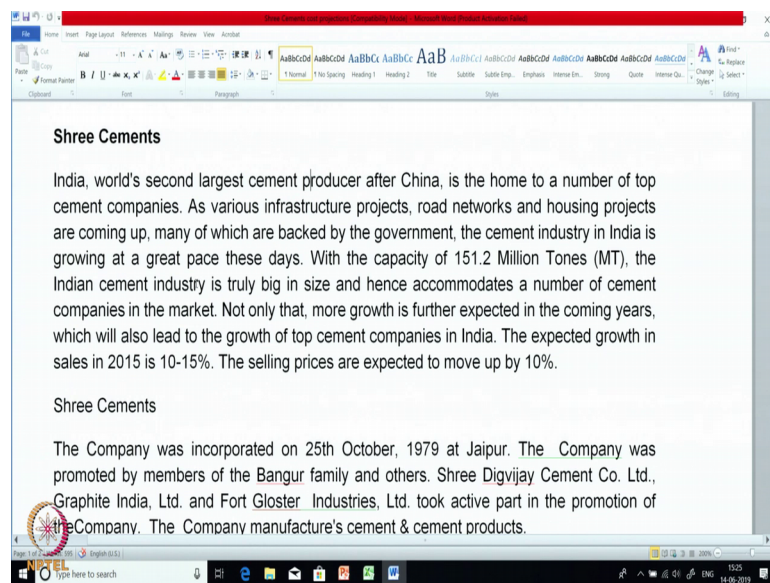


Cost Accounting
Prof. Varadraj Bapat
School of Management
Indian Institute of Technology, Bombay

Lecture - 14
Case Study: Shree Cements

[FL] In last few sessions we are discussing cases on projections; where the knowledge of marginal costing can be used for projecting the data for the next year. Today we are going to continue with a similar type of case, where last years information is given and you will have to use the data available for projection and we will have to also help management in taking a small decision. I hope you have got the printout please read the case carefully.

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The data or the information is not given just in the end it is given somewhere in between. So, it is very important that you read it carefully and underline that point which is important.

There may be lot of data which is irrelevant but there will be some important data which is very very important. So, just underline that particular part, I will go ahead I will not read every line, but you can read with me. So, India world's second largest cement producer after China is a home to number of top cement companies. As various infrastructural projects, roads networks etcetera are coming up, road networks housing

projects are coming up, many backed by government there is a possibility of more sales and so on; not only that more growth is further expected in coming years, which will also lead to growth of the top cement companies in India. The expected growth rate in sales in 2015 is 10-15 percent remember the data given is 2014's data.

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| Expenses- break up | |
|--------------------|----|
| Selling Expenses | 80 |
| Admin Expenses | 20 |

| Shree Cements | |
|---------------------------|--------------|
| Profit & Loss account Crs | |
| '14 | |
| Income | |
| Sales Turnover | 5,887 |
| Other Income | 104 |
| Total Income | 6,008 |
| Expenditure | |
| Raw Materials | 954 |
| Power & Fuel Cost | 1379 |
| Employee Cost | 395 |

Now, we are required to make projection for 2015 you can read the last part if you want using the information given kindly make projections, both optimistic and pessimistic for year ended March 2015.

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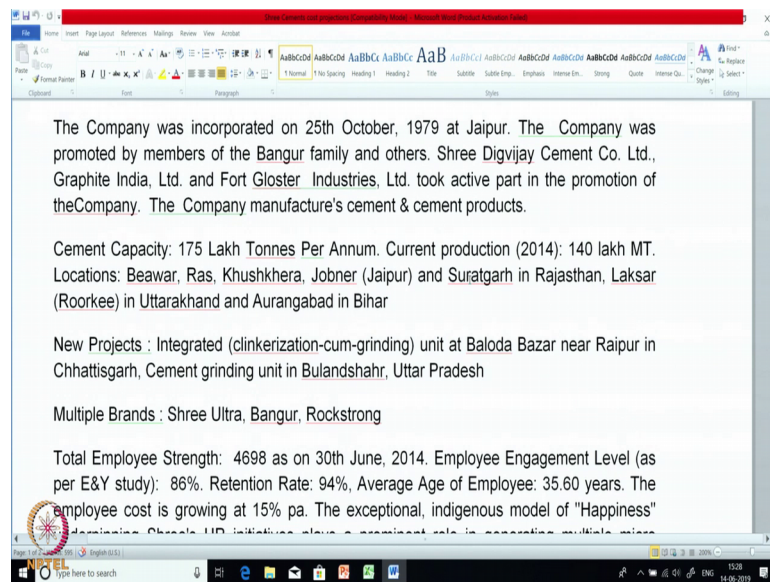
Using the information given kindly make projections (both optimist and pessimist) for year-ended March 2015. Also compute cost per unit. Advice on normal and concessional selling prices, if management desires a margin of 20% on Cost of Sales..

