Managerial Accounting
Prof. Dr. Varadraj Bapat
Department School of Management
Indian Institute of Technology, Bombay

Lecture - 30
Budgeting and Standard Costing

In our last session, we had discussed about budgeting, I hope you have understood the basic concepts. We had also dealt with three cases on budgeting. Today, we will know a little more on budgeting, especially on special techniques like zero base budgeting. We will also do a case of flexible budget. And ones that is over we will proceed for our discussion on next technique, that is known as standard costing. Now, let us do a brief review.

Now, what is a budget? I hope you have heard this term in the context of government as well as in the context of private companies. So, budget is a statement, which is prepared in advance it is a quantitative or financial statement, it is states the policy decisions of the management. In case of government finance minister presents the budget, government tries to tell what it plans to do in the next financial year. What will be the taxes to be collected? What are the rates of tax? What are the new schemes announced for welfare. All this is communicated through union budget.

In case of private companies every department or for the whole company an estimate is prepared. And all the attempt is made to see to it that the cost is kept to that estimate or the targets as set are achieved. So, budget has two utilities. One while you set the budget, you become clear about the objectives you coordinate all your resources in such a way that resources are channelized properly.

Once, the budget is set it acts as a target, it acts as a bench mark. So, that your proper direction for going ahead. Now, with this brief introduction we will see the next techniques on budget. All these things I think we have discussed still we will glance through in the mean time I hope you recollect what we are discussing?

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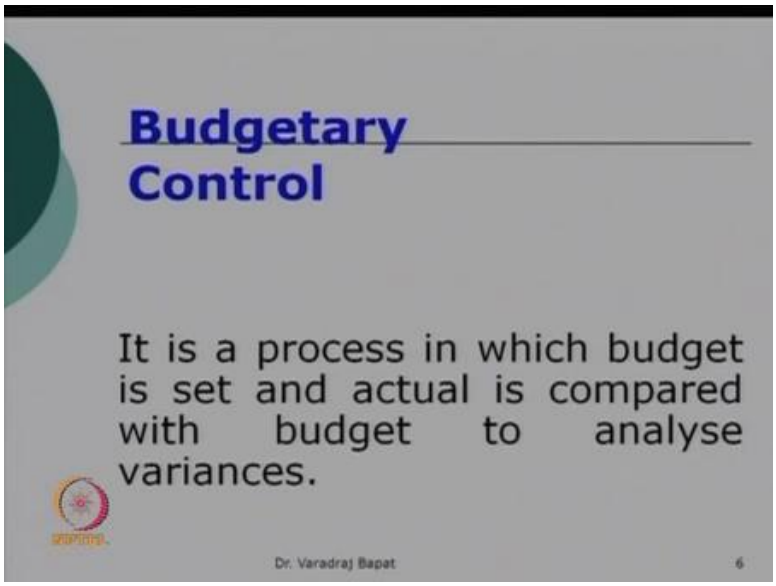

We had seen that budgetary control this a technique, that is primarily used for analysis of for setting up budgets and then comparison and for analysis of variances. So, the objective is that the corrective actions can be taken as fast as possible. So, the objective of budged include planning, directing and controlling.

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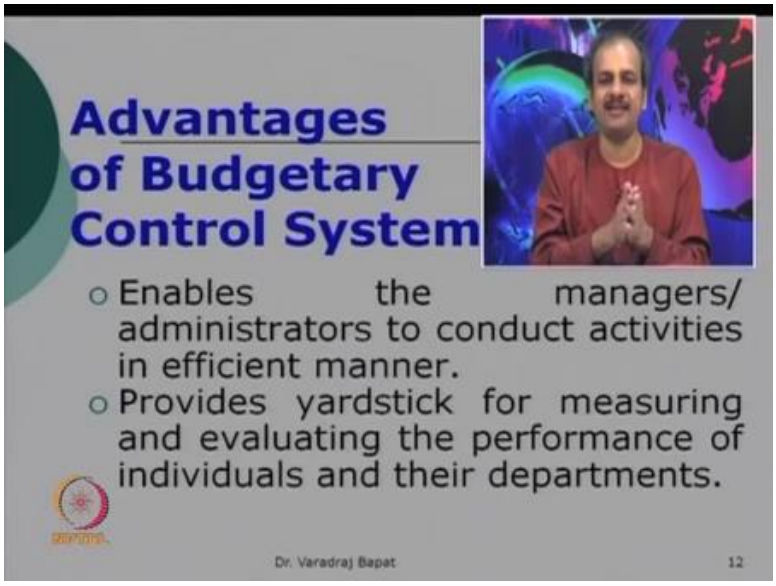

There are several advantages to the budget. Because, due to budget the activities are conducted in a coordinated manner, there are proper yard sticks there is a objective evaluation of performance.

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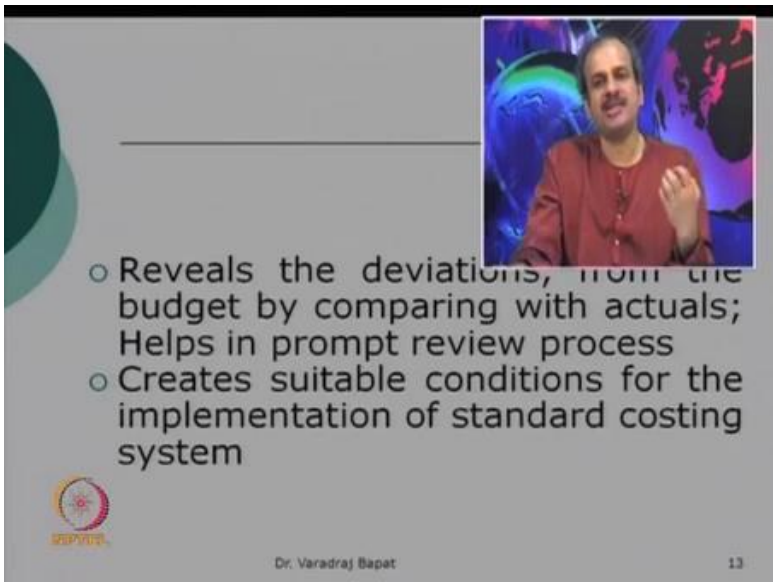

Any deviations are noted fast. So, that one can take a prompt and timely corrective action and budget also acts as a basis for creation of next year's budget.

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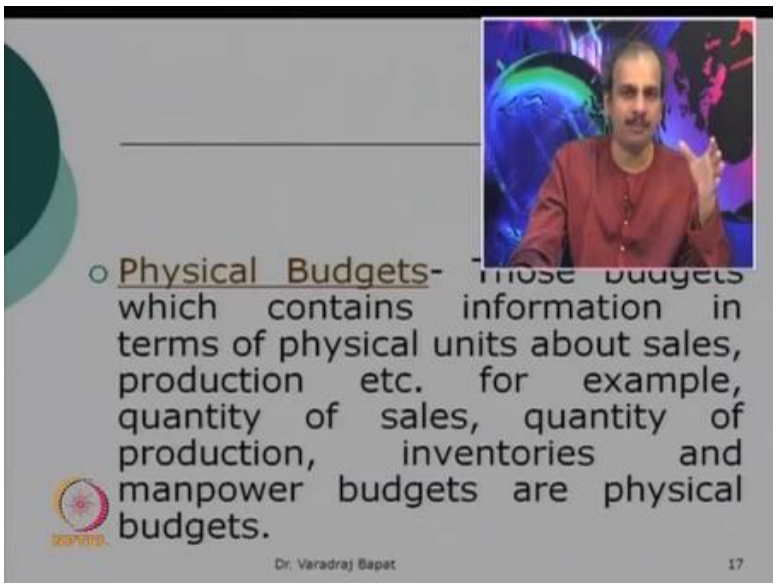

Then, we had seen various types of budgets, they include physical budgets. Like budget for sales, budget for production, budget for man power requirement. So, there is are represented in terms of quantity.

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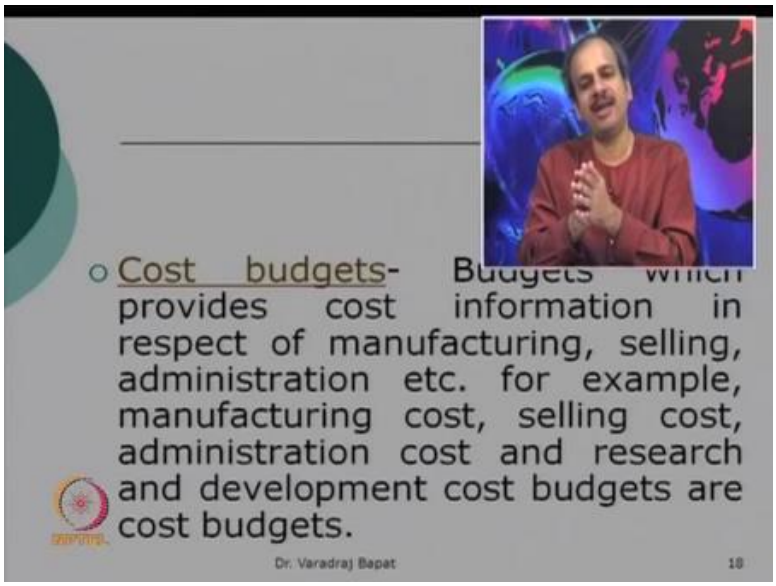

Then there are cost budgets, physical budgets acts as a base using the physical budgets we try to estimate the cost. Let us say based on production budget. We will try to arrive at the manufacturing cost budget, based on the man power requirement budget, you can make a human resource cost or personal cost budget and so on.

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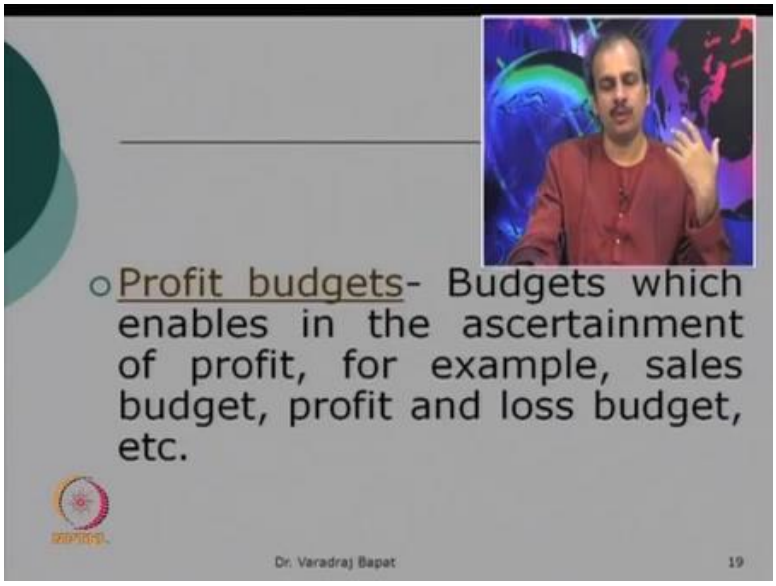

Then, there are profit budgets. So, in profit budgets the cost budgets has a base, revenue is estimated and revenue and cost when compared, we get profit budget. So, budgeted P and L account will be an example of a profit budget.

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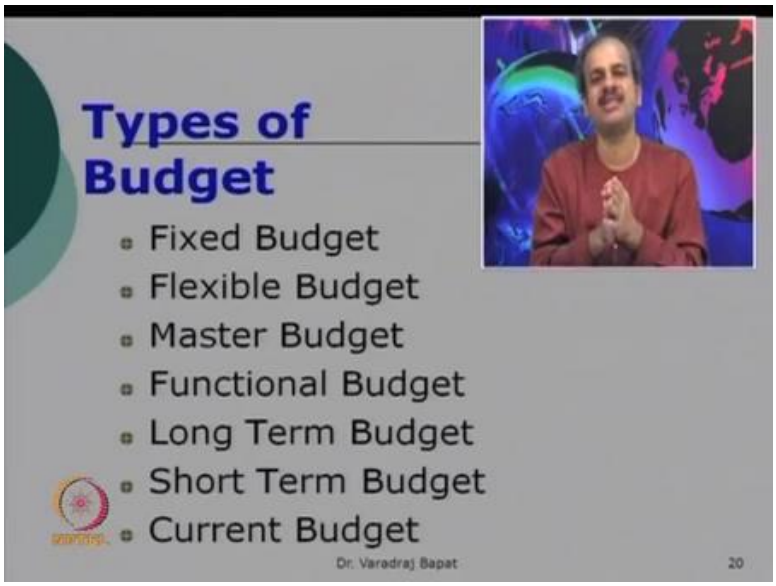

Then, budgets can be divided into various types. We have fixed verses flexible budgets, we have master verses functional budgets, long term short term and current budgets. All these we have discussed in our last session. So, I am just going ahead.

