



# MasterTheCase.com

TOP CONSULTING INTERVIEW PREP

# WHARTON CONSULTING CLUB CASEBOOK

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# Establishing the case

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## Case 1: Microfinance In India

### Problem statement narrative

Our client is a large microfinance institution in India that has seen its client base (largely rural women earning less than \$3 a day) growing at over 150% a year. This is not unusual for private for-profit microfinance institutions in India.

However, the rapid growth has started to generate criticism over perceived high interest rates and harsh collection tactics of loan officers. This came to a head when the media and (local & state) started to blame farmer suicides on microfinance-induced over-indebtedness and harsh collection practices.

What should our client do in-response?

### Guidance for interviewer and information to be provided on request

- Microfinance is a huge untapped market in India. Demand met is \$5Bn of \$55Bn
- Microfinance Institutions (MFIs) cropped up in the early-late 1990s as non-profit institutions (NGOs)
- In the early-to-mid 2000s, these NGOs began to convert to for-profit institutions in order to access commercial capital that would help them scale
- The average MFI interest rate is between 25-30%
- Because many MFIs are now for-profit, critics contend that MFIs are making money off the poor through their 'high' interest rates
- At that time, our client provided financial services to around 1mm women clients in 5 states in India
- Loan officers are all from villages themselves, and are often incentivized according to number of collections and drop-out rate

# Sample solution element – issue tree & qualitative analysis

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## Candidate may propose analysis / action in:

### Market Analysis/Environment

- Is this an industry-wide perception problem ?
- Explore criticisms from government and media (what are motivations? Are they purely altruistic or something more nuanced?)

### Possible follow-up and guidance to interviewer

- Main critiques are : “high” interest rates and harsh collection tactics
- Important note: Our client (and other private MFIs) compete with government providers of microfinance – majority of government voter base is rural poor, so private MFIs are stepping on purview of gvnt (govnt view)

### External Response

- Explore competitive environment
- Who are players? Private vs government
- Do they use harsh collection practices? Do we?
- What interest rates do they charge?
- Opportunities to strengthen brand and image?

### Possible follow-up and guidance to interviewer

- Other private MFIs are allies, though two have engaged in harsh collection practices. Our client has disassociated from them.
- Government programs are highly subsidized (world bank), so can charge much lower interest rates. Still, their default rates are much higher. Show cost of borrowing slide.

### Internal Response

- Training programs
  - for loan officers to ensure no harsh collection practices are used
  - for area managers to deal with press and criticism
- Explore possibility of reducing interest rate

### Possible follow-up and guidance to interviewer

- For interest rate exploration, wait for them to ask about cost structure, and then show cost structure slide. Ask them to analyze

# Handouts & Math

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## Math Question

There is a lot of controversy over interest rates – should our client cut interest rates? Responder should ask about 1. cost structure of MFI/ 2. competitor interest rates and 3. ability of clients to repay loans. For #3, ask responder to calculate returns on investment....

## Overall approach, good shortcuts & solution

- For cost structure of the MFI – show chart. Shows that admin costs and cost of lending are extremely high, and profits are less than 2%. Thus, interest rates seem ok.
- For competitor interest rates - show bar graph. This shows that compared to government programs (state bank programs mainly), our client has a lower cost of borrowing because we have no travel costs (our loan officers go to our clients each week to collect interest payment or deliver loans) and client does not take bribes. However, Govt banks heavily subsidize their loans and charge lower interest rates that do not reflect the true cost of borrowing
- For ability to repay, responder should answer in two parts: 1. what is default rate = (less than 2%)  
2. Calculate returns on investment

## Math question

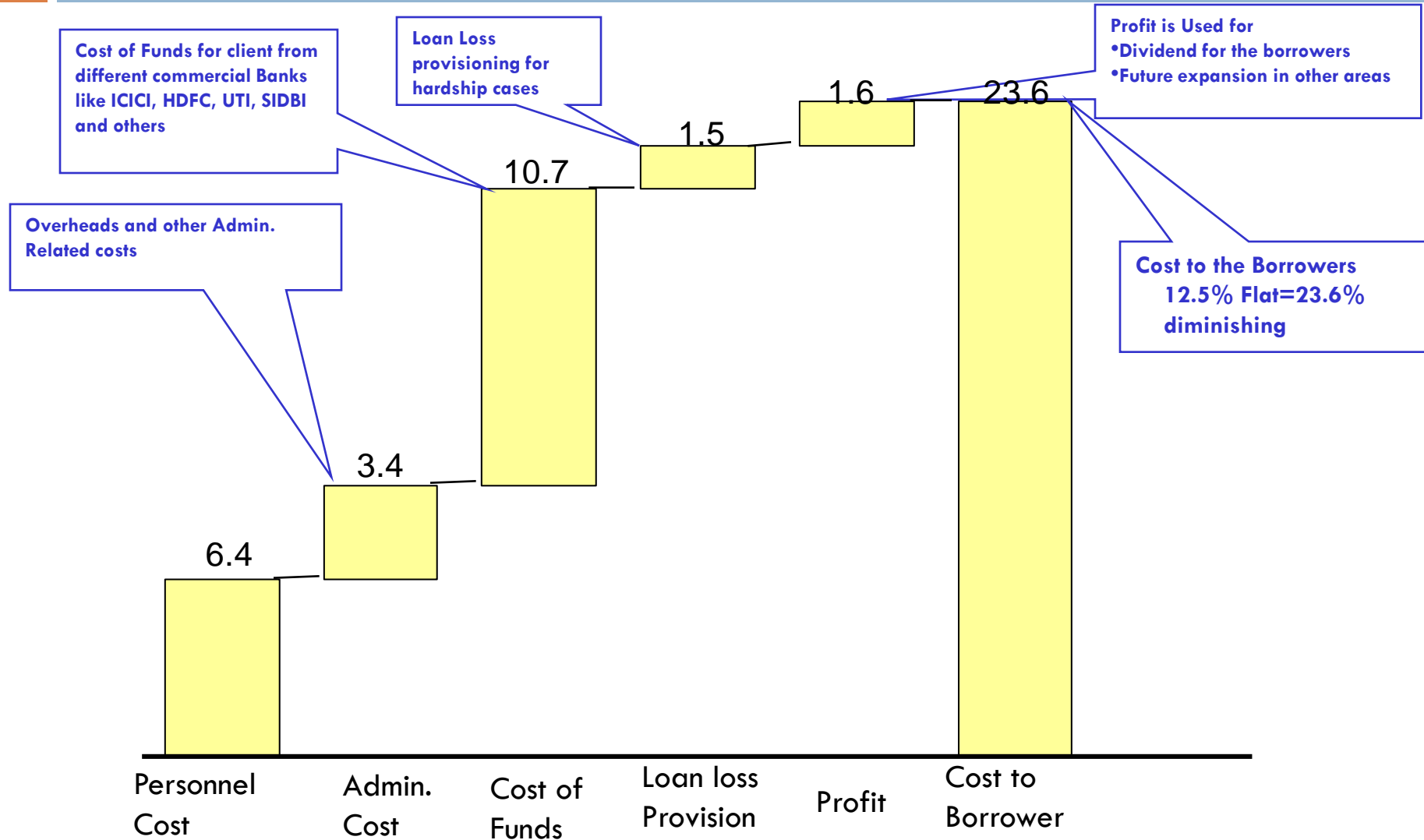
1. A typical investment by a woman MFI client is to buy a buffalo. What is her return on investment in this decision?  
**Supporting numbers (provide if asked):**  
Cost of buffalo: 10,000 Rs (Rupees)  
Useful life of a buffalo: 1 year (300 days per year)  
Cost to maintain buffalo: Rs 2 per day  
Milk per buffalo per day: 8 litres  
Market price for litre of milk: Rs 8 per litre  
Ignore time value of money, buffalo siring progeny and other uses of buffalo

## Answers

Answer:  $ROI = (Revenue - Cost - Investment) / Investment$   
 $= \text{Milk in litres per day} * \# \text{ of days buffalo can provide milk} * \text{price of milk} * \text{of useful years} - \text{investment} - \text{cost per day} / Investment$   
 $= ((8*300*8*1) - (10000) - (300*1*2))/(10000)$   
 $= \underline{\underline{86\% \text{ over 1 year investment period}}}$  (Note: this is actually much higher than the reqd. int. rate of 23-25%)

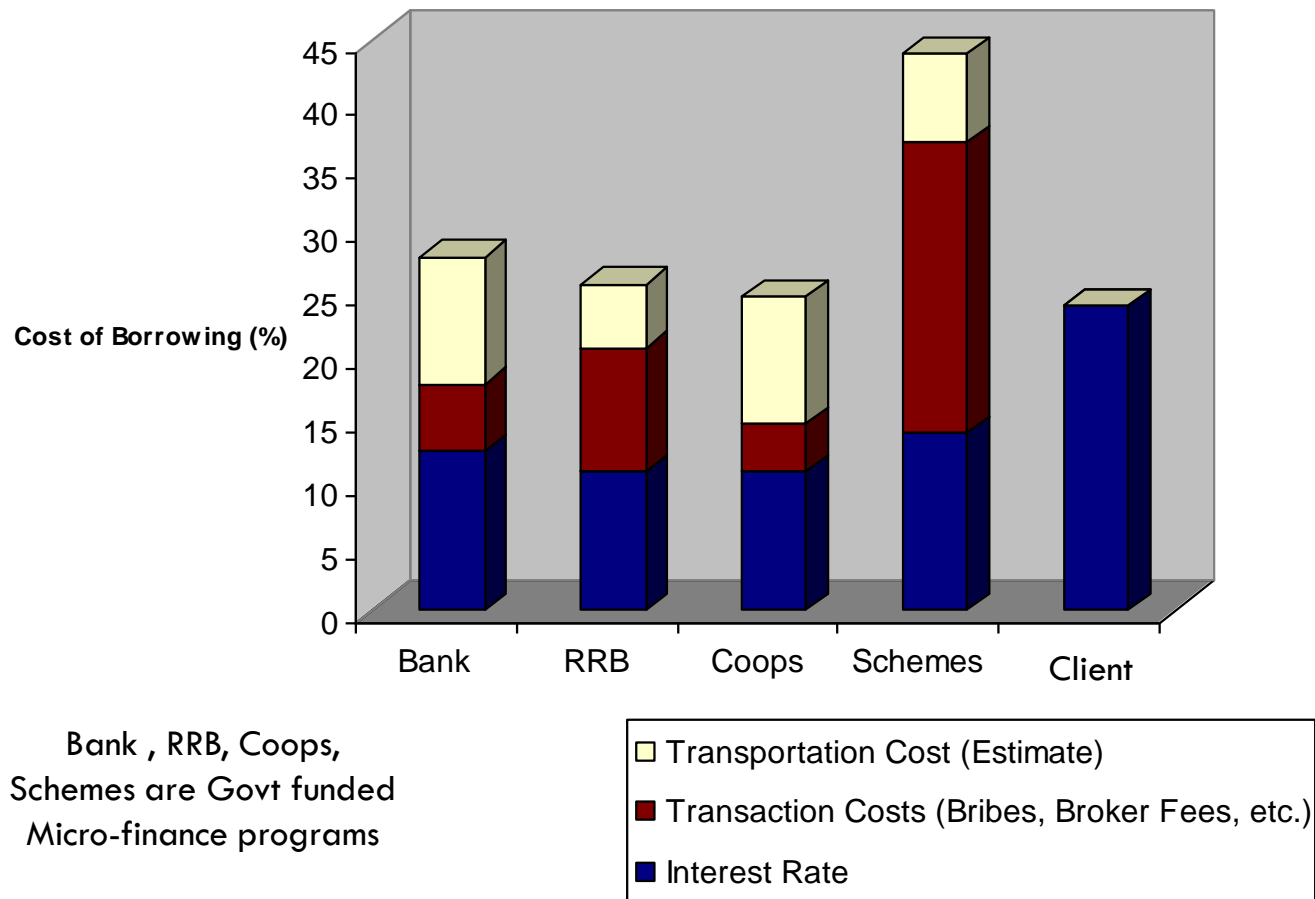
# Cost Structure of Client

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# Actual Cost of Borrowing and Interests Rates charged among Competitors in MFI space

