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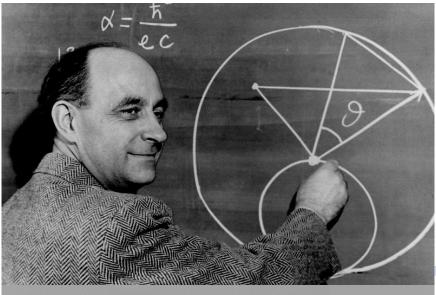
HELLENIC REPUBLIC National and Kapodistrian University of Athens

New Venture Creation | Winter Semester | 2024-2025

Fermi questions



How many piano tuners in Paris?



Fermi questions

Enrico Fermi, was famous for being able to make quick estimates with little or no data that at first seemed impossible to answer.

Case study: Goody's

Fermi questions in business

Exercise



Goody's (Greek fastfood chain) aim to insource its meat production for burgers. What is the capacity that the factory should have on an annual basis?(how many tons of meat should the factory produce annually?)

Develop assumptions using 1 as a reference value e.g. 1, 10, 100, 1,000, and 0.1, 0.01).

Answer

Number of Goody's restaurants in Greece? **100**

Clients per Goody's restaurant per day: **1.000**

Burgers per clients per day: 1

How much does each burger weight: 0,1 kilo (100 grams)

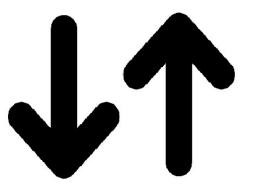
Per day we need 10.000 kilos (10 tons)

10 tons X 365 days = **3.650 tons per year**

The calculation of the TAM is the expression in Euros per year of how much you will earn by solving the "problem" you have defined. In order to define the TAM, you have to calculate the (theoretical) total turnover of your business in case all customers buy only from you as if there are no competitors (Market share 100%).

The identification of TAM serves as a quick metric for the underlining potential of a given opportunity—and is a key figure that is important for investors to understand the prospective value of your company.

even multi-billion dollar corporations do not sell to 'everyone'.



- Top down approach (market/industry reports) If you intend to sell to a mature and well-defined market (*e.g. toothpaste market*) you may find this number in an industry report referred to as the 'size of the market'.
- Bottom up (calculation). Count the number of potential customers you have (e.g. No of oncologists, No of girls going to high school, No of orange juice producers) and, in turn, the annual revenue per customer per year. If you multiply the two numbers, you will get your TAM.



Bottom-up TAM calculation:

- 1. Identify the target market
- 2. For each target market identify 'typical customers'
- e.g. a target market may have more than one typical customers such as a) large, b) small and c) medium
- 3. Determine the quantity that each typical customer would need and the price at which they would be willing to buy
- 4. Find total value per typical customer
- 5. Multiply the value of a typical customer by the number of customers

If we take over all the canteens in the stadiums of the Czech Republic's First Football League, how much revenue will we have? Assumptions: The canteens will only offer beers and sausages (one type of each).The league does not have play-offs.











#	Stadium	<u>Capacity</u>	<u>Average</u>	Capacity
1	Fortuna Arena	19.370	17.594	90.8 %
2	epet Arena	18.349	16.953	92.4 %
3	AGC Aréna Na Stínadlech	17.078	5.917	34.7 %
4	<u> Městský stadion - Vitkovice Aréna</u>	15.123	9.055	59.9 %
5	Andrův stadion	12.464	4.188	33.6 %
6	Doosan Aréna	11.700	8.802	75.2 %
7	Stadion U Nisy	9.900	3.088	31.2 %
8	Malšovická aréna	9.300	7.467	80.3 %
9	Městský fotbalový stadion Miroslava Valenty	8.000	4.916	61.5 %
10	Fotbalový stadion Střelecký ostrov	6.746	2.922	43.3 %
11	Stadion Letná	6.375	3.580	56.2 %
12	Ďolíček	6.300	5.125	81.4 %
13	<u>Střelnice</u>	6.108	2.586	42.3 %
14	Lokotrans Arena	5.000	2.815	56.3 %
15	<u>Městský stadion</u>	4.833	2.716	56.2 %
16	CFIG Arena	4.620	3.510	76.0 %
	ΜΕΣΟΣ ΟΡΟΣ	10.079	6.327	

30 matchdays 8 games per matchday TOTAL: 240 games Average attendance: 6,300 spectators Total spectators: 1.5 million spectators Assumptions: 0.5 sausages per spectator 1 beer per spectator Prices: Sausage:€2 Beer:€1.5 Revenue from sausages: €1.5 million Revenue from beers: €2.25 million

TOTAL: €3.75 million

If a product has a usage period exceeding one year, then we need to 'translate' the revenue on an annual basis.



World need for cranes is 50.000 vehicles. The price of each vehicle is 60.000 Euros. Market size: 50.000 Vehicles X 60.000 Euros = 3 billion Euros

HOWEVER, on average the lifespan of such a vehicle is 10 years. As a result, the TAM on an annual basis is 3 bill. Euros/10 years= 300 million Euros.

Our products is addressing people suffering from scoliosis at the age 5 to 15. Estimated price 150 Euros



It is estimated that 2-3% of the population is suffering from scoliosis

45,79 n	n number of users nil. X <mark>2%</mark> = 910.000 M in turnover:	45,79 mil. TAM on an annual basis is: 136 mil. Euros/ 10		
Japan	6,6%	126 mil.		8,35 mil.
USA	4,6%	328 mil.		16,10 mil.
Europe 27	4,8%	4,8% 447 mil.		21,34 mil.
	% of population at the age 5-15		tal lation	Population age 5-15

Case study: Wine analysis equipment

Estimated (future) price: 20,000 Euros Target markets: Wineries and wine laboratories Expected lifetime: 10 years





THE INSTITUTE OF MASTERS of WINE

"Master of Wine" with extensive knowledge of the Greek and international markets

"...only wineries with a turnover exceeding 500 thousand would have an in-house oenological laboratory and would be interested..."

"...approximately one in four oenological laboratories would be interested..."

"...the (mature) wine markets have a similar structure to the Greek market..."

Case study: Wine analysis equipment

Greek Market

- Wine production: 3.1 million hectoliters
- 680 wineries, out of which 60 have a turnover exceeding 500 thousand Euros.
- 80 oenological laboratories

Size of the Greek market 60 wineries 20 wine laboratories TOTAL 80 potential clients 80 clients X 20.000 Euro = 1,6mil. Euro

	Wine production in mil. hl
Greece	3,1
France	45,29
Italy	48,58
Spain	36,09
USA	19,62
Argentina	16,25
Australia	11,24
S. Africa	9,22
Chile	8,84
Russia	8,24
Germany	7,19
Portugal	6,76
TOTAL 12	220.42

Total Addressable Market (TAM) for the 12 biggest winemaking countries.

Assumption: The global market resembles the structure of the Greek market.

Greek market: 3.1 million hectoliters (hl) wine production

=> TAM: 1.6 million Euros

12 countries: 220.42 million hectoliters (hl) wine production => TAM: 113 million Euros/10 years=11,3 million Euros