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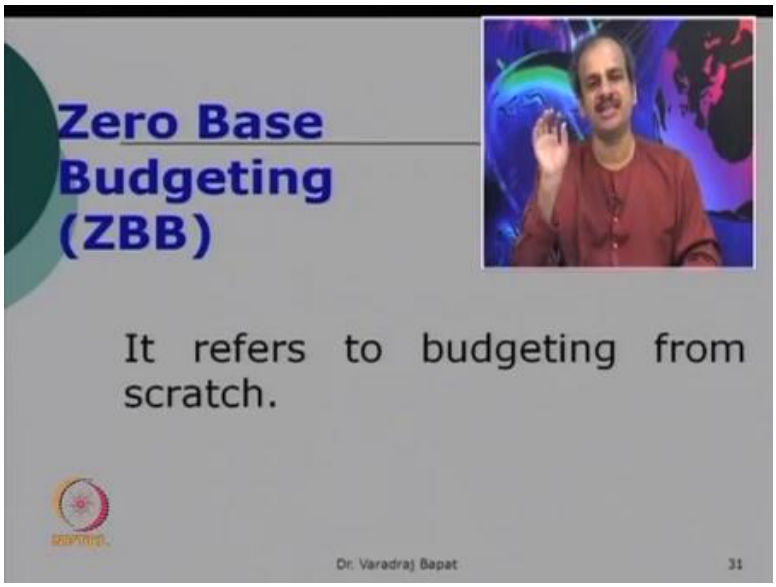

Now, today we will discuss one very interesting concept in budgeting. That is known as zero base budgeting. Now, normally what happens is any budget which is prepared is prepared on the basis of last year's budget. So, if we have to give budget for say department x. We say that last year this department has spent 15 lakhs. There is a

inflation of about 10 percent. So, let us this year may fix the budget at 16 lakhs or 16.5 lakhs.

So, last year budget is usually carried forward, some changes are made and this year's budget is prepared. This is the traditional practice of making budgets. Zero base budget is a concept, which challenges this practice. That is why, it is said that, this is the budgeting from scratch. So, instead of making budgets based on the last year, here an attempt is made, where the assumption is that there was no budget in the last year, last year budget was 0.

So, let us say for that department or for that program last year budget was 0. This year a fresh allocation is to be made of resources. So, if we feel that 16 lakhs need to be allocated. We have to make a proper account and then justify why 16 lakh is allocated? Then that is called as a zero base budget.

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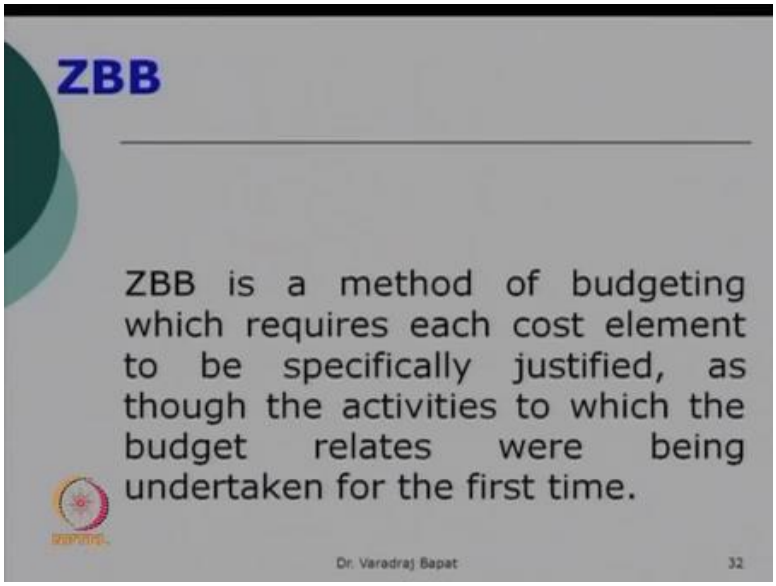

So, this is a method of budgeting which requires each cost element to be properly justified. So, justification cannot be the fact that last year something was spent, so automatically you will spend this year. Every year that activity has to justify.

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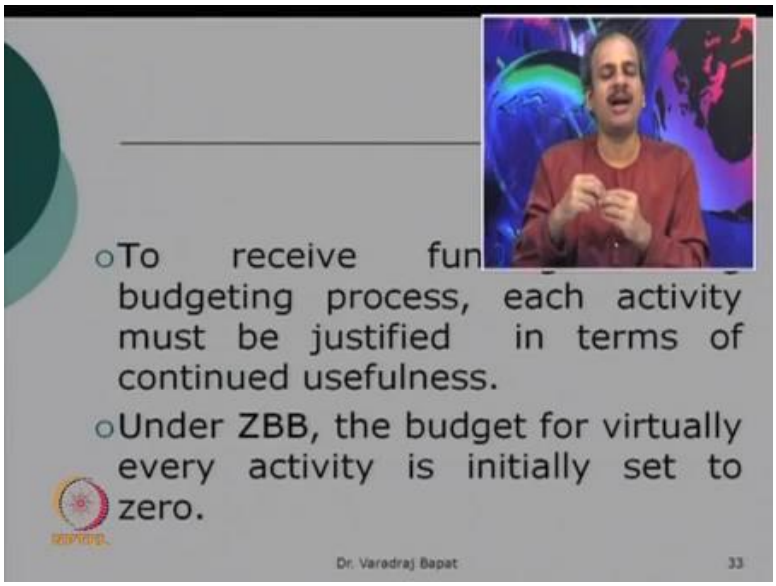

Why so much of resources needs to be allocated? First of all why this activity is required? So, all activities programs, departments have to justify themselves and then only they get the allocation of resources. That is the advantage of or that is a feature of zero base budgeting.

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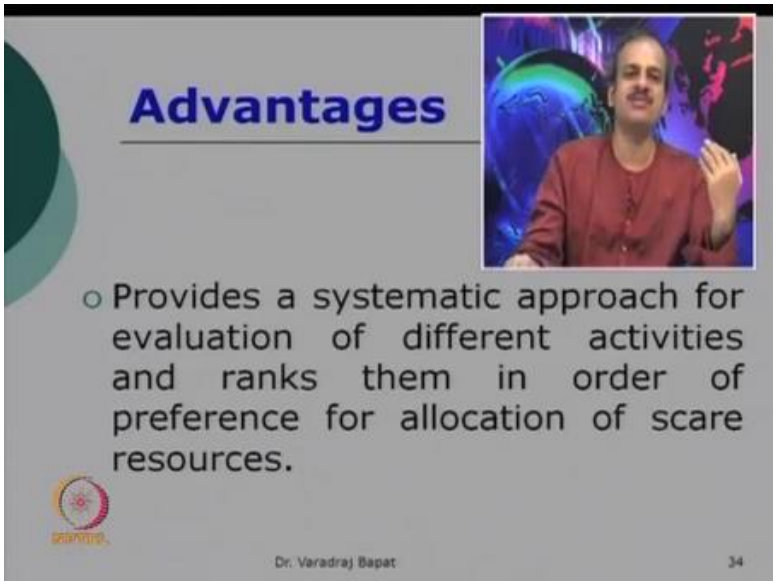

Now, what are the advantages? ZBB, it is a systematic approach for evaluation of different activities. So, just because some activity existed in the last year, it need not be automatically continued. The activity will be evaluated, wherever ZBB exercise is done.

Then, all activities will be rank as per the preference and then the allocation of resources are made. So, the less important activities will be weeded out, they will be stopped and more resources will be available to critical or important activities.

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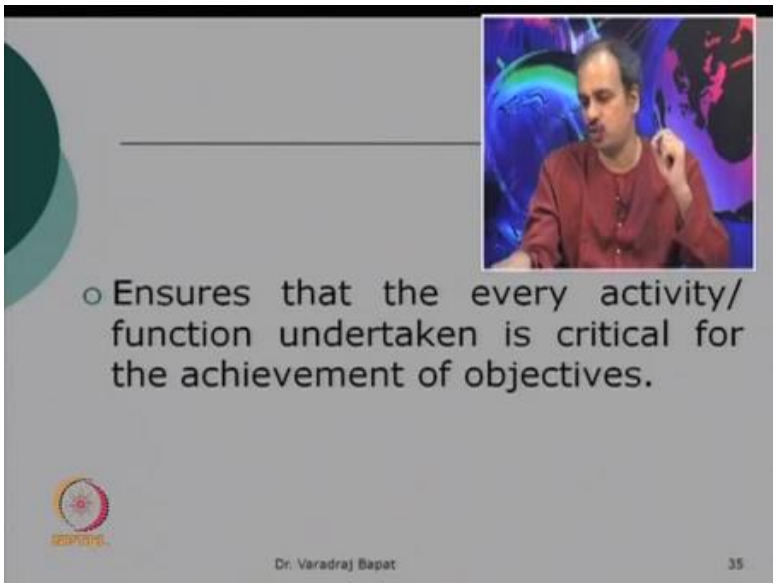

It ensures that every activity which is critical gets enough resources.

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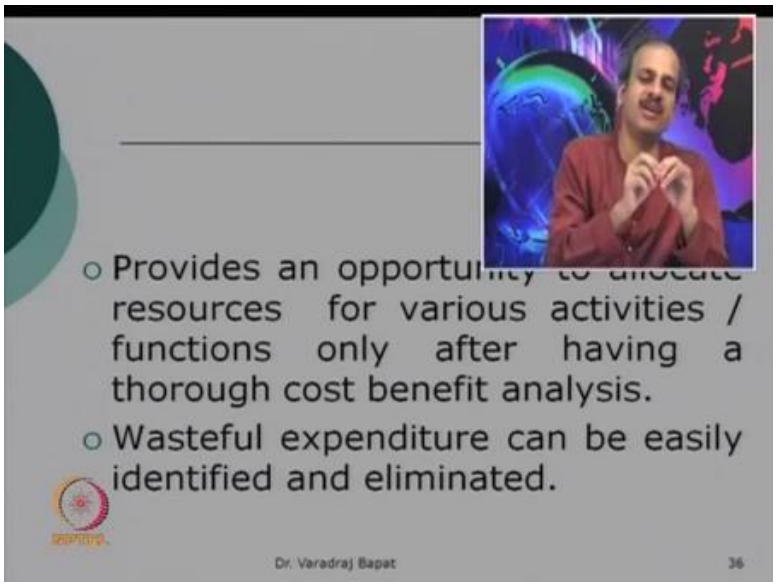

Now, there is an opportunity for having a proper cost benefit analysis. And wasteful expenses are properly identified and eliminated. Though this zero base budget is such a good kind of exercise or a technique. It is not so easily acceptable. Because, several

times wasted interest opposite. Sometimes employees may oppose, sometimes senior executives may oppose. So, there is some opposition to zero base budgeting.

Secondly, it is a time consuming exercise. In case of traditional budget, budget making takes lesser time in zero base budgeting. All activities will have to give justification, then those activities are ranked, then preference is decided, then the new budget is prepared, so relatively it is time consuming. So, it becomes very difficult to do ZBB exercise every year. But, it is very much useful, if this excise is done at least once in 2 years or 3 years.

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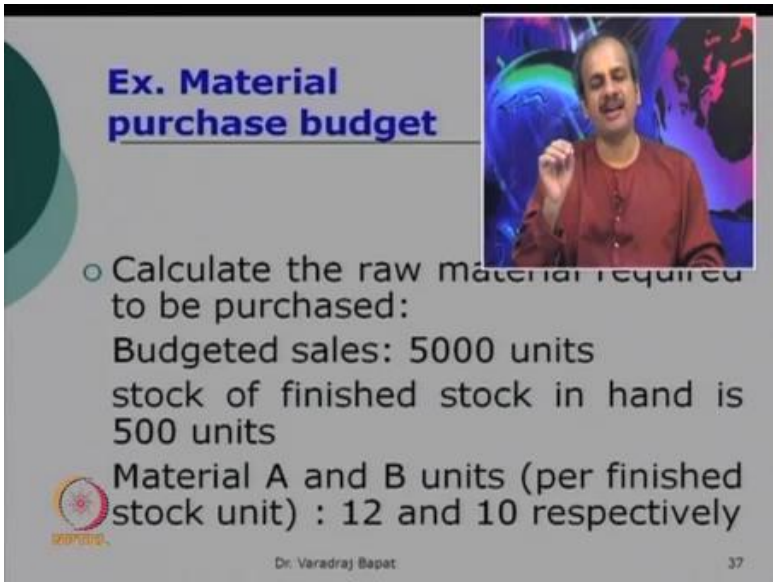

Now, let us look at an example of a functional budget. Now, we have to calculate raw material required to be purchased. What is given is budgeted sales are 5000 units, the stock of finished goods in hand is 500. Material A and B are required in the quantity of 12 and 10 to make 1 unit of finished good.

