## The absorption costing approach to cost-plus pricing

Allocating a fair and proper price to a product or service may be a tricky balancing act for a company. Many firms have an ongoing struggle with setting their pricing strategies. It is a well known fact that the success of any product or service relies straight on the ability to sell them which anon directly depends on the correct pricing strategy (Bosse, 2009). The pricing cannot be just randomly guessed by the company. There are several measures that ought to be considered while forming the pricing strategy. By implementing creative judgments and intensifying the awareness of consumer motivation, a company can seize the market. Pricing is not merely a marketing, financial or operational decision; instead it influences all aspects of the firm (Petersn, 2008).

## Preliminary Situation for Pricing

Erner (2010) mentions two possible situations to consider for pricing: The first one declares that the product in question has several competitors who offer products with less differentiation. Hence a market price already exists. In this case customers will not purchase products with high market prices. Therefore the company does not have to conduct extensive research about the pricing strategy as they already have a guideline present.

The second situation indicates that the market price does not exist. Herein the product does not have any direct competitors and no pricing standards are available. The company has to decide how to price its products or services. In such a position the company must emphasize more on market research, customer perception, costing, price testing etc. (Hilton, 2009).

## The Absorption Cost Approach to Cost-Plus Pricing

For pricing decisions accounting information can be used especially if the firm is a leader in the market or a price-maker. As there is hardly time for analyzing demand and marginal cost for each product or service thoroughly, managers have to depend on a swift and unsophisticated method for determining prices. Therefore companies apply the Cost-Plus Pricing (CPP) method in which the total cost of the product or service adds a margin to ascertain the selling price (Hilton, 2009). However many companies are price-takers as they set their prices according to the market leaders and have to follow the market, adjusting their prices due to competition. Even in such cases understanding costs supports making managerial decisions e. g. which and how many products or services should be produced (Pietersz, n . g.). To give a considerable return on the stockholder's investment the determined price in pricing standard products must cover all costs such as production, administrative, fixed and variable sales cost (Erner, 2010). As this should not be the case the business will bear losses and may not even be extant. Comprehending the company's marketing strategy is required for applying cost information in pricing decisions (Collier, 2009).

## COST + MARK - UP = SELLING PRICE

(Ingram, Albright, \& Hill, 2003)

## Determine the Cost Coverage

Before adding a desired profit margin the full costs[1]for each product or service has to be calculated (Ingram, Albright, \& Hill, 2003). Flowingly the company has to underline the cost coverage that can be done by the

Absorption Cost Approach (ACA) or the Contribution Approach (CA) (Erner, 2010).

In the pricing decision the unit cost of a completed product is a key measure. The so called Unit Product Cost (UPC) stipulates the value of goods inventory completed and the cost of sold goods (Tatum, n. g.). On the one side variable costing classes costs according to their behavior into variable or fixed. For determining the UPC variable costing only includes costs directly varied to production i. e. direct material and direct labor cost as also the variable manufacturing overhead. The fixed manufacturing overhead costs are dealt like period expenses i. e. expense them - like selling and administration cost - in the period in which they incur. Fixed costs are not regarded in variable UPC. On the other side absorption costing classes the costs according to their function either into manufacturing or non-manufacturing costs. For calculating the UPC by applying the ACA all manufacturing costs, variable or fixed, are included (Ingram, Albright, \& Hill, 2003).

## Contribution Approach

In the CA the cost base consists of the variable expenses associated with a product. The mark-up used must include the fixed costs considering the desired profit per unit. The cost base must be kept free of any element of fixed costs facilitating the pricing in special situations (Guilding, Drury, \& Tayles, 2005).

In this paper the CA is not considered in detail.

## Absorption Cost Approach

In the ACA the cost base is defined as the cost to manufacture a single unit. The selling and administration costs which are not included in the cost base are considered in the mark-up stage that is added on to the target selling price (Guilding, Drury, \& Tayles, 2005).

The ACA illustrates the pricing decision as deceitfully easy. It seems that a company only has to calculate its UPC, determine the profit level they want and set the price.
" It appears that a company can ignore demand and arrive at a price that will safely yield whatever profit it wants" (Garrison, Noreen, \& Brewer, 2010, p. 760).

The ACA depends on unit sales predictions and nor the UPC nor the mark-up can be determined without them. In this approach it is anticipated that customers need the predicted unit sales and are willing to pay any price the firm stipulates. But customers have a choice as they can either purchase from a competitor or decide not to buy the product at all if the price is set too high (Garrison, Noreen, \& Brewer, 2010).

## Determine Mark-up for Absorption Cost Approach

" A mark-up is the percentage added to cost for profit, whereas the margin is the percentage of the selling price that is represented by profit" (Collier, 2009, p. 173).

The ACA and CA both bury some cost elements in the mark-up. The mark up percentage has not only to cover the buried costs but also has to generate a
satisfying return on assets employed (Erner, 2010). The mark-up over cost ought to be set according to the market conditions, but many firms rest their mark-up upon desired profit and cost (Garrison, Noreen, \& Brewer, 2010).

The formula for determining the right mark-up percentage by applying the ACA is as follows (Garrison, Noreen, \& Brewer, 2010, p. 759):

Mark-up \% = (required Rol x investment)

## + selling and administrative expenses

/ (UPC x unit sales)

## Adjust Price to Market Conditions

The final stage considers adjusting the prices pursuant to the market conditions. The CPP usually tends to ignore the relationship between the price and the volume to be produced which in turn can result in lower profits, insufficient demand etc. Thus the sales forecasts need to be met in order for the pricing to be reliable. The final selling price may be much higher than the figure received due to the mark-up stage as companies (can) ignore the competitive positioning, promotional strategy, product differentiation, packaging etc. (Erner, 2010).

## Practical Example

To illustrate an example[2]of CPP using ACA it is assumed that Company $X$ just underwent some design modifications for their product $Y$ and wants to set a selling price accordingly. The cost estimates are as follows:

The first step in ACA is to calculate the UPC which is illustrated in the following calculation. Here it adds up to $€ 23.50$ per unit as a volume of 10 000 units is assumed for Company X :

Several companies set their profit on costs and desired profits. This can be illustrated by using the given formula for mark-up percentage for ACA (see 2. 2 Determine Mark-up).

To illustrate how the formula is applied, assume Company $X$ invests $€ 100$ 000 in operating assets like e. g. equipment to produce and market 10000 units of the product each year. Further suppose Company X needs 20\% Rol. So the mark-up calculations are as follows:

Mark-up $\%=(20 \% x € 100000)$
$+(€ 2$ per unit $\times 10000$ units $+€ 60000)$
/ (€ 23. 50 per unit $\times 10000$ units)

## f 42.55\%

The Mark-up of $42.55 \%$ resulted to a Target Selling Price of $€ 33$. 50. Only if Company $X$ really sells its 10000 units at this price the product's ROI will be 20\%. Logically the ROI will decline if fewer products are sold. The betoken volume of sales is achieved only when the required ROI will be reached.

