Cost Accounting
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Lecture - 10
Relevant Costs in Decision Making

[FL]. In our earlier sessions we have been discussing about CVP BEP analysis, different types of decision making scenarios, we have seen how it can be used for profit planning, we have seen product mix, key factor base decision making and so on. Now let us learn and discuss a few more concepts and then we again go back to further cases. So, now, we are going to talk about relevant cost in decision making.

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So, we will see the difference between relevant versus sunk costs, make or buy decision, shutdown decision, joint product, allocation of joint product cost and so on.

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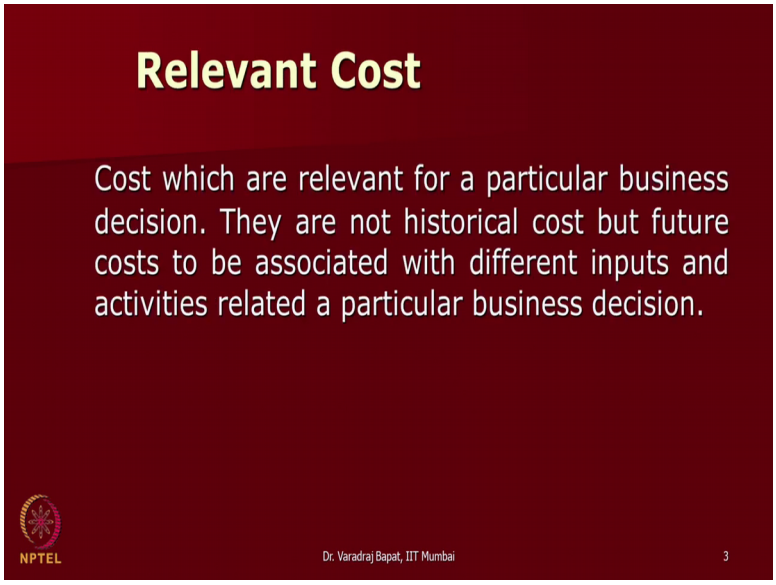

Now, what is a relevant cost? Now when it comes to decision making it is very important for a manager to be able to identify the relevant cost. In financial accounting we look at the historical cost, but here are the relevant cost is not a historical cost, but it is a future cost which is associated with different inputs and activities for a particular decision. So, relevant cost depends on the decision which we want to take, because as per decision what cost is relevant needs to be considered.

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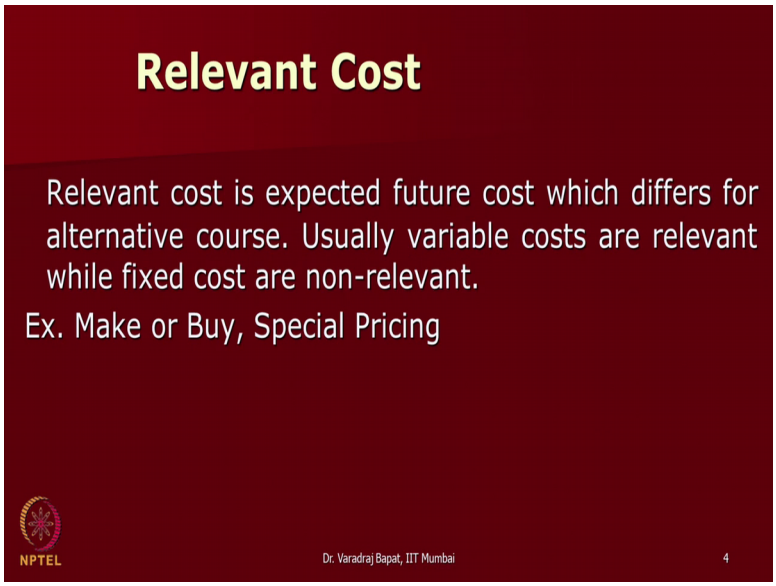

Now this is the expected future cost which defers with alternative course. Normally variable costs are relevant and fixed costs are not - relevant.

Of course, I have said normally or usually it may not be every time. Now, let us take an example of make or buy or special pricing decision. In make or buy scenario what cost will be relevant? Suppose we are producing it ourselves fixed costs are anyway not going to change. So, what matters is a variable cost of manufacture versus the purchase cost if there is any change in the transport cost, we will add the transport cost to purchase cost. So, we compare the variable cost of making versus variable cost of buying, do not involve fixed cost into it because it is a short term decision and it is not going to change by make or buy, that is why in make or buy scenario variable cost of manufacture is an important relevant cost.

Similarly, in case of special pricing by special pricing what we mean is, if this pricing is not going to disturb our normal market prices or it is not going to affect our normal customers we can afford to sell at the much lower prices, we can just sell at costs enough to cover our variable cost. If you remember one of the cases we had discussed about pricing for government contract which was not to affect the normal market. So, variable cost was 72, normal selling price was around 152, we had sold they taken a decision to sell it at just at 92.

So, that we can cover variable cost any incremental fixed cost not total fixed cost just the incremental fixed cost and a small profit maybe, this is how a special pricing can be done and it is very important for us to identify the relevant cost and just charge the relevant cost. Though as a general rule we say that variable costs are mostly relevant and fixed costs are not it is not that it is always true.

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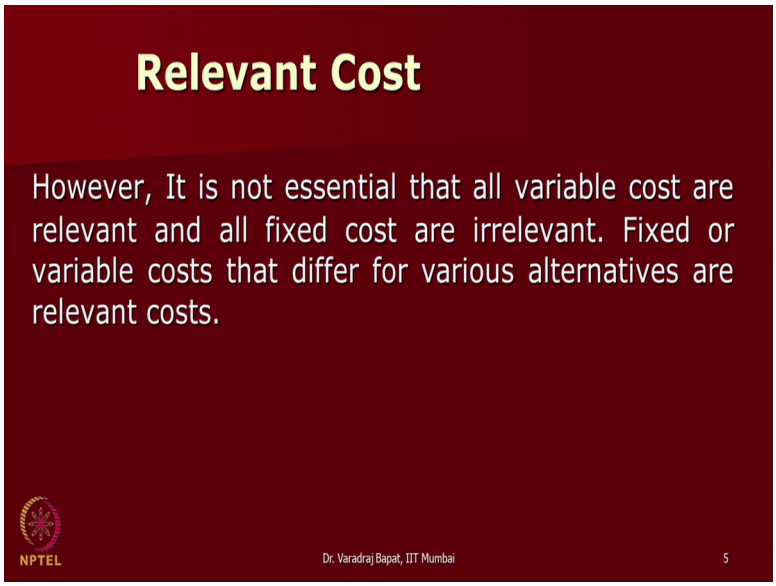

So, it is not necessary that every variable cost is relevant similarly every fixed cost may not be irrelevant. Again if you remember the earlier case of government contract there was going to be some increase in the production fixed cost, then that incremental part of fixed cost was considered as relevant. Suppose you are doing a make or buy decision normally as we discussed variable cost of manufacture is relevant versus the variable cost of buying is relevant.

