

Ross Consulting Club Casebook 2011

CONSULTING INTERVIEW GUIDE



MICHIGAN
ROSS SCHOOL OF BUSINESS

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Introduction

Ross Consulting Club Casebook Committee

The casebook committee edited and formatted cases that were written by the student body in addition to contributing to the content sections.

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Introduction

Important Information Regarding the Casebook

By accessing this casebook, you agree not to share it with anyone who is not a member of the Ross Consulting Club. This casebook is a product of the work of Ross Consulting Club members who wrote the cases and Casebook committee members who compiled and edited these cases.

- Access to the Ross Casebook is a privilege of club membership.
- Many of the cases provided to the club were provided by consulting firms who did so with the understanding that the audience for these cases would be limited.
- When the opportunity arises, the RCC will coordinate casebook exchanges with other MBA programs. These exchanges will be facilitated by the RCC Casebook Committee.
- Contact Reed Hansen (reedhans@umich.edu) or Cara Howieson (howieson@umich.edu) with any questions

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Introduction

How to Use the Casebook

The Cases have been formatted for easy use by both Interviewer and Interviewee. Follow these guidelines for a practice case interview:

1. The Interviewer reads the problem narrative out loud.
2. The Interviewee may ask initial questions then construct a framework for solving the case.
3. Follow the instructions given in the case, it should be clear what information should be given to the interviewer (at times information should only be provided if the Interviewee asks).
4. Proceed until the case conclusion and allow the Interviewee to present recommendations.
5. Interviewer: take notes throughout the case and provide feedback to interviewee.