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# Recommendation and bonus questions

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Recommendation	<ul style="list-style-type: none"><li>• Client should begin vigorous PR and marketing campaign (press conferences, interviews with media) – emphasizing transparency of rates, the cost of borrowing among competitors, and the ROI of clients</li><li>• Operationally, client should not reduce interest rate as 2% profits serve to fuel organization growth and benefit a larger proportion of the rural Indian population. (Rates are in line with other pvt MFIs)</li></ul>
Risks	<ul style="list-style-type: none"><li>• If competitor private MFIs drop interest rates, our client might face loss of portfolio/clientele, as well as increased criticism from media or government</li></ul>
Next Steps	<ul style="list-style-type: none"><li>• Continue to explore innovations to streamline processes to reduce interest rates.</li><li>• Look into renegotiating cost of lending terms with banks</li></ul>

## BONUS

- Why do you think the ROIs are so high for micro-entrepreneurs?
- Use of family labor (not paid for, and may not have other employment opportunities)
- Low infrastructure costs (ex. stores run out of home, pottery wheels are manually operated)
- No tax and legal costs (operating in an informal economy - taxes and legal costs are not applicable)
- Capital costs are a small % of total costs (even at 25-30%, interest rate on working capital loans are small (from 1-4%) compared to income streams and total business costs of poor clients)

Can share with candidate that interest rates are in line with other private microfinance institutions and that organizational objectives are to scale rapidly as large portions of India's rural population do not have access to financial services. There are also benefits to client from scaling (Efficiency – lower operating costs, attracting investments etc.)

# Establishing the case

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## Case2 : China Outsourcing Opportunity

BCG: Round 1, practice mock case

### Problem statement narrative

The client is a national plastic manufacturer in the US. Their customers are supermarkets and discount retailers. They are looking to outsource manufacturing to China but the CEO is concerned because no one else in the industry has done this yet. Should we recommend to our client to outsource to China?

### Guidance for interviewer and information to be provided on request

3 Product lines – freezer bags, plastic plates and utensils, and specialty plates and utensils

# Sample solution element – issue tree & qualitative analysis

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Candidate may propose analysis / action in:

## Cost Savings

- Fixed and variable costs of producing the US vs. China
- Suppliers?
- Transportation Costs
- Tariffs

## Possible follow-up and guidance to interviewer

- See handout to calculate differences in costs

## Consumer Preferences

- Preferences regarding quality issues with products
- Seasonality of products

## Possible follow-up and guidance to interviewer

- Quality :Freezer Bags – lower quality in China
- Plastic Plates – equal quality
- Specialty Plates – equal quality
- Consumer Prefs: Freezer Bags – commodity, but quality very important
- Plastic Plates – commodity, quality not issue
- Specialty Plates – seasonal business, trend is important

## PR / Brand Risks

- Layoffs in the US
- Labor standards in China

## Possible follow-up and guidance to interviewer

- PR – not big issue, no real information
- More important to show awareness of these risks

# China Outsourcing Opportunity – Handout

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Math Question

Calculate the Costs of Outsourcing in China

Costs	Costs in U.S. (\$/lb)	Costs in China relative to U.S.	Costs in China (\$/lb)
<b>Labor</b>	0.30	8% of wage rate 80% of productivity	
<b>Material</b>			
• Plastic resin	0.30	80%	
• Other material (incl. packaging)	0.20	75%	
<b>Variable overhead</b>	0.05	140%	
<b>Fixed overhead</b>	0.10	60%	
<b>Transportation</b>			
• China to U.S. distribution center	N/A	\$6K to ship 40K lbs.	
• U.S. distribution center to customer	0.05	Same	
<b>Total</b>	1.00		

# China Outsourcing Opportunity – Solution

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## Math Question

Calculate the Costs of Outsourcing in China

Looks like they will save 25% of costs by going to China

Costs	Costs in U.S. (\$/lb)	Costs in China relative to U.S.	Costs in China (\$/lb)
<b>Labor</b>	0.30	8% of wage rate 80% of productivity	$= .3 * (10/8) * (8/100) = .03$
<b>Material</b>			
• Plastic resin	0.30	80%	.24
• Other material (incl. packaging)	0.20	75%	.15
<b>Variable overhead</b>	0.05	140%	.07
<b>Fixed overhead</b>	0.10	60%	.06
<b>Transportation</b>			
• China to U.S. distribution center	N/A	\$6K to ship 40K lbs.	$= 6/40 = .15$
• U.S. distribution center to customer	0.05	Same	.05
<b>Total</b>	1.00		.75

# Solution element – recommendation et al.

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Recommendation	Recommend outsourcing the paper and plastic plates to China. Keeping the other lines in the US due to quality and trend issues.
Risks	Change in fixed overhead costs currently if move production to China. Additional mfg capacity – other product lines, rent out to another company, close certain lines; PR / Brand image risks
Next Steps	Research risks mentioned above to determine whether beneficial to implement

## BONUS

What might be some other benefits?

- Potentially easy access into the growing Asian economies in the plastic market.

# Establishing the case

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## Case3 : Caskets

LEK: Round 1

### Problem statement narrative

A casket company is considering buying another company. What factors would you consider in assessing how much they should pay?

Lets ignore synergies and financing-specifically, how we would put a value on this company.

### Guidance for interviewer and information to be provided on request

- Acquirer is market leader
- Target has 10% of market

# Sample solution element – issue tree & qualitative analysis

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Candidate may propose analysis / action in:

Revenue-Size the market	Costs
<p>We would need to estimate deaths/year and then % that use caskets and what % of the market the target has.</p> <p>We could use our pricing to estimate theirs.</p>	<p>We could use our costs to estimate theirs.</p>



# Sample solution element – Math

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## Math Question

Q: How many deaths per year are there on average in the US?

## Overall approach, good shortcuts & solution

If the average life expectancy is 80 years old and if there are 300mm people in the US, then every year  $1/80$  of the US pop is dying and so it must be  $300\text{mm}/80=3.75\text{mm}$ .

## Follow up Question:

It turns out the answer is 2.4mm. How could this be true if your numbers were correct?

## Answer

The distribution of ages in the US is not uniform so we are not losing  $1/80$  of our population as the fattier part of the curve is in their 50s and 60s. Right now we are losing less than  $1/80$ , but soon we will lose more.

# Sample solution element – recommendation et al.

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## DCF

Lets say you found out NI, what would you do to put a value on the company:

- Add back non-cash expenses like Depreciation and amortization.
- Take out Capex and changes in working capital.
- Add back interest expense.
- Project out a reasonable amount of years-5-7
- Come up with terminal value using perpetuity formula and assumed growth and discount rates.
- Discount the cash flows and TV using appropriate discount rate that considers the asset risk and capital structure.

# Establishing the case

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## Case4 : Bottled Water Market

Deloitte: Round 1

### Problem Statement Narrative

Our client is a leading beer manufacturer that has been experiencing stagnant sales in an increasingly competitive industry, so it is trying to evaluate growth opportunities.

A high level executive at the client site has noticed a steady and substantial increase in the consumption of bottled water products.

Our client is facing increased competition from microbreweries, and has already explored ways to penetrate the international market; however, this alone will not enable them to meet their current financial goals.

### Problem Statement Narrative (cont'd)

Believing that the assets required to produce bottled water are very similar to that of beer, the client wants to recommend to the CEO that they begin production of bottled water products. He has asked our firm to help build the case for why they should enter the bottled water market to achieve their sales and profit goals.

***This is an open-ended case. Let the candidate drive the case. Provide information only when asked.***

#### **Goal**

- First, client wants to see if the breakeven point seems reasonable.
- If it is reasonable, how should the client proceed in bringing the product to market?

# Sample solution element – issue tree & qualitative analysis

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## Candidate may propose analysis / action in:

### Market/Customer Information

- Annual growth rate around 10%.
- Average price per 12oz bottle of water is \$1.50
- Current market for bottled water is \$1.5B or 1B bottles

#### Customer

- Water customers are men and women 15-65 who lead an active lifestyle. This demographic is growing 5-6% CAGR

### Possible follow-up and guidance to interviewer

- Client has recently acquired a local distributor and has used up a lot of its existing cash position. Client has \$25M left.
- For purposes of this case, assume that the client has no access to capital markets to raise additional funds.

### Profitability Assessment

- Partners require \$20M upfront to begin the venture. This is the initial investment cost.
- Production cost per bottle: \$0.50.
- Distribution cost per bottle: \$0.20
- Breakeven Point  
 $\$20M / (\$1.50 - .50 - .20) = 25M \text{ units}$

### Possible follow-up and guidance to interviewer

- Potential partners include soda and juice manufacturers, and other beer manufacturers
- Due to a decline in sales, two soft drink manufacturers have excess capacity that they are willing to outsource.
- Each one could produce 200M bottles per year. Cost <\$25M

### Manufacturing Capabilities/Competition

- Plants are currently running at full capacity producing beer
- Building a new facility would cost \$50M

#### Competitive Analysis

- Recent industry analysis suggests that current manufacturing capacity of major water producers will not satisfy domestic demand

### Possible follow-up and guidance to interviewer

- Client has one of the industry's most extensive and efficient distribution networks for beer, which overlaps many but not all potential outlets for bottled water
- Client has recently invested in a new marketing campaign, with an outside advertising agency.

# Sample Solution

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## Math Question

- Breakeven Point:**  $\$20M / (\$1.50 - .50 - .20) = 25M \text{ units}$
- Total number of bottles sold in the market:**  $\$1.5B \text{ Revenues} / \$1.50 \text{ Price Per Unit} = 1B \text{ units}$
- Breakeven Market Share:**  $25M \text{ units} / 1B \text{ units} = 2.5\%$

## Overall Approach

Candidate should first explore the market potential for bottled water and determine whether this an attractive market to enter. This includes determining whether the breakeven point seems reasonable, what the competitive landscape looks like, and if there is sufficient demand.

Client will only need to grab 2.5% of the bottled water market to break-even with its initial upfront cost of 20M. This is reasonable.

Next, candidate should explore the capabilities of the company, including production, financial, and sales/distribution.

Specifically with production, candidate should weigh the pros and cons of outsourcing or building their own production facility.

## Solution

In the case, we find that the bottled water market is attractive. Competition cannot meet current demand and the client will only need to sell 25M bottles to breakeven within the first year, which is basically 2.5% of the market. The bottled water market and the target customer demographic is steadily growing, which also builds your case to enter the market.

With plants running at full capacity, the client has two options: lease or rent extra capacity from nearby factories or build a new facility. With only \$25M in the bank, our client will find that outsourcing is the most attractive option. It is within the company's financial capabilities, can produce the desired number of units, and is less risky of a move. The client can leverage it's current sales and distribution network to sell its bottled water products.