But suppose some of the raw materials are lying idle with us and they are close to expiry day and they will have to be thrown out if we do not use, in such scenario this is the raw material is lying idle we may not consider the cost of raw material as relevant, because any way it is going wasted. So, there is no point is including it in the variable cost of manufacture, are you getting it?

One more of a day to day example not a business kind of example, let us say in summers water is in sharp short supply people pay for buying water, the cost of water increases substantially. If the season changes and rainy season starts and lot of water is pouring through rains perhaps the cost of water will become 0. Though it is a variable cost it is irrelevant now, because now we do not have to pay for it of course, from environmental angle the water remains very very important, but this from cost perspective what I am trying to say is, depending on the availability and depending on change in the course as

per the decision we will have to be very much particular about what is relevant and what is irrelevant cost.

Now, relevant costs draw our alternative to those elements of costs which are important for decision. For example, fixed cost of project X is 5,00,000 and for alternate project it is 7,00,000.

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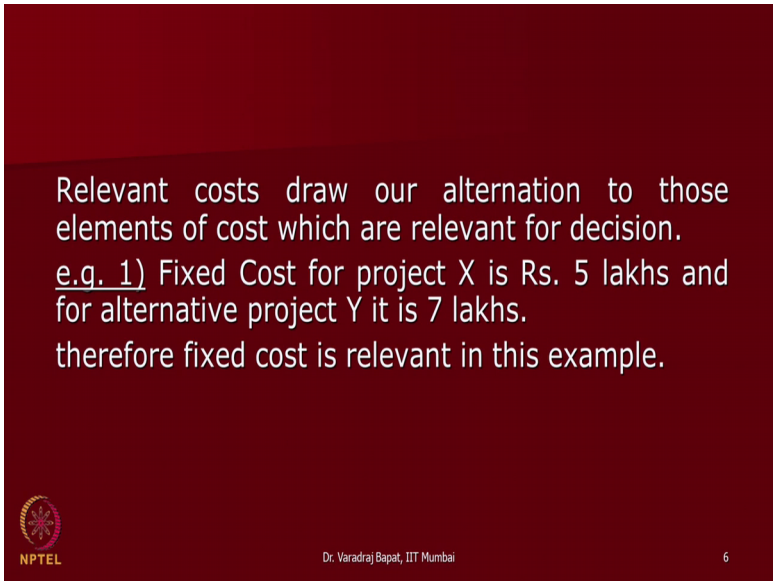

Now, since the 2 projects are involving change in the fixed costs, we in this case we can not say that the fixed costs is irrelevant, fixed cost at least to the extent of change will be considered as a relevant cost.

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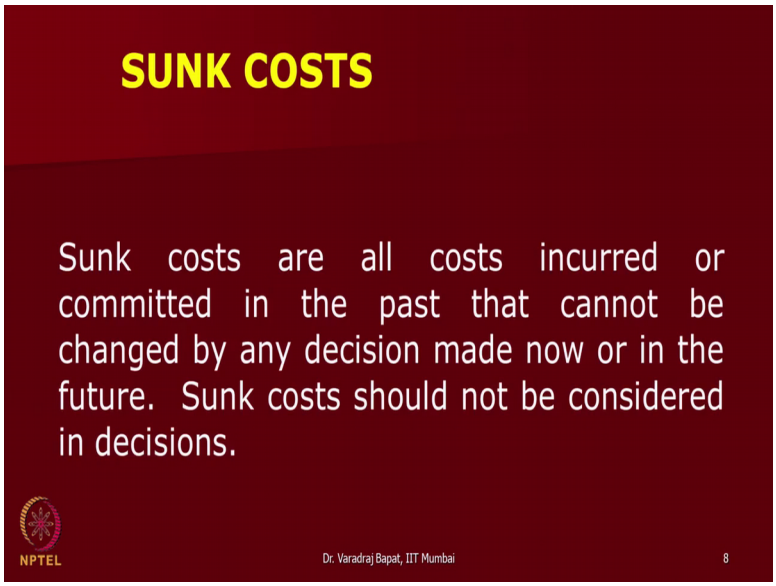

Now, the other type of cost is called as sunk cost, now all those costs which are not relevant are called as sunk, they have been already incurred or they have been committed in the past and they cannot be changed by the decision, then there is no point in considering those costs in decision making those costs are called as sunk costs.

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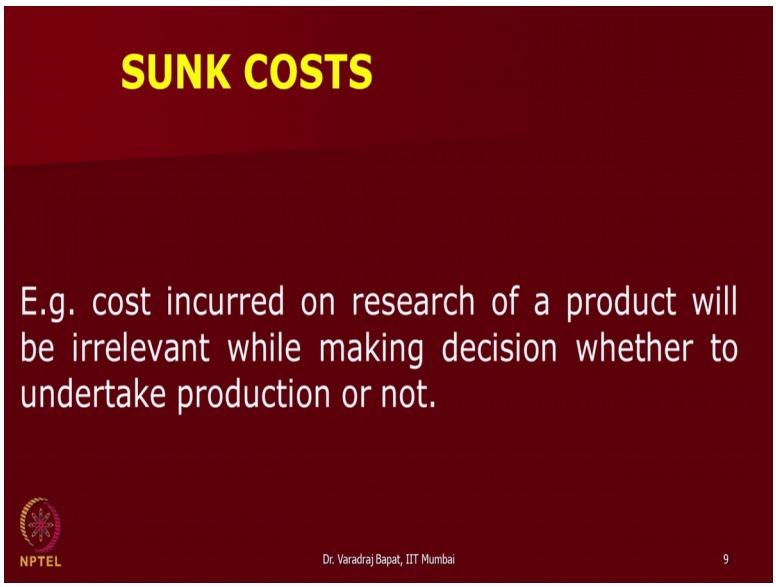

For example the cost of research for the product, when we are taking a decision on launching or not launching of that product the research cause becomes irrelevant, that

does not mean research is not important, but let us say we have already spend 1 crore rupees on research.

The product is ready now technically sound, but we have to just take a decision from a economic and managerial angle should we float the product or no. Now if the sales of the product is likely to be 2 crore and the cost of manufacture is 1.5 crore, should the product be launched? Now if you go by total costing you will feel that the sale is 2 lakh 2 crores, cost of manufacture is 1.5 plus cost of research is 1; that means, cost is 2.5 versus sale of 2 so, answer may be no for launching of the product.

