

PRINCIPLE OF MARKETING / 14B

IBMS /
University of Applied Sciences

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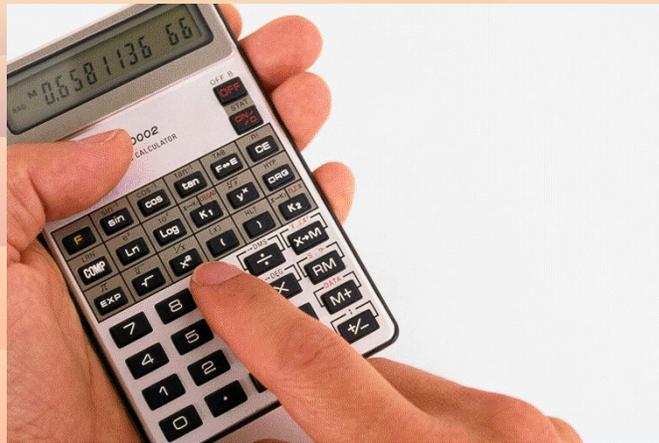
Based on *Ph. Kotler's Principles of marketing / international edition, and miscellaneous designer's lecturing materials*



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PRICING

Cost price calculation methods



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PRICING

Cost price calculation methods

- **Basic standard cost price calculation:**
 - involves the cost price when only taking into account the standard utilization of (production) capacity. This is commonly regarded as being 80% of the total production capacity. Higher degrees of actual capacity utilization will lead to a lower cost price, and v.v.

$$\text{atc} = \text{avc} + \frac{\text{TFC}}{\text{N}}$$

atc = averaged total cost per unit
avc = averaged variable cost per unit
TFC = total amount of fixed costs
N = normal amount of production (units)

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Cost price calculation methods

- **Absorption cost price calculation:**
 - used in situations in which the total cost price per unit needs to be determined, involving both fixed and actual variable costs;

$$\text{absorption cost price} = \frac{\text{TFC}}{\text{N}} + \frac{\text{TVC}}{\text{A}}$$

TFC = total fixed costs
TVC = total variable costs
N = normal amount of production (units)
A = actual amount of production (units)

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PRICING

Cost price calculation methods

- **Incremental cost price calculation:**
 - through this type of cost price calculation the selling price of a product is determined by the variable cost, and not kept according to the overall cost of creating the product. Incremental cost involves the cost of producing extra products from the same production setup. The fixed costs remain the same, and the selling price of the product is then based mainly on the extra variable costs:

$$\text{incremental cost price} = \frac{\Delta \text{TVC}}{\Delta \text{A}}$$

ΔTVC = increase of total variable costs
 ΔA = increase of actual amount of production (units)

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PRICING

Cost price calculation methods

- **Absorption & incremental cost price calculation:**

Example:
normal production = 5.000 units, actual production = 6.000 units. TFC = \$ 200.000, TVC = \$ 60.000.

Absorption cost price calculation:

$$\frac{\text{TFC}}{\text{N}} + \frac{\text{TVC}}{\text{W}} = \frac{\text{€ } 200.000}{5.000} + \frac{\text{€ } 60.000}{6.000} = \text{€ } 40 + \text{€ } 10 = \text{€ } 50$$

due to an extra (export-)order, the production increases from 6.000 to 7.000 units, resulting in an increase of TVC to \$ 69.000.

Incremental cost price calculation:

$$\frac{\Delta \text{TVC}}{\Delta \text{W}} = \frac{\text{\$ } 69.000 - \text{\$ } 60.000}{7.000 - 6.000} = \frac{\text{\$ } 9.000}{1.000} = \text{€ } 9$$

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PRICING

Determining profit

- **Calculus example #5:**

A manufacturer's total production capacity is 400.000 units / year. This year this firm will reach and sell its normal production amount of 300.000 units. So far, sales have only been domestic. The ex-factory price of its product is \$ 52,- and the absorption cost price is \$ 41,- of which 60% involves fixed costs.

Unexpectedly, the firm receives a foreign request to deliver 28.000 units, for which the client is prepared to pay \$ 32,- per unit. In order to execute this extra order, the firm will have to make a one-off investment of \$ 90.000,-, which will be directly written-off, this year. What will this firm's total profit be this year, if it decides to accept this extra order?