Acknowledgements

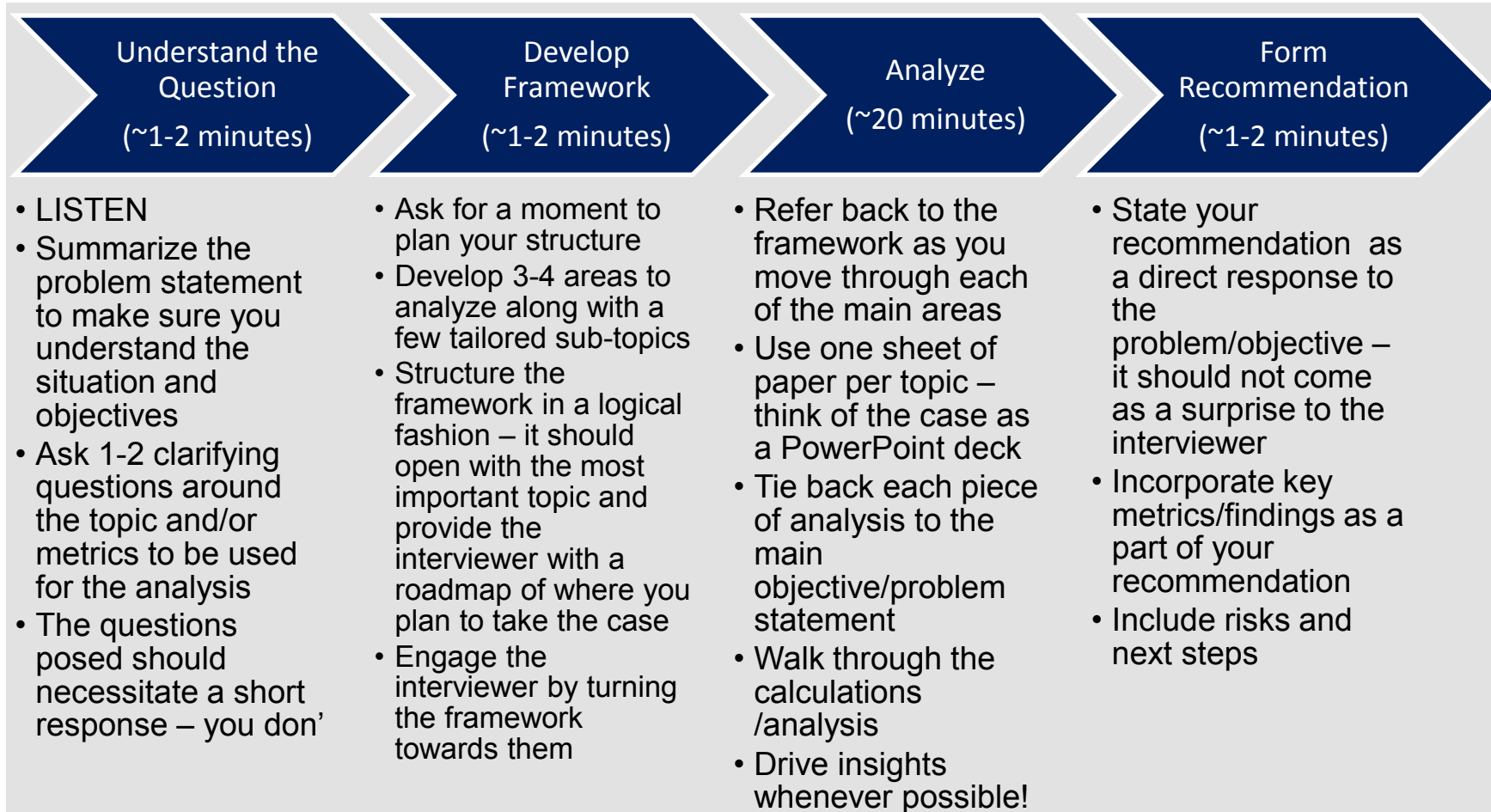
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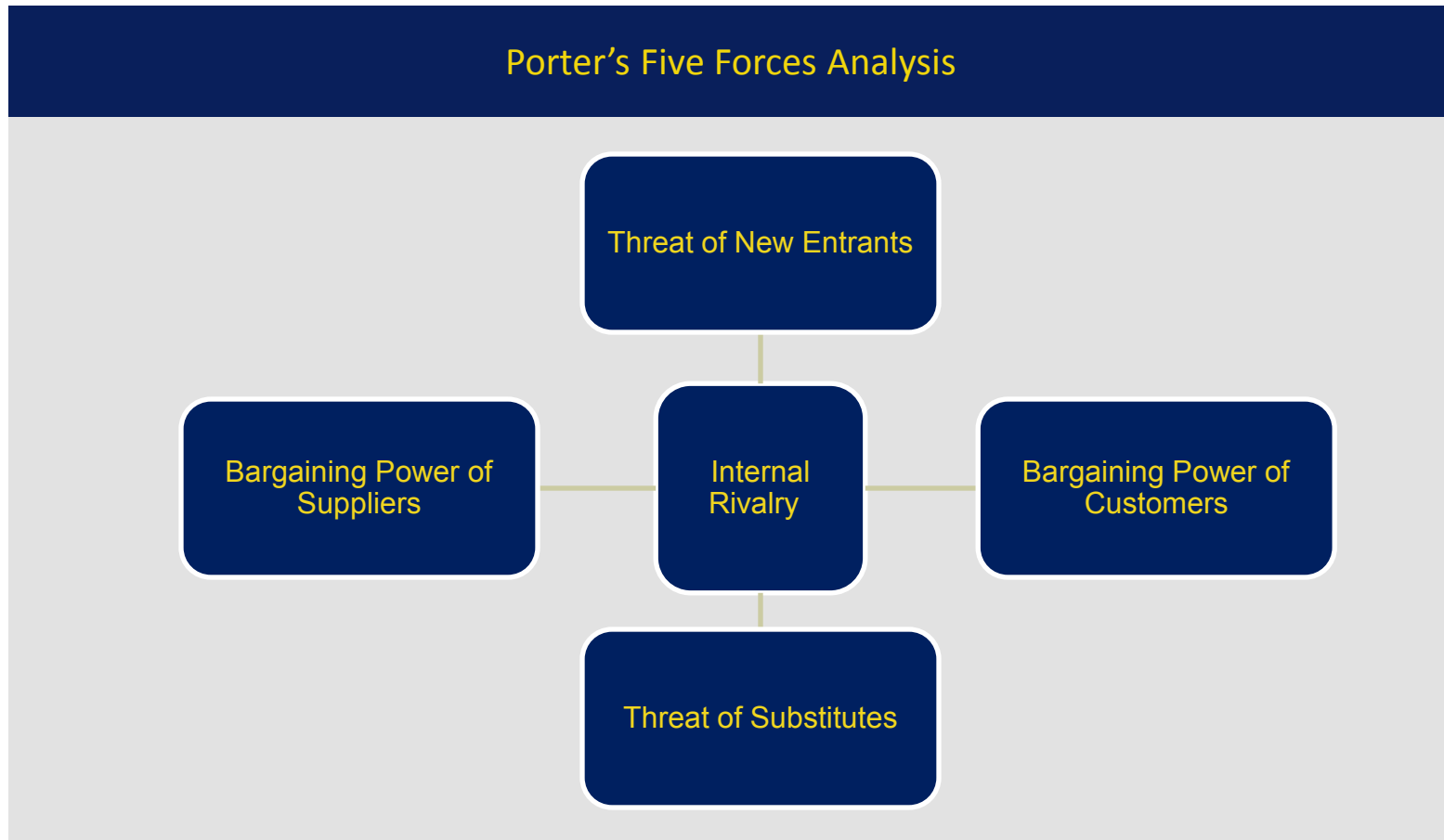
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Case Structure

