Management Accounting
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Lecture 44: Marginal Costing- II

Welcome students. So, we are in the process of learning about the marginal costing as one of the important technique used in the say management decision making. So, in the previous class I was just talking to you about the introductory part of the marginal costing and how it is useful in taking the strategic decisions, in case of the difficult market situations maybe it say competitive situation or maybe it's entry of an existing farm in the new market or introducing a new product in the existing market so we can take the help of marginal costing.

I explained that how marginal costing affects and what do we mean by the marginal costing that basically this is the say the technique of the cost based upon or dividing it into variable cost and the fixed cost. First we try to recover the variable cost and then we try to recover the fixed cost and if both are recoverable from the selling price and then we adapt some margin right. Now we will talk about the next part that is the applications of the marginal costing. Where it can be used? How it can be used? What are the different areas of the management decision making where the marginal costing can be a useful technique or the useful tool?

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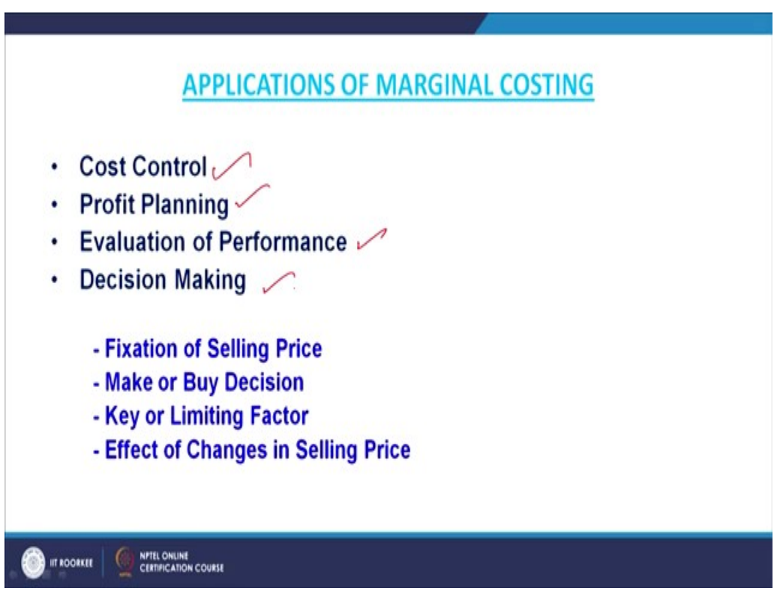

There is the four, these are the four basic techniques or the basic decision making areas cost control is the one. This is the one is the cost control. Second one is the profit planning and third one is the evaluation of the performance and the fourth one is the decision making. Different types of decisions can be taken. Cost control, when you talk about the cost control I told you that we calculate the cost of production under this technique of costing by dividing it into two parts - variable cost and the fixed cost. You will agree with me that fixed cost is normally not controllable.

To a certain level of performance fixed cost remains fixed but yes variable cost is controllable. Variable cost is controllable, in the previous say classes when we were talking about the standard costing then also we were talking about the controlling the variable cost. We discussed different type of the variances, material variance, label variance and overhead variances and all those variances were linked to the direct cost or the variable cost. So, for example, if we have to control the cost of the production, in case of say, for example, the stiff competition in the market are because of the influx of any new competitor, very strong competitor in the market.

Now, you cannot sell the product at a price which you were selling in the previous. Say a period of time when there was a less competition or almost no competition. Now when there is a competition you have to sell the product at a very competitive price, so that you are able to retain the market base or to further the increase it. So, again when you have to control the cost you will bifurcate the cost into two parts, variable cost and the fixed cost.

And focus upon that what are the components of the variable cost which can be worth controlling the cost. We will focus upon the material cost, then we will focus upon the labour cost, and then we will focus upon the other overhead cost. I told you in the while talking about the standard costing that the material cost is 50 to 60 percent and if you want to control the cost of the production, you should learn how to manage the material properly.

And even 5 to 10 percent production in the cost of material leads to sale reduction in the say you can call it as the cost of the product by significant amount. For example, even the 60 percent cost is of the material and say total cost of the product is 10 rupees, means 6 rupees is the cost of material and if you even control the 10 percent of it you are able to bring 60 paisa less, the cost to bring it down by 60 paisa it means now the cost of material is now 5 rupees and 40 paisa.