| Cost structure | |
|-----------------|----|
| Variable cost % | |
| Raw Materials | 90 |

Also compute cost per unit advice on the normal and concessional price, if management desires a margin of 20 percent on cost of sales ok. So, basically you have to make projection for year ended March 15, this is based on actual information. So, I have not change any year. So, you will observe that in this para most of the earlier information is just for the sake of information, but the last two lines are very important.

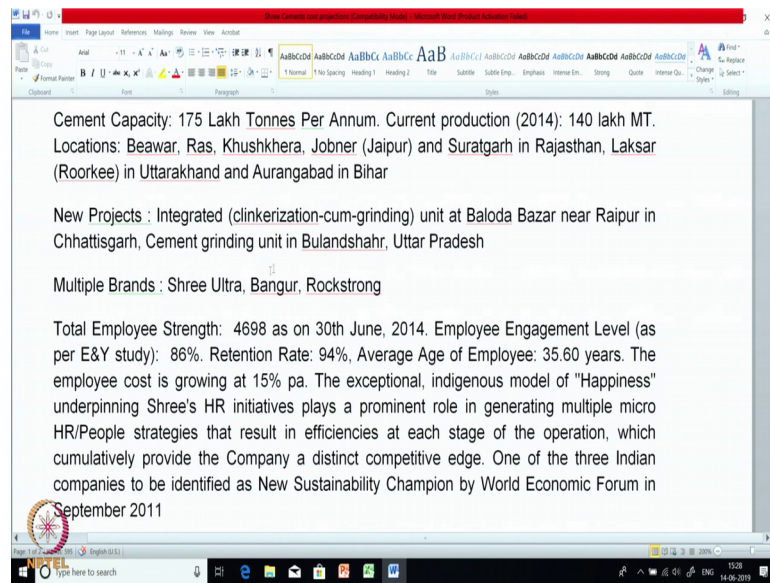
Please underline those lines. What is given the expected growth rate in sales is 10 or 15 somewhere between 10 and 15, they have asked us to make pessimistic and optimistic calculation. So, pessimistic calculation is 10 optimistic calculation is 15 please underline this 10 and 15 percent, now the selling prices are also expected to go up by 10 percent. Again very important information so, underlying this 10 percent like that go on reading.

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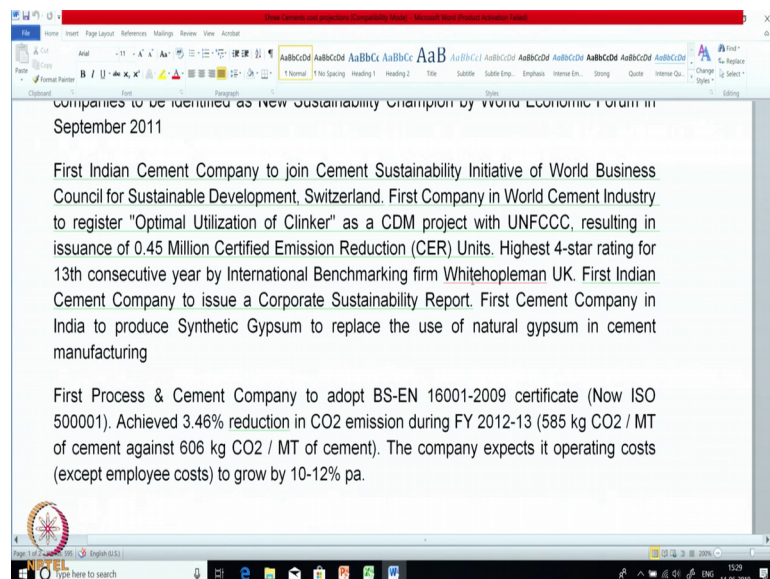
Wherever you find there is some information which is useful for projection you will have to underline it. Now company was incorporated in 1979 in Jaipur promoted by Bangur family and some information is given about cement capacity locations, new projects, multiple brands.

