

Financial Accounting
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Lecture – 109
8.3 Contribution Margin

The next building block is called Contribution Margin. And, this is going to come in very handy when we do the breakeven point analysis.

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8.3.1 Contribution

$$\text{Revenue} - \text{Total Variable Cost}$$
$$\text{Price} \times Q - \text{Variable Cost per unit} \times Q$$

The slide also features the logos of the Indian Institute of Technology Mandi and NPTEL in the top right corner. A small video inset in the bottom right corner shows the lecturer, Dr. Puran Singh, wearing a white turban and glasses.

The word contribution here is different, the interpretation of the word is different, as compared to its meaning in the English language. So, the contribution is basically the difference between the revenue and the total variable cost. The total revenue is made up of the price per unit multiplied by the quantity that you sell. And the total variable cost is the variable cost per unit multiplied by the quantity that we are producing. So, the contribution is the difference between revenue and the total variable cost –point number 1.

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8.3.1 Contribution

• Amit sells second hand phones. Last month, he sold phones worth INR 100,000 which were bought for a total cost of INR 80,000.

Revenue	100,000
Variable Cost	80,000 ✓
Contribution	20,000

→ Contribute towards covering the rest of the cost (Fixed Costs)

$C = R - FC$ $C = R - TVC$
- of +ve



Let us look at this one small example. Amit sells second hand phones. Last month, he sold phones worth 100,000. So, his revenue is 100,000. And he bought all of these at a total cost of 80,000. Now, this is the total variable cost. And this is 20,000. This amount is going to be called a contribution. Now, why do we call it a contribution? The reason that we call it a contribution is that this money is going to contribute towards covering the rest of the costs. Right now, we are only deducting the variable cost. And this contribution whatever is left after paying the variable cost, that money is going to be used towards covering the rest of the costs. What are the rest of the costs? The rest of the costs are the fixed costs. There are two types of cost; fixed cost, and variable cost. Now, all the different types of expenses that we have earlier discussed; direct-indirect, operating or non-operating, all those are now consolidated, and then divided into this new category fixed and variable.

So, from the sales, you take out your total variable cost, and the money that you are left with is the contribution. This money is now available to contribute to covering the remaining cost, which are the fixed costs. So, the question is why don't you cover the fixed costs and then worry about the variable cost? So, why don't you define a contribution like this? Let me write it as C equal to revenue minus the fixed cost. Why don't you do this? This can be called a contribution as well. Well, there is a logic to that. And the logic is that in the business you first worry about covering your variable cost, and then you worry about covering your fixed costs. The variable costs vary with the business, so if you are covering the variable cost you are good to go, you should operate the business. And if you are not able to cover the variable cost, then

you should not operate in the business. So, the variable cost is something that you must cover in order to survive, in order to start any business leave alone survive. So, rather than using this, we use this contribution as equal to revenue minus the total variable cost. If this equation is positive then you start a business, then you continue a business.

If this is not positive, if you are spending more on variable cost and contribution is negative, you have no money left to cover the fixed cost, you cannot survive in the business, that is the concept of contribution.

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8.3.2 Contribution Per Unit

$$\frac{\text{Revenue}}{\# \text{ units}} - \frac{\text{TVC}}{\# \text{ units}} = \text{C.P.U.}$$
$$\boxed{\text{Price} - \text{'VC'}} = \text{C.P.U.}$$


Now, contribution per unit is again very straightforward as we saw earlier. The contribution was revenue minus the total variable cost. Now, just divide all of this by the number of units, how many units are we talking about, and actually we have a word for it we call it Q – the quantity and there you go. You have a revenue per unit which is called price.

Revenue per unit is the price which has been charged minus the variable cost this is per unit. So, whenever I write VC that means per unit cost; and if I write TVC that is total variable cost. So, this is what we are going to call contribution per unit simple as that, nothing fancy.

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8.3.2 Contribution Per Unit

• Amit sells second hand phones. Last month, he sold 10 phones worth INR 100,000 which were bought for at INR 80,000.

$$\begin{aligned} P &= 10,000 \\ VC &= 8000 \\ \hline CPU &= 2000 \end{aligned}$$


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So, in the previous question, let us say that 10 phones were being sold for 100,000. So, the price per unit comes out to be 10,000. Clear? And these phones were bought at 80,000. So, the variable cost per unit comes out to be 80000 divided by 10,000 – 8000. And now the contribution per unit comes out to be 2000 that is it. This is the concept of contribution per unit.


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8.3.3 Contribution Margin

Gross Profit \approx Margin

$\frac{\text{Contribution}}{\text{Sales}} \times 100$

$\frac{100}{20} \text{ Margin}$



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Let us now go on to the main concept contribution margin. What is the contribution margin? You are not new to the term called margin. Earlier we have discussed gross profit which we

said is also called the margin. So, gross margin, net margin, the point that I am trying to drive home is that the margin is always on sales. Whenever we say this is my margin that means 100 rupees is the price of the product and on that I am making 20. So, 80 rupees is my cost. So, this is the margin, basically as a percentage of sales.

Now, let us mix these words up, contribution and margin which would mean we have to look for contribution and we have to divide this by sales and multiply this into 100. What is the contribution margin? Just like the gross profit margin.

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8.3.3 Contribution Margin

- Amit sells second hand phones. Last month, he sold 10 phones worth INR 1,00,000 which were bought for at INR 80,000.

$$C.M = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{20,000}{1,00,000} \times 100 = 20\%$$

$$C.M = \frac{C.P.U}{\text{Price}} \times 100 = \frac{2,000}{10,000} \times 100 = 20\%$$

20% 1) 20% of Price goes into Fixed Cost ✓
 2) 80% of sales/price is VC ✓

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So, from the previous question now here, the contribution margin is going to be equal to the contribution divided by sales, or the revenue multiplied by 100. What are the sales? Sales are 1,00,000. And what is the contribution? 1,00,000 minus 80,000, or 20,000x100. So, my contribution margin is 20 percent.

Another way to figure out contribution margin is as follows. We could also use contribution per unit and sale per unit which is price. Simply we are dividing this equation by the number of units into 100. So, the contribution per unit was 2,000 as we calculated earlier, and the price per unit is 10,000, which gives you the same number again, basic arithmetic.

Now, what is important to be understood here, what is the interpretation of the contribution margin? What is its use? That is what we need to understand. So, out of 1,00,000 that you sell,

20 percent is the contribution margin. So, contribution is available towards covering the fixed costs.

Now, the contribution margin of 20 percent tells us that 20 percent of the price goes into fixed cost coverage, which means 80 percent of the sales or the price is our variable cost only. I mean two sides of the same coin you could say this or you say this.

So, earlier when we used to discuss the gross margin, we used to say the cost of the goods taken out from the revenue that is the gross margin, and now that margin is available for you to cover the selling and administrative expenses.

Now, we are looking at it differently. We are saying first of all variable costs have been covered. Now, this 20 percent is available to us to cover the remaining fixed cost. This is how we are going to use the contribution margin.