And that 60 paisa either can be passed down to the customers by lowering down the selling price or can be added to the margin of the firm. So, you can increase the profits also but here the first requirement of this technique of costing is the cost control and by controlling the variable cost, the marginal cost we can control the cost. Second is the, profit planning. Now, the profit planning, you see that you have different products here manufacturing in any farm A B C D. Four products for example we are manufacturing.

Now, we want to see we want to earn a certain amount of the profit certain amount of the profit say our profit should be somewhere 20 percent of the sales value. Now if we have the four products A, B, C and D all the four products may not be equally profitable. Some may be more, some may be less. It may be possible that one of the four products is not profitable at all. We are selling it at no profit, no loss. There is the 'break even' point and one product maybe loss making.

So, we have to now think about the if we want to maximize the profits of the firm, number one you have to choose the product mix in a manner where all the four products, all the three products or all the five products are profit making products. How can we do that? We use one technique that the marginal costing which is called the PV ratio, profit to volume ratio. We will discuss that technique in detail after this basic foundation and the conceptual discussion.

Profit to volume ratio, profit to volume ratio as the name indicates helps us to understand the profitability or the profit potential of any product. We can say if that the profit has to be increased, whether there is any link between the volume and the profit of that product or not. We increase the volume of the production of the product A out of four. Can you think that the profit of the company as a whole or the firm as a whole will also go up? So, which one is more profitable, which one is less profitable we have to first use the contribution.

What is contribution? I will talk to you miss in the in the later lectures. Very important concept in the marginal costing which will always contribution and apart from the contribution we have to calculate the profit to volume ratio which we call PV ratio. With the help of contribution we try to find out that, what is the gap between the selling price and the variable cost and how much is left to meet the fix constant to earn as a profit.

So that is called as a contribution. Contribution of product A out of the four towards the total profitability of the firm. Similarly, we will calculate the profit to volume ratio. Any product which is having the per unit higher amount of the profit, if you increase the volume of the production of the product will it result into higher profitability for the firm or not? So, with the help of contribution margins with the help of PV ratios we can evaluate the different products from it is manufacturing.

And you can take a decision that the products which are contributing more towards the profitability and whose PV ratio is comparatively higher as compared to others. Those products should be supported, should be strengthened, we should be produced more. We should sell more of those products and the products which are loss making, we should drop them and try to explore the possibilities about the products which are very least profit earning or are selling at the breakeven point to improve their performance and to improve their profitability expected from those products.

So, cost control, profit planning is possible with the help of marginal costing and third important application is the evaluation of the performance. As I am telling you evaluation of the performance can be again, we take the example of four products of performance manufacturing and with the help of contribution with the help of PV ratio. Now, if you look at the total sales value or the selling price variable cost and fixed cost of the product the data which is available with us.

We may, if we look at that data with regards to this four products with naked eyes we can say that, yes, product A is more profitable, product B is less profitable, product C is say moderately profitable and product D needs to be dropped. But when you use the marginal costing technique and we use a different kind of analytical tools available under this technique as I told you contribution margin and then you talk about breakeven point analysis, we talk about the PV ratio.

So then we come to know that out of the four which one is the better performer, which one is the worst performer, which ones are between these two, which should be supported, which should be dropped and whose performance is possible to be improved. So, this performance evaluation of the different products by a firm about all the products being manufactured by the firm the decisions can be taken and the marginal costing is very-very helpful. Then other different areas of decision making, there the marginal costing is very-very useful. Other different decision making areas, there the marginal costing is very-very useful.

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What are those other decision areas? I have given here. Fixation of the selling price, make or buy decisions, key or limiting factor, effect of change in the selling price and some other decision areas are like maintaining a desired level of profits, selection of suitable product mix, alternative methods of production, diversification of the products, closing down or suspending activities, alternative course of action and level of activity planning.

So, these are some of other areas where marginal costing can be used as a technique in the management decision making. For example, now, I will discuss these points in a summarized manner one by one. Fixation of selling price, now when you talk about the selling price, fixation of the selling price how do we do it?

