



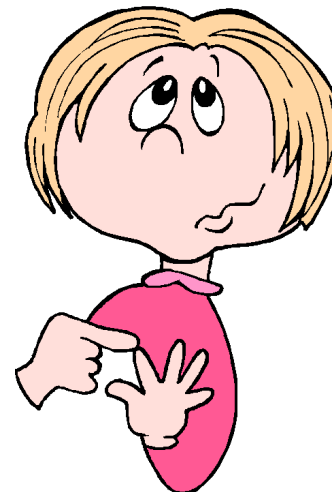
Lecture 6: Market Sizing

LiAn Pan
AITI Entrepreneurship Component

Estimate Market Size



- How many cocoa beans Hershey buy for its US chocolate bar business?
- How many pizzas were eaten in Accra last week?
- How many customers will use the SMS billing system you developed?



Solving the problem

- There is no accurate answer to this type of questions, but...
- There is a right way to approach the problems
- Structured approach:
 - Top down
 - Bottom up

Favorite Example: Chocolate

- Top-down approach: Estimate the total market for Hershey's chocolate bars first
- Step 1: Make an educated guess how many chocolate bars each person eats in a year:
0 to 4/5/..... every week
Assume 1.5 on average per week, 6 per month, 72 per year.

Favorite Example: Chocolate

- Step 2: Estimate how many Hershey's chocolate bars are sold to each person annually?

A big chocolate company: assume 30% market size

$$72 \times 30\% \approx 22$$

- If you want to refine it: old and young portion of the population do not eat that many chocolate bars: assume 25% of the US population belong to that group

Favorite Example: Chocolate

- Step 3: US population: 300 million people
75% of them eat 22 Hershey's chocolate bars on average annually:
About 5 billion Hershey's chocolate bars sold annually
- Final step: Assume 3 beans for each chocolate bar: 15 billion beans bought by Hershey for its chocolate bars per year

Summary

- Get the structure right first
- You could always re-estimate a more accurate answer: eg. market size of Hershey in the chocolate business
- You could put more constraints: number of chocolate sold vary with seasons, etc.

Back to fufu: How did you approach
the problem ?

Discussion: 2 to 3 people group
10 minutes

There is no need to follow the
example I gave.



How much fufu

- Kg of total fufu per year = Number of fufu \times 2kg/fufu

Number of fufu per year = Number of fufu per day \times 365

Number of fufu per day = Number of students \times fufu per student per day (your estimates)

Application to your mobile apps

- Top down: Estimate the overall market and then filter with the proportions you intend to capture.
- Bottom up: Identify the market segment, and then estimate the size and growth individually
- The analysis could get more complex depending how you want to segment your customers

SMS school bills to parents

- Send school bills and grades to parents over SMS
- Parents can check balance
- Parents can pay bill via SMS

SMS school bills to parents

- Top down approach
 - Size of Ghana population: 25 million
 - 15% (10/64) school age : $25 \text{ million} \times 15\% = 3.8$ million students
 - 3 kids per family: 3 kids and 2 parents \Rightarrow 2.5 million parents
 - 80% own mobile phones: $2.5 \text{ million} * 0.8 = 2$ million parents use mobile phones
 - 3% use the SMS bill system: 0.06 million !
 - Estimate the growth rate of the market and the share your system could capture