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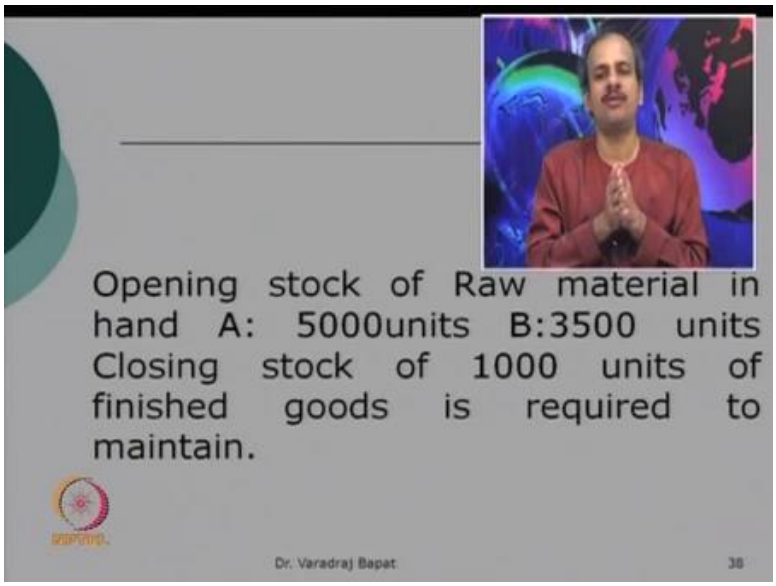

Opening stock of raw material is 500 for A and 3500 for B and closing stock of 1000 is required to be maintained. Now, given this data ((Refer Time: 09:03)) we are required to calculate the raw material to be purchased. Now, just think over how will you proceed? I will show you the data once again. So, you can see that some data is given about finish good some data is given about raw material A and B.

Before going for raw material a and b we have to first look at, how much raw material is required? The starting point is budgeted sales for finished goods. From budgeted sales of finished goods we should calculate first the production budget. That is the production which is required to be done. So, to sell five thousand units, first let us calculate how much we need to produce? Then to produce that much, how much material is required that is known as material consumption budget.

And then looking at the stocks of raw material, we will try to calculate how much, raw material need to be purchased. So, there are three stages. Actually, we have to we are asked to calculate raw material purchase budget. But, before that we have to first to production budget using production budget we will do raw material consumption budget using raw material consumption budget we will try to calculate the purchase of raw material budget. Now, let us see how it is done.

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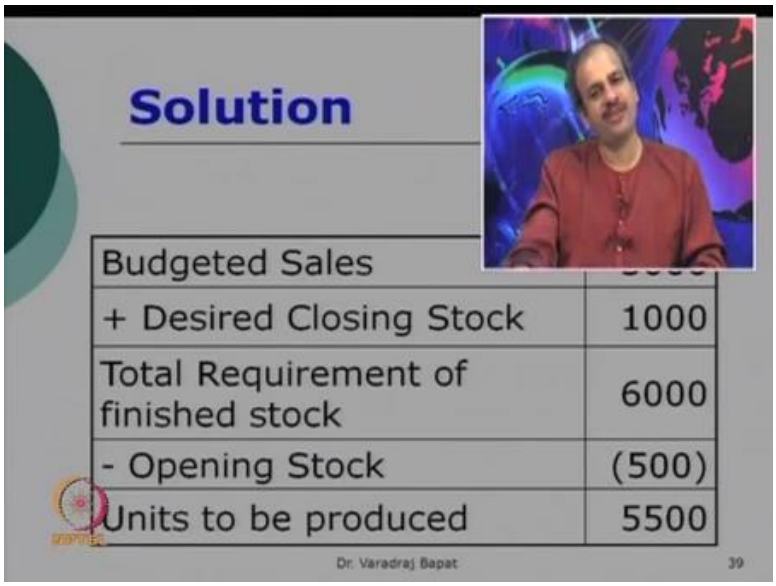

So, now budgeted sales as was given is 5000 it is desired that we must maintain closing stock of 1000. So, total requirement of finished goods is 6005 plus 1. And we already have opening stock of 500. So, 6000 minus 500, you need to be produced are 5500.

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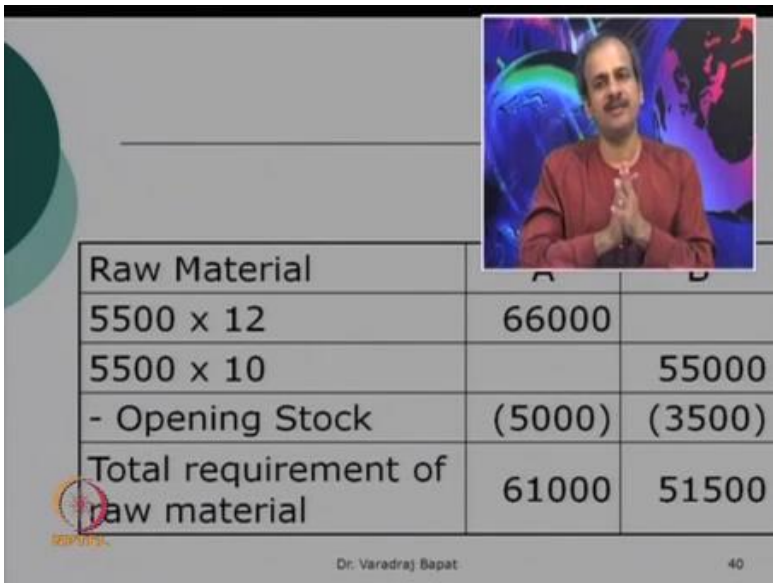

Now, this 5500 is known as production budget. Now, we know how much units are required. Now, let us look at how much raw material is required. So, we have two raw materials A and B. We know that, 12 units of A are required to make one finished output. So, for 5500 units 5500 into 12, that is 66000 units of A are required and in the

same manner 5500 into 10. So, 55000 units of B are required, this is called as a consumption budget for raw material. Now, using this consumption requirement will try to calculate now from this we reduce the opening stock of raw material, which is 5000 and 3500. So, total requirement comes down to 61000 and 51500.

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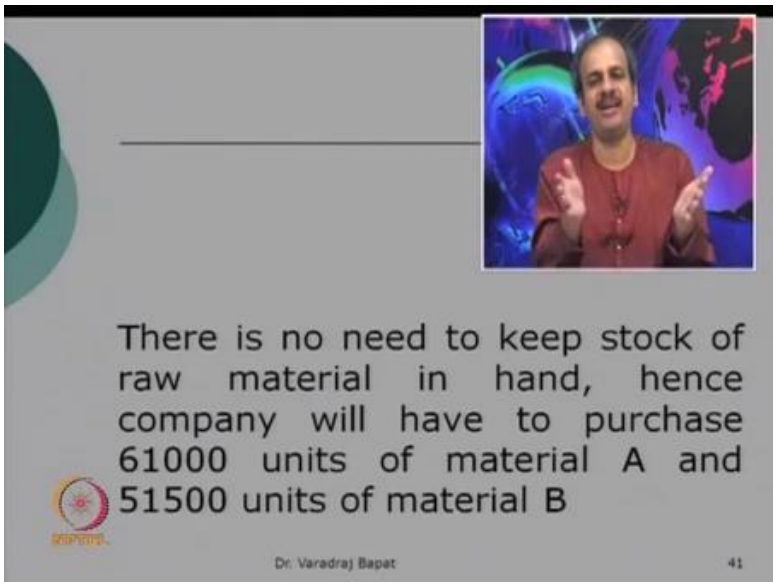

Now, it is not given that whether we have to maintain finish goods stock of raw material. So, let us assume that we have just in time inventory or we do not have any system of maintaining the stock. So, we will purchase ((Refer Time: 12:05)) as much as we require that is 61000 and 51500. So, what we saw right now ((Refer Time: 12:14)) is an example of a functional budget.

This was the budget for purchase of raw material like that the budgets are made for each activity or each department. And then those budgets are ultimately coordinated into or compile into a master budget. Last time we have discussed this functional budget and master budget. Let us do one more case.

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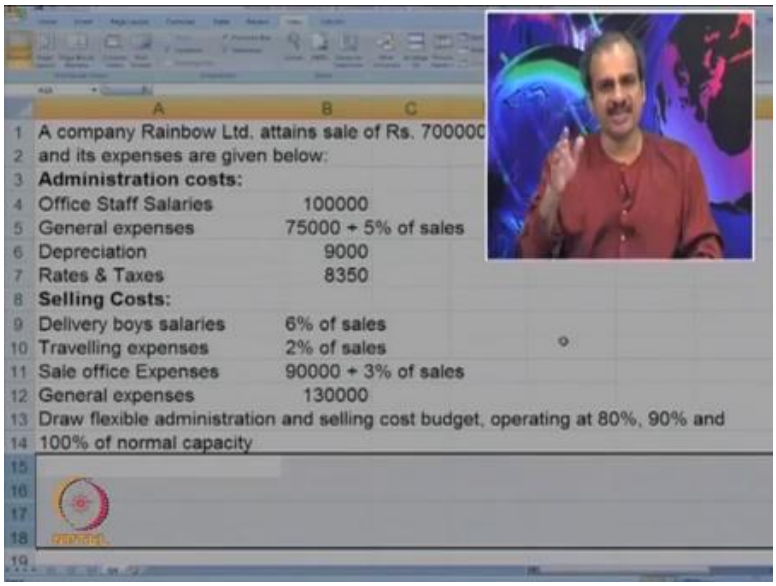

So, have a look at this case, now a company attends sale of rupees 7 lakhs at 70 percent of it is normal capacity. The expenses are given, where in the office salaries are 1 lakh general expenses is 75000 plus 5 percent of sales, depreciation is 9000 rent and rates are 8350. These are admin costs then look at the selling cost they include delivery boy salaries, which are 6 percent of sales travelling is at 2 percent of sales, sale office expenses are 90000 plus 3 percent of sales, general expenses are 130000.

Now, using this we have to draw flexible administration and selling cost budget. At operating activity of 80 percent, 90 percent and 100 percent of normal capacity, I hope you remember what is a flexible budget? In the last session we have discussed, that there are two types one is a fixed budget, the other is flexible. In fixed budget what happens a particular level of activity is estimated. Let us say, in this case it is 70 percent.

So, the budget is prepared only for 70 percent expecting that the level of activity will be maintained at 70. But, what happens is the real life is not so fixed, because you may have lesser demand or you may have more demand. So, we need to be flexible, we need to be adaptive. That is why many times instead of making a fixed budget, a flexible budget is prepared such that if the activities at 60, 70, 80, 90, 100 and so on. We are able to have a budget for each level of activity.

So, in flexible budget instead of just doing at 70, we do at various levels. Now, in this problem we have been asked to make apart from 70, budget for 80, 90 and 100. Now,

think over how it can be done, just give a thought. I think most of you would be guessing it right, we have to first segregate our cost into fixed and variable. Because, fixed cost do not change with level of activity. So, whether it is fixed budget or flexible budget they are going to remain at a same level.

Then we will look at variable cost, because they change with level of activity. We will have to create a formula or a structure where in we know them as a percentage to sales. So, as sales changes they will also be estimated at each of these levels. Now, let us look at how it is made. So, in the first step, please make enough columns I request you to solve with me. So, that you really understand how it is done.

So, calculation of flexible budget make a sheet the way I have made particulars then take various levels that is 70, 80, 90 and 100. So, they estimated 70 perhaps they could have expected that actual level of activity may be more that is why 80, 90, 100 is made. If you want you can also make 60. So, you can make at various levels let us see now, how it is made.