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Total employee strength is 4698, here there is a small line. The employee cost is growing at 15 percent very important you will have to underline it, I hope you are able to identify it yourself. The exceptional indigenous model of happiness underpinning Shree's HR initiative plays a pivotal role etcetera they are very much a company following Indian ethical principles.

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So, go on reading it and mark some information which is going to help us for projection. Here if you see carefully, it says the company expects its operating costs to grow by 10 to 12 percent except employee costs.

Because it is already given that employee costs are increasing at 15 percent; because they are giving little liberal in giving increase of pay, but for other expenses they are increasing in the range of 10 to 12 percent. So, please note it. Yes this was a last para now given the using this information we will have to make projection for 15 both optimistic and pessimistic. So, please make two columns and advice on normal cement prices and concessional prices, if management desires a margin of 20 percent on cost of sales.

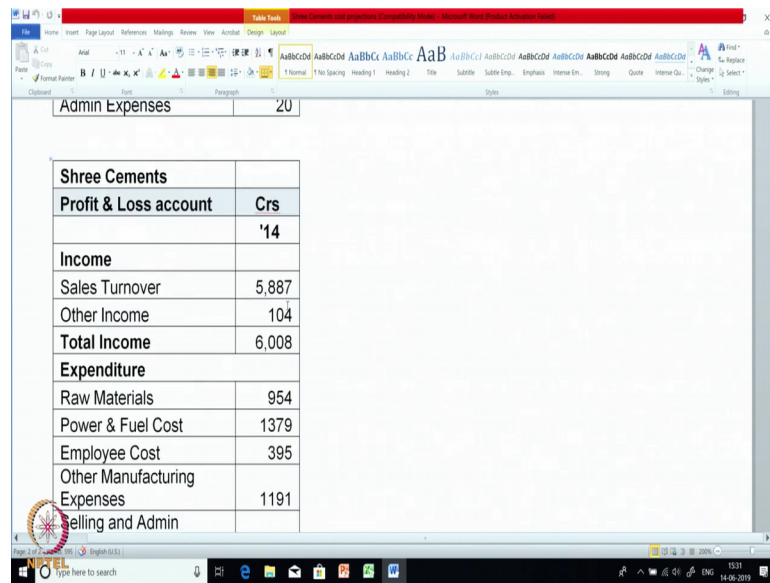
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prices, if management desires a margin of 20% on Cost of Sales..

| | |
|---|----|
| Cost structure | |
| Variable cost % | |
| Raw Materials | 90 |
| Power & Fuel Cost | 80 |
| Employee Cost | 70 |
| Selling Expenses | 60 |
| Admin Expenses | 10 |
| | |
| Selling and Admin Expenses- break up | |
| Selling Expenses | 80 |
| Admin Expenses | 20 |

Then a table is given about variability percentages, now cost structure variable cost. So, raw material 90 percent, power and fuel 80 percent and so on, the breakup of selling an admin is also given because there is a total cost which is given 80 percent is selling 20 percent is admin.

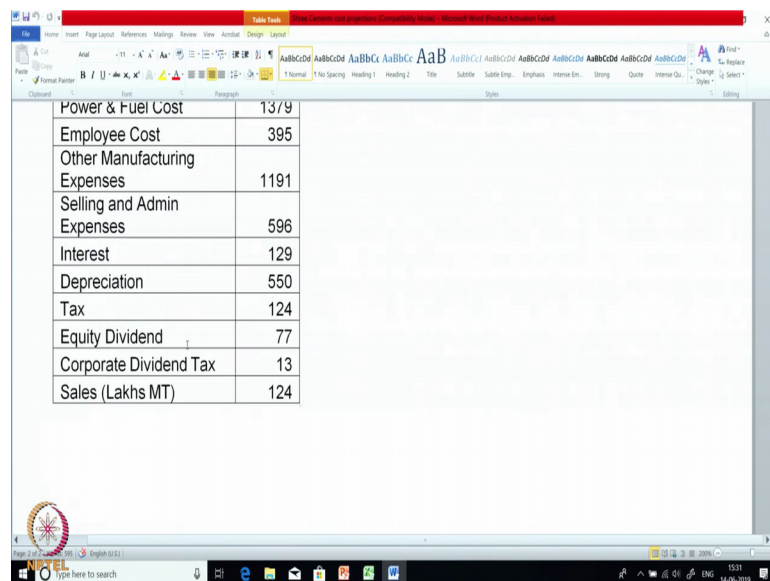
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| Admin Expenses | | 20 |
|--------------------------------------|--|--------------|
| Shree Cements | | |
| Profit & Loss account Crs | | |
| '14 | | |
| Income | | |
| Sales Turnover | | 5,887 |
| Other Income | | 104 |
| Total Income | | 6,008 |
| Expenditure | | |
| Raw Materials | | 954 |
| Power & Fuel Cost | | 1379 |
| Employee Cost | | 395 |
| Other Manufacturing Expenses | | 1191 |
| Selling and Admin | | |

