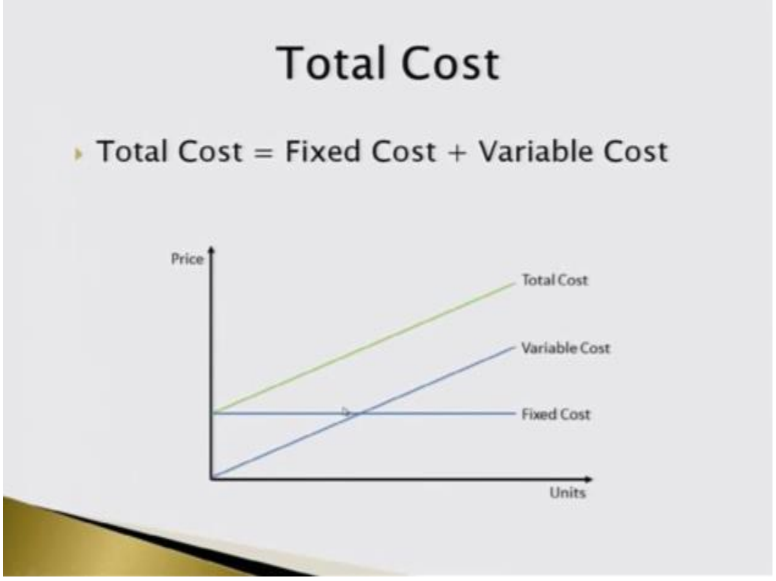
So, with this actually we complete this the step two of this process and then I will go into this estimating the cost part. And we will look into this part the types of costs accumulated production like how the change how the learning curve affects the unit cost of the product then we will look into this activity based on costing and target costing.

(Refer Slide Time:13:16)



So first I am going to talk about the different types of the cost is in the production of a product. So, we are going to talk about the fixed cost, we are going to talk about variable cost. Total cost which is the sum of fixed costs and a total cost then average cost per unit and cost a different level of productions.

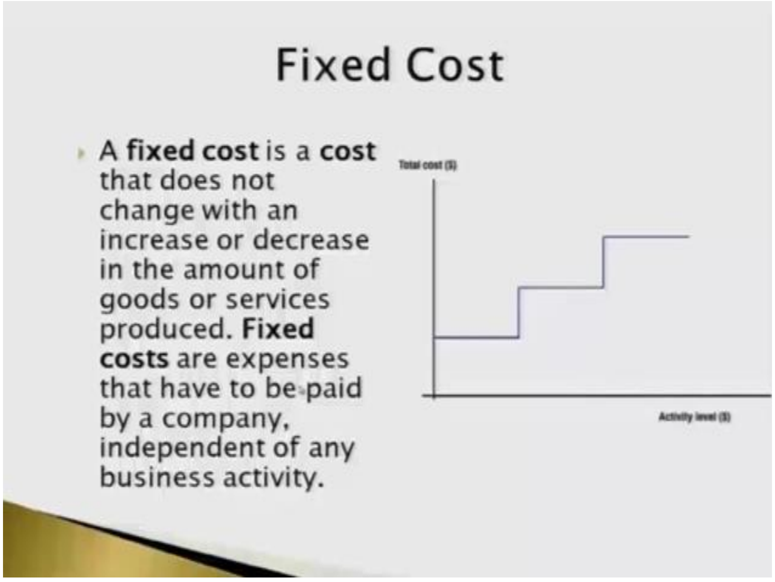
(Refer Slide Time: 13:36)



So now I am going to talk about first thing is what is total cost. So total cost is basically the sum of fixed cost plus variable cost the cost which is required in the production and the storage and the distribution of the product is the total cost. It will include the fixed cost as well as variable costs. I am going to talk about what is fixed cost in the world what is variable but you will see that in this graph. You will see that that the total cost is not starting from 40 unit you will not have the 0-cost total cost.

Because you have certain level of fixed cost, but after that you will see that there is a straight line because add to that fixed cost that the more the number of unit that you produce it will be directly proportional to the variable cost.