But actually this is not a correct decision because the cost of research has already been taken it is completely incurred and it is no way to reduce that costs now, now it makes sense to ignore that cost and just look at the cost of operations or cost of manufacture which is 1.5 and the revenue is 2.

So, by launching the product we will be able to make a positive contribution of 0.5 crore, although considering the total research cost of 1 crore will be still in loss, but by not launching a product will be incurring a loss of 1 crore which is our research cost, it will make a better sense to launch the product and at least recover 50 lakhs. Are you getting me? So, it is necessary that we identify sunk costs and ignore them for decision making.

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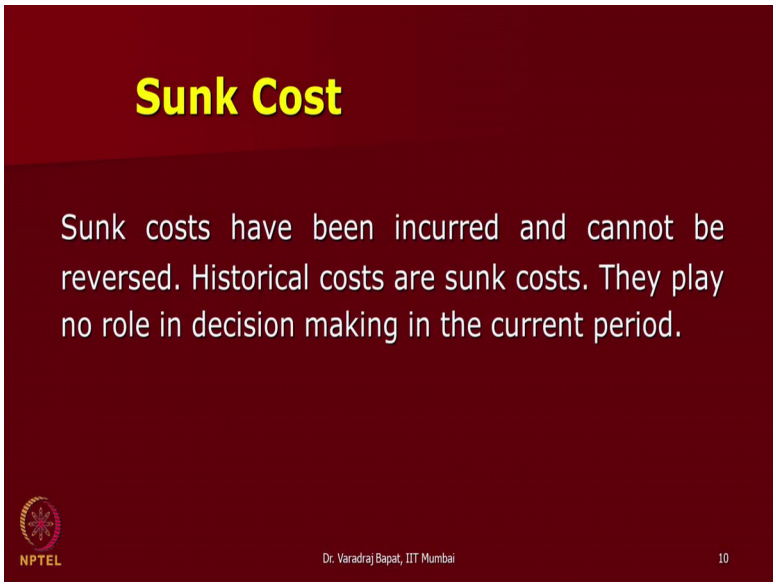

Now, sunk costs have already been incurred and they cannot be reverse and that is why they play no role in the decision making.

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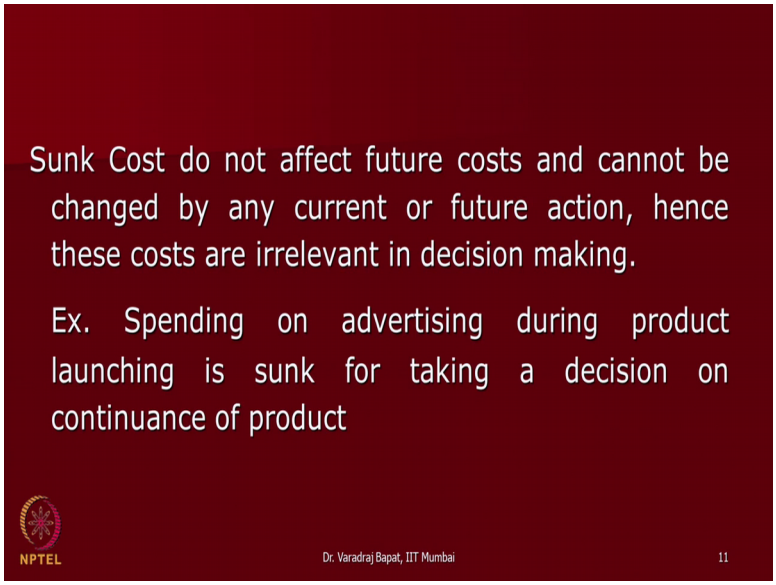

They do not affect any future cost, one more example is spending on advertising. Now when the product is launched lot of money spent on advertising that money cannot be recovered, we spent it with the hope that it will improve the demand for the product. In case in future the product demand has not increased or whether it has increased either way the cost of advertising once incurred becomes sunk ok.

When we are taking decision of going for advertising or no at that time it is relevant, but once we have taken decision and once we have incurred the cost, later on for calculating the profitability of the product the advertising cost becomes sunk, are you getting? So, as per scenario it is very important for us to identify relevant costs and sunk costs.

Giving one more example suppose you are doing portfolio management or you are doing buying and selling of shares and you have purchased a particular share for 1000, later on the price of share come downs to comes down to say 800. Should you buy should you sell or not sell that share, you may feel that since the purchase cost is 1000 and the current price is 800 you will incur loss of 200.

So, better not sell, but in case the future price is likely to be 700 actually it make sense to sell it, because the current losses are 200 they are going to increase to 300. So, it is better

to come out at 800 and not wait till prices to go down to 700, actually the purchase cost of 1000 is irrelevant now.

What is relevant is current price of 800 and what is likely to be the future price your decision of either selling or not selling or buying or not buying, essentially depends on future cost on future prices not dependent on the past costs, got it. Now let us look at one or two more scenarios that is make or buy.

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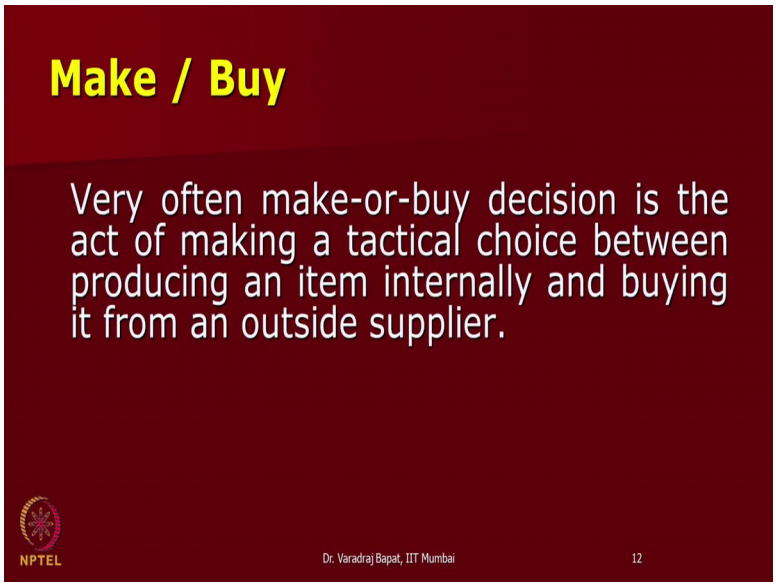

Now, make or buy is often a tactical choice, a particular product can be made internally or we can outsource it get it from outside supplier.