The overall structure of the case interview takes the following form:



Porter's Five Forces



Porter's Five Forces

Concept	Key Drivers
Internal Rivalry	<ul style="list-style-type: none"> Concentration and balance Industry growth Product differences Exit barriers Overcapacity
Threat of New Entry (Barriers to Entry)	<ul style="list-style-type: none"> Economies of scale Capital requirements Access to distribution channels Competitor response Brand identity Proprietary product differences
Threat of Substitutes	<ul style="list-style-type: none"> Switching costs Relative pricing Availability of and consumer propensity to substitute products
Bargaining Power of Suppliers	<ul style="list-style-type: none"> Supplier concentration Switching costs Threat of forward integration Product differentiation
Bargaining Power of Customers	<ul style="list-style-type: none"> Buyer concentration Buyer volume Buyer switching costs Ability to backward integrate Substitute products

Key Marketing Concepts

4Ps	Considerations
Product	<ul style="list-style-type: none"> Features and capabilities Quality and reputation Service and warranties Packaging and size Positioning and market segmentation Differentiated versus commodity
Promotion	<ul style="list-style-type: none"> “Pull” versus “push” Consumer awareness Loyalty Advertising medium Public relations Buying process Trial/Repurchase
Price	<ul style="list-style-type: none"> Perceived value Willingness to pay Retail/Discounts Economic incentives Skimming Strategy → relation to market size, product lifecycle, and competition
Place (Distribution)	<ul style="list-style-type: none"> Channels Coverage Inventory → levels, turnover, carrying costs Transportation → alternatives, efficiencies, costs

Key Marketing Concepts

3Cs	Considerations
Company	Strengths/Weaknesses/Opportunities/Threats Strategy and vision Available resources/Capacity Experience/Learning Curve Financial Culture/Organizational structure
Competition	Industry Size/Number/Market share Economies of Scale/Scope Capabilities/Experience Resources → financial, distribution
Customer	Perceptions Loyalty Switching costs Purchase behavior Segmentation Market characteristics/trends

To make this a 5Cs analysis, one would also evaluate costs and channels. Data for these two dimensions is covered elsewhere in the casebook.

