Break Even Analysis as a decision tool

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Break Even Analysis is perhaps the most useful tool a small business owner should understand. The reason for its importance is that it shows the exact dollar in revenue when profit begins to occur but more importantly, it is a tool used to justify new expenses like a new truck, employee or perhaps an expansion of space.

All expenses fall into two categories, variable or fixed. For example, sales commissions would be variable since they are not paid unless a sale is made. On the other hand, rent is a fixed expense and gets paid regardless of whether sales are being made.

By separating all expenses between variable and fixed, we are able to make some important determinations. Consider the following simplified example:

Sales	$600,000
Variable Expenses	$200,000 or 33% of Sales
Fixed Expenses	$320,000

To perform a Break Even Analysis, we must first understand that as sales go up, so do our variable expenses i.e. each sale results in an increase in variable costs like materials, commissions, etc. equal to 33% or 33 cents per sales dollar. Our Fixed Costs will remain locked-in at $320,000 or until we reach a level of sales that forces us to expand plant, personnel, etc. Therefore, $320,000 is fixed so long as we stay within our existing “capacity.”

If Variable Costs equal 33% of Sales than approximately 67% of each sale is available to begin paying for Fixed Expenses or 67 cents on every sales dollar. This portion of the sale (67 cents) is called the Contribution Margin. The rest is easy -

Once we have determined our Contribution Margin (67%), we need only divide this into our fixed costs ($320,000) to find our Break Even Sales Point or the sales point at which all fixed costs are paid and profit begins.

$320,000 / 67% = $477,600

$477,600 is the Break Even Sales Point. For each sale made beyond $477,600, the company earns 67 cents profit. Let’s see how we can use this tool to make critical decisions:

“If the company does $600,000 this year, how much pre-tax profit should we expect?”

Simply deduct the break even point ($477,600) from the Sales ($600,000) and multiply your answer by 67%:

$600,000 – Break Even $477,600 = $122,400 x 67% = $82,000 Profit

“If we add a new Manager at a salary of $60,000 – how much of a sales increase will we need to cover this new “fixed” expense?”

$60,000 salary / Contribution Margin 67% = $89,500 of new sales

What if we outsource our assembly work and lay off three assemblers that are costing us $80,000 annually? Won’t this turn a fixed expense into a variable expense?”

Let’s assume that “outsourcing the assembly work” will increase variable costs by 5% thus increasing overall Variable Expenses to 38%

$320,000 Fixed Costs - $80,000 savings from assembly staff layoffs = $240,000 as our new Fixed Costs

33% Variable Costs + 5% Outsourcing Costs = 38% New Variable Costs and a New Contribution Margin of 62% or 62 cents versus 67 cents.

$240,000 Fixed / 62% = $387,000 new Break Even Sales Point

Therefore, the decision to outsource is a good one. The company’s Break Even Point falls from $477,600 to $387,000 meaning it begins making profit sooner plus it has transferred Fixed Expense Risk to Variable Expense Risk, which is almost always more beneficial.