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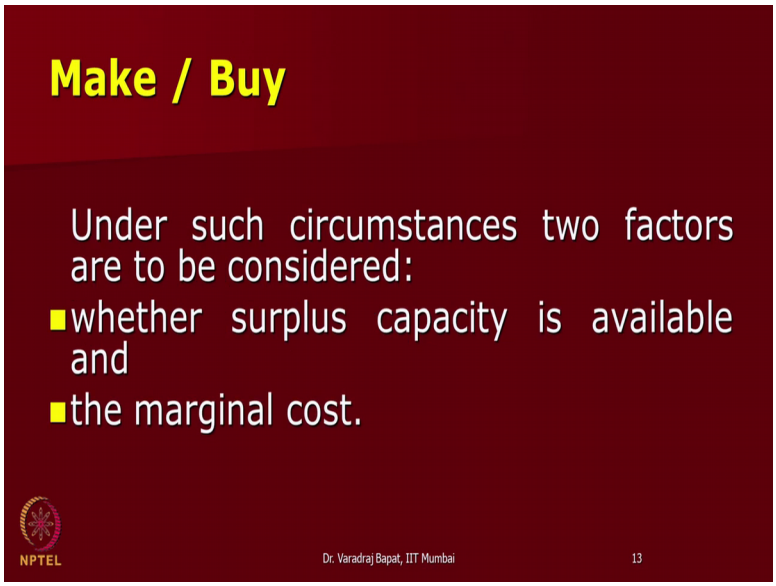

Now two factors become very important whether surplus capacity is available. In case we already have enough capacity to make that, instead of considering the total cost. We will just consider the marginal cost of manufacture versus the cost of the supplier ok.

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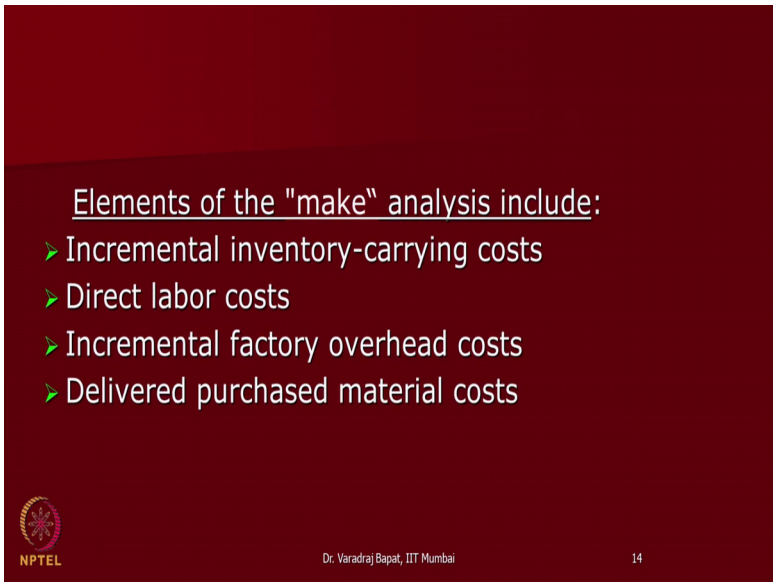

Now, the elements of make analysis include there are some other factors which you should consider like, incremental inventory carrying costs. That by making it our self do you have to keep more inventory or weather when you get from outside you have to keep

more inventory if the supplies are not regular from outside you may have to buy it in bulk quantities so, though a that factor becomes important.

Then direct labor cost become important, because it being a direct cost it is variable in nature, then is there any incremental factory overheads, then what about the delivered purchase material cost, does it require any transportation cost, these factors will be considered for make or buy decision.

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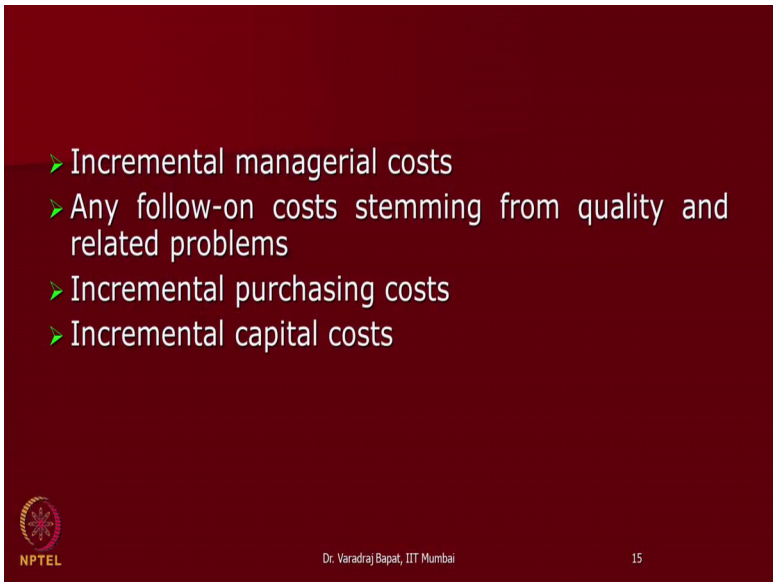

Few more factors like incremental managerial cost, any follow up action particularly because of quality considerations, incremental purchasing costs, incremental capital cost like indeed for some new equipment. All these factors will be important for make decisions.

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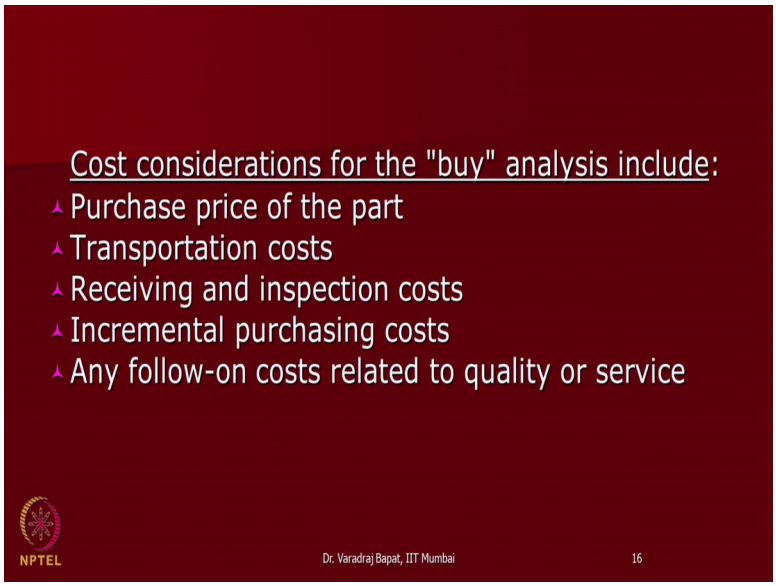

Now when it comes to buy decision, that is we have got a offer from some supplier we can buy it from outside please look into the cost aspects, one is of course, the purchase price, but apart from purchase price transportation, receiving and inspection costs, incremental purchasing costs, any follow up cost because of quality or service issues, these factors will be considered. So, we will take total of buy related costs and we will take total of make related costs and then comparing the two, the make or buy decision will be taken getting it?