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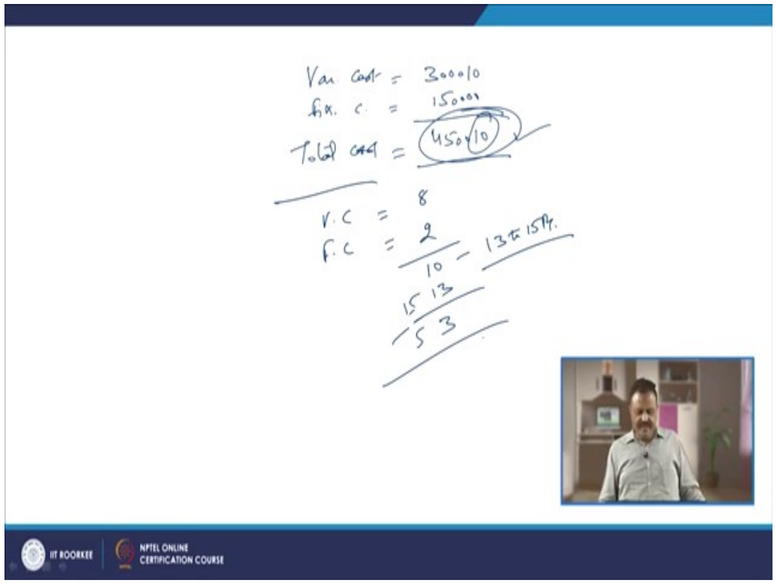

Selling price can be fixed by dividing the total cost intro variable cost and then the fixed cost and then for example, see that variable cost of a product is 8 rupees, fixed cost is 2 rupees. So, it means our cost of production is 10 rupees. We have divided it into and now what is the possible selling price in the market; you can position your product in the market for 13 to 15 rupees. If you position it for 13 rupees so you profit is going to be 3 rupees and if you are going to position it for 15 rupees then your profit is going to be 5 rupees.

Now, the decision you have to take is about fixing the selling price that in the marketing we have the two kinds of the marketing policies, market skimming policy and the market penetrating policy. If you want to penetrate in the market then what is the way? We fix up the selling price in a way that we keep the selling price comparatively lesser as compared to over competitors and per unit margin, per unit profit kept is lesser and if you that way work out the selling price so variable cost plus fixed cost plus margin of 3 rupees will give you the selling price of the 13 rupees not 15 rupees.

Maybe possible that your competitors are selling it for 14 rupees or 15 rupees, if the firm acts which we are talking about is selling for 13 rupees, maybe possible that more customers are inclined towards the product of this firm. So, there market penetration policy says that you earn the same amount of profit, what is the target rate amount of profit. For example, the target rate amount profit is say 10,000 rupees per month. So, this 10,000 rupees per month you can achieve in two manners.

By earning lesser amount of the profit per unit or selling more number of units in the market so that ultimately you can attain the target of 10,000 rupees per month profit. Second could be that we will not sell for 13 rupees, we sell for 15 rupees and our margin will be 50 percent that is 5 percent of the cost of production. We know that is going to affect us market position or the position with the customers but by earning 2 rupees more profit as compared to firm X and by selling lesser number of unit again we are going to end up earning the same amount of profit that is 10,000 rupees.

So, that depends upon the marketing philosophy, marketing strategy of the firms. So, in this case when you talk about that fixation of the selling price you have to divide your total costing structure into two levels and then adding of the desired amount of the margin. So, you can easily find out my variable cost is this, my fixed cost is this and my profit should be this and if some reason you have to change the selling price reduce the selling price, you easily know I can control my variable cost and you will focus upon that.

So marginal costing because it bifurcates the total cost into variable and fixed cost. We are in a position to find out which is the area where we can try and we can attempt and we can think if reducing the overall cost of production. Sometimes we may reducing the profits also you can fix up the lesser selling price in a stiff competitive situation. If there is no such competitive situation in the market even then we should be able to know my variable cost first should be recoverable.

My fixed cost should be recoverable and if the market is very-very convenient and say favorable then you can recover as much as profit possible. So, in both ways we can decide the selling price in a competitive situation also and in a normal situation also.

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Then the next one is make or buy decision. Sometimes what happens there manufacturing for example, four products, A, B, C and D. A we manufacture. We are the best manufacturers in the market. We manufactured at the lowest cost. B also we are the manufacturer, best manufacturer. C also we are the best manufacturer but D is doubtful. Now there are two possibilities. We manufacture D. We sell D our under own brand name.

But when we did a market analysis, we found out that as far as the product D is concerned it is being manufactured by other manufacturers in the market at a very lesser cost as compared to but we are incurring to manufacture the product the cost of manufacture of product D. A we are efficient one, B we are efficient most, C we are efficient most but in case of the D if this information comes to remind of management that rather than manufacturing it ourselves if we buy it from the market as readymade and sell it at our own brand name then I think we can earn more profits.