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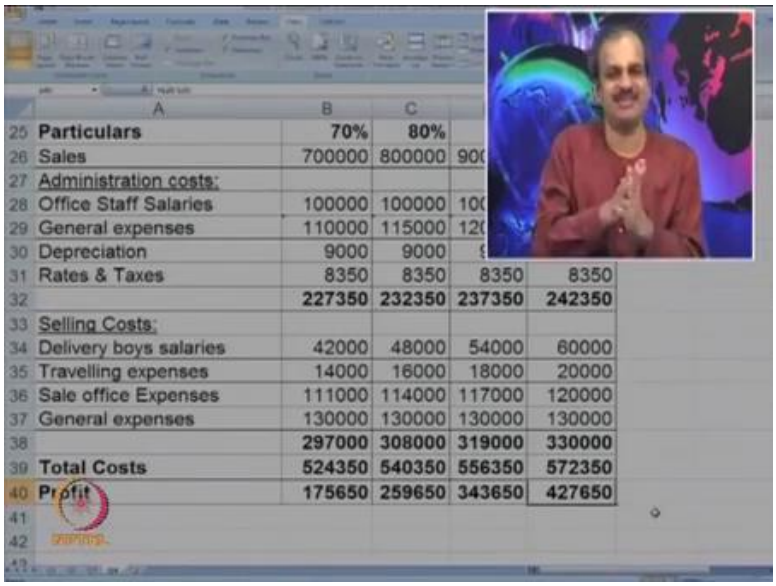

	A	B	C		
25	**Particulars**	**70%**	**80%**		
26	Sales	700000	800000	90(	
27	Administration costs:				
28	Office Staff Salaries	100000	100000	10(	
29	General expenses	110000	115000	12(	
30	Depreciation	9000	9000		
31	Rates & Taxes	8350	8350	8350	8350
32		**227350**	**232350**	**237350**	**242350**
33	Selling Costs:				
34	Delivery boys salaries	42000	48000	54000	60000
35	Travelling expenses	14000	16000	18000	20000
36	Sale office Expenses	111000	114000	117000	120000
37	General expenses	130000	130000	130000	130000
38		**297000**	**308000**	**319000**	**330000**
39	**Total Costs**	**524350**	**540350**	**556350**	**572350**
40	**Profit**	**175650**	**259650**	**343650**	**427650**
41					
42					

Now, it was given in the problem that at 70 percent the sales are 7 lakhs, so that becomes the base. Using that, we estimate that the sales at 80 percent, 90 percent and 100 percent. So now, of course, it is very simple 70, 7 lakhs, so 80 percent is 8 lakhs. But, we have included the formula, so that it is clear to you. So, we have 70, 7 lakhs into 70 upon 70 into 80. So, we get 8 lakhs, 9 lakhs and 10 lakhs that is sales.

Now, look at the expenses, the first expense admin cost is office salaries 1 lakh, office salaries as you can see is fixed it does not change. So, here while estimating we have said office salaries 1 lakh. Anyway it will remain same at all the levels. So, there is no change, general expenses will go up general expenses it was said that it is 75000 plus 5 percent of sales. So, we have included the formula to take care of this. So, it is sales in to 5 percent plus 75000, which is fixed.

So, you can see, at 70, 80, 90 and 100, we have got 110, 115, 120 and 125. In other words, since it is at 5 percent of sales at each of this levels it is increasing by 5000. Because, sale increases by 1 lakh, so 5 percent of 1 lakh it increases by 5000. Now, third expense is depreciation fourth is rent both are fixed. So, we can directly write them here, depreciation is 9 at all the levels, rent and rates are 8350 at all the levels.

Then we make a sum, so we come to know how much are the admin costs, you can see the admin costs have 227350 and they have increased at each level gradually. Because, many of them are fixed some portion is variable. Now, on the same lines try to make for selling cost. I will just go back to the problem. So, details are given to you, variable expense include delivery boy's salaries you can see it is 6 percent of sales.

So, you can directly estimate it as a percentage of sales. Just try doing it this will be on a same line as we did for admin costs. So, first expense we have taken is delivery boy's salaries it is simply 6 percent of the sale value. So, in each column it is taken as 6 percent of right now it is B 26 and so on. Next is travelling cost, traveling cost was estimated at 2 percent of sales. So, on the same line it is estimated, sale office expenses this is semi variable. So, 90000 is fixed plus 3 percent of sales.

So, now, the formula is fit accordingly it is B 26 into three percent plus 90000 and the same has been carried over. So, you can see it is 111000 then 114, 117 and 120. So, it increases by 3000 for every increase of 1 lakh of sales. General expenses were fixed 130000. So, that carried all over then a total or a sum is calculated for selling expenses. So, now you have a budget for both admin as well as selling. Then the total is calculated, which is a total of admin plus selling.

We also have estimate of revenue. So, we have estimate of revenue and the estimate of cost, you can see that the total cost is rising as the level of activity is rising slowly. The profit is also increasing, because the sales increase at a leaner by a leaner proportion,

while some of the costs are fixed. So, cost do not increase in the same proportion you can see the profit, which was one 75650 has also increased gradually. And at 100 percent level it is as high as 427650. So, it is a huge increase in profit, which you can see.

So, here was an example of flexible budget, this is also known as profit planning. Because, based on the different level of sales here you are able to estimate different levels of profits, which are achieved at each of the levels. So, with this means stop with budgets, what we have discussed is we have seen what is a budget, what is budgetary control, we have also seen types of budgets like fixed flexible then we have functional verses master long term verses short term and so on.

Then we have done a few cases, those cases just to remind you included the calculation of a flexible budget like say production budget. Then we had also done direct labor cost budget, we had also seen raw material consumption budget. And today we have seen calculation of a flexible budget. So, we have seen cases of different types, we have also seen a special budgeting technique, which is known as zero base budgeting.

As you must be remembering it is budgeting from the scratch, where in all activities have to justify their existence every time the budget excise is done. So, overall budget is a very, very useful technique. It is used by business organizations as well as by government. It acts as a very good controlled technique where in the costs can be controlled the targets are achieved. And the corrective action is taken timely it also serves as a tool for planning.

Because, better planning is done through budgeting and it also serves as a tool for coordinating and communicating. Thus it is a very, very useful managerial tool. And I hope with this discussion you have understood it please read some more books. So, that you have more understanding or in detailed study of it. And it can be used in day to day life in government not only in government business even in your family. Now, let us go to the next technique.

Now, the next technique, which we are going to discuss, is also a very interesting technique, that is known as standard costing. I am taking it immediately, because there is a linkage between budget and standard costing. Budgets as acts as a bench mark or a target in the same manner standards also act as a bench mark or a target. And standard costing is also used as a control technique. Let us discuss in detail.

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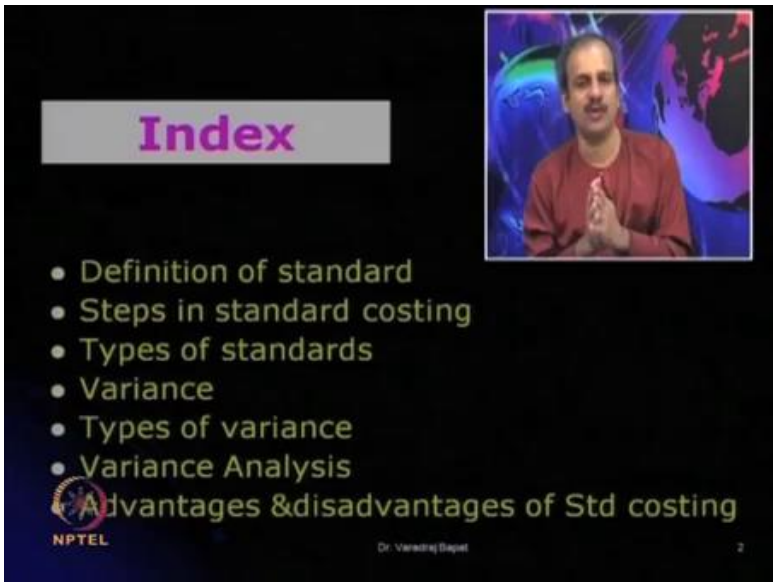

So, here in this module we are going to discuss standard costing and variance analysis. We will also do a few cases on the same. What we are going to cover here is definition of the standard, steps in standard costing, types of standard variance, types of variances, variance analysis and the advantages and disadvantages of standard costing. And also in between we will be dealing with various cases.

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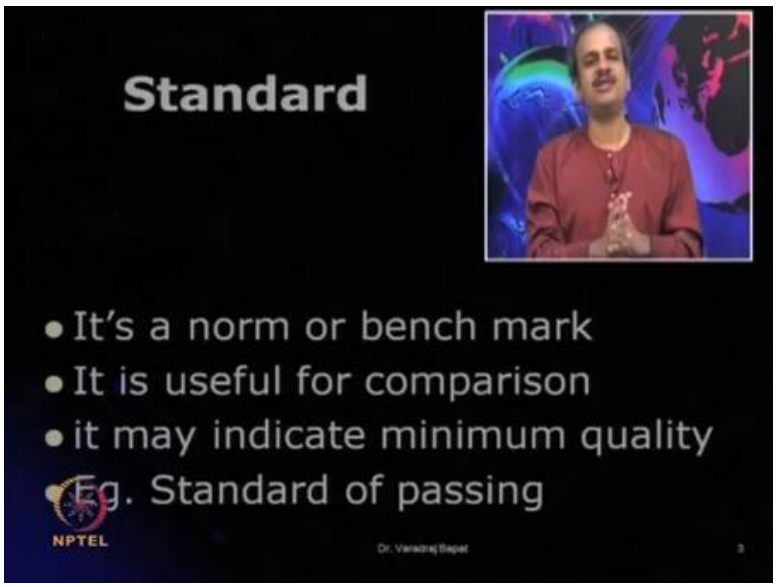

Now, let us look at what the standard is, now if you ((Refer Time: 24:15)) are say going up out on a tool. And you call up your friend and you ask him that please tells me some

of the standard hotels in that particular city. So, what do you mean by there by a standard. You say you, tell me the standard hotel. So, what do you mean by standard? So, here what we mean is a good hotel, good hotel where you can stay without any problem.

Where you get a reasonable good service, but not a luxury, if you want to go for a very top quality hotel perhaps you will ask for a luxury hotel. So, by standard we mean reasonably good and at affordable at a low cost. Standard also means certain quality level which is required, which is the minimum necessary requirement. In case of exams also we use the terms standard, we say that the minimum passing standard in 35 percent or 40 percent in some cases.

So, what does it mean why 40 percent? That means students should score at least 40 percent, so that he can be declared to be qualified in that exam. So, that is a minimum level of understanding, minimum level of achievement in the exam. So, there that is also called as a standard. So, in general now, what do you mean by standard? What do you understand by standard? It is a norm or a bench mark it is used for comparison. And it indicates minimum quality. Now, the same thing we are using, we are going to use as a mechanism for cost control.

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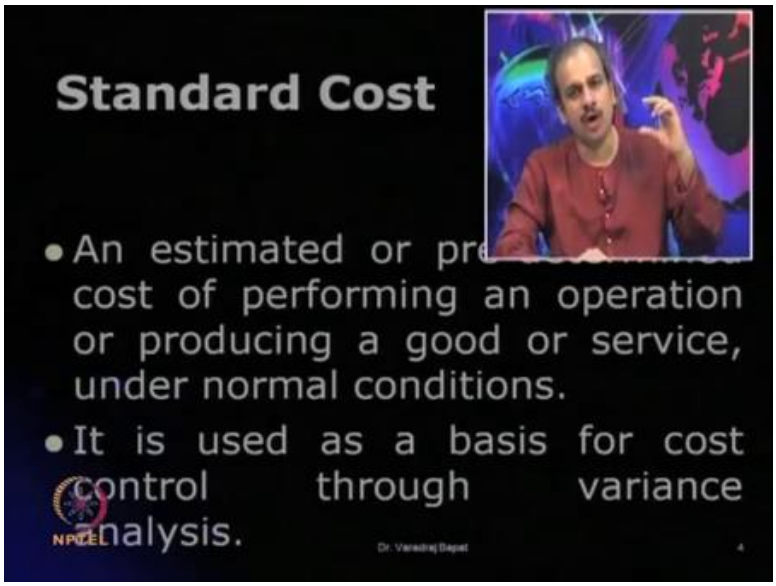

So, with the understanding of standard, we will go into discussion of what is a standard cost. As the name suggest, it is an estimated cost or sometimes it is a predetermined cost

of performing some operation or producing some goods. So, if I am making a pen, I may say that the standard cost of pen is 6 rupees, I am selling it for 10 rupees. So, whenever I make the pen in normal course, I estimate that it is produced at 6 rupees. Sometimes for a particular operation let us say, there is a refinery.

So, they will say that for refining operation the standard cost is so and so per liter of petrol. Or if you are operating a car, you may say that to drive on in city roads, where there is reasonable level of congestion you estimate that so much petrol will be consumed. So, these are all estimates of standard cost. This is used as a comparison with the actual. So, you will first take the standard and then that standard will be used for actual.