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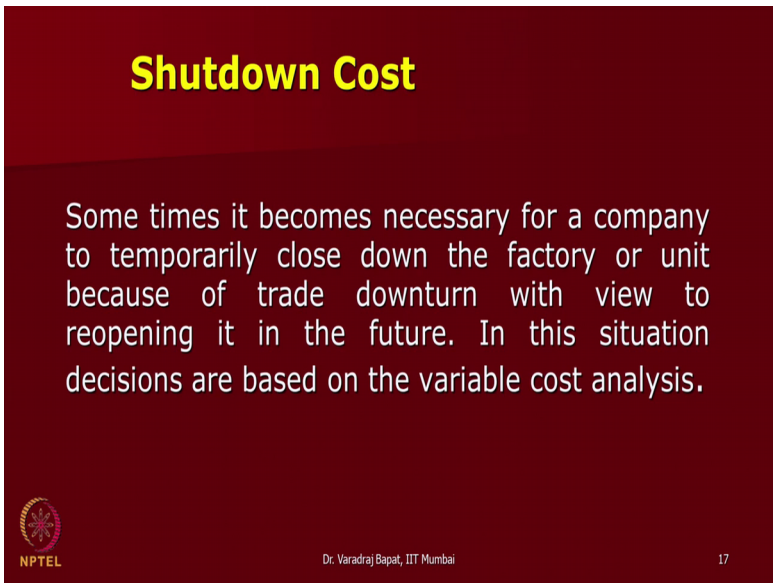

Now, let us look at shut down; sometimes it becomes necessary to make a temporary shutdown, because if the demand for the product goes down or if there is lack of availability of raw material or labor or some of the inputs, instead of paying FT variable cost or instead of not being able to sell our products it might be advisable to temporarily closed down the product.

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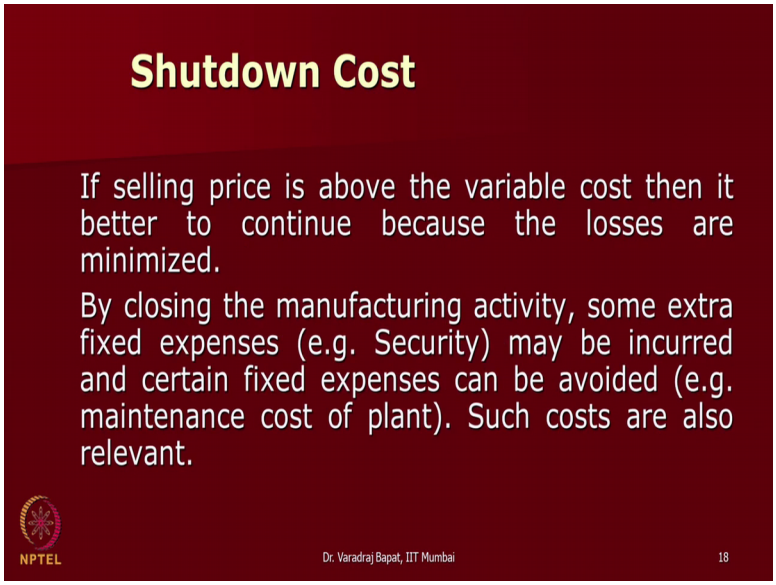

Especially, if selling price is below variable costs it is better to close, but if selling price is able to recover at least the variable costs it makes sense to continue the production. When you close a manufacturing facility there maybe some extra fixed costs like security. Similarly, some of the fixed costs may be reduced like maintenance. So, we will have to consider those relevant cost only to the extent they are going to change.

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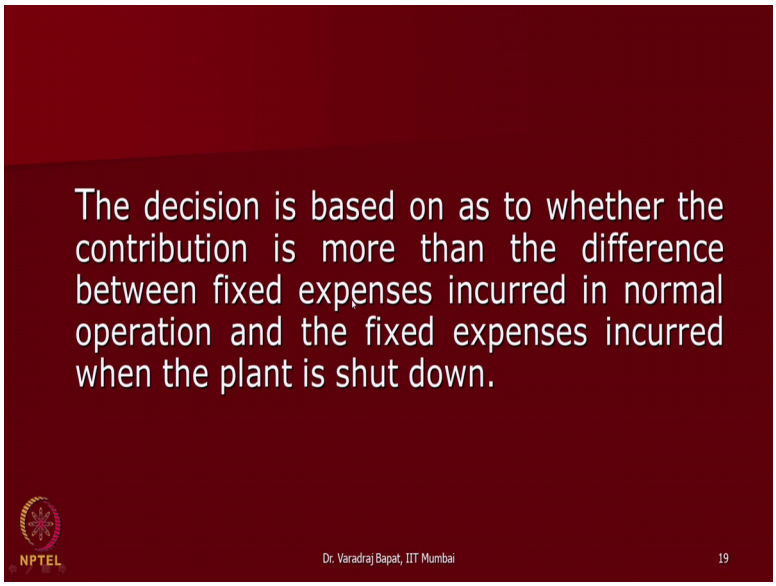

So, the decision should be based on whether the contribution is more than the difference between fixed overhead expenses in the normal course and fixed overheads when the plant is closed. Normally the fixed cost will reduce when the plant is shut down so, there will be some saving in the fixed costs will compare it with the contribution generated by being able to operate it, based on the comparison of the two shutdown decision can be taken.

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Now, the next one is introducing new product. Now there are certain reasons why while launching a commercial new venture, what are the important aspects be considered. One is the demand or the interest from the customers, we will also look whether there is a sustainable enough demand for starting to make a new product or for launching of a new product.