General Frameworks

Topic	Key Drivers
Revenue	<p>Volume</p> <ul style="list-style-type: none"> Internal → Price, Customer Service, Distribution/Inventory/Capacity External → Competition, Substitutes/Complements, Market Forces/Demand <p>Price → Competition, Elasticity, Differentiation, Segments</p> <p>Product Mix → Attributes (e.g. niche, patent), Quality, % of Revenue, Variety</p> <p>Alternative Revenue Streams</p> <p>Number of Stores</p>
Costs	<p>Fixed Costs → Manufacturing, Labor, Marketing, Overhead, IT, SG&A, PP&E</p> <p>Variable Costs → Inputs, Distribution, Marketing, Maintenance, Packaging, Inventory</p> <p>Balance Sheet Items</p> <p>Benchmark Opportunity Cost/Cost Accounting/Capacity Utilization</p> <p>External → Union strikes, Technology, Currency Fluctuations, Tariffs, De-/Regulation</p>
Competition	<p>Rivals (structure)</p> <p>New Entrants</p> <p>Substitutes</p> <p>Reaction</p> <p>Position</p>

General Frameworks

Topic	Key Drivers
Customers	<ul style="list-style-type: none"> Market Size Segments Needs Purchase Drivers Price Elasticity Retention/Loyalty
Processes	<ul style="list-style-type: none"> Manufacturing Marketing Sales Distribution Customer Service IT R&D Forecasting
Company	<ul style="list-style-type: none"> Core Competencies Cost of Capital Brand Organization / Incentives Controls Financial Capability Management Capability

General Frameworks

Topic	Key Drivers
Macro	<ul style="list-style-type: none"> Legislation Unions Technology Economy → Oil, Interest Rates, Unemployment International Issues → Politics, Regulations, Taxes, Tariffs Environment Socio-Cultural Demographics
Supply Chain	<ul style="list-style-type: none"> Suppliers Distributions
Industry	<ul style="list-style-type: none"> Barriers to Entry/Exit Lifecycle Consolidation Government Policy Capital Costs Access to Technology, Distribution, etc.

Key Formula Review

Topic	Formula
Time Value of Money	$\text{Value to Perpetuity} = \frac{\text{Value of Asset}}{\text{Discount Rate}}$ $\text{NPV} = \sum_{t=0}^n \frac{\text{Annual Cash Flow}}{(1+r)^t}$
Rule of 72	$\text{Time for Invested Principle} = \frac{72}{r}$ <ul style="list-style-type: none"> • r = rate of return • At 7% r, the investment will double every 10 years • At 10% r, the investment will double every 7 years
Little's Law	$\text{Inventory} = \text{Throughput} \times \text{Flow Time}$
Inventory	$\text{Inventory Turns} = \frac{\text{COGS}}{\text{Average Inventory}}$ $\text{Days of Inventory} = \text{Inventory Turns} * 365$
Profitability	$\pi = Q(P - VC) - FC$
Breakeven	$\text{Breakeven} = \frac{FC}{P - VC}$
Margin	$\text{Gross Margin} = \frac{P - C}{P} \qquad \text{Net Margin} = \frac{\text{Net Income}}{\text{Sales Revenue}}$
Markup	$\text{Markup} = \frac{P - C}{C}$

Key Formula Review

Topic	Formula
Return on Assets (ROA)	$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$
Return on Equity (ROE)	$\text{ROE} = \frac{\text{Net Income}}{\text{Total Shareholders' Equity}}$
DuPont Analysis	$\text{ROE} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$ <p><i>ROE = operating efficiency × asset efficiency × financial leverage</i></p>
Working Capital	$\text{ROI} = \frac{\pi}{K}$ <ul style="list-style-type: none"> • K = Capital Invested (e.g. Assets, Working Capital) • Working Capital = Assets – Liability
Income Statement	<p>Sales</p> <p>– COGS</p> <p>= Gross Profit</p> <p>– SG&A</p> <p>= EBITDA</p> <p>– Depreciation/Amortization</p> <p>= Operating Profit</p> <p>– Interest Expense</p> <p>= EBIT</p> <p>– Tax Expense</p> <p>= Net Income</p>