Then P and L account for March 14 is given ok.

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| | |
|------------------------------|------|
| Power & Fuel Cost | 1379 |
| Employee Cost | 395 |
| Other Manufacturing Expenses | 1191 |
| Selling and Admin Expenses | 596 |
| Interest | 129 |
| Depreciation | 550 |
| Tax | 124 |
| Equity Dividend | 77 |
| Corporate Dividend Tax | 13 |
| Sales (Lakhs MT) | 124 |

So, all other items are directly given, but selling and admin are given together, they should be broken in this ratio 80 20 and rest of the data is useful, the last line also tells you about sales in lakhs of metric tons ok. Now take up this P and L account of last year, it is not a full P and L information is given about the profit and loss, from that compute the profit of last year that is March 14, then make two columns or 15.

One for optimistic one for pessimistic and apply all the information which is given about changes in the cost structure variability and so, on and make the projections for March 15 ok. So, are you ready.

(Refer Slide Time: 08:19)

| | | 2014 | 2015 | 2015 |
|---------------|------|--------|----------|-----------|
| | | | optimist | pessimist |
| RM | 954 | | | |
| Variable | | 858.6 | 1086.1 | 1057.8 |
| Fixed | | 95.4 | 104.94 | 106.85 |
| Power n Fuel | 1379 | | | |
| Variable | | 1103.2 | | |
| Fixed | | 275.8 | | |
| Employee Cost | 395 | | | |
| Variable | | 276.5 | | |
| Fixed | | 118.5 | | |

Please do it with me, but just to save time, I have made the format ready for you. So, this is the data for 2014 as is given the raw data like RM cost is 494, I think you remember that we need to break down the operating expenses into variable and fixed. So, break them down this breakup will be helpful for making projections ok.

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| | | | | |
|------------------|------|--------|--------|--------|
| Employee Cost | 395 | | | |
| Variable | | 276.5 | 365.67 | 349.77 |
| Fixed | | 118.5 | 136.28 | 136.28 |
| Other Manu. Esps | 1191 | 1191 | 1310.1 | 1333.9 |
| S and D | 596 | | | |
| Variable | | 286.08 | 361.89 | 352.45 |
| Fixed | | 190.72 | 209.79 | 213.61 |
| Admn | | | | |
| Variable | | 11.92 | | |
| Fixed | | 107.28 | | |
| Depr | | 550 | | |

So, all these five costs you will break down.

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| | A | B | C | D | E | F |
|---------------------|---|------|--------|--------|--------|---|
| 13 Other Manu. Esps | | 1191 | 1191 | 1310.1 | 1333.9 | |
| 14 S and D | | 596 | | | | |
| 15 Variable | | | 286.08 | 361.89 | 352.45 | |
| 16 Fixed | | | 190.72 | 209.79 | 213.61 | |
| 17 Admn | | | | | | |
| 18 Variable | | | 11.92 | 15.079 | 14.685 | |
| 19 Fixed | | | 107.28 | 118.01 | 120.15 | |
| 20 Depr | | | 550 | 550 | 550 | |
| 21 | | | | | | |
| 22 Cost of Sales | | | 5065 | | | |
| 23 | | | | | | |
| 24 Sales | | | 5887 | | | |

Then you will also take depreciation, then get costs of sales comparative sales you will get operating profit then other income interest etcetera and afterwards try to project for 2015 ok.