# Sample solution element – recommendation et al.

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## Recommendation (Action First)

“I recommend that our client enter the bottled water market. Given our calculations, we found that our client will only need to grab 2.5% of the market to breakeven within the first year. Competition cannot meet current demand, the market for bottled water is growing at a 10% rate, and we can effectively leverage our existing distribution networks to bring this product to market. Leasing extra capacity from a nearby production facility is the less expensive option and is a less risky of move in the event our client wants to exit the bottled water market in the near future.”

## Notes For Candidate

This is a classic market entry case. Before beginning, always define the financial goal of the company. Some clients want to achieve 15% profit growth, some want to breakeven within a certain number of years, etc.

Areas worth exploring include:

- **Market:** estimated demand, growth rate, penetration rate, upfront investments, and unit price and cost.
- **Capabilities:** financial, production, distribution, sales, etc. Think “value chain.”
- **Customer:** preferences, purchase criteria, target demographic, etc.
- **Competition:** Market concentration, potential responses, etc.
- **Risks:** legislation, etc.

# Establishing the case

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## Case5 : De Beers Retail Venture

Bain : Round Final

### Problem statement narrative

De Beers, one of the leader diamond exploration companies in the world, is thinking about entering the retail business. Should De Beers do so?

### Guidance for interviewer and information to be provided on request

- It is crucial to understand De Beers' value chain: exploration – extraction – distribution – polishing and finishing – jewelers – retail. De Beers is currently in exploration, extraction and in distribution and would like to enter retail. They won't, however, enter polishing or jewellery. Basically, De Beers wants to take advantage of their brand equity to sell finished diamonds (e.g. engagement rings). They would continue selling raw diamonds to polishers and they would then buy finished diamonds from jewelers.

# Sample solution element – issue tree & qualitative analysis

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Candidate may propose analysis / action in:

## Business

- The candidate should fully understand the value chain of De Beers.
- Competition
- Industry

## Possible follow-up and guidance to interviewer

- The interviewer should explain the value chain as highlighted in the previous exhibit.
- The candidate can ignore competition and could assume that the industry is healthy.

## Customers

- The candidate should understand De Beers' retail venture customer base.

## Possible follow-up and guidance to interviewer

- The customers are wealthy individuals. Also, the typical customers will likely be located in large metropolitan areas such as New York or London.

## Profits

- Revenues: understand the pricing structure and the revenues of selling the end product.
- Costs: Understand De Beers' cost for a retail venture.

## Possible follow-up and guidance to interviewer

- The interviewer can provide revenue information to the candidate by telling him/her about the information in the exhibit in page 5.
- The interviewer should provide the candidate with fixed cost information.



# Case Sequence

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As this is a command and control case, the interviewer must direct the candidate in the following sequence:

## Sequence Part 1

- Interviewer asks original question as explained in the first exhibit.
- The candidate must develop a framework and explain his reasoning. The candidate must fully understand the value chain. If the candidate does not, the interviewer must prompt questions to help the candidate understand it.
- The interviewer must ask the candidate about the main fixed costs. A good answer should include: real estate (rent), salaries, security, insurance, fixture, etc. The interviewer should ask the candidate to estimate the cost of real estate rent for one store. The interviewer should let the candidate think about some key issues (such as location). Eventually the interviewer must say that the store will be located in London and the costs will be:

£300 per square meter

5,000 square meters

The candidate should reason that the cost per year is  $£300 \times 5,000\text{m}^2 \times 12 \text{ months} =$  £18 million

- The interviewer should ask the candidate to calculate the gross margin on the company's 5 products as shown in the next exhibit.

# Case Sequence

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## De Beers' Retail Venture Products to be sold in the London store

### Sequence Part 2

Products	Price	Gross Margin	Profit	Allocation Mix	Revenues
P1	£300	20%	£60	20%	£12
P2	£500	30%	£150	40%	£60
P3	£1,000	10%	£100	10%	£10
P4	£1,800	20%	£360	20%	£72
P5	£5,000	30%	£1,500	10%	£150
				100%	£304

Units to be sold to break even                      59,211  
 Aproximately    60,000

The interviewer should not provide the candidate with the exhibit. The interviewer should call the numbers and the candidate should organize his/her thoughts. The interviewer should provide the candidate with the information included in the products, price and gross margin columns. The candidate should calculate the profit column. The interviewer should then ask the candidate **how many diamonds should be sold to break even?** The candidate should then ask for the number of units sold for each product. The interviewer can provide the candidate with the historical allocation mix. The candidate can then proceed to find the breakeven point as shown in the exhibit above. The calculations are as follow:

To break even set profits = 0.

$$0 = (0.2)(12) + (0.4)(60) + (0.1)(10) + (0.2)(72) + (0.1)(150) - 18M$$

De Beers should sell 59,211 or ~ 60,000 diamonds per year to break even.

# Case Sequence

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As this is a command and control case, the interviewer must direct the candidate in the following sequence:

## Sequence Part 3

- The interviewer should ask the candidate whether it is feasible to sell 60,000 diamonds in one year. The candidate should think creatively to answer this question. One good approach is as follows:

“A good way to think about the feasibility of selling 60,000 diamonds in a year in each store is to translate this into how many diamonds should be sold on a given day or on a given hour. Thus, to sell 60K diamonds in a year, the store must sell 5K diamonds per month. Assuming that the store is open 20 days per month (a 5-day work week) then the store must sell 250 diamonds per day. If the store is open 10 hours per day, then the store should be selling 25 diamonds per hour.” Clearly, it is very unlikely to sell 25 diamonds per hour. The typical consumer usually shops around before buying say, an engagement ring.
- The interviewer should then ask the candidate what to do. The candidate could mention different things but must mention that **the biggest cost driver is the real estate**. The **size of the store is too large** given the business (5,000 m<sup>2</sup> are not necessary to sell diamonds which are quite small). Other locations could also be explored.

# Sample solution element

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Recommendation	De Beers should re-think its strategy to enter the retail business. As things are now, it should sell about 25 diamonds per hour per store to break even, a situation that is highly unlikely. De Beers should first focus on reducing the size of the store to reduce its fixed cost.
Risks	
Next Steps	Other consideration is selling only the most profitable products such as P5 and P2. Other locations could also be considered.

# Establishing the case

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## Case6 : Hospital Administrative Software

Booz & Company: Round 1

### Problem Statement Narrative

- Our client sells software that runs on hospital operating systems across the nation. The software is used for administrative tasks, such as back-office operations and clinical record-keeping.
- The company used to be a market leader, but its share has steadily been declining. Specifically, sales have dropped.
- Our client has engaged our consulting firm to find out why sales have dropped and to provide recommendations that will address this issue.

**Before diving into the case, ask the candidate to size the market. Information to be given upon request:**

- Replacement rate is every 10 years
- A software sale is worth \$9M each, but because it takes 3 years to install, the company receives the money in three installments of \$3M each year.
- Only one software product is needed for each hospital.

### Guidance For Interviewer

After sizing the market, candidate should find out why sales have been declining. Information to be given upon request:

- The market is growing at 15%
- Competition can install their products within 2 years.
- The sales force says that the product is hard to sell to hospitals. Installments can be delayed and can take sometimes up to 4 years to complete installation.
- When installations are delayed, software “patches” have to be developed in order to make the software function properly in the meantime. This can be costly in terms of programming and training costs.
- Customers prefer simple products that are easy to use and navigate
- Customers feel that the client’s product has more features than needed. Makes it complex and lengthens installation time.
- R&D unit often adds features to the product without any market research first.

# Sample solution element – Math

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## Math Question

Sizing the Market (sample solution): We have one hospital that serves the 50,000 people within in my community. We can use this as a rule of thumb. If there's 300M people in the US, then there's 6,000 hospitals in the nation ( $300M / 50,000$ ). Every 10 years, a hospital will replace its software, so demand is 600 new software per year ( $6,000 \text{ hospitals} / 10 \text{ years}$ ).  $600 \text{ software units demanded} \times 9M = \$5.4B$  in revenue per year

## Overall Approach

After sizing the market, the candidate should find out why sales have been declining.

Start by looking at the external environment. This should include asking about the growth rate of the market, about any changes in the industry landscape, new legislation or technology, the products of competitors, and customer preferences.

Afterwards, look internally. Find out whether the client's product is meeting customer standards. Ask about the price— how does it compare to competitor's products? Find out about the client's capabilities, such as research and development and its sales force— are they being compensated fairly? Sales and marketing are ultimately responsible for top-line growth, so that's an area to touch on.

## Recommendation

I would recommend that our client simplify its product features in order to make it easier to use for our client's customers. This will also reduce the time it takes to implement the software, bring down the costs associated with delayed implementation, and put our client on par with its competitors in terms of implementation time.

Additionally, I would look into creating control policies within the research and development department in order to provide structure to adding new product features. Doing so will help reduce unnecessary research and development costs.

# Establishing the case

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## Case7 : Jamaican Land Investment

BCG: Round 1

### Problem statement narrative

**Our client is thinking about buying a piece of land in Jamaica for \$3000 and has asked us to determine whether or not this is a good idea.**

#### Information to be given only upon request

- The price of the land is \$3000
- Total acreage: 10 acres
- Financial Target: \$4,500 profit within first two years, excluding \$3000 purchase price
- When prompted about use of land, ask candidate to brainstorm possibilities before giving him/her the answer: real estate development, farming, hold and sell it once it appreciates, etc.)
- Land will be used for agriculture
  - Trees, Shrubs, Fruit, Exotic Flowers
- Cannot mix products (trees and shrubs) on same acre. Only one type of plant allowed per acre.
- Price per plant
  - Tree \$50, Shrub \$35, Fruit \$15, Exotic \$25
- Variable Cost per plant
  - Tree \$30, Shrub \$25, Fruit \$11, Exotic \$17

### Information to be given upon request (cont'd)

- Fixed Cost: \$500 initial set up (first year only), \$350 per year for salaried labor
- Market Demand per year
  - 5000 Trees, 1000 shrubs, 1000 fruit, 2500 exotic flowers
- Penetration rate: competitors cannot meet current demand.
  - Competitors have 60% tree share, 20% shrub share, 85% fruit share, 90% exotic flower share...the remaining shares can be captured by our client.
- How many plants can fit on an acre? When asked about how much of each plant can fit onto an acre, throw the question back and ask: "which plants do you think would have less of per acre?" (trees and shrubs b/c they take up a lot of room)
  - 10 Trees/acre
  - 25 Shrubs/acre
  - 75 Fruit/acre
  - 50 Exotic Flowers/acre

# Case Sequence

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Candidate may propose analysis / action in:

## Market Size/Est. Demand

### Demand

#### **Market Size x Client Penetration Rate**

- 5000 trees x 40% = 2000 units
- 1000 shrubs x 80% = 800 units
- 1000 fruit x 15% = 150 units
- 2500 exotic x 10% = 250 units

### Supply

\*Client's capability to meet estimated demand is dependent on the number of acres it has (10 acres).

## Possible follow-up and guidance to interviewer

### **Go From Most Profitable To Least**

- Exotic Flowers: 250 units demanded/50 units per acre = 5 acres used for Exotic Flowers
- Fruit: 150 units demanded/75 units per acre = 2 acres used for Fruit
- Shrubs: 800 units demanded/ 25 units per acre = all remaining acres (3 acres used for Shrubs)

Total # of acres should add to 10!