Economics Review

Concept	Definition
Adverse Selection	<p>Situation in which an individual's demand for insurance is aligned to their risk of loss (i.e. people with the highest expected value will buy insurance) and the insurer cannot account for this correlation in the price.</p> <ul style="list-style-type: none"> • Restrict choice • Equalize information • Signaling
Consumer Surplus	<p>Economic gain achieved when consumers purchase a product for a price less than their willingness to pay.</p> <ul style="list-style-type: none"> • $\text{Consumer Surplus} = \text{Willingness to Pay} - \text{Price}$
Economies of Scale	<p>The average cost per unit for a business entity is reduced by increasing the scale of production.</p>
Economies of Scope	<p>The average cost for a business entity is reduced by producing two or more products.</p>
Elasticity	<ul style="list-style-type: none"> • If $E > 1$, decrease price to increase revenue • If $E < 1$, decreased price leads to lower revenue
Insurance	<p>Form of risk management used to hedge against the risk of a loss in which the cost is equal to expected loss.</p>
Law of Diminishing Returns	<p>At some point in the production process, the addition of one more unit of output, while holding everything else constant, will eventually lead to a decrease in per unit returns.</p>
Marginal Cost	<p>Cost of one more unit of output.</p>

Economics Review

Concept	Definition
Monopoly	Entity is the only supplier of a particular good. <ul style="list-style-type: none"> Lack of competition → produce less and charge more Barriers may include government regulation, networks, patents, etc. Revenue is the midpoint of the demand curve
Moral Hazard	The unobservable actions and risks that humans may take once a contract is signed since they don't bear consequences. It is a special case of information asymmetry that affects the cost of transaction.
Oligopoly	Market is dominated by a small number of sellers. <ul style="list-style-type: none"> Dominant strategy is always better Sequential games – commitments help
Perfect Competition	<ul style="list-style-type: none"> Firms take price → $MR = P$ Maximum profit = $MR = MC$ $P < AVC$ → shut down
Price Discrimination	Situation in which identical goods are sold at different prices from the same provider. <ul style="list-style-type: none"> 1st degree → Different price for different willingness to pay 2nd degree → Different price for different quantities 3rd degree → Different price for different segments (attributes)
Risk Averse	Individuals who prefer certainty over the uncertain for the same expected value (EV).
Risk Neutral	Individuals who are indifferent on risk taking if the EV is the same.
Risk Seeking	Individuals who prefer risk even if the EV for a certain event and the risk is the same.

Glossary

Term	Definition
Arbitrage	The purchase of securities on one market for immediate resale on another market in order to profit from a price discrepancy.
Break-Even	Total amount of revenue needed to offset the sum of a firm's costs. Implies that the firm's profit will be \$0.
CAGR	Compound Annual Growth Rate: $(\text{Ending value}/\text{beginning value})^{(1/\# \text{ of years})}-1$. Most likely to show up in a case with graphs and exhibits.
Capacity	The maximum level of output of goods and/or services that a given system can potentially produce over a set period of time.
Competitive Advantage	When a firm is able to deliver benefits equal to competitors but at a lower cost OR able to deliver greater benefits than competitors.
Contribution Margin	$C=P-V$, where P is unit price, and V is variable cost per unit.
Core Competencies	The activities that a firm does well to create competitive advantage.
Customer Segmentation	Subdivision of a market into discrete groups that share similar characteristics.

Glossary

Term	Definition
Discount Rate	Also known as cost of capital. There is an opportunity cost associated with every investment, with the cost being the expected return on an alternate investment.
Entering New Market	Three main methods: start from scratch, form joint venture, acquire an existing player.
Five Cs	Company, Customer, Cost, Channels, Competition
Fixed Costs	Costs that do not change with an increase or decrease in the amount of goods or services produced.
Four Ps	Product, Price, Promotion and Place
Gross Margin	A Company's total sales minus its cost of goods sold, divided by the total sales revenue, expressed as a percentage.
Horizontal Integration	The acquisition of additional business activities at the same level of the value chain.
International Expansion	Main mechanisms: exporting, licensing, franchising, joint venture, foreign direct investment (acquisition or startup).