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| | A | B | C | D | E | F |
|-----------------------------|---|---|--------|--------|--------|---------------|
| 28 Other income | | | 104 | 104 | 104 | |
| 29 PBIT | | | 926 | 1594.2 | 1323.7 | |
| 30 Interest | | | 129 | 129 | 129 | |
| 31 PBT | | | 797 | 1465.2 | 1194.7 | |
| 32 Less: Tax | | | 124 | 227.97 | 185.88 | 0.1556 0.1556 |
| 33 PAT | | | 673 | 1237.3 | 1008.8 | |
| 34 Less: Eq Div and Div Tax | | | 90 | 90 | 90 | |
| 35 Ret. Earning | | | 583 | 1147.3 | 918.85 | |
| 36 Sales (Lakh MT) | | | 124 | | | |
| 37 Cost per unit (per MT) | | | 4084.7 | | | |
| 38 | | | | | | |
| 39 SP Normal | | | 4901.6 | | | |

Are you with me? Let us try to look at solution one by one. So, now, variable component of RM you know that as per the given information 90 percent was variable this is the last years RM cost. So, we have multiplied by 90 percent which comes to 858.6 remember

right now no projection, this is just last years data. Now this data will be useful for making projections. Now, fixed cost 954 into 10 percent because variable costs sorry raw material is 90 percent variable and 10 percent fixed, are you getting. Same way do for each component, you can go to this sheet you will find this percentage of variability for RM it is 90 percent, power it is 80 employee it is 70 and so on.

So, variable power cost 1103.2, variable fixed cost to 275.8, employee cost variable 276, fixed 118, other manufacturing expenses it is not given here percentage of variability selling we can just go down, this is other manufacturing expense. So, we have assumed it to be constant because you will observe that most of the variable items are already over like raw material, power. So, this is more likely to be a fixed cost.

So, we have just taken it as it is now the selling; for selling you have to do two things you will observe that selling and admin cost is given together 596 and they have given breakup of 80 percent for selling and 20 percent for admin. So, first take 80 percent of 596 as the selling cost and then on that apply the percentage of variability which is 60 percent for selling expenses ok.

So, 596 is the selling cost into 0.8 into 0.6, fixed into 0.8 into 0.4. For admin cost, the admin cost is only 20 percent; so, 596 into 0.2 into 0.1 and fixed portion is into 0.2 into 0.9. This 596 was total S and D plus admin, which we have broken into four parts depreciation will be unchanged. So, you can see here the depreciation cost was 550, now all the data is available with you, you can calculate the total which is the cost of sales right.

So, I am getting 5065 please check whether you are getting of course, the total any way you could have done before also without breaking it up. But breakup is helpful for projection purposes. Now the sales it is directly given 5887 so, you get operating profit as 822 other income 104. So, PBIT is 926, charge interest on it which is 129 so, profit before tax is 797, I think in this sheet they had not given profit before tax.

(Refer Slide Time: 15:13)

| | A | B | C | D | E | F | G | H | I |
|----|--------------------------|---|--------|--------|--------|---|---|---|---|
| 34 | Less: Eq Div and Div Tax | | 90 | 90 | 90 | | | | |
| 35 | Ret. Earning | | 583 | 1147.3 | 918.85 | | | | |
| 36 | Sales (Lakh MT) | | 124 | 142.6 | 136.4 | | | | |
| 37 | Cost per unit (per MT) | | 4084.7 | 4177.3 | 4328.1 | | | | |
| 38 | | | | | | | | | |
| 39 | SP Normal | | 4901.6 | 5012.7 | 5193.7 | | | | |
| 40 | | | | | | | | | |
| 41 | SP concessional | | | | | | | | |
| 42 | Variable Cost of sales | | 2536.3 | | | | | | |
| 43 | Sales (Lakh MT) | | 124 | | | | | | |
| 44 | V Cost per unit (per MT) | | 2045.4 | | | | | | |
| 45 | | | | | | | | | |

So, up to the depreciation all items are given from that we have to calculate this figure of PBT, are you getting the same figure like me; we check it out do it with myself. Now on these the tax will be charged, the amount is given to you it is 124. So, get profit after tax which is 697 sorry 673 PBT minus tax you will get profit after tax, then they have given some extra information like equity dividend and corporate dividend tax which is actually not a part of cost accounting, but we will just mention it so, that we can calculate the retained earnings ok. So, dividend plus dividend tax is 90 and retained earnings is 583.

Now they have also given us the total sales in metric tons, we will mention it because we want to calculate the cost per unit so, 124 lakh metric tons. And we have calculated cost per unit as C 22 upon C 36 what is C 22? This was this cost of sales including depreciation, but not including other income and interest this cost of sales 5065 is divided by 124.