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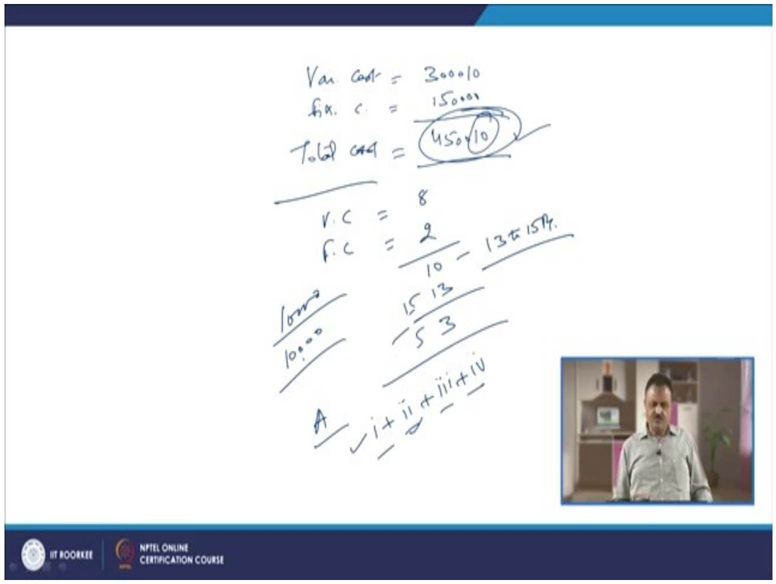

So, make or buy decision. This is the one example. Second could be there, for example, we are manufacturing one product and that product is say product A right. And this is the assembly of four components. One, then it is two, then it is three, and then it is four. One and two are components which nobody else can manufacture for us. They are technology based. So, we will manufacture one and two. But here component three and four, if you outsource the manufacturing of these you can get them manufactured at a lesser cost without taking the hassle of the manufacturing our self. So we will buy one and two.

We will buy three and four from the market as made and finally we will assemble all four and convert it into the finished product. So many a times either a full product can be bought from the market and sold under our own brand name, one idea. Second could be that if you are acquiring four components to manufacture the finished unit you can manufacture first two and remaining two can be bought as readymade from the market because the efficiency of some other manufacturer is much higher as compared to we as a firm and they can supply us the product at a much lesser cost as compared to the cost at which we manufacture the product.

For example, I give you the help of the car manufacturing companies, Suzuki Motors, Maruti Suzuki Motors. Suzuki Motors manufactures gear box there self. That is a basic technology with the company. Nobody else can manufacture the gear box for Maruti or Suzuki. As per the other parts are concerned you talk about steel, you talk about the glasses, you talk about the say rubber part, you talk about the seat covers, you talk about the tires it may be possible that Maruti can manufacture all these products in house.

While manufacturing the cars they can start manufacturing the window panes also, front screen also, windscreen also and some other inputs. But that is not the core area of the business of Suzuki Motors. Suzuki Motor is known for their own product and the efficiency of the product depends upon the gear box, quality of the gearbox, gearbox, company is manufacture itself. Others are outsourced and as per the specification of the Suzuki Motors others manufacture these products for Suzuki. They buy it ready made. Assemble all these products and they create a car.

It is possible that Suzuki can manufacture all the subcomponents but it is not useful for them and they have to make a decision that gearbox fine we are manufacturing but, for example, window pans and windscreen front if they start manufacturing it themselves what is the cost? If they buy it ready made from the market, what is the cost? And if the buying price is lesser as compared to the manufacturing price so we can easily take a decision in favor of buying it readymade from the market rather than manufacturing it.

So again, the analysis will depend upon the variable cost and the fixed cost and finally fixing of the buying or selling price. Key or limiting factor, what is limiting factor first you understand. For example, you talk over the power. In India, if you face the power problem, it may be possible that a unit located in a area with the power supply is not for the 24 hours. You want to run the plant for 24 hours but it is not possible because the electricity supplying company is supplying it for 18 hours a day. Now, this becomes a limiting factor. Similarly, raw material could be a limiting factor.

If you man want to manufacture the n number of units, demand is there in the market but you cannot because availability of that particular type of material is very-very less. So, now if there is some key or limiting factor you have to use that limiting factor or key factor in a way that production of those products will be maximum by using that power for 18 hours whose PV ratio is the comparatively higher as compared to the other ones. We are manufacturing products A, B, C and D. A and B are highly profit making products. Power is not available for 24 hours.