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PRICING

Determining profit

- **Calculus example #5, solution:** **\$ 3.646.800**

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PRICING

Determining profit

- **Remarks regarding profit determination:**

- **trading firms** calculate their profits as follows:
Sales - purchasing value of sales = gross profit

Gross profit - other variable costs = contribution margin (CM)

Contribution margin - fixed costs = net profit

- **production firms** mostly calculate their profits as follows:

Sales - variable costs = contribution margin

Contribution margin - fixed costs = net profit

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PRICING

Pricing aspects: pricing policy



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PRICING

Pricing aspects: pricing policy

- **Various goals regarding pricing policy:**
 - maximizing profits
 - obtaining a certain market share
 - realizing a fast adoption and diffusion of products and/or services in certain (international) markets
 - reinforcing the firm's or its product's position in comparison to its competition
 - achieving a certain return on investments
 - etc.

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PRICING

Pricing methods

- **Reviewing basic pricing methods:**
 - 4 basic orientations regarding pricing:
 - 1/ **cost-based pricing methods**
 - 2/ **customer- or value-based pricing methods**
 - 3/ **competition-based pricing methods**
 - 4/ **integrated pricing methods** based on
for instance: break-even analysis

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Pricing methods

- **Reviewing basic pricing methods:**

- 1/ Cost-based pricing methods:**

- cost-plus pricing & mark-up / mark-down pricing
- target return pricing
- pricing based on differential cost-price (direct-costing method)

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PRICING

Pricing methods

- **Reviewing basic pricing methods:**

- 2/ Customer- or value-based pricing methods:**

- backward pricing
- price differentiation
- price discrimination
- perceived value pricing
- psychological pricing

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PRICING

Pricing methods

- **Reviewing basic pricing methods:**

- 3/ Competition-based pricing methods:**

- going-rate pricing
- market follower price (follow-the-leader-pricing)
- me-too-pricing
- premium pricing / discount pricing
- stay-out pricing
- put-out pricing

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PRICING

Pricing methods

- **Reviewing basic pricing methods:**

- 4/ **Integrated pricing methods:**

- pricing method involving costs as well as market possibilities, and in which break-even analysis is also taken into account.

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PRICING

Pricing methods in detail

- 1/ **Cost-based pricing methods:**

- **Cost-plus & mark-up/mark-down pricing:**
 - involves adding a certain mark-up to the (standard) cost of the product, often as a compensation for marketing expenditures;
 - example:

manufacturer's unit cost:	€ 200,--
manufacturer's mark-up 25% :	€ 50,--
manuf's unit price = wholesale's purchase:	€ 250,--
wholesale's mark-up 30% :	€ 75
wholesale's unit price = retail's purchase:	€ 325,--
retail's mark-up 40% :	€ 130,--
retail's unit (consumer) price , excl. VAT :	€ 455,--

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Pricing methods in detail

- 1/ **Cost-based pricing methods:**

- **Target return pricing** (target rate of return pricing):
 - pricing method involving a certain surplus, based on a desired target rate of return on investment (ROI);
 - **target-return price =**

$$\text{unit cost} + \frac{\% \text{ ROI} \times \text{invested capital}}{\text{unit sales}}$$

$$\text{so: } \text{avc/u} + \frac{\text{TFC} + (\% \text{ ROI} \times \text{I})}{\text{N}}$$

avc/u = averaged variable cost per unit
TFC = total amount of fixed costs
ROI = return on investment
I = invested capital
N = unit sales: normal utilization of production capacity

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PRICING

Pricing methods in detail

1/ Cost-based pricing methods:

- **Pricing based on incremental cost-price:**
 - can be used for export order pricing, or in case of separate orders (generic brand bulk sales);
 - can only be maintained as long as all the fixed costs involved, are being compensated by the regular sales.

$$\text{incremental cost price} = \frac{\Delta \text{TVC}}{\Delta A}$$

ΔTVC = increase of total variable costs
 ΔA = increase of actual amount of production (units)

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PRICING

Pricing methods in detail

2/ Customer- or value-based pricing methods:

- **Backward pricing:**
 - based on competitor's consumer prices or on prices consumers find attractive, the price is determined by 'backward' calculating;
 - example:
 - competitor's consumer price, excl. VAT : € 400,-;
 - retail's mark-up = 40% x retail's purchase,
 - wholesale's mark-up = 30% x wholesale's purchase

competitor's price	=	100%
wholesale mark-up	=	30%
retail mark-up	=	52% [= 40% x (100% + 30%)]
total surplus manuf's unit price	=	182%

competitor's ex-factory price = $\frac{€ 400,-}{1.82} = € 219,78$

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Pricing methods in detail

2/ Customer- or value-based pricing methods:

- **Price differentiation:**
 - involves determining different prices for different products, based on the differences in costs and on product properties & attributes;
 - price differentiation usually proceeds from product differentiation (widening of assortment or range of products);
 - example: the different prices set by a car manufacturer for their variations of one their car models (such as type of engine, hatchback or sedan, 2- or 4 wheel driven, etc.).

