BREAK- EVEN ANALYSIS

One of the important indicators of success of the start-up company is the time from starting the business till the moment when revenues of product sales equals the total costs associated with the sale of product – it is also called break-even point. In other words profit = 0. Break-even analysis is accounting tool to help plan and control the business operations.

Break-even point represents the volume of business, where company’s total revenues (money coming into a business) are equal to its total expenses (total costs). In its simplest form, break-even analysis provides insight into whether or not revenue from a product or service has the ability to cover the relevant costs of production of that product or service.

Break-even analysis is based on categorizing production costs between those which are:

- VARIABLE cost that do vary with the number of units produced and sold (raw materials, fuel, direct labor, revenue-related costs), and those that are
- FIXED costs that don’t vary with the number of units produced and sold (salaries, rent and rates, depreciation, marketing costs, administration costs, R&R, insurance)

Calculating Break-even Point

To calculate break-even point we need to know following information:

- The price that the company is charging,
- variable costs (direct costs) of each unit and
- fixed costs (or indirect costs/overheads).

\[ TR = \text{Total revenue} \]
\[ P = \text{Selling price} \]
\[ Q = \text{Number of units sold} \]
\[ TC = \text{Total costs} \]
\[ F = \text{Fixed costs} \]
\[ V = \text{Variable costs} \]
\[ FC = \text{Total fixed costs} \]
\[ VC = \text{Total variable costs} \]
TR = P × Q
VC = C × Q
TC = FC + VC
TR − TC = profit

Because there is no profit (€ 0):

TR − TC = 0
P × Q − (F + V × Q) = 0
Q = F × (P − V).

It is quicker to use the following formula:

**Break-even point = FC/(P − VC)**

*Note:* the higher the fixed costs are the higher is the break-even point!

*Example of Break-even analysis diagram*
Why do companies want (and need) to know the break-even point?

- First, in order to even know what volume of operations allows them to operate without loss, or, what is the volume of business in which the loss breaks in the profits;
- further in order to determine, if they sufficient capacity for this volume of business
- and ultimately therefore, to find out if there is sufficient market for such volume of operations