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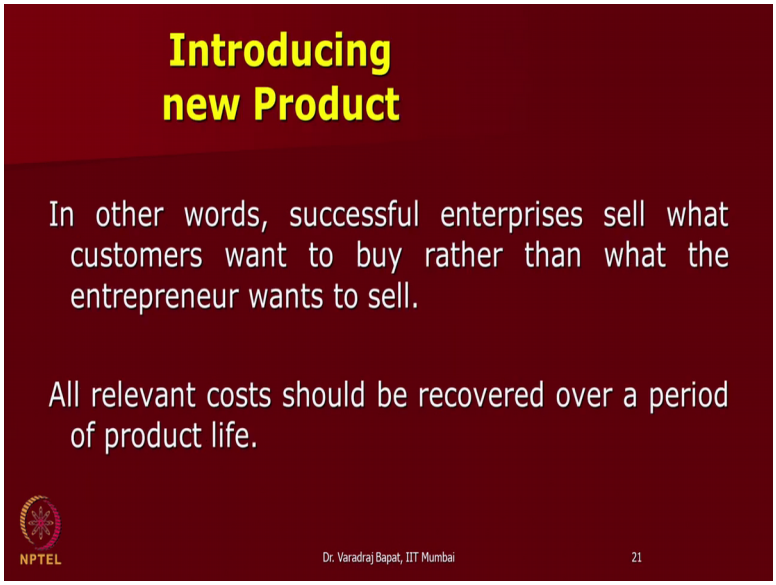

So, far any successful enterprise we would look at the customer demand and take that call, but at the same time we have to ensure that all relevant costs are being recovered over the period of product life. Sometimes it may not be possible to recover the cost in the first year or in the first month or even in the one and half years or 2 years time.

But over the whole life of the product we do have to consider whether it is able to recover the costs and make enough surplus then there will be a point in launching a new product. Now let us look at one more aspect that is known as joint products.

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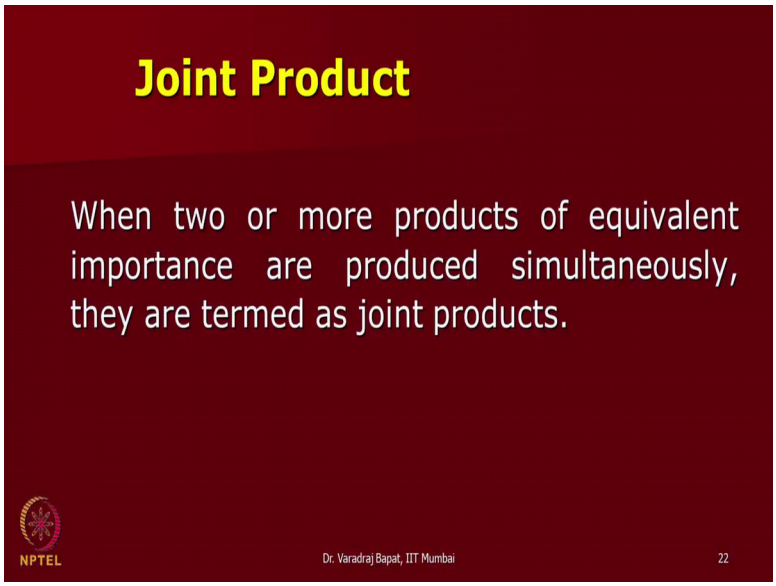

Now, when there are two or more products being produced together they are called as joint products.

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In other words these two products up to a point of time are made from the same process then they separate out and you have two different products which may or may not require further processing.

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For example, in coke production, coal becomes a raw material and you just do not get coke you also get other products like for example, sulfate of ammonia, light oil so, all these three are considered as join products. Similarly, in a refinery crude oil is a raw material.

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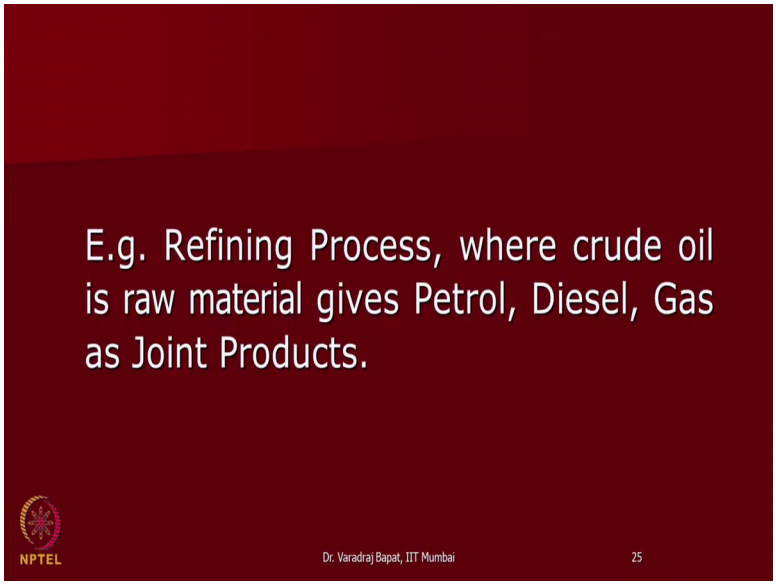

Normally we get petrol, diesel and gas as joint products.

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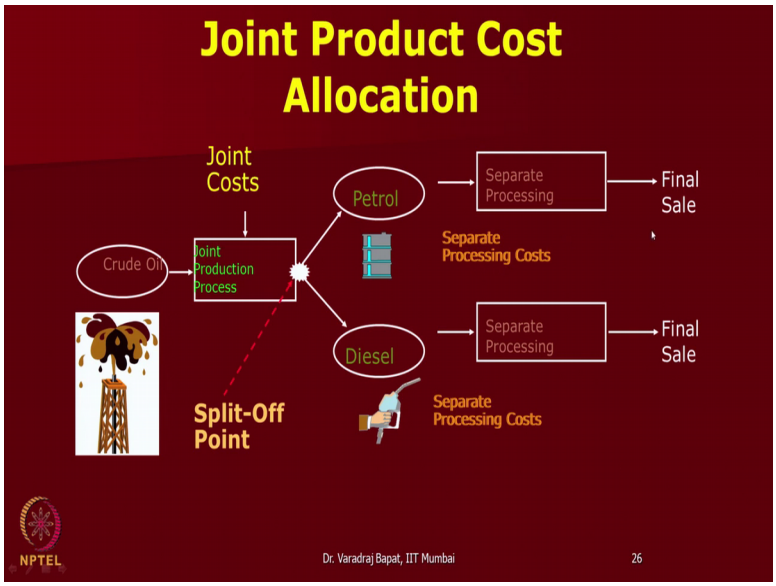

This is how the graph looks like. So, crude oil is a input, we need to pass it through refining process which is a joint production process. So, the costs which are incurred in the process are joined costs. At a split of point the two products for example, here petrol and diesel separate out and you may have to incur some extra cost, post separation they are called as separate processing costs and then you will be able to finally, sale the product.