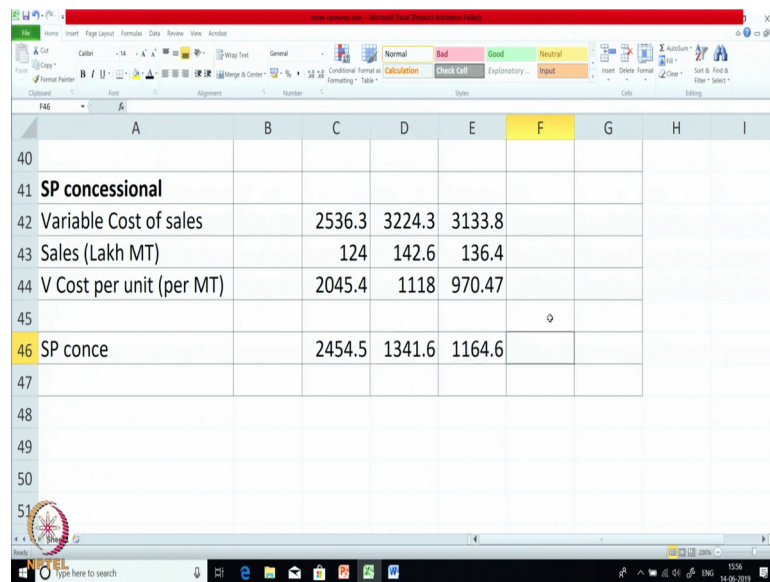
So, you get 4084 this is the cost per metric ton of cement ok. There may be some varieties of cement, but we have assumed that they have a uniform sales as per the given case it is 124 lakh metric tons based on that you get this figure of 4084 per metric ton that is why it is multiplied by 100, have you noticed it because all other figures were in crores only sales are given in lakhs of metric tons. So, when you divide you will have to multiply by 100 so, you get per metric ton cost of 4087 ok.

Now, here before going for projection suppose you are required to calculate the concessional selling price, normal selling price and concessional selling price how will you do it? As per the rule for calculation of selling price, it is given that management desires a margin of 20 percent on cost of sales, advice on normal and concessional selling price let us see notionally what would be the normal selling price.

We know their cost per unit now, using that you can calculate on this cause they are asking or they are trying or they are desiring a margin of 20 percent on cost. So, 4087 into 1.2 will be the normal selling price getting it? We are not yet projecting for next year even for the given data, we are trying to calculate the normal selling price now how much will be concessional selling price?

Because as per the given case advice on normal and concessional selling price; so, if you remember we had done some cases on special pricing or say government contracts or those contracts where normal market is not affected. So, typically here you will sell at the variable cost of sales plus some profit margin. Now here variable cost is given now you have a breakup of variable plus fixed.

(Refer Slide Time: 19:39)



| | A | B | C | D | E | F | G | H | I |
|----|--------------------------|---|--------|--------|--------|---|---|---|---|
| 40 | | | | | | | | | |
| 41 | SP concessional | | | | | | | | |
| 42 | Variable Cost of sales | | 2536.3 | 3224.3 | 3133.8 | | | | |
| 43 | Sales (Lakh MT) | | 124 | 142.6 | 136.4 | | | | |
| 44 | V Cost per unit (per MT) | | 2045.4 | 1118 | 970.47 | | | | |
| 45 | | | | | | | | | |
| 46 | SP conce | | 2454.5 | 1341.6 | 1164.6 | | | | |
| 47 | | | | | | | | | |
| 48 | | | | | | | | | |
| 49 | | | | | | | | | |
| 50 | | | | | | | | | |
| 51 | | | | | | | | | |

So, first of all calculate the total variable cost of sales which is 2536 just check which components are taken 5 8 11 15 and 18. So, you can go up 5 is a raw material variable portion then 8, power and fuel 11 15 and 18 are you getting this figure? 5 8 11 15 and 18 we have not taken miscellaneous manufacturing expenses because we have assumed all

of them as fixed ok; now, based on this variable cost of sales try to compute the concessional selling price.

