

PRINCIPLES OF MARKETING / 14A

IBMS /
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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

Introduction

- **Pricing policy aspects**
 - **Meaning for the firm:**
 - **marketing instrument**
 - **compensation** for the product to be supplied, or for the service to be rendered
 - **Meaning for the customer:**
 - **monetary sacrifice**
 - **quality indicator**
 - **value indicator:** *psychological / emotional / economic / monetary / non-monetary / value for money (price vs. performance)*

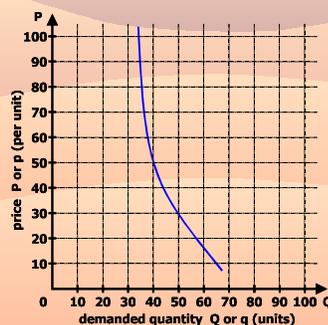
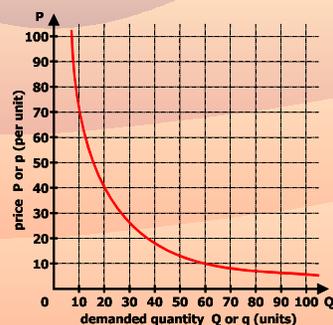


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Pricing aspects: elasticity

- The **course of a demand curve** shows the strength of reaction of **q** (demanded quantity), regarding pricing fluctuations.



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Pricing aspects: elasticity

- **Elasticity (e)** concerns the measurement of how responsive one (economic) variable is (for instance, quantity of sales in units -> the **effect**) to a change in another (for instance, pricing or buying power -> the **cause**).

- In general:
$$e = \frac{\% \Delta \text{effect}}{\% \Delta \text{cause}}$$

(Δ = change + of -)

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Pricing aspects: elasticity

- **Price elasticity of demand e_p** : the relative (=%) change in demand (q, in amounts of units or pieces) of a certain product in relation to the relative (=%) change in pricing (p) of that product:

- the extent to which the demand of customers responds to the price changes of a certain product.

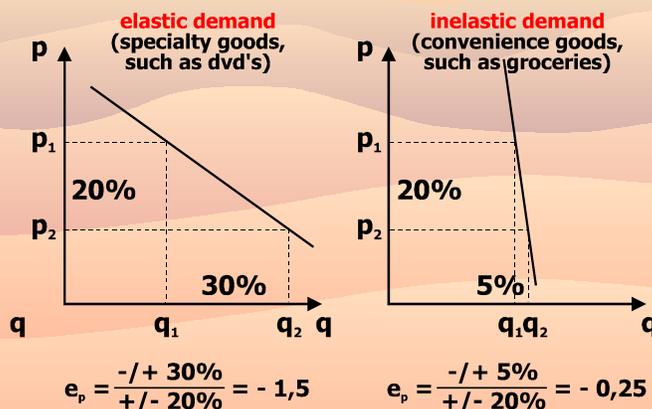
- Formula:
$$e_p = \frac{\% \Delta q}{\% \Delta p}$$

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Pricing aspects: elasticity



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Pricing aspects: elasticity

- **Calculus example #1:**

A product manager wants to increase the sales of his product (in units) and is considering to lower its price from \$ 7,⁵⁰ to \$ 6,⁷⁵ per unit.

Last year's sales totalled \$ 1.312.500.

According to statistics, the product manager should consider an elasticity of demand of -1,5.

What will this year's total sales be (in \$) if the price is lowered as suggested?

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Pricing aspects: elasticity

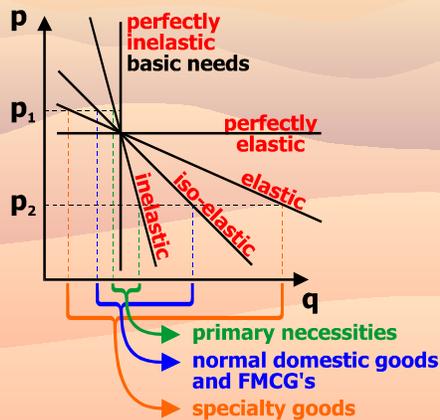
- **Calculus example #1, solution:** **\$ 1.358.438**