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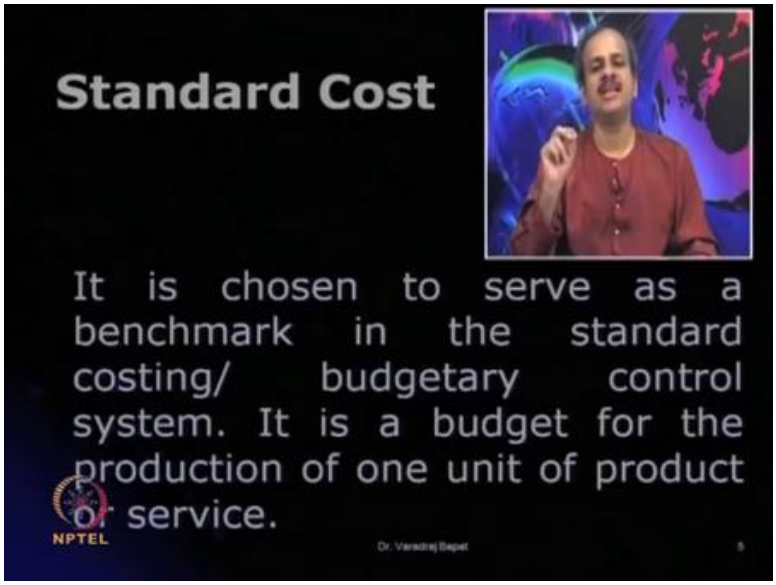

Now, this standard, which is chosen to serve as a bench mark is used in the standard costing or in the budgetary control system. It is the budget for production of one unit we have already discussed the budgeting, so in budgeting excise what you get as a budget can be used sometimes as a standard. Standard costing and budgetary control go hand in hand budgets are used as an input for standard. And those estimates again can be used sometimes as a standard.

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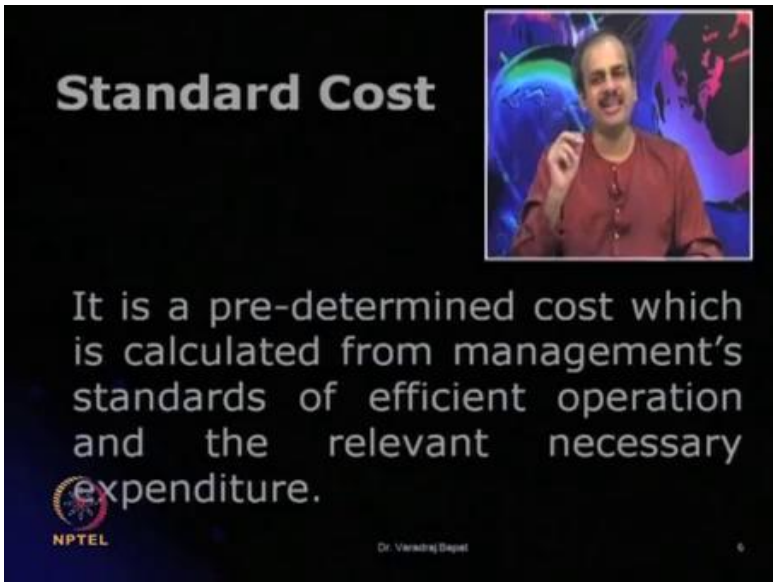

Keep in mind that standard is a predetermined cost. And it is calculated from management's desire or managements view on efficient operation for and also under relevant market conditions.

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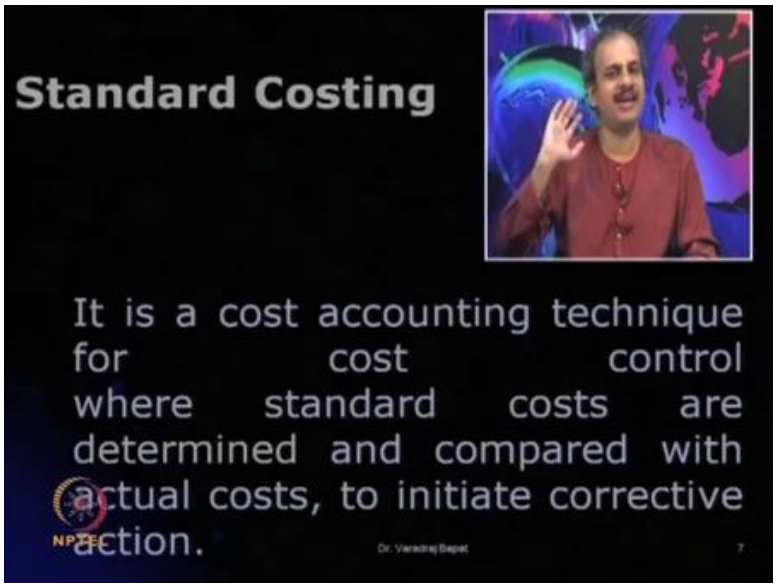

Now, let us try to understand, what is standard costing? Now, this is a cost accounting technique, which is mainly used for cost control. So, here the standard costs are determined and then they are compared with the actual costs. So, that you can initiate a corrective action, that is a main purpose of standard costing. That you can compare know

that something is going wrong and without waiting too long you can go for a corrective action. That is how you can control your cost.

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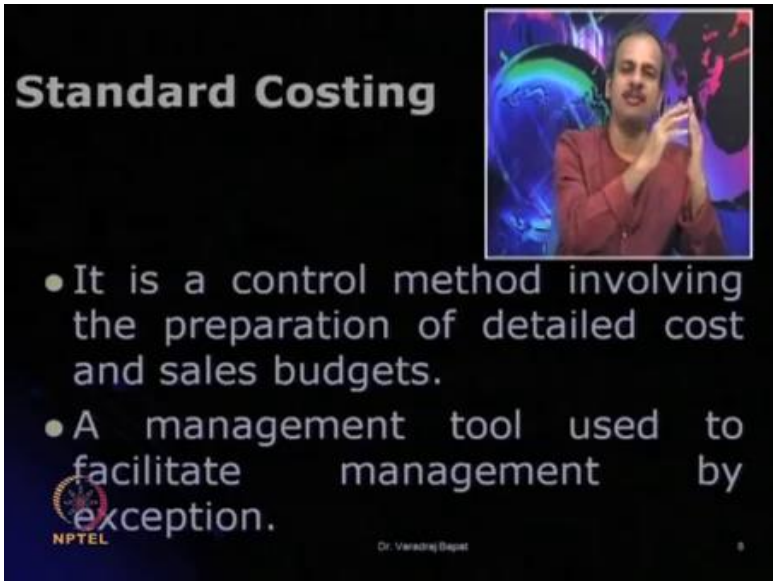

Now, this is a control method, which involves preparation of detailed cost and sales budgets. Because, those budgets are going to be used as a standard, now the management tool which is used to facilitate management by exception. I hope you know this concept of management by exception. So, if you have let us say, one thousand cost items and you have from your accounting system one thousand costs. Management cannot look at all at the costs or it may not serve much control just by reading the whole cost statement.

So, what will be done is you will have the standard for all the one thousand you will compare the actual with the standard. And wherever there is a deviation, suppose the actual costs have exceeded the standard. Management will just look at those items, because something is going wrong, something needs correction. This is use of management by exception. So, instead of looking at everything, you focus your attention on something which is going wrong, which requires your action.

Sometimes it could be a positive variance, so actual cost is less than the standard. Still management may be interested to know whether the standard was wrong. Whether the efficiency has really increased are some good practices being used and should those practices also be standardized, so that they can be used repeatedly. So, whenever something deviates from the norm from that bench mark or from the standard.

The attention of the management is attracted to it that is achieved by standard cost. So, instead of wasting time all the details, managerial time is used on what is really essential and important.

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Now, there are certain steps in standard costing, which you can show in this chart. It starts with setting up of standard cost, so lots of studies are done, samples are taken, good methods, wrong methods they are all studied. And a desirable method of doing work is found out and that is set as a standard then the actual are calculated. So, you will record the actual and the standard is compared with the actual to get what is known as variance analysis.

So, you calculate the deviations or the variances. Then look for the causes, why these deviations have happened and try to take corrective action. This is all covered in variance analysis. So, essentially these are three important steps, setting the standard, recording the actual and then analyzing the variances.

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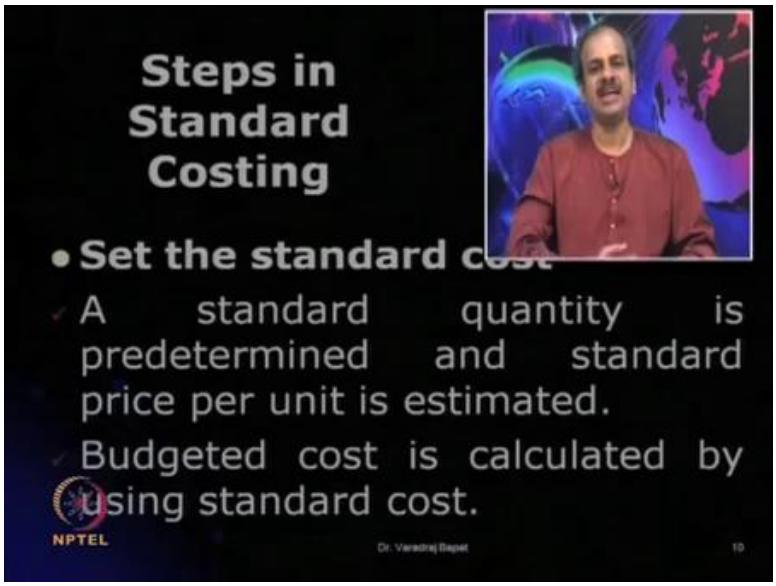

Now, the first step, setting up the standard, now in this again there are two sub steps. One is to know the standard quantity the second is to arrive at the standard cost or standard price per unit. Now, in calculating the standard quantity, we will look at what is the efficient methodology. How much units of material or time are required to do some work, if the work is done really efficiently, so that a standard quantity is calculated. At the same time looking at the market conditions our relation with suppliers.

We try to find out at what price a particular raw material can be purchased or how much rate is to be paid to workers and so on. So, both the quantity and price is determined and using that the standard cost can be set.

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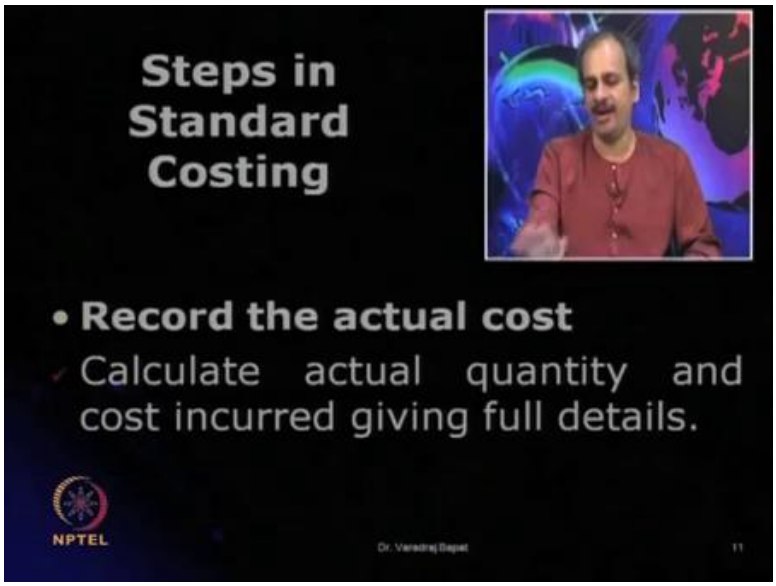

And it is recorded with proper details, so that, that can be compared.