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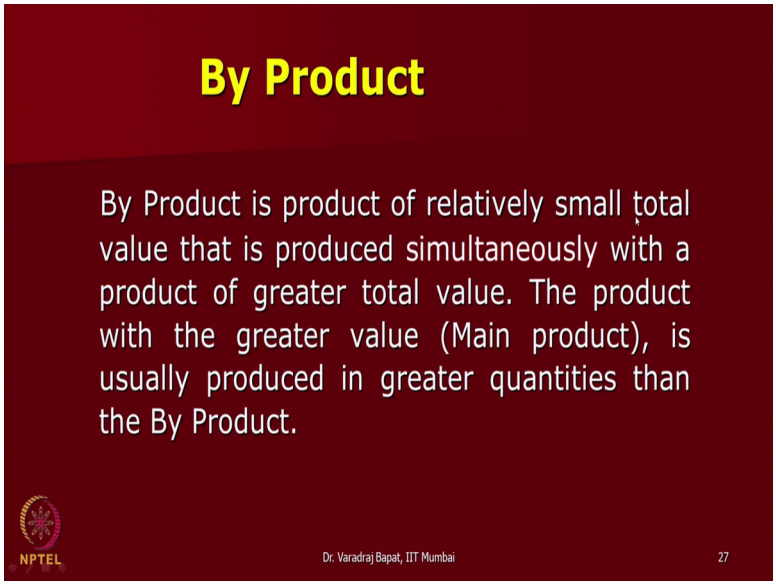

Now, there are also scenarios of by product. By product is a product of relatively insignificant or a very small value. So, water coming out as joint products are the main products along with that we may get some product with just evolves and having relatively smaller economic value that will be considered as a byproduct.

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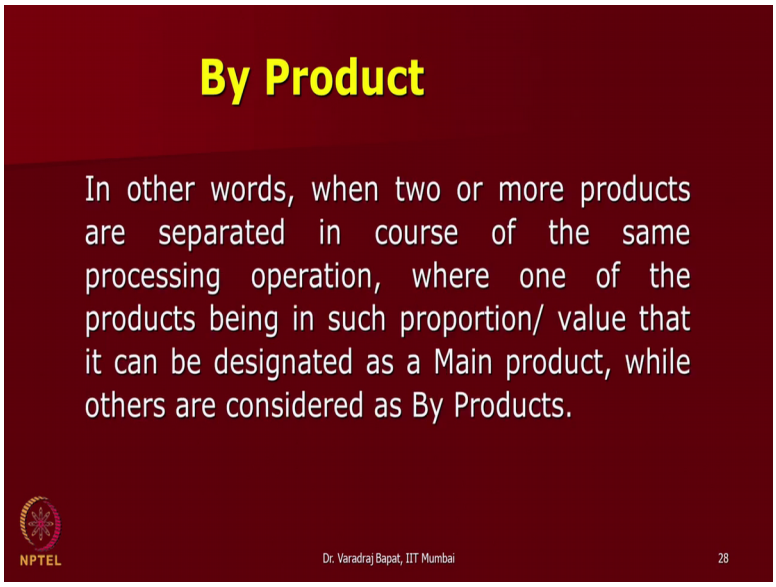

Now the value which would generate from by product is normally credited to the main product.

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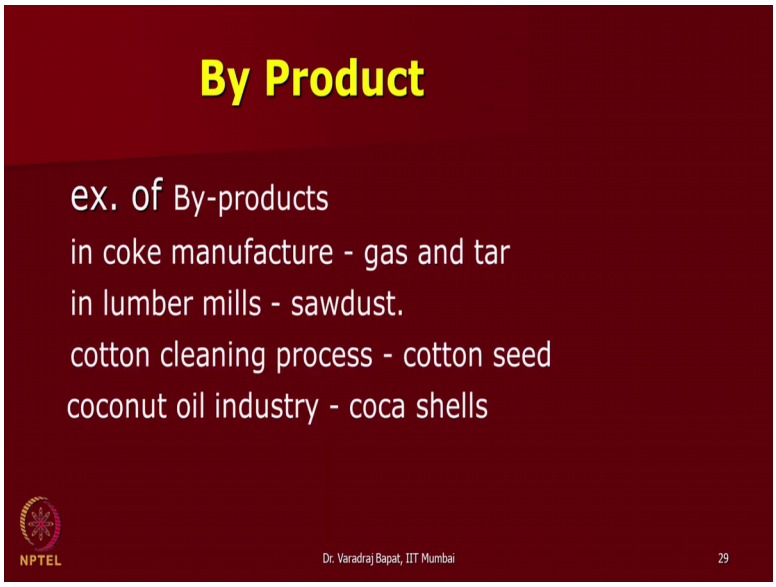

Example of by product is in case of coke manufacture you may give some gas and tar, or in lumber mills you may get some sawdust or in cotton cleaning processes some cotton seeds, or in coconut oil industry you get coca shells all these are examples of by products they have very small value. So, they are not charged with any costs rather their sale value or their realizable value is credited to the main product.

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Some of the small terminologies now a joint product process is a process which results in two or more products.

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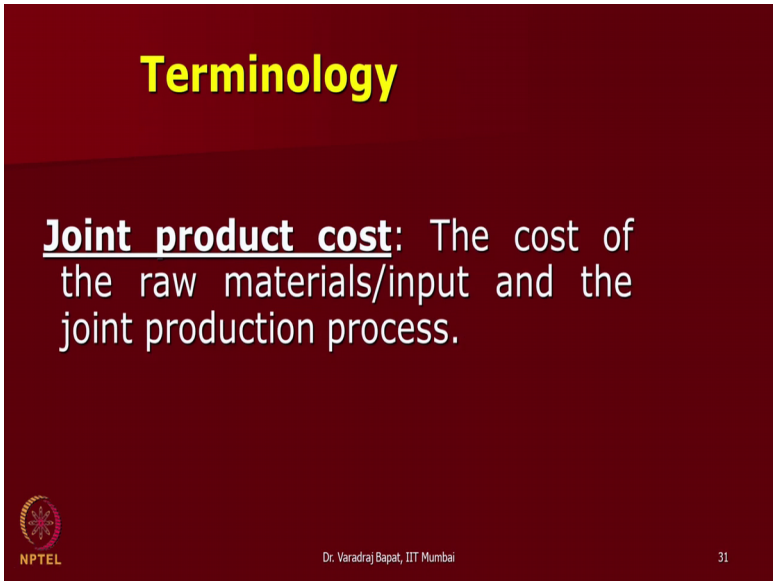

The costs which are incurred up to a split off point are considered joint product cost.