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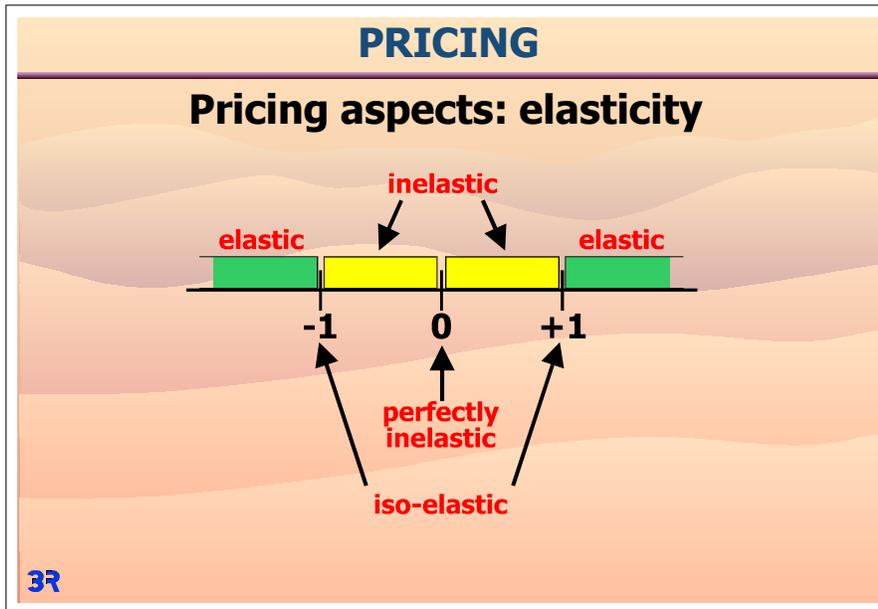
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Pricing aspects: elasticity



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Pricing aspects: elasticity

- **Cross-price elasticity of demand e_{cp} :**
the relative (=%) change in demand (q , in amounts of units or pieces) of a certain product in relation to the relative (=%) change in pricing (p) of another product:
- the extent to which the demand of customers for a certain product responds to the price changes of another product.
- **Formula:**
$$e_{cp} = \frac{\% \Delta q_{\text{prod B}}}{\% \Delta p_{\text{prod A}}}$$

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Pricing aspects: elasticity

- **3 situations of cross-price elasticity e_{cp} :**

$\frac{\% \Delta q_{\text{prod B}}}{\% \Delta p_{\text{prod A}}}$	$\begin{array}{c} + \uparrow \downarrow - \\ + \uparrow \downarrow - \\ + \uparrow \downarrow - \end{array}$, $e_{cp} > 0$: substitutable goods (ex.: Pepsi & Coke)
$\frac{\% \Delta q_{\text{prod B}}}{\% \Delta p_{\text{prod A}}}$	$\begin{array}{c} - \downarrow \uparrow + \\ + \uparrow \downarrow - \end{array}$, $e_{cp} < 0$: complementary goods (ex.: printers & cartridges)
$\frac{\% \Delta q_{\text{prod B}}}{\% \Delta p_{\text{prod A}}}$	$\begin{array}{c} 0 \\ + \uparrow \downarrow - \end{array}$, $e_{cp} = 0$: indifferent goods (ex.: gasoline & diapers)

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Pricing aspects: elasticity

- **Price elasticity of supply e_s :**
the relative (=%) change in **supply** (q , in amounts of units or pieces) of a certain product in relation to the relative (=%) change in pricing (p) of that product:
- the extent to which the manufacturers' supply of a certain product responds to the price changes of that product. In general, the elasticity of supply is **positive**; lower prices lead to lower production quantities, and v.v.

● Formula:
$$e_s = \frac{\% \Delta q}{\% \Delta p}$$

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Pricing aspects: elasticity

- **Income elasticity of demand e_i :**
the relative (=%) change in demand (q , in amounts of units or pieces) of a certain product in relation to the relative (=%) change in a consumers income (i):
- the extent to which the demand of a consumer responds to consumer's change in income.

● Formula:
$$e_i = \frac{\% \Delta q}{\% \Delta i}$$

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Pricing aspects: elasticity

- **3 situations of income elasticity e_i :**

$$\frac{\% \Delta q}{\% \Delta i}$$

$$\frac{- \downarrow \uparrow +}{+ \uparrow \downarrow -}, e_i < 0: \text{inferior products}$$

(ex.: unknown brands)

$$\frac{+ \uparrow \downarrow -}{+ \uparrow \downarrow -}, e_i \geq 0, e_i \leq 1: \text{essential commodities}$$

(ex.: 'normal groceries')

$$\frac{+ \uparrow \downarrow -}{+ \uparrow \downarrow -}, e_i > 1: \text{luxury products}$$

(ex.: vacations)

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Pricing aspects: elasticity

- **Calculus example #2:**

In 2014 a consumer earned \$ 30.000.
On 1-1-2015 his income was raised to \$ 31.500.