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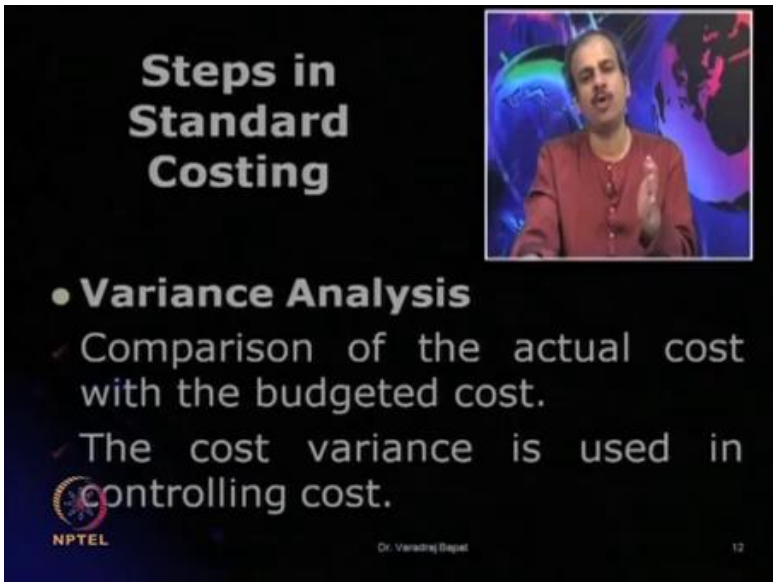

The third and very important step is variance analysis. In variance analysis first of course, the variance is calculated by comparing actual with the budgeted cost or actual with the standard cost. Now, the cost variance is used for controlling, as we have discussed it at as management by exception. So, we know where the attention is to be focused, where we are going away from standard.

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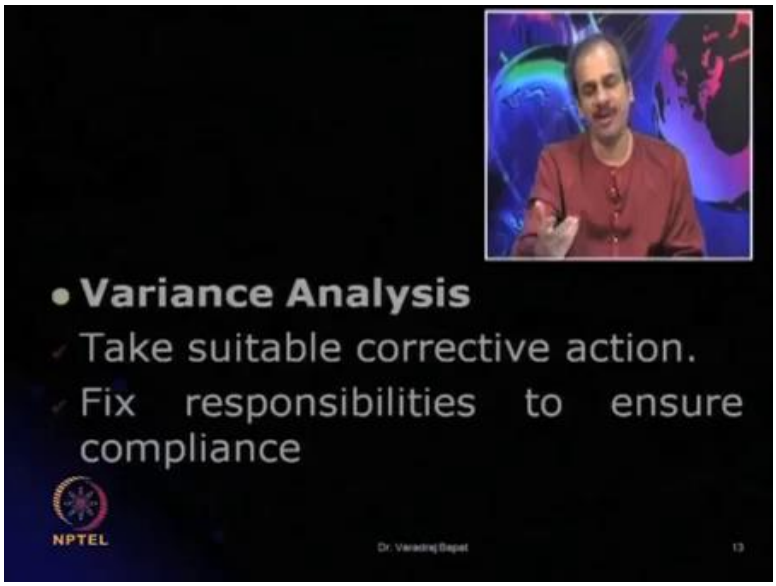

Where we are going away from the standard suitable corrective action can be taken then the responsibility can be fixed. So, we will not just say that the material cost has increased. We will see, whether the quantity has exceeded, if yes then are there any production inefficiencies, whether the losses have increased. Or if it is not the quantity if the prices have increased then we will see whether the market conditions where wrong or whether the purchase department is at fault, whether they have purchased at higher prices. So, at one side corrective action is taken and along with that responsibilities fixed. To ensure that there is a compliance with the standard deviations are not repeated.

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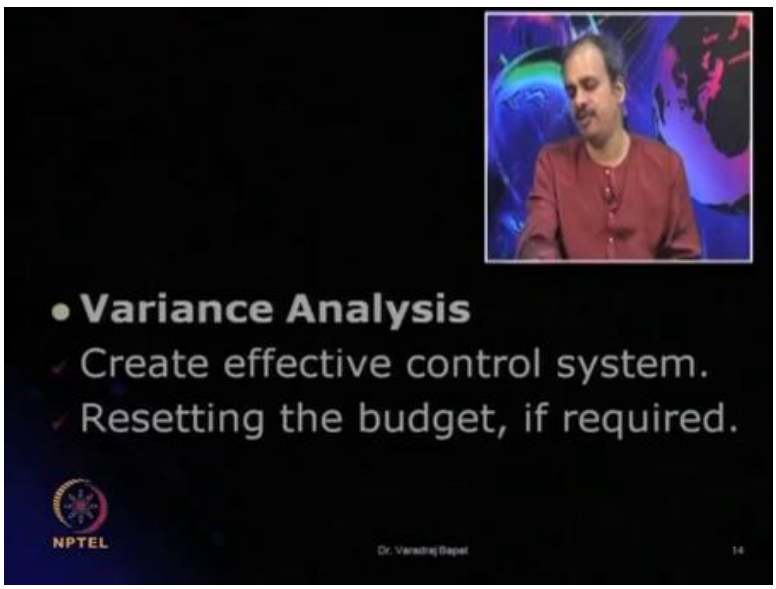

Next is create proper control system. So, once the responsibilities are fixed, we know that manager should check what how the control will be maintained. And there has to be a proper system, so that no deviation is tolerated and if it happens it is corrected very fast. Next is resetting the budget if necessary. So, if there is a deviation and that deviation is because of change in the market condition or change in the technology and so on. And then we will reset the budget or the standard as the case move.

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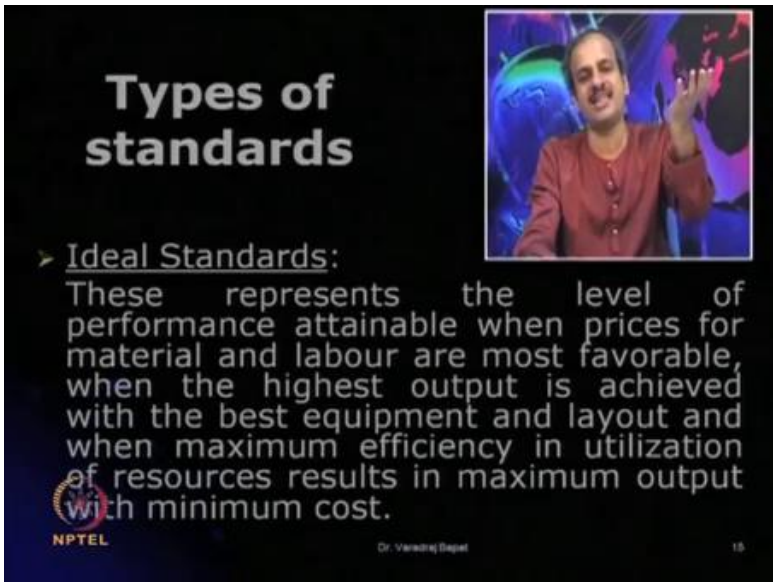

Now, let us look at the types of standard. One standard is known as idle standard this represents the level of performance attainable, when the prices for material and labour are in the most favorable. That is why it is called as a idle standard. It is difficult to achieve, but this is something like achieving 90 percent or 100 percent of marks. So, this serves as a quantum goal, if management really wants to enhance their standards.

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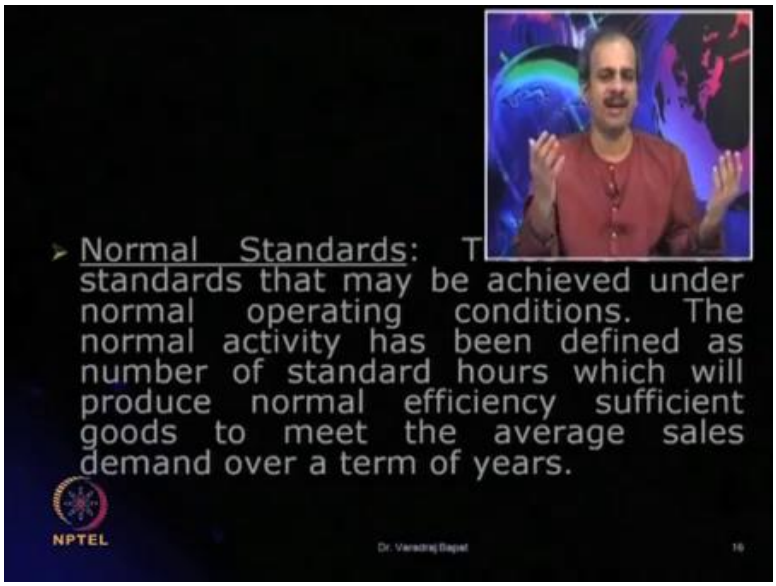

Then you can have normal standards. So, these are something which are achieved in the normal course of operation. So, how many hours if there is a normal efficiency how many units are consumed, if machines operate in normally good manner that is a normal standard.

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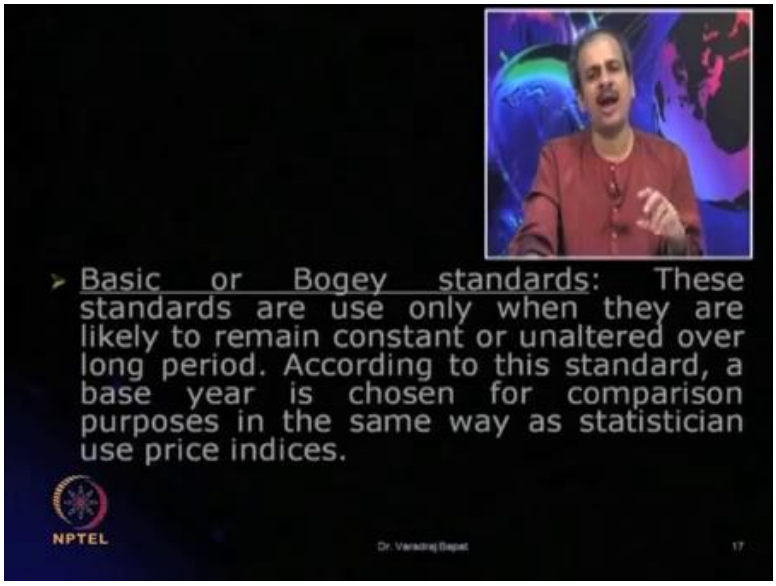

Then you have very basic or very bogy standards. So, these are used only when something is likely to be constant or unaltered. So, here the base year is chosen and that

base year figures are calculated for subsequent years, if required only the price indexes are used to adjust those figures.

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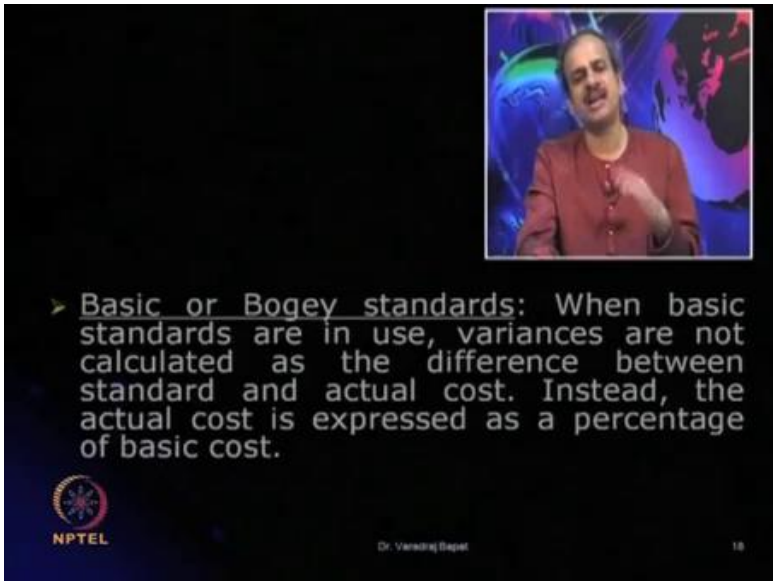

When basic standards are used, then we do not look at variances as standard minus actual. But, the actual cost is expressed as a percentage of basic cost. So, basic cost is used as a standard and then the actual are compared with that.

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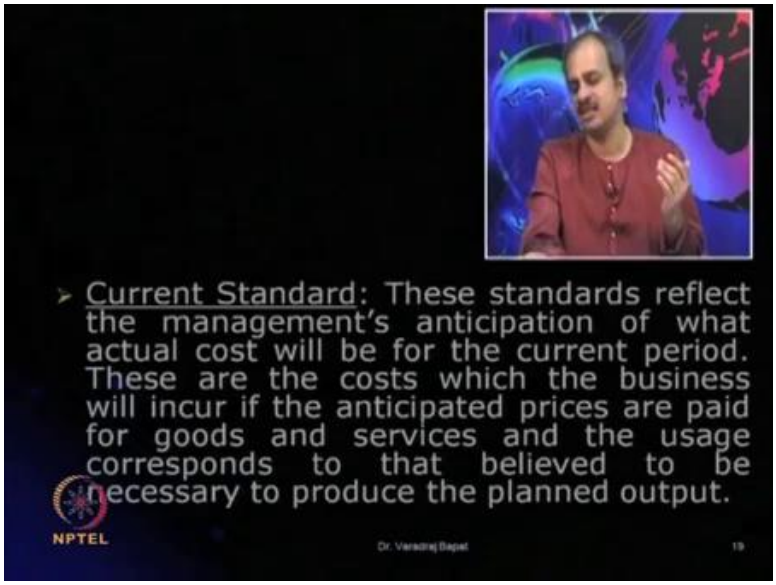

We can also current standards, this standard reflect the managements anticipation of what actual cost will be for the current period. So, we will look at the current market trends and based on that a current standard is produced.