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PRICING

Pricing methods in detail

2/ Customer- or value-based pricing methods:

- **Price discrimination** (*segmented* or *discriminatory pricing*):
 - involves determining different prices for in fact the **same product in behalf of different groups of customers**;
 - does not involve product differentiation, but involves different market segments;
 - discriminating criteria: **geographical** (ex.: multinationals), **customer segments** (ex.: students, OAP's), **time-pricing** (ex.: telephone, railway travel, also: Coke's vending machines), **product-form** (ex.: packaging).

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Pricing methods in detail

2/ Customer- or value-based pricing methods:

- **Perceived value pricing**:
 - based on the (potential) customer's subjective valuation, regarding the product's benefits, its price and that of competing products.



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PRICING

Pricing methods in detail

2/ Customer- or value-based pricing methods:

- **Perceived value pricing**:

why pay \$ 25.000 more for a Caterpillar harvester?

\$ 225.000	the harvesters price, equivalent to the competitor's harvester
\$ 17.500	the price premium for Caterpillar's superior durability
\$ 15.000	the price premium for Caterpillar's superior reliability
\$ 12.500	the price premium for Caterpillar's superior service
\$ 5.000	the price premium for Caterpillar's longer warranty on parts
\$ 275.000	the normal price to cover Caterpillar's superior value
\$ 25.000	customer discount
\$ 250.000	final price

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Pricing methods in detail

2/ Customer- or value-based pricing methods:

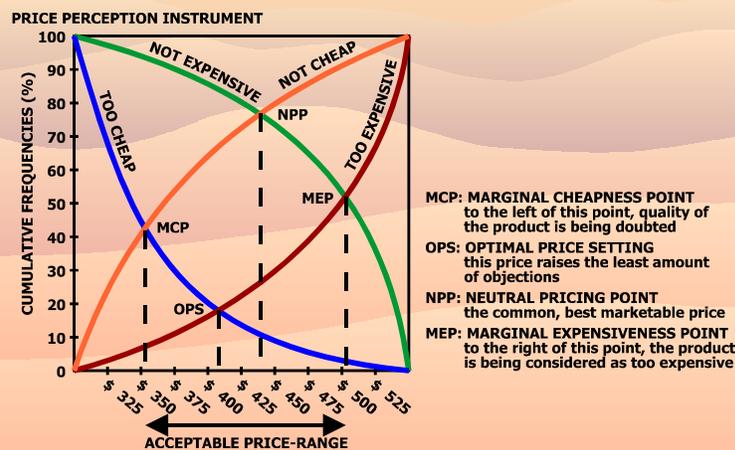
- **Psychological pricing:**
 - involves determining prices based on various **psychological considerations regarding prices**, such as:
 - **price-thresholds** / odd-ended pricing (\$ 298 instead of \$ 300);
 - **benefit-instinct** (multiple-unit packaging)
 - **optical reduction** (\$ 1000 / year = \$ 88 / month?);
 - **price-sensitivity / price perception** (cheap / expensive / too cheap / too expensive. >>

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PRICING

Pricing methods in detail



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Pricing methods in detail

3/ Competition-based pricing methods:

- **Going rate pricing:**
 - price based on competitor's prices;
 - the company might charge the same, more, or less than major competitor(s);
 - in oligopolistic markets such as petroleum, steel, or paper markets, the competing firms normally charge the same price.
- **Follow the leader pricing:**
 - as above, whereas smaller firms will change their prices according to market leader's price changes, regardless of costs or demand.

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Pricing methods in detail

3/ Competition-based pricing methods:

- **Me-too pricing:**
 - the firm charges the same price for its product(s) as its most important competitor (not necessarily the market leader);
 - frequently occurs in homogeneous oligopolistic markets in order to avoid price competition (so-called **non-price competition**);
 - can also be used in situations where a lack of product benefits exists, or where other marketing instruments (distribution, branding, etc.) are considered as more important.

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PRICING

Pricing methods in detail

3/ Competition-based pricing methods:

- **Premium pricing:**
 - the firm charges a slight premium in comparison to its most important competitors;
 - occurs in situations where a company possesses a distinct competitive advantage, for instance, by offering a much better service (ship building / ship yards).

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PRICING

Pricing methods in detail

3/ Competition-based pricing methods:



Shipyards K. Damen (Europe / Africa / Asia)

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Pricing methods in detail

3/ Competition-based pricing methods:

- **Discount pricing:**
 - the firm charges a **slight discount** for its product (often less well-known, standard brands) in comparison to its most important competitors;
 - can be based on a push-strategy in order to obtain a certain market position, although potential customers are not yet aware of the product or the brand;
 - sometimes used in the B-2-B market (***below-market pricing*** as been applied by HP).