Glossary

Term	Definition
Inventory Turnover	A ratio showing how many times a company's inventory is sold and replaced over a period. Should be compared to industry averages: low turnover implies poor sales or excess inventory; high ratio implies either strong sales or ineffective buying.
Learning Curve	Visually shows how new skills or knowledge can be quickly acquired initially, but subsequent learning becomes much slower. A steeper curve indicates faster, easier learning and a flatter curve indicates slower, more difficult learning.
Market Share	The percentage of market size controlled by an individual firm.
Payback Period	The length of time required to recover the cost of an investment.
Market Size	Total size of a population (usually measured in number of people or actual dollar value) that would purchase a company's goods or services. Market size is always relevant and is a question that should be asked.
Product Lifecycle	Four main stages: market introduction, growth, maturity, decline.
NPV	The difference between present value cash inflows and present value cash outflows.
Product Mix	Total number of product lines that a company offers to its customers. Often an important area to explore in profitability cases to identify loss-making products.

Glossary

Term	Definition
Porter's Five Forces	Buyer Power, Supplier Power, Threat of new entrants, Substitutes, Internal Competition. Used for evaluating markets. Also key to think about complements even though that's not mentioned by Porter.
Profit	Revenue minus cost.
Promotion	Coupons, discounts, trials, etc. designed to increase sales of a product or service.
Rule of 72	Also known as the rule of 70, AKA rule of 69. Simply put 72, 70 or 69 in the numerator and the projected annual growth rate in the denominator to give you the amount of time until the investment doubles.
Sales per Square Foot	The average revenue a business creates for every square foot of sales space. Used in the retail industry as a measure of efficiency.
Same Store Sales	A statistic used in retail industry to determine what portion of new sales has come from sales growth and what portion from the opening of new stores.
SWOT Analysis	Strengths, Weaknesses, Opportunities and Threats. Very basic framework, probably not a good idea to put down as your case framework, but good to have as a mental checklist.

Glossary

Term	Definition
Synergies	The idea that the value and performance of two companies combined will be greater than the sum of the separate individual parts. Used mostly in M&A.
Value Chain	Another concept from Michael Porter. His Value chain: Inbound Logistics, Operations, Outbound logistics, Marketing and Sales.
Variable Costs	Costs that vary depending on a company's production volume; they rise as production increases and fall as production decreases.
Vertical Integration	Degree to which a firm owns its backward suppliers or forward buyers.
Weighted Average	An average in which each quantity is assigned a weight. These weightings determine the relative importance of each quantity on the average.

Key Facts Review

Market Sizing Facts

A selection of facts that can be useful to review before case interviews. You don't have to know the exact population of Canada, but you should at least be able to get in the ball park. Furthermore, you should memorize numbers that occur commonly such as the population of the U.S. It is good to get in the habit of using numbers that work with the math you are planning to perform. For example, if you are estimating the population of the U.S. and you have to divide by 4, use 280 MM rather than 300 MM.

Doing math quickly in your head can impress interviewers and make you sound more confident. Additionally, we would recommend you develop a system to keep track of zeroes while you are doing your calculations. You don't want to get tripped up because you get 1 MM instead of 10 MM!

Lastly, get in the habit of taking second to think before you speak. It is better to take an extra few second and be right than to blurt out the wrong answer. Remember, the interviewer is evaluating whether they would be comfortable putting you in front of a client!