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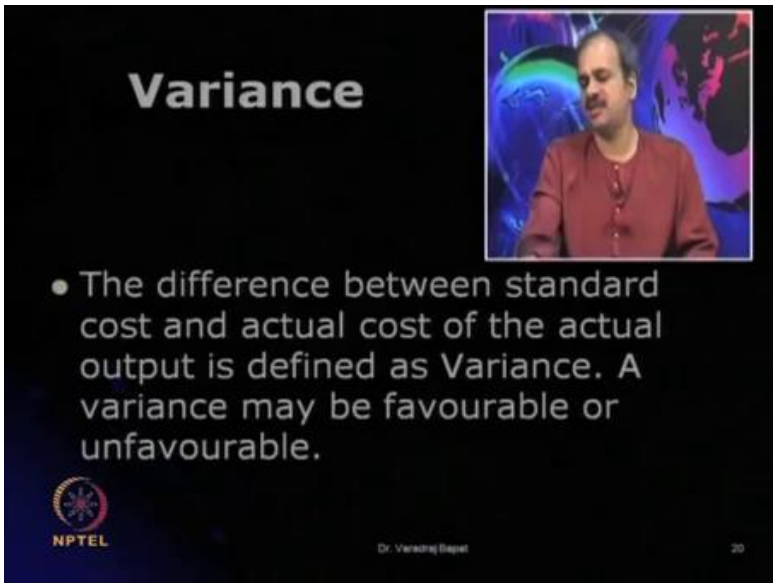

Now, let us look at what is mean by the variance. As the name suggests it is a difference, it is a deviation between standard and actual. And it may be favorable or unfavorable. So, when we are discussing with the standards.

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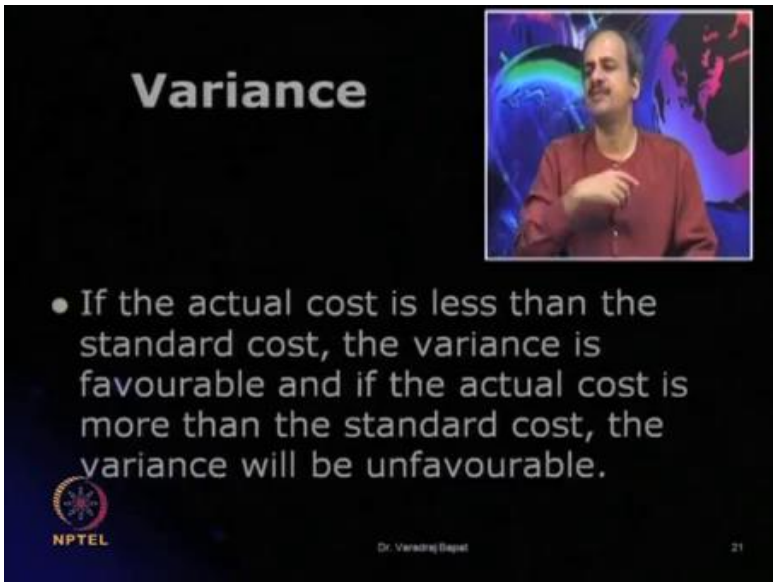

We know that, we are talking of cost. So, if actual cost is more than the standard then it is not favorable. So, we estimate that the cost is should be 10 rupees that is our standard, but actual is 12, so it is unfavorable. But, when the estimated cost or standard cost was 10, actual is let us, say 9. We have saved 1 rupee, so it is favorable. So, we can have favorable as well as unfavorable variances.

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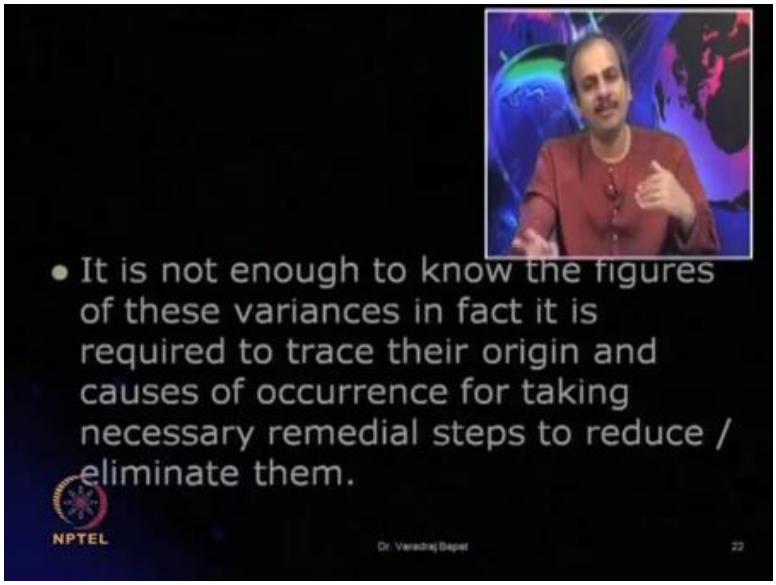

Now, just to calculate that figure of favorable and unfavorable is not enough. We would like to know the causes. So, we will look at why there is a difference of 1 rupee, is it because of quantity or price has any accident happened is the raw material of low quality or whether the market trends have changed and so on. So, we look at their origin then we look at cause, so that the remedial action can be taken to eliminate the variances.

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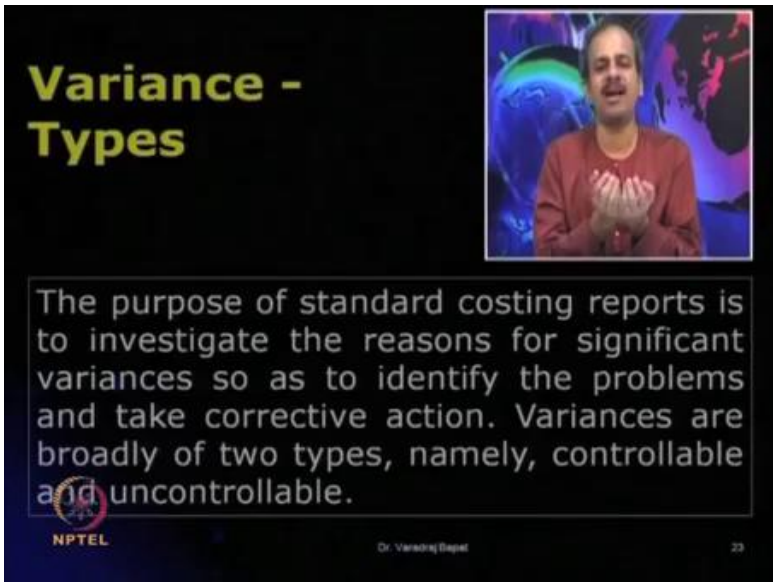

Now, according to causes, you can have various types of variances. But, one basic time is controllable and uncontrollable. Usually, what can be controlled at a level of that departmental head is called as a controllable cost.

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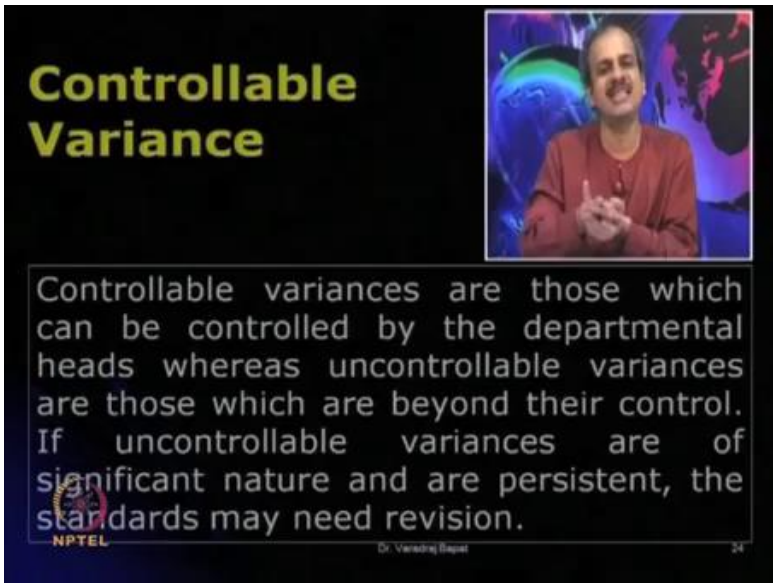

So, that you can hold the person responsible and what is beyond the control of the departmental head. May be it is under the control of the management or it is because of market trends, it is because of some unfortunate unknown happenings, all this will be uncontrollable. So, to help better fixing of responsibilities out of the variances we look at

what is controllable, so that the responsibility can be fixed on the departmental head. What is not controllable we will try to look at who is responsible or whether the standard itself needs to be changed.

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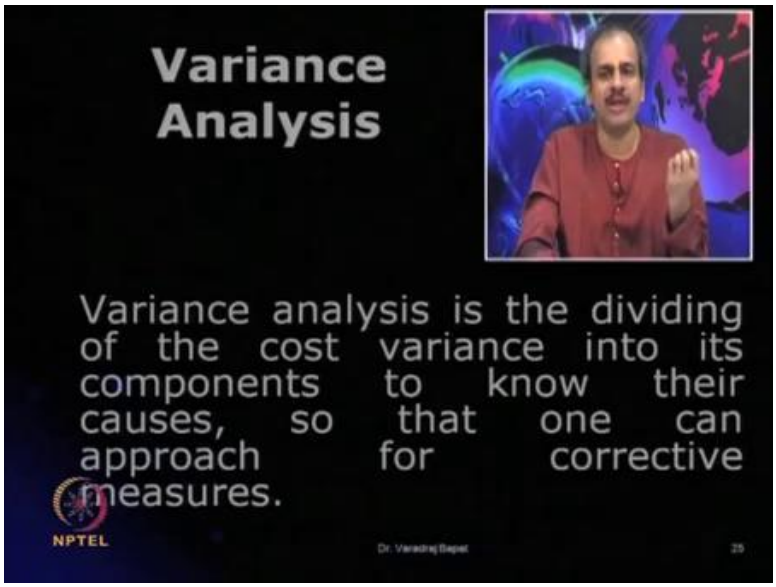

Now, variance analysis means that the total cost of variances divided into components. Because, we are trying to identify the causes, so we try to look how much is because of quantity, how much is because of prices, how much is because of accidents and so on. So, the total cost variances divided into components. And we would like to take the corrective majors according to that part of variances.

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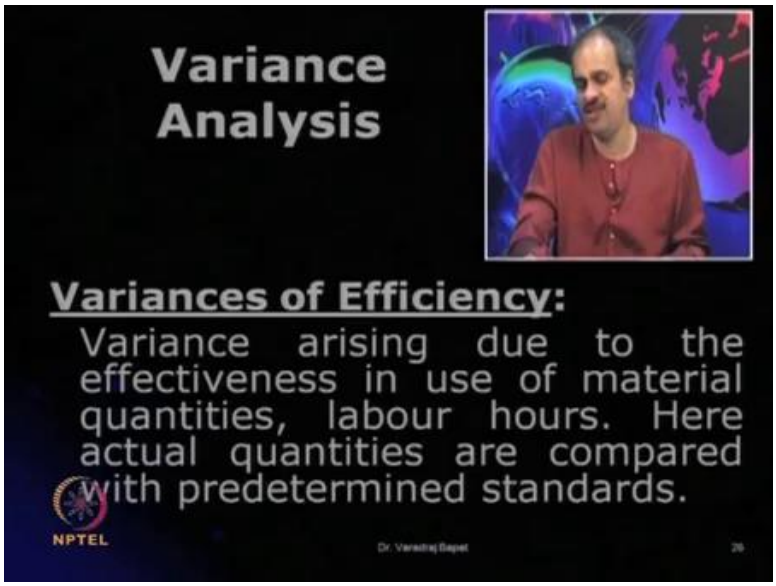

Now, the broad components, the fist could be variance of efficiency. Now, the variance which arises due to effectiveness in use of material quantities or labor hours is called as are called as variances of efficiency. So, here will look at the quantity which should have been consumed and quantity which has actually been consumed, so that we can compare the efficiency.