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Pricing methods in detail

3/ Competition-based pricing methods:

- **Stay-out pricing:**
 - based on such a low price, that this will **barely cover the costs**, resulting in a relatively unattractive market for possible new entrants, due to limited profitability;
 - can actually only be applied by firms who conduct the ***cost-leadership strategy***, such as **Unilever** once did in the margarine market, in view of the Dutch market entrance by **Kraft** (at that time part of the **Philip Morris co.**, carrying brands as **Philadelphia** and **Jell-o**).

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Pricing methods in detail

3/ Competition-based pricing methods:

- **Put-out pricing:**
 - pricing method meant to put the competitor(s) **completely out of the firm's market**;
 - applied by financially strong, warlike market leaders in order to wipe out smaller competitors with less power of endurance;
 - is also called ***predatory pricing*** (!), which is prohibited in many countries (ex.: **Microsoft** and some of their specific products, such as MS Office, IE, etc., although any supposed malevolent actions are very hard to prove).

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Pricing methods in detail

4/ Integrated pricing methods:

- Pricing based on break-even analysis:
 - break-even analysis: comparison of the total costs of a product, with the total revenues at different sales / production volume levels;
 - break-even analysis points out the break-even point: the amount of units or sales involved in which the total revenue equals the total amount of costs.

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Pricing methods in detail

4/ Integrated pricing methods:

- Break-even example:
suppose the selling price of a certain product is \$ 80, the variable unit costs are \$ 30, and the total of fixed costs is \$ 10,000, then the BEP would be:

$$q_{\text{bep}} = \frac{\$ 10.000}{\$ 80 - \$ 30} = 200 \text{ units}$$

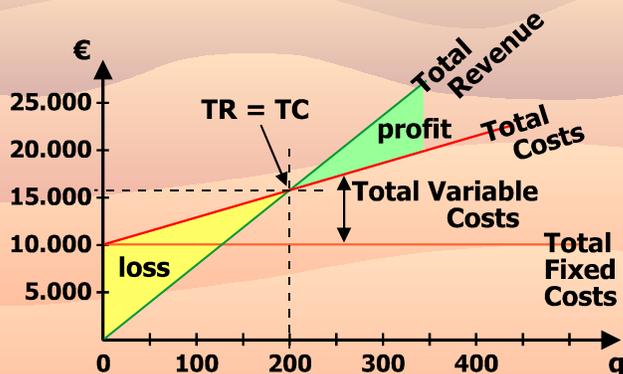
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Pricing methods in detail

4/ Integrated pricing methods:



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Pricing methods in detail

- **Calculus example #6:**

A retailer wants to open a new shop.

The total fixed costs will be \$ 62.000 per month. The retailer expects that the average sales will be \$ 60 per customer, per month. The variable costs are estimated at 40% of the sales.

How many customers are needed monthly, in order to achieve a profit of \$ 10.000 per month?

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Pricing methods in detail

- **Calculus example #6, solution:** **2.000 p/m**

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Pricing methods in detail

- **Calculus example #7:**

The total fixed costs of a metal company are \$ 420.000 per year. The management of this company is considering to produce a new metal product, and its break-even production is estimated at 6.000 units. The variable costs at this production level will be \$ 300.000.

What (minimal) price should this company ask for this new product, based on the estimated break-even production?

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Pricing methods in detail

- **Calculus example #7, solution:** $p = \$ 120$

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Pricing methods in detail

- **Calculus example #8:**
Cycling shop Wheelz is being taken over by a new owner. This new owner would like to acquire an estimate regarding Wheelz' break-even sales.
This should be based on the following figures:
 - annual sales: 1.500 bicycles
 - average price per bicycle: \$ 1.000
 - total fixed costs per year: \$ 240.000
 - gross profit margin per bicycle: 30%
 - variable costs per bicycle: on average 10% of the price per bicycle.Calculate the break-even sales per month, based on an evenly amount of monthly bicycle sales.

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Pricing methods in detail

- **Calculus example #8, solution:** 100 p/m

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Pricing methods in detail

- **Calculus example #9:**

Since a couple of years, an American camper manufacturer has also been selling his campers in Canada. The sales in Canada have been carried out by an independent agent, who earns 10% of all the Canadian sales. The average price of the campers this agent sells, is \$ 15.000.

To cut costs, the manufacturer is considering to replace this agency by a permanent representative, who would cost \$ 114.750 per year (fixed salary costs) + 1,5% bonus on achieved sales.

Starting from which number of campers to be sold, would a permanent sales representative be more profitable than using the Canadian agency?

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Pricing methods in detail

- **Calculus example #9, solution:**

90 units

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