## Margins Per Unit

### **P-C=Profit per unit**

- \$50-\$30 = \$20 per Tree
- \$35-\$25 = \$10 per Shrub
- \$15-\$11 = \$4 per Fruit
- \$25-\$17 = \$8 per Exotic

## Possible follow-up and guidance to interviewer

- 5 acres of Exotic Flowers x \$400/acre = \$2000
- 2 acres of fruit x \$300 = \$600
- 3 acres of shrubs x \$250 = \$750

Y1: \$3,350-500-350 = \$2,500 (do not include \$3000 investment)

Y2: \$3,350-\$350 = 3000

**Total Profit For First Two Years: \$5,500**

## Profitability Per Acre

### **# of units per acre x profit per unit**

- 10 trees per acre x \$20 = \$200/acre
- 25 shrubs per acre x \$10 = \$250/acre
- 75 fruit per acre x \$4 = \$300/acre
- 50 exotic flowers per acre x \$8 = \$400/acre

## Possible follow-up and guidance to interviewer

### **To make the case more challenging, ask:**

-How would you price each unit? (cost-based pricing, look at competitors prices, price by segment (premium supermarkets vs. fruit stands, etc.)

-If demand was there, would you use all 10 acres for exotic flowers? Why or why not? (important to diversify products!)



# Sample solution element – recommendation et al.

72

## **Recommended Approach**

**Clarify the Problem:** Interviewee should always spend time clarifying the objective(s) upfront. Find out what the land will be used for, how many acres, financial target of client, etc. in order to come up with a more precise structure and to avoid stumbling later on in the case.

**Determine Demand & Assign Plants To # of Acres Based on Profitability:** Interviewee should determine total demand of each product and the client's penetration rate (market share that client can grab). After finding estimated demand, interviewee should look to assign each type of plant to a specific number of acres. This involves figuring out the margins per unit, the profitability per acre of each plant (most profitable plants get first priority in acre assignments), and how many plants can fit onto an acre.

**Determine If Investment Would Meet Client's Financial Target:** Once interviewee assigns plants to a specific number of acres, he/she should calculate the total profitability for the first two years. Interviewee should take into account the fixed costs for each year. Running the numbers, he/she will find that the investment will exceed the client's financial target of \$4,500.

# Sample solution element – recommendation et al.

73

Recommendation (Answer First)	“My recommendation to our client is to invest in the Jamaican property. My calculations show that we would achieve \$5,500 in profit within the first two years, exceeding our client’s financial target by \$1,000.”
Risks	“Before making a final decision, however, I would look into the growth rate and expected demand for these agricultural products, and any risks from natural disasters such as hurricanes, drought, plant diseases, etc.”
Next Steps	“At this point in time though, given my calculations, investing in this land looks like a great idea.”

## Notes

- It is important to let the candidate drive the case!
- The objective of the case is vague and ambiguous. Candidates must spend time clarifying what exactly a “good idea” is in the eyes of the client.
- Before calculating the figures, it’s always a good idea to tell the interviewer what you’re going to do next.
- Remember to label your units and keep your math neat. Use as much paper as necessary.
- Once you arrive at a figure, step back and explain what the number means for the benefit of both you and the interviewer.

# Establishing the case

74

## Case8 : Academic Performance of Students

McKinsey: Round 1

### Problem statement narrative

A public school system in a city has 130,000 students in total. The average score of the students in a state wide exam is much lower than the scores of the students from the rest of the state. The key question is “how do you improve the academic performance of the students in the city?”

### Guidance for interviewer and information to be provided on request

There are in total 13 grades in the public school system

Elementary: KG to 6<sup>th</sup> grade

Junior High: 7<sup>th</sup> and 8<sup>th</sup>

High School: 9<sup>th</sup> to 12<sup>th</sup>

# Sample solution element – issue tree & qualitative analysis

75

Candidate may propose analysis / action in:

## School

**Question: What are the key areas you would explore to identify the causes for decline in academic performance?**

School: Teachers and Support System, Quality of teachers, What kind of support system does the school have?

### Possible follow-up and guidance to interviewer

Support System in school comprises of Admin, Warehouse for storing textbooks and special education (private coaching) How will you identify from these three areas where the problem could be?

## Student

Student: Time required to study, availability of study materials such as text books, Lesson plan and syllabus consistent with the exam

### Possible follow-up and guidance to interviewer

There are same number of students in each class. Each student orders 2 books, 75% arrive on time, inefficiency due to warehousing and online orders.

## External Factors

External factors such as private coaching, parental assistance etc: Do students need extra coaching from parents? Are there more distractions in the city as opposed to the rest of the state?

### Possible follow-up and guidance to interviewer

For the purpose of this case lets assume this is not a problem.

# Sample solution element – Math

76

## Math Question

Each student orders 2 math books, There are equal number of students in each grade. The inefficiency is contributed 75% due to warehousing and 25% due to online orders. Due to improvements suggested by McKinsey, new warehouse model would improved the efficiency by 50% and online orders would improve by 80%. How many additional math books should Junior High school get on-time with the improved efficiency in the system?

## Overall approach, good shortcuts & solution

<There are in total 130,000 students  
Junior high school comprises of two grades. 10,000 students in each grade. Therefore 20,000 students order 2 math books which is 40,000  
 $25\% \text{ of the inefficiency} = 25\% \text{ of } 40,000$   
 $= 10,000$   
 $75\% \text{ of inefficiency due to warehousing} = 75\% \text{ of } 10,000$   
 $= 7500$   
Inefficiency due to online orders  $= 2500$   
Improvements in warehousing  $= 50\% \text{ of } 7500$   
 $= 3750$   
Improvements in online orders  $= 80\% \text{ of } 2500$   
 $= 2000$   
Therefore new additional math books  
That arrive on time  $= 5750$   
(3000+2750) >

## Information to provide up front

Everything except that the number of students per grade is equal

## Provide information if asked

Number of students per grade is equally distributed

# Sample solution element – recommendation et al.

77

Recommendation	Given the bonus question, what are immediate steps you would take to move 6 <sup>th</sup> graders to junior high? 1.Estimate the junior high schools that have lower capacity utilization since you don't want to build additional capacity which could be expensive 2.Re-distribute teachers to maintain the same or better teacher to student ratio
Risks	Junior high may not have capacity utilization Underutilized capacity in elementary schools may lead to unnecessary maintenance over head Might need to spend extra money to maintain the support system in junior high>
Next Steps	Evaluate these risks

## BONUS

We decided to move the 6<sup>th</sup> grade from elementary to junior high school. What are the implications of that?  
Capacity Utilization, costs associated. The current capacity utilization is 80%. Currently the elementary schools can host 6000 students. However only 4800 students are enrolled. 600 students are 6<sup>th</sup> grade (given only if the candidate asks). What is the new capacity utilization by moving 6<sup>th</sup> graders to junior high. It will be  $4200/6000 = 70\%$ . What is the % change in capacity utilization (10% - since 80 to 70)  
What are the implications of this?

# Establishing the case

78

## Case9 : Mobile Phone Insurance

Bain (London): Round 1

### Problem statement narrative

Your client is an insurance company (INSURANCECO) that is in the business of insuring equipment for large mobile carriers in the US. INSURANCECO would like you to advise them on how to increase revenues.

### Guidance for interviewer and information to be provided on request

- INSURANCECO is a monopoly and it only sells to the largest 4 US mobile carriers.
- Recognize the value chain: The insurance company provides insurance service to the carriers but does not charge the carriers. The carrier simply collects money from its customers, keeps a small % (for the purposes of this case assume this to be 0), and sends the rest to the insurance company. If a customer loses/damages a phone and needs replacement, they directly call the insurance provider, and the insurance provider sends them a refurbished phone after doing some basic checks. The customer pays a deductible to the insurance provider
- As an example, we can explore MOBILECO, a carrier with 40 million subscribers. Currently, 20% of the subscribers have insurance. What would the impact of an increase in the insurance subscribers to 25% of the carrier subscribers?

# Sample solution element – issue tree & qualitative analysis

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Candidate may propose analysis / action in:

## Business

Candidate should make sure he/she understand the value chain and the business (including the revenue streams)

### Possible follow-up and guidance to interviewer

The value chain is explained in the previous exhibit  
.  
The revenue streams are also explained in the previous exhibit.  
As for follow up, the interviewer should direct the candidate to the exhibit with the revenues for the MOBILECO.

## Market

Industry: who are our competitors? Is the mobile industry growing?

### Possible follow-up and guidance to interviewer

INSURANCECO is a monopoly and candidate should not worry about competitors  
  
Mobile industry is not growing in terms of subscribers, therefore providers are trying to increase ARPU

## Customers

Who uses insurance? What % of total subscribers?  
This is also an opportunity for the candidate to explore/recognize that other insurance plans could be developed (use your creativity)

### Possible follow-up and guidance to interviewer

Only about 20% of the carriers subscribers use insurance. Most people consider mobile insurance “unnecessary”



# Initial Questions

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- What are some channel strategies that INSURANCE Co. can use?
  - ▣ Selling through mobile provider
    - Have insurance as an option on phone sales whether it is online or in-store (current model)
  - ▣ Direct sales to consumers
  - ▣ Sales to businesses
  
- What are revenues and costs per customer?
  - ▣ Revenues are the monthly fee (subtracting channel margin) + deductible (\$50)
  - ▣ Costs are cost of phone (customer pays for shipping and other costs)
  - ▣ Assume that monthly fee is \$5, 0 channel margin and, \$50 deductible, \$200 cost of phone, how many months does it take to breakeven on a customer that orders a replacement?
    - $R = C; 5x + 50 = 200; x = 30$  months!
  - ▣ Key Point here that candidate should identify is that INSURANCECO is highly incentivized to reduce the number of phones that are replaced. Fraud is a big issue in this industry, but this is more on the cost side and not a focus for the rest of the case

# Sample solution element – Math

81

## Math Question

What is the impact on MOBILECO revenue if there is a 5% increase (20 to 25%) in the number of subscribers that buy insurance?

## Overall approach, good shortcuts & solution

If 20% of 40 million subscribers have insurance and the number will increase to 25%, the number of additional subscribers is 2 million (5% increase). The carrier will receive an additional \$5 per subscribers or \$10 million per month.

If MOBILECO increases its insurance subscribership from 20 to 25% of its subscriber base, MOBILECO will have 2 million more subscribers churning at 2.5% rather than at 2.8% (additional revenue of  $0.003 \times 2,000,000$  subscribers  $\times \$30 = \$180,000$  per month). We use a \$30 base rate to be conservative (i.e. candidate could also use \$35).

Thus the total benefit is an additional revenue of \$10,180,000 to MOBILCO per month.

## Information to provide up front

Next exhibit should be provided

# Sample solution element – Handout

82

## MOBILECO Revenue

	With Insurance	Without Insurance
ARPU	\$30 per month	\$35 per month
Churn	2.8% per month	2.5% per month

Notes:

ARPU is average revenue per user for the cell phone provider (excludes insurance)

Churn is % of customers that leave

# Establishing the case

83

## Case 10 : Organic Pizza Crust

Bain: Round 1

### Problem Statement Narrative

Our client is a natural foods company that has annual sales of \$35M. It makes and sells a variety of organic bread mixes and is thinking about expanding its product line to include an organic pizza crust mix. The CEO has engaged our consulting firm to build the case on whether this is a good idea or not.

#### Information to be Given Upon Request

- Estimated Demand: Have candidate size the market.
- Growth Rate: Organic food market growing at 25%
- 10% of the food market is organic
- Competition: We would be the first to enter the organic pizza crust mix market. Client would compete with regular pizza crust products in the grocery channel market though.