In 2014 this consumer spent \$ 500 on product X,
paying \$ 12,50 per unit. On 1-1-2015 the price
of this product increased by 20%.
Afterwards, it turned out that this consumer had
spent \$ 525 on this product in 2015.

What kind of product is this product X: a luxury
product, an essential product or an inferior
product?

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Pricing aspects: elasticity

- **Calculus example #2, solution:** inferior product

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Some financial aspects



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courtesy of MagicEye 3D: Coins

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Some financial aspects

- **Fixed costs** (also known as **overhead**): costs that do not vary with production or sales level.
- Examples of fixed costs: costs concerning depreciation of assets, rents of buildings and other real estate objects, costs of machinery, interest costs of loans and mortgages, etc.

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Some financial aspects

- **Variable costs**: costs that vary directly with the level of production or sales.
- examples of variable costs: costs of raw materials, costs of semi-finished products that are used in the company's own products, costs of energy, labour costs, etc.
- **3 types of variable costs:**
 - **proportional variable costs;**
 - **progressive variable costs,** and
 - **degressive variable costs.**

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Some financial aspects

- **3 types of variable costs:**
 - **Proportional variable costs:** vary directly proportional to the product's production and sales volume.
 - **Progressive variable costs:** vary according to the product's production and sales volume, but their % is above that of production and sales volume, for example, overtime compensations.
 - **Degressive variable costs:** vary according to the product's production and sales volume, but their % is below that of production and sales volume, for example, by purchasing discounts.

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Some financial aspects

- **Direct costs, indirect costs:**
 - **Direct costs:** costs that can accurately be traced to a cost object (a product, a project, a department, etc.), with little effort. Most direct costs involve variable costs, but this may not always be so.
 - **Examples of direct costs:** costs of raw materials, costs of staff involved in the production of the product, costs of depreciation regarding the machinery used to produce the product, etc.

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Some financial aspects

- **Direct costs, indirect costs:**
 - **Indirect costs:** costs that can not be accurately attributed to specific cost objects. Indirect costs can involve both variable costs and fixed costs.
 - **Examples of indirect costs:** costs of interest regarding debt, depreciation costs regarding HQ / office buildings, salaries of management and administrative staff, etc.

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Some financial aspects

- **Dealing with Value Added Tax (VAT), as in EU:**

VAT-receipt and payment: ultimately, the consumer pays

€ 363	factory purchase, incl.:	€ 63	VAT (paid)
€ 121	added value		
€ 484	selling price incl. VAT	€ 84	VAT (receipt)
		€ 21	VAT (paid)
€ 484	business purchase, incl.:	€ 84	VAT (paid)
€ 242	added value		
€ 726	consumer's price incl. VAT	€ 126	VAT (receipt)
€ 126	21% VAT (receipt)	€ 42	VAT (paid)

€ 600 + € 126 VAT = € 726 = consumer's buying price.

Total VAT receipt: € 63 + € 21 + € 42 = € 126

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Some financial aspects

● **At selling price level:**

Selling price / unit
Purchasing price / unit —

Gross margin
Var. selling costs / unit —

Contribution margin

● **At turnover level:**

Turnover
Turnover purchas. value —

Gross profit
Other variable costs —

Contribution margin
Fixed costs —

Net profit

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Some financial aspects

● **Calculus example #3:**

A manufacturer of decorative lighting sells a light to a wholesale for \$ 100 (= ex-factory price including manufacturer's margins).

The wholesaler adds a margin of 10% to the *wholesale purchasing price*.

The retailer's margin is 30% of the *retail selling price* (excl. VAT).

The final consumer's price should include 21% VAT.

Calculate the consumer's price of this product. (Only calculate VAT regarding consumer's price; VAT regarding wholesaler's and retailer's pricing can be disregarded).

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Some financial aspects

● **Calculus example #3, solution:** **\$ 190,14 incl.VAT**

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- **Calculus example #4:**

The consumer's price of a certain touring bike is \$ 1299,- , including 21% VAT.

The retailer who sells this bike, adds a margin of 40% to the *retail purchasing price*.

The wholesaler's margin is 25% of the *wholesale selling price*.

Calculate the wholesaler's purchasing price (= ex-factory's price) of this touring bike.

(Only calculate VAT regarding consumer's price; VAT regarding wholesaler's and retailer's pricing can be disregarded).

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Some financial aspects

- **Calculus example #4, solution:** **\$ 575,12**

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