(Refer Slide Time:14:35)



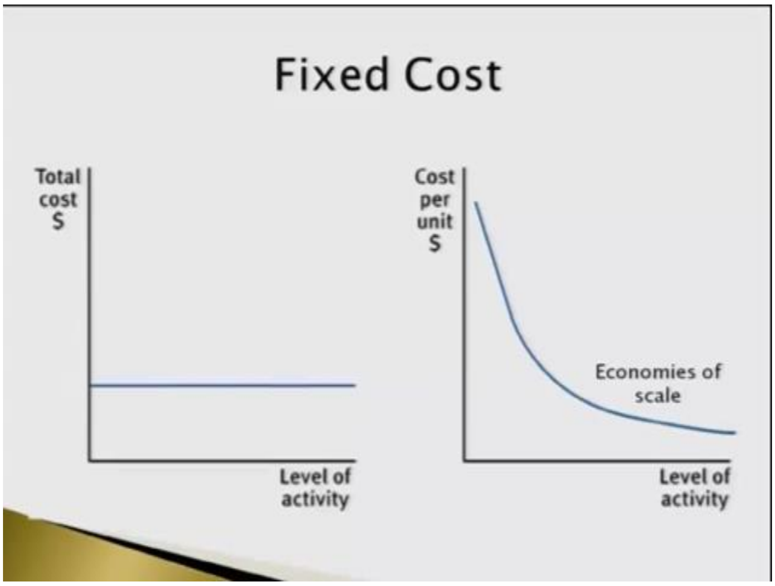
So, what are these fixed costs and the variable cost a fixed cost is a cost that does not change with an increase or decrease in the amount of goods or services produced fixed costs are expenses that have to be paid by a company independent of any business activity. Now you see that what is fixed cost that irrespective of whether you produce in your plant that you are not producing anything whether you are producing 1 unit of a particular product or you are producing probably 10,000 units of that products for say that is the maximum quantity that can be produced by that plant. So that is the capacity.

So, in that case you will see that the fixed cost will remain same what comes inside the fixed cost will help you in understanding what is this fixed cost is that it will includes the monthly wages of the employees. It will include the cost of the equipment the cost of the machinery other the things like marketing and sales expenditure which are more or less which are constant in the nature that you have to pay respective of the number of units that you are actually producing as a selling in the market.

So, you will see with the fixed called the fact is that it remains constant. But then in this graph you will also observe that it reaches to a next level suddenly. After a particular point, so basically if you understand math in mathematical terms it is a basically a step function. It remains constant up to a particular point and then it goes up the fifth the reason for this kind of thing is that up to a particular activity level or as I have said that to a particular capacity of a plant or a particular capacity of a production unit.

You will see that the costs remain constant. So, if a plant can produce 10,000 unit so, the fixed cost will remain same up to this point. But if you want to produce the one very next you did then you have to have another plant and in that case, that the again the fixed cost will increase by one more plant cost of one more plant. So, you will reach to this level and it will take you to from 10,000 one unit to 20,000 unit and the similar way it will goes like that.

(Refer Slide Time16.54)

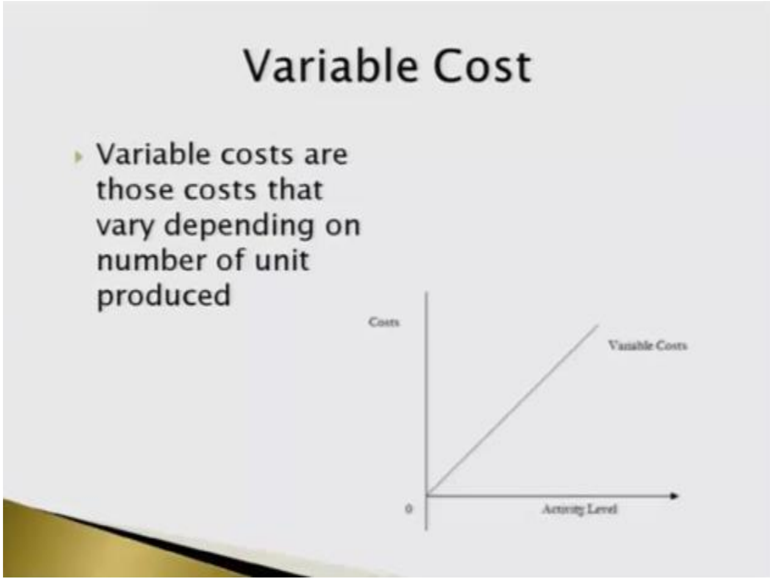


Now understand the fact that in this fixed cost curve as you have already seen that the depending on the particular level of activity or the maximum capacity. The total fixed cost will remain constant that whatever number of units you are going to produce the number of other the fixed costs will remain same now. If I divide that fixed cost or the as you can see in this graph this is coming down very sharply from the number of units then the more number of units you produce.

