

# 1 Introduction

*Break-Even analysis* is used to give answers to questions such as “what is the minimum level of sales that ensure the company will not experience loss” or “how much can sales be decreased and the company still continue to be profitable”. Break-even analysis is the analysis of the level of sales at which a company (or a project) would make zero profit. As its name implies, this approach determines the sales needed to break even.

*Break-Even point* (B.E.P.) is determined as the point where total income from sales is equal to total expenses (both fixed and variable). In other words, it is the point that corresponds to this level of production capacity, under which the company operates at a loss. If all the company’s expenses were variable, break-even analysis would not be relevant. But, in practice, total costs can be significantly affected by long-term investments that produce fixed costs. Therefore, a company – in its effort to produce gains for its shareholders – has to estimate the level of goods (or services) sold that covers both fixed and variable costs.

Break-even analysis is based on categorizing production costs between those which are *variable* (costs that change when the production output changes) and those that are *fixed* (costs not directly related to the volume of production). The distinction between fixed costs (for example administrative costs, rent, overheads, depreciation) and variable costs (for example production wages, raw materials, sellers’ commissions) can easily be made, even though in some cases, such as plant maintenance, costs of utilities and insurance associated with the factory and production manager’s wages, need special treatment. Total variable and fixed costs are compared with sales revenue in order to determine the level of sales volume, sales value or production at which the business makes neither a profit nor a loss.