### Information to be Provided Upon Request (cont'd)

- Organic market is highly fragmented.
- Price: it is similar to the current products that the client sells....\$3.50
- Variable Costs: \$1.20 ingredients, \$1.50 sales and marketing, \$0.30 labor
- Upfront Investment Cost for New Equipment: \$30,000
- Customers seem to be demanding more organic products and more products for their home bread machines.
- Client has all the value chain capabilities in place
- Product: it's a pizza crust mix that customers can bake in their home ovens.
- Distribution: thinking about selling to gourmet, natural foods, and/or grocery channels.
- Gourmet and natural foods channels will have higher margins and less competition

# Sample solution element – issue tree & qualitative analysis

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## Candidate may propose analysis / action in:

### Market Sizing

There are 300M people in the United States and 3 people per household, so approximately 100M households. Most households have pizza twice per month on average, so that's approximately 24 pizzas annually per household. We know that people can buy or make their own pizza. People these days lead busy lives, so most will buy. From my own experience, my family made pizza only 2 times last year and we're pretty representative of all households in the US...so 2 units x 100M households = 200M units of REGULAR pizza crust each year. Organic food is catching on, but makes up only 10% of the overall food market...so the estimated demand for ORGANIC pizza crust is 20M units per year. Assuming we are the first movers, we can capture the majority of this amount.

### Possible guidance and follow-up to interviewer

$$20\text{M units} \times \$3.50/\text{unit} = \$70\text{M}$$

- Currently making \$35M in revenues.
- Client only needs to sell 60,000 units to break even in a market that demands 20M units annually
- No competition in this area

### Breakeven Analysis

- Price: \$3.50
- Variable Costs:  
 $\$1.20 + \$0.30 + \$1.50 = \$3.00$

• **Contribution Margin**  
 $\$3.50 - \$3.00 = \$0.50$

• Fixed Cost: \$30,000

#### Breakeven

$$30,000 / (.50) = 60,000 \text{ units}$$

# Overall Approach & Solution

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## Overall Approach

Before laying out a structure, candidate should first take time to understand the product, where it will be sold, customer preferences, financial targets of the company (if any), etc. He/she should clarify the problem (provide a go/no go decision and reasons to support it).

Next, candidate should ask about the market size and growth rate. Once figuring this out, he/she should determine what this means for the client. Ask about market penetration rate and competition, investment costs, and profit margins. Conduct a break-even analysis: how many units will the client have to sell to break even? Is this feasible? Assuming client can meet consumer demand, what does the additional revenues mean to the client's existing business? Interviewee should also ask about client's capabilities (financial, production, sales and marketing, distribution, management, etc).

The candidate should move to a recommendation when he or she has enough information...say something like "I think I have enough information to provide a recommendation unless there's another area you'd like me to explore before concluding."

## Recommended Structure (Market Entry/New Product Line)

- A. Market: size, growth rate, penetration rate, price or expected margins, costs: investment and variable
- B. Customers: Is this a product that customers would want? Purchase criteria?
- C. Competition: market share, products and substitutes
- D. Capabilities: production capabilities, marketing and sales, distribution, financial, management skills, etc.
- E. External Environment: relationships with and access to suppliers, cannibalization, etc.

## Solution

Everything in this case points towards a "go" decision. The organic foods market is growing at a healthy 25% rate, no competition for the time being, and the client only needs to sell 60,000 units to break-even. The current market demands 20M units. Last, the client is fully capable of bringing this product to market.

# Sample solution element – recommendation et al.

86

Recommendation (Action First)	I recommend that our client launch the organic pizza crust mix. The organic foods market is growing at a 25% rate and as the first entrant, this product line would double our client's current sales. Moreover, our client needs to only sell 60,000 units to break-even in a current market that demands 20M units. Sixty-thousand units is not a lot. Our client currently sells approximately 11M units of its other products annually. Furthermore, our client has the capabilities (financial, production, etc.) to bring this product to market successfully.
Next Steps	Before making a final decision, however, I would look into how well our brand would play out in the pizza crust market as well as what kind of shelf space our product would get. I would also consider launching first in the gourmet or natural food channels where competition is lower and margins higher.

## Notes

**Market Sizing:** McKinsey will embed this in their cases from time to time. So will Bain and Booz. Practice a couple each night to get comfortable with them. More market sizing problems can be on WetFeet's "Ace Your Case" guides accessible via MBACM. When sizing the market, never pull a number from thin air. Make your assumptions known and base it on your personal experience if needed. The interviewer cares more about how you arrived at the answer than the actual answer itself. Also, it helps to quickly structure out the steps you'll take to size the market before jumping in and doing the actual calculations. This makes it easier on you (instead of crunching numbers and deciding what to do next simultaneously) and gives the interviewer the opportunity help you adjust your structure if there is a factor that you didn't initially consider.

# Establishing the case

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## Case 11 : Traffic Signal Company

Oliver Wyman: Round 1

### Problem statement narrative

The client is a company that installs and maintains traffic signals. It is a small company based in California. They are considering expanding into the Tri-state market, especially Manhattan. They want our help to determine whether they should enter the Manhattan market.

### Guidance for interviewer and information to be provided on request

What is their goal of entry?  
Increase revenues and profits (no specific ROI target)

Is the scope of the case to determine only entry into Manhattan market?  
Yes

Does the client manufacture signals?  
No, only installs and maintains



# Sample solution element – issue tree & qualitative analysis

88

Candidate may propose analysis / action in:

## Market

Size and growth  
Competition  
Business model

Possible follow-up and  
guidance to interviewer

**Size and growth** - Size the market  
(next slide)  
**Business model** – Single contract for  
maintaining ALL traffic signals in  
Manhattan. Contracts awarded by  
bidding to highest bidder.  
**Competition** – Incumbent is the  
largest traffic signal company in the  
North East

## Revenues

Revenue drivers:  
Installation  
Maintenance

Possible follow-up and  
guidance to interviewer

Info on market sizing on next slide

## Costs

Installation costs  
Maintenance costs

Possible follow-up and  
guidance to interviewer

Costs on “NPV of project” slide

# Sample solution element – Math

89

## Math Question

Market size of traffic signals in Manhattan

## Overall approach, good shortcuts & solution

No. of streets in Manhattan, vertical and horizontal. Use this to determine no. of intersections

Each intersection has 1 traffic signal system

Each system lasts for 20 years

Hence,  $1/20$  of signals replaced every year

Installation market - \$10M ( $\$100,000 * 2000 * 1/20$ )

Maintenance market - \$30M ( $2000 * 15,000$ )

Approximate to 80 streets long and 25 streets wide to account for the tapered shape of Manhattan.

Hence, 2000 intersections

## Information to provide up front

## Provide information if asked

How often signals replaced

Revenue streams – installation and maintenance

Maintenance to be done for ALL signals and NOT only newly installed ones

Price of one signal system - \$100,000 (install)

Maintenance – 15,000 / year

# Sample Solution element - NPV of project

90

## Math Question

Calculate the NPV of the project

## Overall approach, good shortcuts & solution

### Costs

Cost of signal system = \$85,000

Transportation = \$0 (it is sourced locally)

Installation

#### Labor

Cost of installation = \$1050

Maintenance

#### Labor

Cost of maintenance/year = \$560

### NPV

Revs

Year 1 : \$40M (\$10M instln + \$30M maint.)

Year 2,3 : \$30M maint.

Costs

Year 1: \$8.6M (100 \* (85,000 + 1050)) + \$1.12M (maint)

Year 2,3 : \$2.24M (maint.)

NPV = **\$88M**

## Information to provide up front

## Provide information if asked

Duration of contract = 3 years

Cost of Installation

#### Labor

5 workers

Wage rate/worker/hr = \$35

Time per signal system = 6 hrs

Cost of Maintenance

#### Labor

2 workers

Time per signal system = 4 hrs

No of incidents per year = 2

# Sample solution element – recommendation et al.

91

Recommendation	<p>Yes, the client should enter the market and bid (there's no right answer but a sample case is for bidding at a loss – say \$120M) for 2 reasons –</p> <ol style="list-style-type: none"><li>1. It is a profitable venture - \$88M NPV</li><li>2. It is strategically important – Manhattan is largest market. This will take us to the big time</li></ol>
Risks	<p>Implementation risk since we have not done such a large city before.</p>
Next Steps	<p>Investigate historical bids by competitors in previous contracts Understand the strategic implications of this market entry and figure out how high we can bid in terms of potential economics benefit s in future</p>

## BONUS

Why may we want to bid at a loss?

Strategic importance of the contract – it can get us more cities in future. Manhattan is the largest signal market in the US.

# Establishing the case

92

## Case 12 : Travel Channel

### Booz & Company: Round 1

#### Problem Statement Narrative

Our client is a cable television channel that specializes in travel. Sample programs include those that cover popular tourist locations around the world and that expose the audience to different international cultures.

The cable channel currently lacks an audience and is not making any money. The client has engaged our firm to provide a recommendation on to improve the company's financial situation.

#### Information to be provided upon request

- The client wants to know what type of audience it should pursue in order to increase profitability.
- It is currently operating in the red and profit above \$5M would be substantial.
- Three key demographics the client is thinking about pursuing: Luxury Travelers, Adventure Travelers, Budget Travelers

#### Information to Be Provided Upon Request

•Potential Audience with each demographic: Luxury 80,000 viewers, Adventure 50,000 viewers, Budget 150,000 viewers

•Client can only focus on one demographic

#### Revenue Streams [have candidate brainstorm]

•Revenue per ad slot ....Luxury \$30 per thousand viewers, Adventure \$35 per thousand viewers, Budget \$10 per thousand viewers

•100 ad slots per day, channel runs 365 days per year

•Cable companies give the travel channel 25% of subscription fees collected from customers. Total yearly subscription fee collected by cable companies \$70M.

#### Costs [Have candidate brainstorm]

- Production costs, marketing, rent, overhead, etc.
- Total annual cost for the client is \$100M.

# Sample solution element – issue tree & qualitative analysis

93

## Candidate may propose analysis / action in:

### Which Demographic to Pursue?

#### Estimated Demand

**Luxury:** 80,000 viewers

**Adventure:** 50,000 viewers

**Budget:** 150,000 viewers

**Luxury:** \$30 per 1,000 viewers

**Adventure:** \$35 per 1,000 viewers

**Budget:** \$10 per 1,000 viewers

**Luxury:**  $\$30 \times 80 = \$2,400$  per slot

**Adventure:**  $\$35 \times 50 = \$1,750$  per slot

**Budget:**  $\$10 \times 150 = \$1,500$  per slot

### Possible follow-up and guidance to interviewer

**Competition:** no other travel channel exists

#### **Additional Revenue Streams:**

DVDs, product placement on shows, licensing of its shows, sponsorships, channel sponsored trips, etc.

### Revenue

Luxury: \$2,400 per ad slot x 100 slots per day = \$240K per day

$\$240K \text{ per day} \times 365 \text{ days} =$   
**\$87.6M in advertising revenue**

$\$70M \times 25\% =$   
**\$17.5M in Subscription Fees**

Total Revenue  
 **$\$87.6M + \$17.5M = \$105.1M$**

### Profit

Costs (all inclusive): \$100M

$\$105.1M - \$100M =$   
**\$5.1M profit**

#### **What does this number mean?**

Compare \$5.1M to what client is currently making.