You will see that your unit cost of the other unit fixed cost comes down very sharply and that is what we call as economies of scale that because the more the number of units that you produce in a particular production unit. You will see that that the fact that and that it will get the fixed cost will get divided over those number of units. So, if you have a large fixed cost the fact is that the more the number of units that you produce or the maximum capacity is the tendency among the Managers in those plants will be that they can produce the maximum number or the utilized of the full capacity of the plant.

So, the fixed cost will get divided over that entire capacity and your unit fixed costs the proportion of unit fixed costs will be very less. So, your overall fixed cost of the product will also be very less or it will be the probably the minimum possible level.

(Refer Slide Time: 18:22)

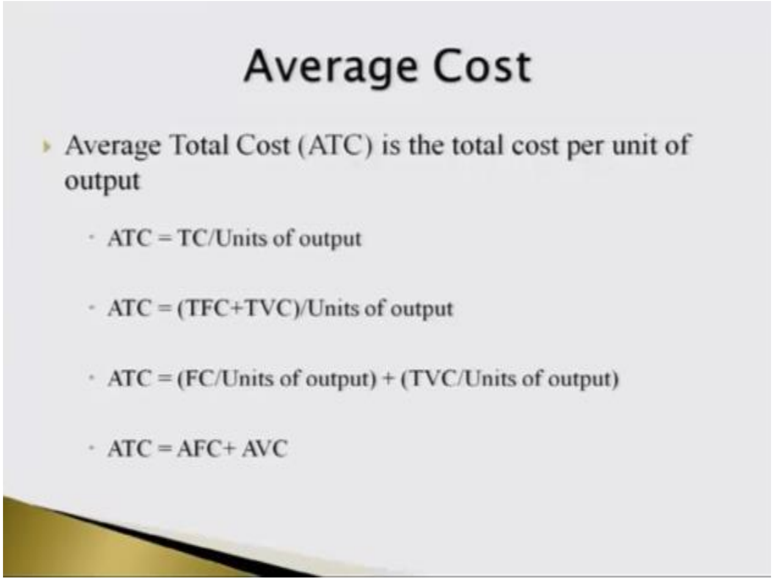


Now the second type of cost is basically the variable cost. Now, what is Variable Cost? Variable Costs are those cost that vary depending on the number of unit that you produce. So, what happens here is that you can see in this graph that if you don't produce anything your cost is 0. Your variable cost is 0. So, if you don't produce anything you are not incurring any cost on the other side as the number of units that you produce proportionately your cost will increase in the similar way that the number.

So, the basically the cost total variable cost is total the number of units that you produce multiplied by the unit variable cost. Now what comes inside the variable cost the variable cost will include the things like the cost of the raw material. So, the more the output is more is the cost of that raw material similarly that the processing charges or the processing that goes into that the processing of that raw material.

So that more that you basically produce the more will be the processing costs like the consumption of the utilities like electricity water. So, the more you produce the more the more of these inputs will go in the production process.

(Refer Slide Time:19.48)



So, you can understand that all of these costs will have this kind of behavior. Now one thing which one has to understand is with respect to this total cost which includes fixed cost and the variable cost is that average cost. Now average cost is basically the total cost divided by units of the output. Now, this if I divide this total cost in total fixed cost + total variable cost divided by the units of output.

So, what I get is a average total cost is basically the average fixed cost + average variable cost which is equivalent to almost like variable cost. Now I will stop here. When we will meet into the next session we will discuss about some of these other cost functions and then we will also talk about some of the other related concept in which are related with this topic Thank You very much.