Key Facts Review

Location	Population
World	7 B
China	1.4 B
India	1.2 B
Europe	800 M
U.S.	310 M
Brazil	200 M
Japan	130 M
Mexico	107 M
France	65 M
Canada	34 M
Australia	22 M
New York City	8 M
Los Angeles	4 M
Chicago	3M

Metric	Value
Avg. Household Size	2.5
Average HH Income	\$47,000
% With Internet Access	92%
% Computer in Home	80%
Corporate Tax Rate	40%
Corporate Discount Rate	10%
Wal-Mart Revenue	\$408 B
Wal-Mart Profit	\$14 B
Exxon Mobile Revenue	\$275 B
Exxon Mobile Profit	\$19 B
% Americans Over 65	13 %
% Americans Under 20	27 %
Average GDP Growth US	4 %
Average Inflation US	3.3 %

Decimal Calculations

Decimal Calculations

Many decimal calculations can be made easier by remembering a few numbers. For example, if you know that $1/8$ is .125, it will be easy to calculate $3/8 = 3 \times .125 = .375$. Numbers divided by 7 are also easy to calculate once you memorize the number sequence 142857.

$\$K \times \$K = \$M$
 $\$K \times \$M = \$B$

$1/2$	.5
$1/3$	.333
$1/4$	.25
$1/5$	.2
$1/6$	.166
$1/7$	.142857
$1/8$	.125
$1/9$	.111

$1/7$	.142857
$2/7$	.285714
$3/7$	.428571
$4/7$	.571428
$5/7$	.714285
$6/7$	.857142

Retail Bank

(McKinsey Quick on your Feet Competition)

Problem statement narrative

Our client is a bank in the US. It has a large retail footprint and offers a mix of services to end-customers (checking, debit, credit cards). They also have loan centers to sell mortgages in the same markets. The bank currently serves 15 million customers. Our client has historically been profitable, but increased regulation and the downturn in the economy have caused the bank to see a sharp decline in profitability. The client has engaged us to help determine next steps for its business and has asked us to assess ways they can increase profits within the next 12 months.

Guidance for interviewer and information provided upon request

- Ensure the candidate is familiar with how a bank earns its profits (e.g. the spread between what they lend money out at and borrowing costs, fees on various services).
- Note that **this is an interviewer-led case**; there are seven questions that the Interviewer will ask the Interviewee.

Difficulty: Medium

Quant Heavy

Industry: Financial Services

Type: Profitability

Additional Questions to Steer Discussion

Questions for the candidate

1. What are some of the ways the bank can increase profits in the next 12 months?

A good answer is structured and contains a comprehensive set of ideas to both reduce costs and boost revenues as well as clear examples. Interviewee should use a Profitability framework to approach this problem. Answers include but are not limited to:

Reduce Costs

- Fixed Costs
 - Reduce underperforming branches (close branches, lease branches to other banks)
 - Reduce workforce (e.g., push greater use of online channels for banking, outsource functions)
 - Consolidate the branches and the loan centers
- Variable
 - Reduce costs associated with transactions (paper free, decrease error rate)

Increase Revenue

- Quantity
- Current Customers
 - Cross-sell different products (home purchase mortgages, refinancing, credit card, debit card, money market, advisory services)
 - Change product mix to higher revenue products
 - Get rid of unprofitable customers
- New Customers
 - Increase Number of customers
 - Product Mix
 - Launch new products
- Price
 - Increase bank fees (Debit fees, ATM fees, call center fees)
 - Raise rates charged

Additional Questions to Steer Discussion

Questions for the candidate

We have worked with our client to narrow down their options to two choices. The first is shutting down unprofitable retail locations, the second is a better customer segmentation strategy. Lets explore both:

2. What are some of the risks with shutting down branch locations?

Note: there are a number of ways to think this through – look for the structure in how the candidate responds. A good answer includes, but is not limited to:

Near Term

- Poor PR
- Legal/contractual complications
- Extra costs (severance)
- Lose a portion of customers who bank through that branch
- Selling off assets could scare investors

Long Term

- What happens when the market rebounds?