# Sample solution element – recommendation et al.

94

## Overall Approach and Solution

The candidate should clearly define the problem at the beginning of the case. This will help him or her develop a more detailed and accurate structure to present to the interviewer. Does the client want to improve its top-line or bottom line? Does the company have a financial target?

Next, the candidate should brainstorm all the potential revenue streams for the travel channel. The two key revenue streams are advertising and subscription fees.

In figuring out advertising revenue, the candidate should determine which demographic the travel channel should target. This includes determining the number of viewers for each demographic, the advertising rates that each demographic draws, and the number of advertising slots per day.

Afterwards, the candidate should figure out the costs and subtract them from total revenues to get the profit.

Last, the candidate should explore any potential risks such as competitive response as well as ways to increase revenues.

## Recommendation

My recommendation to our client would be to pursue the luxury traveler audience. Our calculations show that this demographic would bring in \$5.1M in profits, substantially more than what our client is currently earning.

Areas for further exploration include ways to increase revenue, such as licensing and sponsorship opportunities, the competitive landscape of the cable industry, and ways to decrease costs for our client.

# Establishing the case

95

## Case 13 : Best Buy

LEK: Round 1

### Problem statement narrative

Best Buy is approaching Christmas and sales are down and inventory is rising. What should they do in the short term to increase profitability? What should they do in long term to stay competitive?

Factors:

- Circuit City has just declared bankruptcy.
- Walmart is their main competitor.
- There is zero margin on most of their big products like laptops and flat screens.
- The Geek Squad has become quite successful and brought \$1bn in revenue this past year.

### Guidance for interviewer and information to be provided on request



# Sample solution element – issue tree & qualitative analysis

96

Candidate may propose analysis / action in:

## Increased Inventory

Electronics have high rate of obsolescence so must get rid of inventory quickly. May have to lower prices to do this.

## Store Experience

May want to make exciting store experience like Apple Store and get people in to buy high margin accessories.

## Costs

May have to lower amount of sales people on the floor and/or switch to commission based payments over straight salary.

## Geek Squad

Continue to use this as a differentiator of your products and Walmart who mainly competes on price, but not expertise.

## Other Channels

May want to push internet sales more and tie store and internet sales together mixing convenience of store and internet together.

## Return Stuff to Suppliers

Have a lot of leverage with suppliers since you own end-consumer. May be able to send some stuff back, especially with Circuit city closing. May also consider using shared revenue model with suppliers to spread the risk around and align incentives.

# Sample solution element – recommendation et al.

97

Final Question	How should BB deal with Circuit City closing? What are risks and gains?
Risks	If they do liquidate, may flood the market with cheap goods and hurt BB's sales. If they restructure, may come out smaller, but stronger and harder to compete with.
Next Steps	BB should consider buying CC or buying their goods if they liquidate. They may also want to buy some of their locations if they are strategic and where BB does not have presence. Overall, CC's demise is an opportunity, but if not taken advantage of, it could present danger.

## Recommendation

### **Overall:**

Short Term-cut costs, send inventory to suppliers, and maybe lower prices.

### **Long Term:**

Work on in-store experience, continue to promote Geek Squad, and consider strategic acquisitions as Circuit City continues to flounder.

# Establishing the case

98

## Case 14 : All-Mart

McKinsey: Round 1

### Problem statement narrative

All-Mart (a discount superstore similar to Walmart) is interested in entering the market in Romania and hires McKinsey to help them determine if it will be profitable.

What factors would you consider to determine if this is a good idea or not?

### Guidance for interviewer and information to be provided on request

All-Mart is planning on opening their first store in Bucharest (the capital city of Romania).

# Sample solution element – issue tree & qualitative analysis

99

Candidate may propose analysis / action in:

## Market conditions (Revenue)

What is the market size? Growth?  
What is the purchasing behaviors of Romanians and how can they be segmented?

How many competitors what is their market share? How do competitors differentiate? How will they respond?

## Possible follow-up and guidance to interviewer

For a market-entry problem, this is the right place to start. We need to determine if there is a large enough market to make it worthwhile for All-mart to build a store. (more information to be provided in math section)

## Costs

Costs associated with opening a new store in Bucharest:

### COGS

- Direct Labor
- Direct Material
- Shipping/Logistics
- Overhead

### SG&A

### Opportunity Cost

## Possible follow-up and guidance to interviewer

After looking at market size, the next step is to determine if there are potential cost savings from opening a store in an emerging market (more information provided in math section).

## Strategy

Does entering Romanian market fit with All-mart's overall strategy and culture? Does All-mart have prior experience in entering global markets? Is there a first-mover advantage?

## Possible follow-up and guidance to interviewer

These are points that students should mention also in providing a final suggestion.

# Sample solution element – Math (Part 1)

100

## Math Question

Compute the total market size.

What potential market size can All-mart realistically capture? Is that a big market size?

## Overall approach, good shortcuts & solution

Total Market Size = Food/Clothing + Electronics

Food/Clothing = 2M people \* 1350 RON/people/mth \*  
12 mth/yr \* .35 = **11.34B RON/yr**

Electronics = 500 USD \* 3 RON/USD \* 2 M people = **3B RON/yr**

**Total = 14.24B RON/ yr = 4.78B USD/yr**

What % can All-mart realistically capture?

\*\*There are 5 superstores in outskirts of Bucharest, which cover 30% of the market, the rest being served by smaller stores spread throughout the city.

Assume an even share in outskirts ~ 10%

Market Size for All-mart = 239M USD

**\*\* Additional info: You can ask the candidate what other factors they should consider to determine realistic MS.**

## Information to provide up front

Population in Bucharest is 2 Million

Avg Salary/person = 1350 RON\* /month

\*RON (Romanian currency)

## Provide information if asked

Romanian spending habits (as % of salary)

30% Food

40% Rent/Utilities

5% Clothing

25% Various

From an independent study, we know that people in Bucharest spend an average of USD 500 a year in electronics.

Conversion from RON to USD: 3 RON = 1 USD

# Sample solution element – Math (Part 2)

101

## Math Question

Now that we have the potential revenues, let's look at the costs. What is the overall cost of running a discount store in Romania as a percent of cost in the U.S.?

## Overall approach, good shortcuts & solution

Food => 4% of U.S. (20%/5)

Clothing => 20% of U.S.

Electronic => 40% of U.S.

Salary => 4% of U.S.

Total Cost in Romania = **68% of U.S. costs**

## Information to provide up front

See handout in the next slide.

# Sample solution element – Handout for Math (Part 2)

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## Additional Information

Food is supplied from local distributors.

Clothing is produced by contractors in Asia - same as in the U.S.

Electronics are supplied by branded organizations (Sony, HP, etc) – same as in the U.S.

Romanian salary is 5 times less than salary in the U.S.

Ask the candidate which categories would have cost savings and why? (Food and Salary because they both use local resources)

### % Total Cost by Category

	U.S.	Romania
<b>Food</b>	20%	?
<b>Clothing</b>	20%	?
<b>Electronics</b>	40%	?
<b>Salaries</b>	20%	?
<b>Total Cost</b>	100%	?

# Case 15: Loonilever plc

(inspired by) McKinsey, Round: 1

103

## Problem statement narrative

Our client (Loonilever) is a major consumer products company with operations in over 80 countries. Loonilever operates across all categories in the consumer products space – personal wash, hair care, oral care, laundry, household cleaning, skincare etc. Over the last decade or so, it has been losing share to its key competitors, particularly to B&G. Loonilever is very keen on regaining/building share in key categories, especially in traditional B&G strongholds.

Skincare is the most profitable category for the large consumer products players, with gross margins of ~75% (vs. 30% for laundry). Loonilever is now evaluating an entry into China's skincare market, a market that B&G has enjoyed market leadership in for over a decade. Though Loonilever is the market leader in China's laundry segment, it does not currently operate in the Skincare segment.

Lunilever has hired McKinsey to help them determine what their potential entry strategy into the Chinese skincare market should be.

## Guidance for interviewer

- The 'question' to be answered is deliberately worded vaguely, to encourage the interviewee to ask clarifying questions at this stage.
- What Lunilever is actually interested in is:

*Can Loonilever achieve (a) revenue of \$100 million in two years time (b) in a market that displays significant potential for future growth?*

Provide this information if the interviewee asks for it.

- If the interviewee does not ask clarifying questions at this stage, wait to see if s/he gets to this questions after drawing out the issue tree. If s/he does not, then deduct points from overall case performance and re-direct the focus of the discussion.



# Issue Tree

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Can Loonilever achieve a revenue target of \$100M in two years in a market that offers a significant upside?

## INDUSTRY

- Size of market
- Segmentation of market
- Key players and their share
- Consumer/market trends within each segment

## REVENUE

- Volume projections
- Pricing

## OTHER FACTORS

- Gateway to other markets (SE Asia)
- Potential global manufacturing hub
- Bonus points: By challenging established competitors in the skincare space, can destabilize competitors' business model (by making them bleed)

## Guidance for interviewer

- Most candidates are likely to start with 'Industry'. Bonus points if the interviewee addresses all four sub-issues upfront
- Negative points if the candidate draws a 'Cost' bucket. The question is about revenue, not profit.
- The last bucket gives the interviewee a chance to demonstrate business intuition – For example, are there reasons why Loonilever should enter even if they don't achieve the \$100M target?
- Bonus points if the candidate ends the issue tree presentation with a hypothesis – 'I'd like to start with Industry since that will likely provide insight into the most attractive revenue generating opportunities'

## Math Question 1

What is B&G's current market share? If it maintains the status quo (same marketing expenditures, no dramatic new product launches etc.), will its market share go up, go down or stay constant in two years time?

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### Information to be provided

- Show Exhibit 1 (proactively) and ask the question listed above
- Show Exhibit 2 (only if asked for)
- Show Exhibit 3 (only if asked for ): This is not crucial to the solution anyway, but can really impress an interviewer if

### Approach and solution

- A strong candidate's first reaction will be:
  - China's skincare market is large and growing
  - Given B&G's high market share, it could be a challenging market to break into given B&G's deep pockets and the skincare category's high profitability. B&G will probably guard their share very aggressively.
- Answer to Math Question 1: See solution
  - Part 1: Current mkt. share =  $B\&G \text{ rev.} / \text{market rev.}$
  - Part 2: Project mkt. revenue and B&G rev. over two years. Apply above formula to calculate future share.
  - Key insight: B&G's overall share declines because it has the largest share of a slow-growing market. The contribution of the sub-segments will change in two years, and therefore, so will B&G's overall share

### Approach and solution (contd.)

- Negative points if interviewee says – 'no change in share since market and B&G are growing at the same rate'
- The math is deliberately complex, to determine an interviewee's comfort with numbers. Bonus points if s/he rounds off intelligently, and gets to the insight quickly.
- Bonus points if the interviewee draws the discussion back to the main question after answering Math Question 1. Otherwise, guide the candidate by asking, 'So what does that mean for Loonilever's entry strategy?'
- Bonus points if candidate proactively asks what market share Lunilever thinks it can achieve in Year  $t+2$ . Otherwise, provide the details, but deduct points.
- Conclusion: Lunilever should enter the Anti-ageing segment because:
  - a) It satisfies the \$100M criteria
  - b) The AA segment offers a significant upside because it's growing at 20%
  - c) The sub-segment also has the highest margins (85%), a clear plus point for Loonilever.