So, how much will be the concessional selling price? As per their norm they expect 20 percent on their cost of sales. So, in case of concessional price it will be 20 percent on variable cost of sales. So, C 42 into 1.2 which will be 3043; normal selling price will be 4901, concessional is without charging any fixed cost, but charging a nominal profit of 20 percent so, 3043 ok. So, as per these question they have asked us to calculate for 2015, but first we have done it for 14.

Now, if you consider the sale per lakh metric ton of 124, these were the total figures in rupees crores. Cost per unit will be 746 and so, concessional price which is 20 percent comes to 896 per metric ton this is the final answer are you getting it? How is this 746 calculated? Just observe it is 29 by 43 29 is the, yeah 43 is this and it should be 42 upon 43.

(Refer Slide Time: 22:51)

| | A | B | C | D | E | F |
|----|--------------------------|---|--------|---|---|---|
| 37 | Cost per unit (per MT) | | 4084.7 | | | |
| 38 | | | | | | |
| 39 | SP Normal | | 4901.6 | | | |
| 40 | | | | | | |
| 41 | SP concessional | | | | | |
| 42 | Variable Cost of sales | | 2536.3 | | | |
| 43 | Sales (Lakh MT) | | 124 | | | |
| 44 | V Cost per unit (per MT) | | 2045.4 | | | |
| 45 | | | | | | |
| 46 | SP conce | | 2454.5 | | | |
| 47 | | | | | | |
| 48 | | | | | | |

I will just make a change here, are you getting it? 42 was a variable cost of sales and cost per unit this is the variable cost per unit actually will be 2045. I will specify it here for more clarity, that this is variable cost per unit and concessional selling price is C 44 into 1.2, are you getting it? I think I will delete this because otherwise you will get confused. So, now the regular selling price is this and concessional selling price is much lower, it is 2454 for the current year all of you have got it? Now let us proceed for the projection.

Now, raw material variable cost is known to you, how will you make optimistic projection? See for optimistic projection into 1.15 into 1.1 we will go to the case again now it is very clearly given. If we go to the section of the cost of raw material first of all the expected growth rate is 10 to 15 percent. So, pessimistic is 10, optimistic is 15 and what is the percentage increase in the raw material cost?

Have they given any hint? See, operating costs are likely to grow 10 to 12 percent and what about the raw material cost? I think everything other than employee cost will be 10 to 12 percent. So, raw material cost is also going to increase by 10 to 12 percent, see this is an optimistic projection, we are going to consider 15 percent growth that is a growth of volume which is higher side, but lower side growth of prices that is raw material prices. So, you are getting 1086.

Now, for the fixed component we will just consider 10 percent rise which is 104. Now if you try to calculate for the pessimistic one, see in pessimistic what happens? The lesser growth rate is taken only 10 percent so 1.1, but chances of higher increase in the cost that is 12 percent, the raw material cost can sorry any cost for that matter can increase from 10 percent to 12 percent in the pessimistic we are looking at 12 percent rise in cost and only 10 percent rise in the volume.

So, it is 1097. As far as the fixed cost is concerned anyway it is not affected by volume will just consider 12 percent rise in the cost are you getting it? I hope its clear to you now in the interest of time I will just go little faster.

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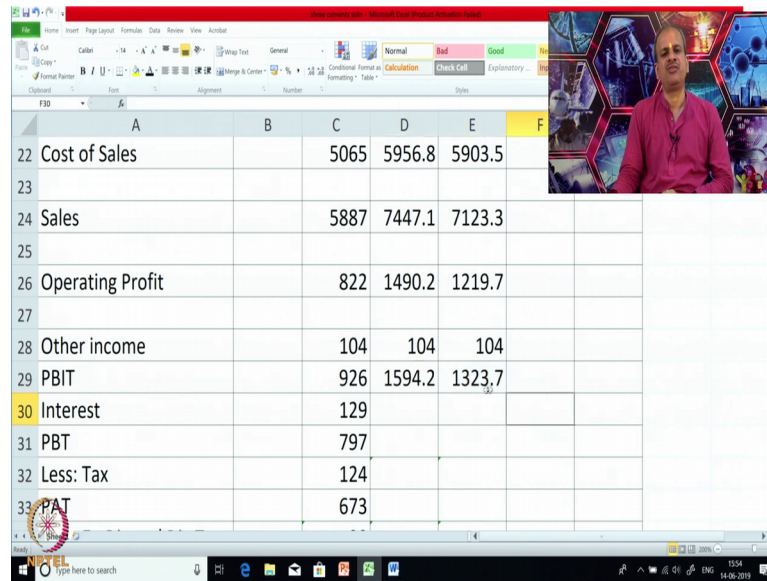
| | A | B | C | D | E | F |
|----|------------------|------|--------|--------|--------|---|
| 7 | Power n Fuel | 1379 | | | | |
| 8 | Variable | | 1103.2 | 1395.5 | 1359.1 | |
| 9 | Fixed | | 275.8 | 303.38 | 308.9 | |
| 10 | Employee Cost | 395 | | | | |
| 11 | Variable | | 276.5 | 365.67 | 349.77 | |
| 12 | Fixed | | 118.5 | 136.28 | 136.28 | |
| 13 | Other Manu. Esps | 1191 | 1191 | 1310.1 | 1333.9 | |
| 14 | S and D | 596 | | | | |
| 15 | Variable | | 286.08 | | | |
| 16 | Fixed | | 190.72 | | | |
| 17 | Admn | | | | | |
| 18 | Variable | | 11.92 | | | |