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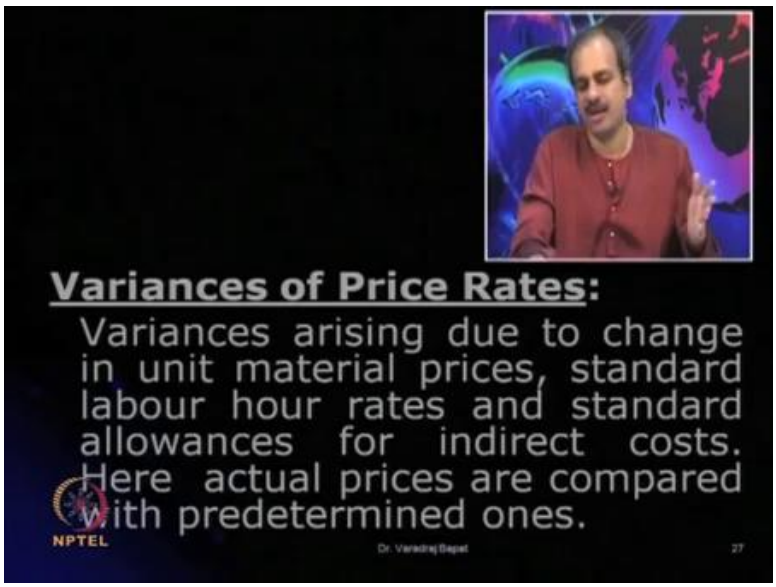

The second is variances of price rates, so we look at what was estimated budgeted or standard prices for material and what is the actual price? Then that is the variance of price same way it can be done by labor rates, electricity rates and so on.

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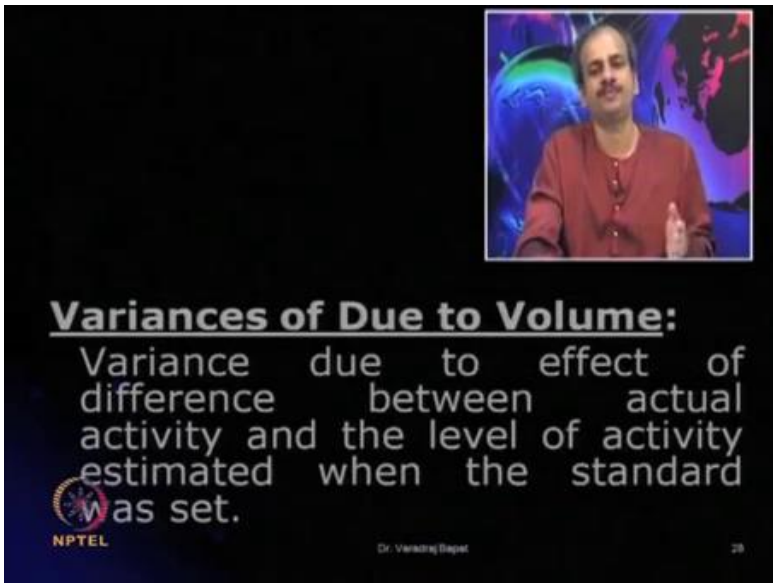

The third is variances due to volume, what happens is when the level of activity changes, fix cost remains same they do not change. So, naturally that also causes some variance. Because, if you are absorbing the cost as per unit basis, when the number of units increase you absorb more cost. If number of unit decrease, you absorb less cost. That also causes the variance that is called as variances due to volume. So, broadly these three can be the causes efficiency, rates and volume.

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Now, going by the elements, the variances can be calculated as material variances, labor variances, overhead variances and sales variances. We would look at the cases of each of them I hope you know these items now material, labor, overheads and sales. So, variances will be broadly divided on this and within that, within material we will divide then on efficiency price and so on.

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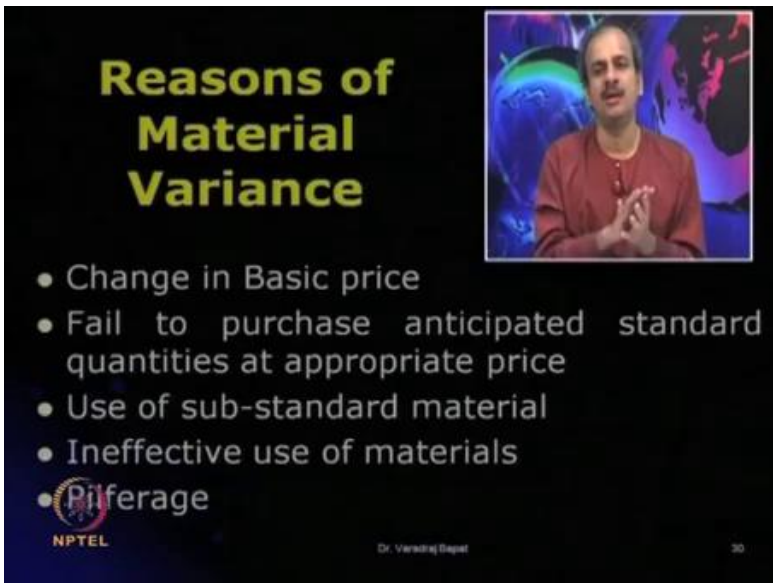

Now, let us look more in detail at material variances. Now, why are the material variances cause? One is could be changes in basic price, failed to purchase the material,

the standard quantity at appropriate prices. So, if you do not time your purchase well, the market price might have changed. Then on quantity side, it is sub-standard material is purchased, the consumption increases the losses increase, so that can be a cause.

Sometimes ineffective use is done, sometime there is a pilferage. So, the last three that is sub-standard material ineffective use and pilferage are basically the quantity related issues. Changes in the prices or changes in the anticipated standard quantities become the price causes.

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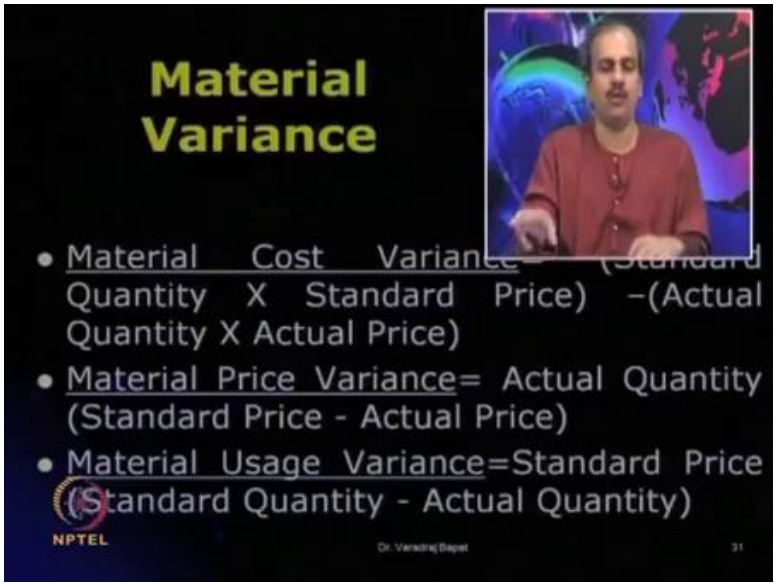

Now, let us look at how to actually calculate the variances, the total variance. That is material cost variance is a difference between the total estimated are the standard price verses the actual price. So, it is the standard quantity into standard price minus actual quantity into actual price. Now, this total cost variance you would like to divide into the price related causes and usage related causes.

Now, on price related, so as the name suggests we compare the prices, we compare the standard price with the actual price and that difference is multiplied by the quantity which is purchased, that is the actual quantity. So, material piece variance is actual quantity into standard price minus actual price. The second part of the cost variance is usage or the quantity related variance.

So, in material usage variance we essentially compare standard quantity with the actual quantity on the unit's basis and then it is multiplied by standard price per unit. We will do cases, so that it is more clear to you, before going to labor variances.

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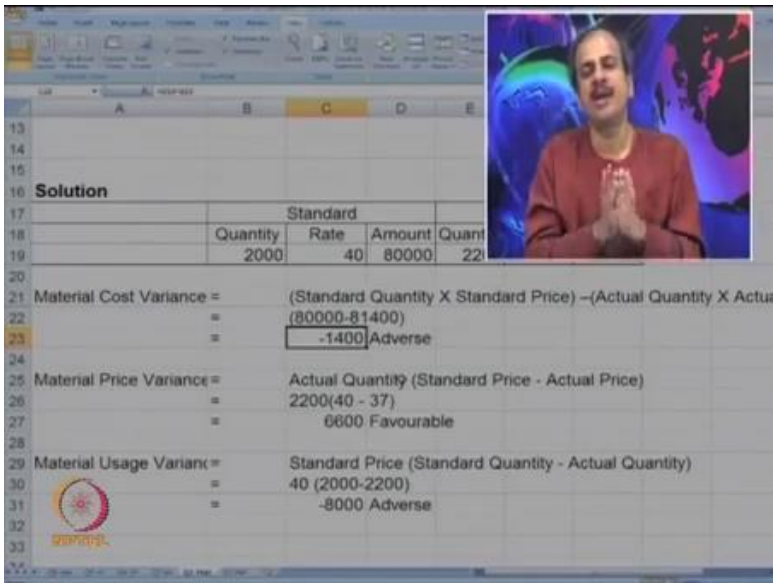

Let us, try to look at a very simple case on materials that will I think through a better light on what we are discussing. So now, the case says that calculate material price variances from the following figures to produce product P 200 units following material is consumed. As per the standards it is 2000 and the price is 40, actual quantity is 2200 and the price at actual is 37. This rarely happens that the actual price is less than the standard, but in this case it has happened.

So, standard price was 40, actual price is less than that 37, so you have saved 3 rupees. But, if you look at quantities, you should have consumed 2000 you have actually consumed 2200. So, there is more consumption, there is more cost. Now, using this data please try to calculate the material cost related variance, how will you calculate? Just think over and just push down the solution. So now, the first step will be to make a table. In this table, we are comparing standard and actual material cost.

So, you can see quantity into rate is amount. So, for standard it is 2000 quantity at a rate of 40, so we add to have spent 80000 to make 200 units. Actually, we have used 2200 units of raw material at 37 rupees. So, we have incurred a cost of 81400. So, you can see instead of spending 80000, you have ended up spending little more 81400. So, these

difference 80 verses 81400, 1400 is a variance, this is a material cost variance. Now, is it favorable or is it unfavorable.

We must have spent 80 we have spent 81400, is it favorable it is unfavorable? Definitely, it is not good it is unfavorable. So, it will be marked as an unfavorable variance, you can look at the formula now. So, material cost variance is standard quantity into standard price minus actual quantity into actual price. So, 80000 into 81400, we have already done that multiplication.

So, it is 1400 adverse or it can be called as minus 1400. Now, we know that something went wrong, so the cost increased by 1400. But, we would like to know the detailed causes, either it could be because of the quantity or it could be because of price. Now, how to break it out? So, can you now tell me that we have spent 1400 more is fine. But, how much as of it is, because of more units consumed and how much saved because of saving in the price.

So, first let us, look at price part of it, which is known as material price variance. The formula is actual quantity into bracket standard price minus actual price. So, within the bracket let us compare the prices 40 minus 37. So, 3 rupees per unit are saved, they are saved on the actual quantity of 2200. So, 2200 into 3, 6600 it is a positive figure, plus 6600 it is a favorable variance. We have not spent more we have saved. So, the price variance is 6600 favorable.

Now, how much is a quantity variance, we know that quantity consumed has exceeded by 200 units, that is a quantity variance. Let us look at the formula. So, material usage variance it is standard price into bracket standard quantity minus actual quantity. So, it is 2000 minus 2200 in bracket multiplied by 40, which is the standard rate. We will not use the actual rate which is 37. We must have purchased at 40, so we will multiplied by 40. You can see that the variance is minus 8000 or you can call it as 8000 adverse.

So, this minus 8000 plus 6600 is a break up of minus 1400, which is a material cost variance. So, we will stop here in today's session initially we discussed about budget, what the budget is, what is budgetary control we have also discussed about zero base budget. Then we have started with an interesting technique, which is known as standard costing. In standard costing we are going to set the standards then record the actuals compare the actual with standard, which is known as variance.

And then analyze why the variance happens. We have also looked at the types of standards and now we are doing a case on actual analysis of variances. So, we were looking at why the material cost has increased? The reasons are either the price related or the quantity related then we are breaking down the cost variance into it is causes, so that the corrective action is taken. This is a very good technique, which is mainly used for cost control. Thank you, so much in the next session we will do a little more discussion on standard costing. And we will also try to solve more cases on standard costing.

Thank you.