HOST: Why is it important or a manager to understand break-even or cost-volume profit analysis?

PAUL KIMMEL: Let me give you a few examples of why it’s so important for a manager to understand break-even analysis. I’m going to refer to a number of headlines from the Wall Street Journal. The first one said high fixed costs are making of steel trap. The point of that article was that because the steel industry is so capital intensive, they have such a big investment and very expensive fixed assets. They have high fixed costs and therefore are very dependent upon high sales in order to break even.

A second article was titled Amazon reports loss despite higher sales. Well, why? I mean if you think about it, why even though their sales increased, why did they report a loss? Well the reason is because Amazon in an effort to continue to grow is continually investing more and more money in fixed assets. As a consequence, they have very high fixed costs, which makes it harder and harder to break even. They have to have higher and higher sales in order to break even.

Third, there was a great article about Warren Buffet’s decision to invest in railroads and the article’s title was Buffet’s Unusual Train of Thought-Operating Leverage. In this chapter, one of the things students learn about is the idea of operating leverage and that we can measure operating leverage. And what operating leverage does is it indicates the company’s responsiveness of their profitability to changes in their sales.

The higher my investment in fixed assets, the greater my operating leverage, meaning the bigger the swings in profitability if my sales increase a lot, my profitability will increase a lot. On the other hand, if my sales decline, my profitability will really drop and so it’s a double edged sword.

Another one, risky move, GM to Run Plants Around the Clock. Well why would GM choose to run their plants around the clock? GM just like the steel industry is very dependent upon huge investments in property, plant and equipment therefore they have very high fixed assets, very high fixed costs.

And in order to try to reduce the cost of their fixed assets per unit, per vehicle produced, one way that they can try to do that is to increase the utilization of those assets. And so they can do that by operating around the clock but then management needs to consider all of the other implications of operating around the clock.
And last, frequently in the financial press you’ll hear about references to lean factories and the whole movement towards trying to operate more efficiently, producing your product at a much lower cost per unit. But one of the consequences of running a lean factory is that you’ll typically have far fewer employees but you’ll become more dependent on those employees that remain. You need those employees to run the equipment whether you’re operating at full capacity or only at half capacity.

And so one of the things that managers need to understand is that if I’m running a lean factory, in many respects, those employees become fixed costs rather than variable costs.

HOST: And what does it really mean to break even?

PAUL KIMMEL: Well at a very simple level, all break even means is that the break-even point occurs when my revenues are equal to my expenses. And so the concept of break-even is a very intuitive concept which is well understood even by somebody who is an entrepreneur and the first time that they’ve run a business. You’re trying to break even. Until you break even, you’re losing money.

HOST: How would someone determine how many units to sell to achieve their target profit?

PAUL KIMMEL: In this course, you learn the basic mechanics of calculating the break-even point. In this illustration what we’re trying to demonstrate visually is simply when does the break-even point occur? And in doing that what you see here is that my fixed costs remain even no matter what level of operations I’m operating at, no matter how many units I sell.

My variable costs are increasing. The more units I sell, the higher my variable costs are. And so if we graph that line, which is going in the one direction and then I graph my sales line in the other, at the point where my sales intersects my cost line, that’s my break-even point. Anything above that line means I’m operating at a profit. Anything below the intersection of that line means that I’m operating at a loss.

And so as I say in the course, you learn the very basics mechanics of calculating that break-even point, but really it’s more important as a manager, somebody who is running the business that you understand the implications of that. What kind of decisions can I make in order to affect that break-even point? Are there ways that I can reduce the break-even point in order to become more profitable at a lower level of sales?

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