# Exhibits for Math Question 1

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Exhibit 1: China's skincare market construct			
Market segment	Current market size*	B&G share	Annual growth projection **
Skin Lightening	1000	50%	5%
Anti-ageing	700	20%	20%
Moisturizing	300	30%	10%
<b>Total</b>	<b>2000</b>		

\* all figures in \$ millions

\*\* over the next two years

Exhibit 2: Lunilever test market results	
Market Segment	Projected mkt. share in t+2
Skin Lightening	5%
Anti-ageing	10%
Moisturizing	20%

\* Segment size/Overall market size (from Exhibit 1)

Exhibit 3: Overall segment margins			
Market Segment	Segment contribution *	Gross margin	Weighted margin
Skin Lightening	50%	75%	38%
Anti-ageing	35%	85%	30%
Moisturizing	15%	50%	8%
<b>Total</b>			<b>74.8%</b>

\* Segment size/Overall market size (from Exhibit 1)

# Solutions for Math Question 1

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Solution to Q1: What is B&G's current share and share two years down the line?						
Market segment	Year t		Year t+1		Year t+2	
	Market	B&G	Market	B&G	Market	B&G
Skin Lightening	1000	500	1050	525	1102.5	551.3
Anti-ageing	700	140	840	168	1008.0	201.6
Moisturizing	300	90	330	99	363.0	108.9
	2000.00	730	2220	792	2473.5	861.8
		36.50%				34.84%

Solution to Q1: What does this mean for Lunilever's entry strategy?			
Market segment	Year t+2		
	Market	Likely Lunilever share	Lunilever Revenue
Skin Lightening	1102.5	5%	55
Anti-ageing	1008.0	10%	101
Moisturizing	363.0	20%	73
<b>Total</b>	<b>2473.5</b>		

## Math Question 2

What's the average price point in the Anti-Ageing (AA) market? What do you think is the ideal AA price point that Lunilever should enter at? (Assume all other information from the earlier question still holds)

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### Information to be provided

- Show Exhibit 4: After interviewee has a chance to digest the information, inform them that the price-point space in between is largely unoccupied

### Approach and solution

- The interviewee should get to the average price point very easily. (See solution). The second part of the question tests the candidate's business intuition because there is no right answer. There are three potential approaches, each of which have different *implications*:
  - Solution 1: Take on the MNCs at the top end (@ \$25/100gm)
    - Need to cater to a more demanding, higher-income population, probably in large cities, implying need for specific expertise (in-store experience, beauty consultant training etc.). Assume that costs are already included in gross margin figures
    - Likely to be a very competitive space as major multinationals will likely use their deep pockets and their marketing experience to jealously guard market share.
    - Huge profit margin at the top end (85%)
  - Solution 2: Compete with 1000+ local brands (@\$5/100gm)
    - Relatively low margins (Bonus points : 'That shouldn't be an immediate concern since Loonilever is concerned with revenue')

### Approach and solution (contd.)

- Less challenging marketing tasks, since market seems to be commoditized. Local players are unlikely to be as marketing-savvy as the multinationals.
- Distribution network needs to be very strong since the market is likely to be geographically dispersed (Big cities + smaller towns). Bonus points: 'Loonilever is likely to have this distribution system in place since it is the market leader in Laundry (a low price-point category)
- Solution 3: Operate in the middle by being the 'bridge' that upgrades mass-market consumers to the top-end of the market (@\$10-20/100gms). Focus on geographies experiencing rapid income increases
  - Takes advantage of Loonilever's two key strengths – marketing/branding and a strong distribution network.
  - Sacrifice margin (by not operating at the top end) to build revenue base. In line with Loonilever's revenue focus
  - Don't need to burn cash in the short-run to directly take on well-entrenched multi-national players at the top end
  - Bonus points: 'Could force multinational competitors to bleed by forcing them to match lower price point'
- Conclusion: The first two answers are good enough responses if well-argued. If not, probe for underlying logic. Bonus points for those interviewees who identify solution 3

## Exhibits and solution for Math Question 2

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Exhibit 4: China's Anti Ageing Market				
	No of brands	Share of revenue	Gross margin	Avg. Price Point*
Large multinational brands	4	70%	93%	25
Local Chinese brands	1000+	30%	65%	5
<b>Total</b>				

\* \$/100 gms

Solution to Q2: Ideal Price Point					
	Share of revenue	Gross margin	Average margin	Price Point*	Average price point
Large multinational brands	70%	93%	65%	25	17.5
Local Chinese brands	30%	65%	20%	5	1.5
<b>Total</b>			85%		19

\* \$/100 gms

# Recommendation

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Recommendation	<ol style="list-style-type: none"><li>1. Loonilever should enter the Chinese skincare market in the Anti-Ageing segment since it can meet the \$100M threshold target that Loonilever had set itself. Moreover, it's a fast-growing market.</li><li>2. Loonilever should enter the AA segment at the bottom/top/middle of the market because: (reasons from previous page depending on which option the interviewee goes with)</li></ol>
Risks	<p>We have not considered the impact/nature of a competitive response from the major multinational players. (Bonus points: They are unlikely to allow Loonilever a free run of the market irrespective of which option they choose)</p>
Next Steps	<ol style="list-style-type: none"><li>1. Conduct a sensitivity analysis for these revenue projections based on different competitor responses</li><li>2. Bonus points: 'Now that we've proven that the revenue potential does exist, we'd like to understand the cost side of the business, and do a break-even analysis to identify whether China's AA market can be a profitable business for Loonilever in the long-run'</li></ol>

# Establishing the case

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## Case: BevCo

McKinsey, Round: 2 (Command and Control Style)

### Problem statement narrative

Your client is BevCo, a global company that sells a wide variety of non-alcoholic beverages. Their operations are predominantly in North America. BevCo sells primarily to retailers, restaurants, bars and wholesalers. Recently, competition has been rising, giving consumers more choices over brand as well as type of beverage. This, in turn, has put pressure on margins. BevCo has hired us to make recommendations on what actions to take.

### Guidance for interviewer and information to be provided on request

BevCo is involved in the production and marketing of beverage drinks. They do not distribute

Segments of drinks include:

Sugar (carbonated drinks, e.g. (Coke, Fanta), Juice, Water, Tea/Coffee, Sports (e.g. Gatorade), Energy (e.g. Red Bull), Diet

Some segments, like Energy, have grown considerably in recent years

There are a few other large industry players



# Analysis #1

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## Question

Present the candidate with Exhibit A, and ask him/her to interpret the situation (before diving into any numbers).

After discussing Exhibit A, have the candidate compute total last year sales, this year sales and the overall growth

Next, have the client brainstorm what the consumer drivers behind the shift in industry dynamics are

## Exhibit A Key Takeaways

Some key takeaways from Exhibit A:

-BevCo's sales have decreased significantly in some of their largest segments (e.g. Sugar and Juice drinks) and have increased in segments that are small (e.g. Energy drinks)

-Hypothesis: BevCo has been putting too much emphasis on fast growing market segments, like Energy, at the expense of established market segments, like Sugar and Juice. They should not neglect their main source of profitability

-Hypothesis: BevCo's gain in revenues from Water, Sports, and Energy is less than the loss in Sugar, Juice, Diet, and Tea/Coffee.

## Solution

	Sales last year (\$,millions)	Growth	Sales this year (\$,millions)	CAGR
Sugar	41	-5%	39	
Juice	18	-50%	9	
Water	17	15%	20	
Diet	15	-4%	14	
Sports	5	23%	6	
Tea/Coffee	3	-6%	3	
Energy	1	100%	2	
Total	100		93	-7%

Candidate should observe that overall sales are decreasing as a result of management's efforts to focus more on Energy drinks. Possible consumer drivers: It looks like there is high growth in the Water, Sports and Energy segments. Drivers behind this might include factors such as health, sports, trendiness, demographics. For example, there is a larger proportion of young people in the population. This young crowd is a lot more health conscious, a lot more sporty and cares a lot more about trendiness than previous generations

# Analysis #2

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## Question

Next, BevCo wants to assess the opportunity of the Energy Drinks market in the US. They specifically want to target young males in the 16-32 age group. How would you go about doing this?

## Overall approach, good shortcuts & solution

Candidate should recognize this as a market size case. He/she should brainstorm the different elements of the computation before he/she starts crunching numbers. A good candidate will identify the following necessary elements:

- Number of people in the 16-32 age group
- Drinking habits of this age group
- Market share, price point and margin

## Assumptions to be made

Assumptions:

- US population is 300 million, half of them are male
- Life expectancy in the US is about 80 years
- US population is uniformly distributed (i.e. equal number of people at each age)

## Provide information if asked

- 16-32 males are estimated to have about 20 drinks/year
- BevCo thinks they can get a 5% market share, at a price point of \$3, and a gross margin of 20%

## Solution

Revenues:  $300 \text{ million people} \times 50\% \text{ male} \times 16/80 \text{ people in the target age group} \times 20 \text{ drinks/yr} \times 5\% \text{ mkt share} \times \$3 \text{ price} = \$90 \text{ million in revenues}$

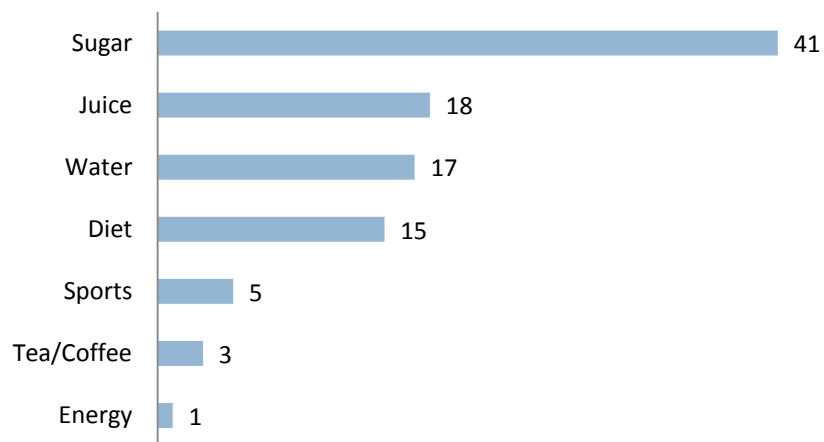
Profit:  $\$90 \text{ million} \times 20\% \text{ margin} = \$18 \text{ million}$

Candidate should recognize this is a huge potential (their largest segment right now is \$41 million in sales)

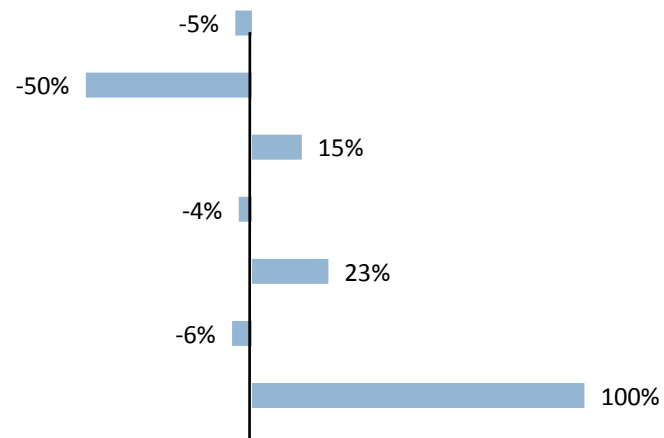
# Exhibit A

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**BevCo sales last year (\$, millions)**



**BevCo sales growth**



# Establishing the case

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## Case: Mosquito Repellant

Accenture: mock interview

### Problem statement narrative

Your client is a consumer packaged goods company, located in Massachusetts, US. They manufacture and sell two mosquito repellant products. One of them is an esthetic/decorative product to be used outside, e.g. on a balcony or a porch, and the other is a mosquito swatter/zapper (a simple racket). The client manufactures the products outside of the US and sells them in the US.