Now, power and fuel it is variable here so, it is increased by 15 percent and 11 percent or and 10 percent that is 1.15, 1.10, but for pessimistic calculation we will take 1.1 1.12 for fixed cost fixed cost changes only because of change in the cost nothing to do with volume.

So, it increases by either by 10 percent or by 12 percent ok. So, into 1.1 and in case of pessimistic into 1.12, are you getting me? Please apply the same ratio for next one employee cost, but if you remember it was given that employee cost is likely to increase by 15 percent. So, for optimist calculation it is into 1.15 into 1.15, for pessimist calculation it is 1.1 into 1.15 because it is going to increase by 15 percent in any case for fixed part of the employee cost both the cases it is a rise of 15 percent.

Other manufacturing expenses it will rise at 10 percent or 12 percent, because all other costs will rise by 10 or 12 they are fixed in nature; so, no component is variable. Now going to S and D variable part same rule applies into 1.15 into 1.1 and into 1.12. For a fixed part into 1.1 and into 1.12, are you getting me? Same rule applies for variable portion I will just go a bit fast please check it, for depreciation as per the given information no change. So, we will just continue with the same figures.

(Refer Slide Time: 28:59)



| | A | B | C | D | E | F |
|----|------------------|---|------|--------|--------|---|
| 22 | Cost of Sales | | 5065 | 5956.8 | 5903.5 | |
| 23 | | | | | | |
| 24 | Sales | | 5887 | 7447.1 | 7123.3 | |
| 25 | | | | | | |
| 26 | Operating Profit | | 822 | 1490.2 | 1219.7 | |
| 27 | | | | | | |
| 28 | Other income | | 104 | 104 | 104 | |
| 29 | PBIT | | 926 | 1594.2 | 1323.7 | |
| 30 | Interest | | 129 | | | |
| 31 | PBT | | 797 | | | |
| 32 | Less: Tax | | 124 | | | |
| 33 | PAT | | 673 | | | |

Now, you got the data for both optimistic and pessimistic for all the information please check total, the total gives the cost of sales you can see here optimistic is 5956 pessimistic is 5903. Sales for optimistic sale growth of 15 percent for pessimistic sale growth of 10 percent. Now the operating profit operating profit is sales minus cost of sales so, you are getting 1490 and 1219. Other income is going to be same compute the PBIT which is 1594 and 1323, no change in interest 129.

So, you can compute PBT which is 1465 or 1194 how will you calculate the tax? We will apply same scenario like the earlier year, but for that it is better to calculate the tax rate. So, we have calculated the tax rate for the earlier year here which is C 32 upon C 31 you will get it as 15 percent, now that 15 percent has been charged in both optimist and pessimist scenario. Other figures are unchanged like pat equity dividend retained earnings and so on.

Now, look at the sale in terms of quantum. For optimist sale increases by 15 percent for pessimists sale increases by 10 percent and this is the cost per unit for optimist and pessimistic. Now, the sale prices normal optimists will be 5012 pessimist will be 5093 this you know how it is calculated we get cost per unit and add 20 percent. For concessional, you will have to calculate first the variable cost, now the variable cost is taken total you know the sale quantum, compute the variable cost per unit and add 20 percent this gives us a concessional price, are you getting me. I hope everything is clear

to you, please try to solve it as I am solving and now you can cross check whatever I have done ok. So, with this will stop here [FL].