

DETERMINING FEASIBILITY, DOING A REALITY CHECK & CALCULATING BREAK EVEN

It's decision time. Should you go ahead with your venture? Is your dream based on reality? Will your plan have to be altered? The following points will help you confirm your decision (or keep you from making bad one).

Know Your Costs

From every dollar of sales you must cover...

1. Variable Cost

The cost of direct inputs into the product sold must be paid. These *Variable Costs* are directly proportional to the amount of revenue generated.
(Eg. Direct Labour, Cost of Goods Sold, Assembly Components)

2. Fixed Costs

All business costs that are independent of sales must be paid. These *Fixed Costs* are there whether you make sales or not.
(Eg. Rent, Advertising, Salaries, Depreciation, Insurance and Business Licenses, Office Supplies, Loan Payments – *HINT: when in doubt call it fixed*)

This leaves you with...

Net Profit

The amount left (if any) after costs are paid is the *Net Profit*. Net profits are usually reinvested in the business (as owner's equity) or immediately paid out to business owners. Reducing fixed or variable costs will directly increase profits.

Break Even Point

Break Even identifies the point where revenues exactly cover costs and no profit is generated but no loss is incurred. It provides a "reality check" as to whether your business idea is viable.

It can help you answer questions like...

If I drop my price, what level of sales will I have to make to maintain my profit level? How much sales must my market provide to make this business idea feasible? What sales will be required to cover the rent increase?

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Calculating Your Break Even Point

Step 1

Separate Expenses Into Fixed and Variable Cost Categories

(Hint: When in doubt call it fixed)

Step 2

Subtract Cost of Goods from Total Sales	Sales \$ _____
	Minus _____
Variable Costs & Costs of Goods Sold	_____
	Equals _____
Equal Gross Profit	Gross Profit _____

Step 3

Calculate Gross Profit Margin by:

Dividing Gross Profit by **GROSS PROFIT** = **MARGIN (%)**
Sales or Selling Price **Sales/Selling Price**

This is also called the *Contribution Margin* or the amount left to pay fixed expenses. It is expressed as a decimal or percentage.

Step 4

Calculate the Break Even Point

In Sale:

Divide Total Expenses by Margin

Total Expenses/Fixed Costs = **Break Even in Sales (\$)**
MARGIN (%)

Note: Express margin % as a decimal (i.e. 25% = .25)

In Units Sold:

Divide Total Expenses by Gross Profit

Total Expenses /Fixed Costs = **Break Even in Units**
Selling price per unit less Cost per Unit

Note: If you want to achieve a specified profit or want to consider an added cost scenario, add the amount to your fixed costs.

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A Practical Example

You think your idea of starting a small bookstore may be feasible but you want to find out for sure. First you calculate your costs of goods sold, include book stock and shipping, and then find out your fixed operating costs, such as building rental, part time staff and advertising. Since you want to make some money, you include some management drawings in the fixed costs. Now how much sales volume must be reached in order to cover your costs and pay yourself a specified amount.

<i>Cost of Goods Sold</i>	40% (as a percent of sales)
<i>Gross Profit Margin</i>	60% (as a percent of sales) (100% - 40% = Margin % of 60%)
<i>Operating or Fixed Costs</i>	\$35,000/year*
	(*Including \$25,000/year for Management Drawings)

Formula

$$\frac{\text{Fixed Costs}}{\text{Margin \% (as a decimal)}} = \text{Break Even \$}$$

$$\frac{\$35,000}{0.60} = \text{Break Even \$}$$

$$\frac{\$35,000}{0.60} = \$58,333$$

In other words, you needs sales of exactly \$58,333 per year in order to cover your fixed costs and provide yourself with a target income of \$25,000.

Now, if the average selling price of a book is \$20.00 and its average cost is 40% or \$8.00, then the number of books needed to break even can be calculated as follows:

$$\frac{\text{Fixed Costs}}{\text{Selling price less Cost per unit}} = \text{Break Even \# of Units}$$

$$\frac{\$35,000}{\$20.00 - \$8.00} = \text{Break Even \# of Units}$$

$$\frac{\$35,000}{\$12} = \$2,917 \text{ books}$$

At \$20 per book, 2,917 books results in \$58,33 in sales, exactly the break even point.

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A Second Practical Example

Break-Even Analysis is also useful for everyday decisions such as the following advertising scenario.

Suppose you decided to advertise on the local radio station for \$2000. How much sales would you need to generate to justify the campaign?

$$\begin{array}{rcl} \text{Fixed Cost/Margin} & = & \text{Break Even Sales \$} \\ \$2000.00/.060 & = & \$3,333 \end{array}$$

The campaign would have to increase sales by \$3,333 in order to maintain current profit levels.

RETURN ON OWNERS INVESTMENT (ROI)

Return On Owner's Investment (ROI) shows the earnings potential of the business. When expressed as a percentage it gives you the opportunity to compare the business idea with other investments (like putting the money into a mutual fund).

Will I make more on my investment into the business than I would make in another investment?

Step 1

Calculate How Much You Are Investing Into Your Business
(Include tangible assets as well as cash equity invested)

Step 2

Determine Your Year One Net Profit
This will be produced by cash flow statement
(Remember to cover your taxes)

Step 3

Divide Net Profit by Your Investment
Remember: Multiply by 100 to give you a percentage.
$$\frac{\text{Net Profit Year One}}{\text{Owners Investment}} = \text{ROI Year One}$$

For future years Add previous years' Net Profits to Owners Investment and follow step 3

$$\frac{\text{Net Profit Year Two}}{\text{Owners Investment} + \text{Net Profit Year One}} = \text{ROI Year Two}$$

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Return On Owner's Investment (cont.)

A Practical Example

You are considering putting your savings and considerable personal assets into a new pizza delivery establishment.

Is your investment a wise one?

Would you make more if you put the money into a RRSP, which is guaranteed 8% a year?

<i>Owners Investment</i>	Assets Invested	\$5,000
	<u>Capital Investment</u>	<u>\$10,000</u>
	Total	\$15,000

<u>Projected Cash Flow</u>	<u>Year One</u>	<u>Year Two</u>
Projected Sales	\$95,000	\$110,000
<i>Less</i> Variable Costs	\$40,400	\$46,000
<i>Less</i> Fixed Costs	\$51,150	\$60,147
<i>Less</i> <u>Income Taxes(Profit x 23%)</u>	<u>770</u>	<u>886</u>
<i>Equals</i> Net Profit	\$2,580	\$2,967

<u>Net Profit Year One</u>	=ROI Year One
<i>Owners Investment</i>	

<u>\$2,580</u>	=17.2 % = ROI Year One
\$15,000	

<u>Net Profit Year Two</u>	=ROI Year Two
<i>Owners Investment + Profit Year One</i>	

<u>\$2,967</u>	=16.9% = ROI Year Two
\$15,000 + \$2,580	

In other words, you will get a **17.2%** return on your investment in the first year and a **16.9%** return on your investment in the second year. Your money will earn you more if you use it in your new business than if you put it into the RRSP. However, this assumes that your projections are accurate (*be very careful with your cash flow forecasts*) and also exposes you to various risks of self-employment. You may also want to check your year 3 and 4 ROI to see if returns will continue to drop as they did from year 1 to year 2.