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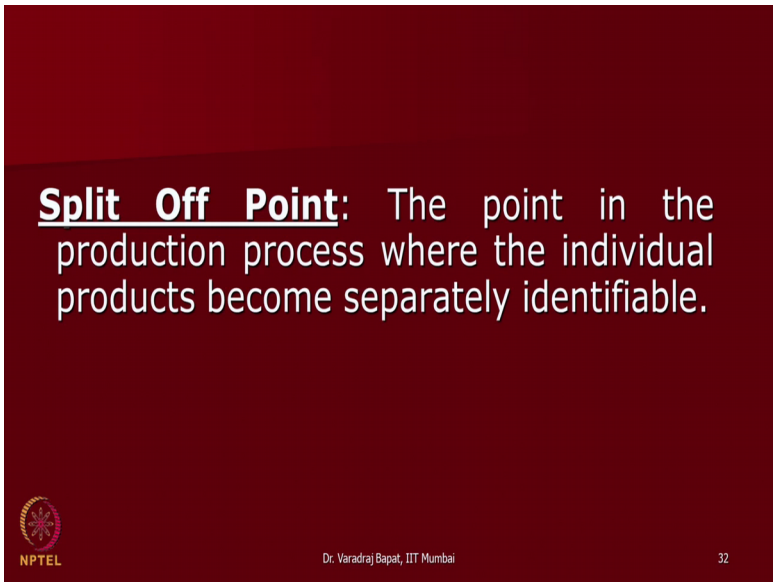

At split off point the two products separate.

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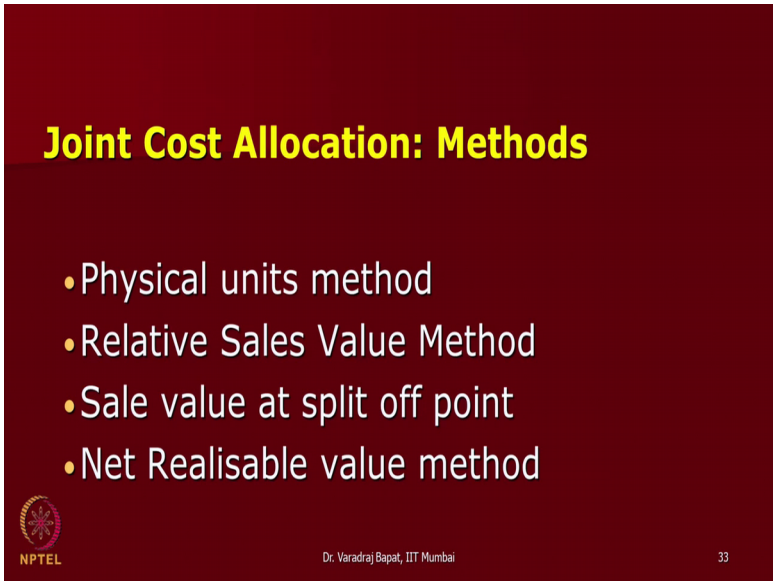

Now, the cost issue involved is whatever is a cost which is incurred up to the split off needs to be carefully separated and charged to two products. There are some of the methods which are popularly used, if two products have reasonably same economic value you may go for physical unit method. So, for example, if petrol and diesel they have similar value sale value it can be based on number of litters produced.

If the values are different you can go for relative sale value method, sometimes at split off you know their market value then you can go for market or sale value of split off or sometimes it will be based on net realizable value.

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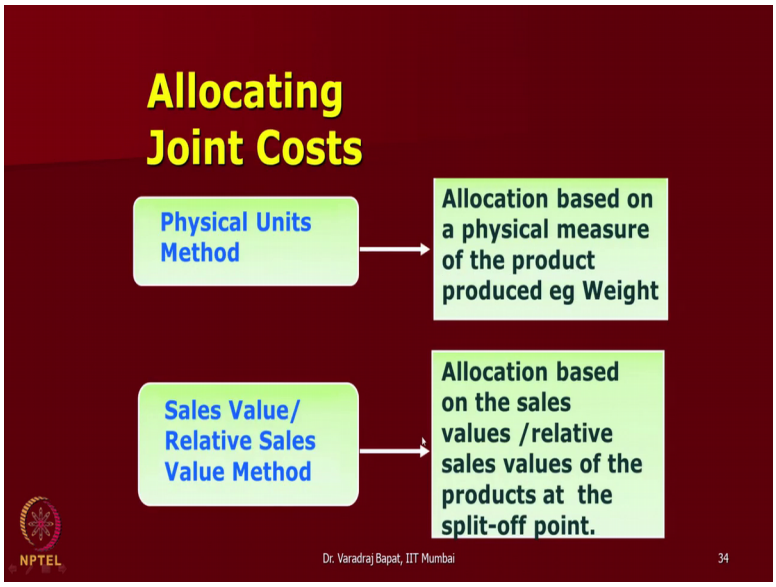

Now, each of the methods are just explain again, in physical unit method it is allocation based on some physical measure like weight or based on number of litters and so on.

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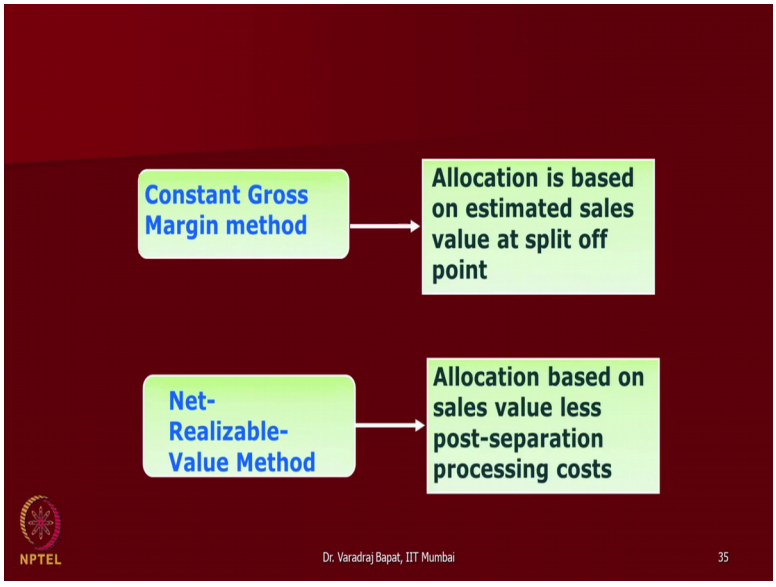

Similarly, it can be done by other methods there is one more method known as constant gross margin method, where is the assume that the gross margin is constant and reducing

that much of gross profit the cost is estimated. And in case of net realizable value first we know the value of the sale price value or the sale price after separation we reduce the post separation costs to get the net realizable value and allocation will be based on net realizable value. So, I hope you have got this with these will stop here. [FL].