It is for 18 hours a day. So first you would like to use the power for manufacturing A and B products. Once their total demand is over then you will think of going for C and then you will think of going for D because power is available for 6 hours. So, that limiting factor is to be used in such a efficient manner that overall cost of production is under control and we are able to manufacture those products by using the limiting factor which are highly profit making for us and contribute towards the profitability of the firm.

Effect of changes in the selling price, if you change the selling price what is the effect of that and how can you change the selling price? By reducing the cost, by controlling the cost, variable cost controlling is possible but sometimes we have already controlled it. Fixed cost is not possible. So, in that case either you can increase the production so that fixed cost per unit comes down or if you look for the possibilities of reducing the material labor or the overall cost.

So, means as I told you many times cost is the basis of selling the fixing the selling price. Cost is the basis of fixing the selling price and if you want to fix up a competitive selling price you have to become very-very efficient in managing your cost and managing the cost is best possible under the marginal costing because you know how much is the variable cost which is the controllable component of the total cost and you will focus upon that and you will like to control it.

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Then is the maintaining desired level of profits. As I told you that you are manufacturing four products A, B, C and D. Out of these four products which one is more profitable, support that. Which one is less profitable, support that or you follow the market penetration policy that will be much better. You earn lesser profit per unit but if you serve the larger segment of the market your desired level of the profit can also be attained. As compared to when you sell the product as a premium product in the market or higher amount of the profit but selling the lesser number of units, reaching to the lesser number of customers. Both ways it is possible.

But the first one will be better if you lose some cost of production reach up to the larger segment of the market, people, customers and you earn the desired amount of the profit by following the market penetration policy and marginal costing makes it happen. Selection of suitable product mix, I gave you the example of A, B, C, D, E. You are manufacturing 5 products or you can manufacture 5 products. Which one or out of these 5 there must be two three important factors, there is a limiting factor. Power is a limiting factor.

There might be the cost is a limiting factor. So, out of the five possible products which we can manufacture, we will have to select a suitable product mix which ultimately helps us to maximize the contribution towards the profitability and having the potential of earning the higher PV ratio. So out of the possible five products which we can manufacture, we will like to go for those products which are having the greater profit potential and which can be means the best considered as the best products of the firm and margin costing helps in that.

Alternative method of production, different technologies, different costs under one technology this is a variable cost, this is a fixed cost. Under another technology this is a variable cost, this is a fixed cost. Now you know this is my variable cost, this is my fixed cost, you can fix up or find out the alternative methods of production and here just by bifurcating the cost into two, variable and fixed, we can easily control or find out the alternative methods of production.

Diversification of the products - you are manufacturing 1, 2, 3 products. Now we can diversify it also. Sometimes, what happens that there is a stiff competition in the market or expected to come up a stiff competition in the market. I will give you an example that Anchor you must have heard about is a company which manufactures the electrical products - switches, boards, wires all that. Now this company, earlier it was a Indian company now it has been taken over by the Panasonic.

This company when in the say end of 90's around 2000 they visualized, they anticipated that after liberalization of Indian economy many efficient players like General Electric and other companies are expected to enter the Indian market and their position as a player, as a manufacturer of the electrical equipment in the market may not be very comfortable in the time to come and there is every likelihood that they can lose the market in favor of the multinational giants.

So, if they lose the market because of the stiff competition then which of the other areas they can think of diversifying. So that overall profit of the group as a whole remains the same or keeps on going up. That referred that matter to different consultants and consultants told them that apart from electrical products Anchor can manufacture different consumer products. Different consumer products, so that the lost part of the market in the electrical segment can be made good in the other areas by properly diversifying it.

Then Anchor diversified to the different consumer products like toothbrushes, toothpastes. They tried to introduce a fruit beer also but could not succeed in the market. So, ultimately the purpose is diversification is also possible and has to be done by the different companies and diversification is going to be based upon the again the profit potential of the new products or the controlling the cost and serving the market in the best possible way.

So, different companies think of diversifying if they find out that their conventional area of business is not going to be very-very favorable and not continuing to be favorable for them, sustainable for them. Then, how to take a decision about introducing new products or diversifying into new areas, marginal costing can help, closing down suspending some activity, I told you already we are manufacturing four products.

D one is not giving us the right amount of profit. Evaluate it properly, calculate contribution, calculate PV ratio and then try to make sure that out of the four which one is having the least contribution towards the profitability and whose PV ratio is the lowest, you drop that. So, that remaining three products can be strengthened in the market and the profit can be improved. So, closing down and suspending activity is possible.