The profit margins in years 2006 and 2007 were 20% and 0%, respectively. The client would like to understand what caused the decline in margins and is looking for three to four ideas on how to boost the margins.

### Guidance for interviewer and information to be provided on request

The interviewee might get confused when it comes to the two products and might ask for more specific information. While the case is not about the specifics of the products, but rather profitability, you should not reveal/emphasize this fact from the outset and make sure that the interviewee understands what the products are about and how they function, i.e. the first product needs oil to burn certain substances that keep mosquitoes away, while the second product requires precision and speed in user's hands.

# Sample solution element – issue tree & qualitative analysis

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Candidate may propose analysis / action in:

## Revenue and Costs

**Revenue:** explore volume and price, historical data, trends, product specific data

**Costs:** explore fixed costs (PP&E, overhead) and variable costs (material labor)

**Transportation:** since the products are manufactured outside of the US and customers are presumably spread across the US, exploring transportation costs separately makes sense

## Possible follow-up and guidance to interviewer

The interviewee could be probed on her understanding of fixed and variable costs by outlying them more specifically as suggested above. The interviewee should ask for product specific data to demonstrate her understanding on how a product mix affects overall financial performance of a company.

## Industry and Competitors

**Industry:** explore recent historical data and trends for the overall industry, specifically if there were any recent declines in customer demand and whether that was product specific. Explore causes for that.

**Competitors:** understand the competitive landscape of the industry, major market players, their market shares, products, prices and geographic focuses, as well as the timing of their entry to the market.

## Possible follow-up and guidance to interviewer

The interviewee should demonstrate understanding of the industry (i.e. what are the competing products) and how (new and old) competitors can affect profitability of another company, e.g. through introducing a new product, new pricing strategy, advertising strategy etc.

## Customers

**Overall:** understand the company's customers by exploring their needs, demographics, loyalty, satisfaction with company's products and any recent changes in their behavior that could affect their needs and/or use of the products.

**Demand:** explore demand elasticity.

## Possible follow-up and guidance to interviewer

The interviewee should explore whether these characteristics hold for all customer or are rather product specific (product mix understanding).

# Sample solution element – Math

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## Math Question

The interviewer should not ask any specific math question. However, the interviewee should attempt to calculate the revenue, costs and profits for years 2006 and 2007, and understand how the product mix affected the financial.

## Overall approach, good shortcuts & solution

The interviewee should quickly **calculate the profits** for 2006 and 2007 (\$0.2M or 20% and 0, respectively) and recognize that the decline in profits was **due** in part to the **decline in revenues** of the first product and in part due to the **increase in variable costs**.

Then, the interviewee should **explore the reasons** for the decline in revenues for the first product (e.g. change in price, new competitive product on the market, change in demand etc.) and the increase in variable costs (e.g. labor, material, transportation, distribution costs etc.). This is a good practice for **“MECE” brainstorming**.

The reason for both lies in the **increase in oil price**.

First, because the first product burns oil, customers became reluctant to purchase the product to avoid additional costs due to the increase costs of oil (decrease in revenue).

Second, the transportation costs increased, which affected the company significantly due to their offshore production plant (increase in variable cost).

## Information to provide up front

(This information should be asked for by interviewee during the qualitative analysis already.)

**Revenue:** Total revenue was \$1M in 2006 and \$0.9M in 2007.

**Costs:** Total costs were \$0.8M in 2006 and \$0.9M in 2007.

## Provide information if asked

**Revenue split:** In 2006 revenue was split equally between the two products. In 2007 the revenue for the first product dropped to \$0.4M.

**Cost split:** Fixed costs remained the same from 2006 to 2007 (\$0.5M), while variable costs increase from \$0.3 in 2006 to \$0.4M in 2007.

# Sample solution element – recommendation et al.

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Recommendation	The decline in profits was in part due to the decrease in revenues for the first product and in part due to the increased transportation costs (both because of the increase in oil price). The client requested three ideas to boost their revenues; first, they should explore the possibility of reducing transportation costs either through finding less expensive providers or moving their production plant closer to their customers in the US. Second, they should reconsider their product mix, introducing products that are less depended or independent of oil or other substance whose price may vary considerably, and potentially removing their first product from the product mix. Finally, the should explore markets outside of the US.
Risks	All three recommendations may cost the company more than they would save it. Therefore, a cost-benefit analysis for each of them would be necessary to prove/disprove their viability (e.g. savings in transportation costs v. increase in manufacturing costs).
Next Steps	Cost-benefit analysis suggested above, analysis of potential new products and their profitability for the company, and analysis of foreign markets.

## BONUS

The interviewee should point to other factors that may affect the company's profitability such as any **regulatory** changes (e.g. laws/ordinances prohibiting use of certain products or certain substances), which would affect company's products. The interviewee could also explore whether a 2007 was a **peculiar year for mosquitoes** (e.g. due to unusually low temperatures or under climate changes, mosquitoes did not pollute the US as in previous years), which in turn would affect the demand after the company's products. Finally, pointing to the **economic recession** and changes in **oil price** upfront would add points too.

# Establishing the case

## Case: Cash-Rich Energy Company

BCG: mock interview

### Problem statement narrative

Your client is an Atlanta-based energy company that sits on piles of cash. They are looking for a good investment and are currently considering an acquisition and consolidation of small service companies that service heating and cooling systems of other companies and households.

The client would like you to help them understand whether this investment financially makes sense.

### Guidance for interviewer and information to be provided on request

The interviewee should focus on the (financial) soundness of the proposed investment. There are several investment criteria that could be applied: ROI (return on investment), breakeven point/payback time, opportunity costs (consider and compare with other investments) and NPV (net present value or calculating discounted cash flows).

If the interviewee jumps into one investment criterion (normally, that would be a simple one-year profitability calculation), the interviewer should push back on the investment criteria and the interviewee should briefly explain how she would proceed under each criterion (i.e. what data would she need, the process of calculating and advantages/disadvantages).

After that, the interviewee should be asked to use revenues and costs after the consolidation.



# Sample solution element – issue tree & qualitative analysis

## Candidate may propose analysis / action in:

### Revenue

**Target companies:** Explore expected revenues of the target companies. Consider how the consolidation would affect the revenues (e.g. potential decrease due to cannibalization or additional streams due to increased market power).

**Acquiring company:** Consider the effect of the acquisition on the acquiring company and its subsidiaries, if any.

### Possible follow-up and guidance to interviewer

The interviewee should be specific in asking for revenues streams, e.g. either per company/year (multiplied with the no of companies) or per customer/year (multiplied with the no of customers/company and no of companies) or ask for price and volume (no of companies and no of customers/company), and demonstrate understanding on how a consolidation can boost revenues (revenue-synergies).

### Costs

**Target companies:** Explore the costs of the target companies; fixed costs (SG&A) and variable costs (labor, material), and the potential affect of the consolidation on these costs.

**Acquiring company:** Explore the acquisition costs (deal price) and any other affects of the acquisition on the costs (e.g. increased SG&A costs etc.).

### Possible follow-up and guidance to interviewer

The interviewee should demonstrate understanding of cost structure for the target companies and the acquisition company, as well as how a consolidation can decrease overall costs (cost synergies).

### Industry

**Customers:** Understand the target companies' customers by exploring their needs, demographics, loyalty, satisfaction with companies' services and any recent changes in their behavior that could affect their needs and/or use of the services (e.g. temperature changes in the environment) and how these could affect future revenue streams.

**Competitors:** Understand the competitive landscape of the industry, major market players, their market shares, products, pricing strategies and geographic focuses, as well as expectations of potential new market entrants.

**Regulation:** Understand anti-trust regulation and whether that could be a deal-breaker.

# Sample solution element – Math

## Math Question

If the interviewer does not attempt to calculate costs and revenues (profits) after the consolidation, the interviewer should ask her to **calculate profits for the target companies**. For simplicity reasons we assume that there are no changes in the acquiring company's revenues and costs, or any other acquisition costs apart from the deal price.

## Overall approach, good shortcuts & solution

Ultimately, the interviewee should **calculate profits/cash flows**. Given the information it is best to start with a per-company calculation:

### Cost savings:

5% of \$5M = \$0.25M (labor)

5% of \$2.5M = \$0.125M (shortcut: half of the previous number) (equipment)

6% of \$2M = \$0.12M (SG&A)

**Total cost savings/company:** \$0.25M + \$0.125M + \$0.12M = \$0.495M (shortcut: round up to \$0.5M and recognize this represents 5% of revenue)

**Revenue/company:** \$10M

**Profit/company (shortcut):** recognize that profits before consolidation were 5%, cost savings increase the profits for additional 5%, therefore 10% of revenue or 10% of \$10M = \$1M

**Total profit:** 500x\$1M = \$500M (per year)

**NPV (assuming perpetuity):**  $CF/(r-g) = \$500M/(0.13-0.03) = \$5B$  (shortcut: when dividing by 0.1, just add another zero)

## Provide information if asked

**Cost reduction** (for all target companies): 5% decrease in labor costs, 5% decrease in equipment costs and 1% decrease in SG&A costs.  
**Current cost structure/company:** \$5M for labor, \$2.5M for equipment and \$2M for SG&A or alternatively 50% of revenue for labor, 25% of revenue for equipment and 20% of revenue for SG&A.

**Number of target companies:** 500  
**Revenue/company :** \$10M/year  
**Profit growth (g) :** 3%/year  
**Discount rate (r) :** 13%

## Alternative Calculation Approaches

Note that there are several ways of calculating the NPV in this case, however, most of them are more time consuming. Since none of the information is given upfront, note that the interviewee may make some assumptions (e.g. discount rate), which is all right as long as they are reasonable.

# Sample solution element – recommendation et al.

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Recommendation	The decision whether the client should make the proposed investment should be based primarily on the deal price. Given that we have just calculated the NPV of the investment to be around \$5B, the client should not pay more than that. The more they can negotiate the price down from \$5B, the better the return on the investment will be. However, before they close the deal, they should first gather more data and perform a more careful analysis on revenue, costs, and profit growth especially for the longer-term projections. And second, they should consider other investments, and compare the NPVs and ROIs.
Risks	First, for the lack of data, we have assumed that there are were no anti-trust issues with the consolidation, but that would have to be verified with an attorney before proceeding with the negotiations. Second, we have not had a chance to analyze the competitive landscape and the customer base which could both importantly impact the revenue projections. Finally, we have not probed and verified any other assumptions on which the costs and revenue projections were made, which could also significantly impact the NPV calculations.
Next Steps	As suggested above, verify the assumptions on which the revenue/cost projections were made, obtain an opinion from an anti-trust attorney and consider other investment opportunities.

## BONUS

The more investment criteria the interviewee considers at the beginning and the more shortcuts used while calculating the NPV, the better.

One other twist is to also evaluate pay-back. Say, price is \$2B and client typically expects pay-back in 3 years for their projects. Answer will be do not purchase according to the calculation, but see if interviewee tries to persuade you as to why the client should be using DCF/NPV instead as the risk of this acquisition (reflected in discount rate) makes the return worthwhile and using same payback requirement across all project types is likely incorrect.

This is not an easy case, especially for people who are not comfortable with finance. The interviewer should be well prepared and provide guidance where and when appropriate.



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