Another is alternative course of action, evaluating the different cost structures of the different course of actions, different methods of productions and contributing or calculating the contributions available from the different methods of production, you can decide which one is the method can be supported which can be avoided. And level of activity planning. A will be manufactured 10000 units, B also will be manufactured 10000 units because they are they are mass products.

They are the standard products of the firm they are the mass products. Manufacturing process is very simple and the firm has a complete you can call it expertise in manufacturing those A and B. For C and D are the new products added in the series. So, we will have to produce them less and produce more of A and B.

So, activity planning can be done, level of activity planning can be done looking at the profit potential, looking at the contribution of any product towards the profitability and then taking the decision accordingly. So, all these decision making areas very-very practical ones and this all has become possible after inventing the technique of marginal costing where we divide the total cost into the variable cost and the marginal cost.

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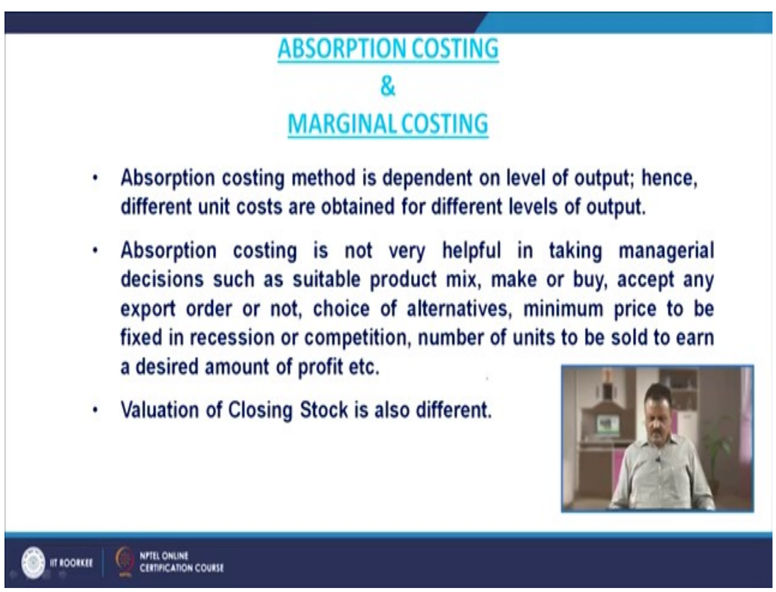

Now, in this class finally I will take you to a comparison between the two costing techniques. One is the absorption costing system which is you call it as a total costing system and the second one is the marginal costing system. Absorption costing system is based upon the absorption of the variable and the fixed cost and the cost which is determined on the basis of the absorption of the different variable and the fixed cost is known as the absorption costing system or the total costing system.

And marginal costing has been found out invented when it is not possible to recover the total cost from the market. So, we bifurcate into two, variable and fixed. First we try to recover the variable cost. If it is possible then we try to recover the fixed cost and then we think of earning the profits. So, what is the basic difference between the two techniques? Point number one absorption costing method is dependent on the level of output. Hence, different unit costs are obtained from the different levels of output.

Why? Because element of the fixed cost is there in the absorption costing. If you increase the level of production, if the volume of production goes up, variable cost per unit remains the same or fixed cost comes down because it has inverse relationship with the volume fixed cost per unit. So, because total cost is considered, so if you are not able to manufacture the sizable amount of the volume you are not able to sometimes sustain in the market.

Absorption costing is not very helpful in taking managing decisions such as suitable product mix, make or buy, accept any order, export order or not, choice of alternatives, minimum price to be fixed is recession or competition, number of units to be sold to earn the desired amount of the profit. Minimum price to be fixed in a competitive situation is most possible by using the concept of marginal costing.

Lastly, valuation of the closing stock is also different. Valuation of the closing stock is also different. In valuation of the closing stock, what is different? First thing of the reference is that when you calculate the closing stock, you work out the closing stock. Under absorption costing you take into consideration both the costs, fixed cost also and the variable cost also. But under the marginal costing you bifurcate the cost into the variable cost and into the fixed cost and because of that both the opening stock as well as the closing stock gets down.

Contrary to this, valuation of the opening stock and closing stock under the absorption costing system goes higher and there is a reference in the profit potential or the profitability of the products. How that can be done? How it is possible? And, how the profit is affected by the closing stock or the valuation of the closing stock that I will discuss with you in the next class. Thank you very much.