Additional Questions to Steer Discussion

Questions for the candidate

3. The second option the bank is considering is a better retail segmentation strategy: What segments do you think a retail bank has?

Note 1: This response could have a lot of answers. Look for clear delineation between customers who are profitable and unprofitable and then list characteristics of each (i.e. Segment 1 is mass affluent and is highly profitable, uses checking accounts, has a money market account, and has a mortgage with the bank; they are low cost as they generally use ATMs and the internet to manage their transactions; Segment 2 is lower income, keeps a small balance in checking, uses tellers and call centers often) etc.

Note 2: Ensure the candidate does not spend too long on this question.

4. Can you take a look at the below chart and walk me through what the bank is experiencing?
Please walk the interviewee through any questions they have on the chart in Exhibit 1:

Key insights include, but are not limited to:

- Only 30% of the bank's customers are currently profitable
- 20% of the banks customers have low revenue potential and could be eliminated
- Our client needs to change the mix of products from group 1 and 2

Exhibit 1

Our client has 5 distinct groups of customers

Annual \$ per customer¹



¹ 15,000,000 customers

SOURCE: Team Analysis

McKinsey & Company | 0

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Additional Questions to Steer Discussion

Questions for the candidate

5. What is the average annual profitability of a customer?

Average Customer

Category	Profit	Percent of clients	Weighted profitability
Group 1	-5	0.3	\$ (1.50)
Group 2	-25	0.2	\$ (5.00)
Group 3	-5	0.2	\$ (1.00)
Group 4	15	0.1	\$ 1.50
Group 5	45	0.2	\$ 9.00
Total	N/A	1	\$ 3.00

Additional Questions to Steer Discussion

Questions for the candidate

6. What is the annual bank profitability?

Total Profitability		
Total Customers	Average Profit per customer	Total Profit
15,000,000	\$ 3.00	\$45,000,000.00

Note: If the interviewer decides to calculate each group out individually, push them to look for shortcuts.

Our client has decided to institute a \$.85 fee each month for all checking accounts. We have advised them that they will lose a number of customers. We expect the following % of customers to remain (*read this chart to interviewee*):

Percent of customers that remain	
Segment	Percent
Group 1	60%
Group 2	60%
Group 3	20%
Group 4	60%
Group 5	70%

Additional Questions to Steer Discussion

Questions for the candidate

7. What is the new annual profitability per customer?

Note 1: If the interviewee is running out of time, help them along to ensure they get to conclusion (e.g. ask them for their approach).

Note 2: Feel free to let the interviewee round off numbers here. Suggest \$0.85 per month should become \$10 per year.

Segment	Profit	% of Customers who fit each segment	% of customers that will stay with the firm	# of remaining customers	Profit per group (w/o fee)	Profit from fees (@\$10 per yr)	Total profit per segment
Group 1	\$ (5)	30%	60%	2,700K	(13,500K)	27,000K	13,500K
Group 2	\$ (25)	20%	40%	1,200K	(30,000K)	12,000K	18,000K
Group 3	\$ (5)	20%	20%	600K	(3,000K)	6,000K	3,000K
Group 4	\$ 15	10%	60%	900K	13,500,K	9,000K	22,500K
Group 5	\$ 45	20%	50%	1,500K	67,500K	15,000K	82,500K

(Continued)

Additional Questions to Steer Discussion

Questions for the candidate

Total Profit	103,500K
# of Customers	6,900K
Average Profit per Customer	\$ 15

Suggested Solution and Structure

Solution Guide

You are walking down the hall and run into the CEO, he wants to know your recommendation:

A good answer includes, but is not limited to:

- **Intro:**

- The bank should institute a bank fee in order to meet the initial goal of increasing profits. This is the quickest way to earn new streams of revenue, while segmenting out the unprofitable customers. By instituting a fee you will be able to increase profit by 5x per customer on an annual basis.

Note: The interviewee should include a detail or two on each group and how they are able to increase profits (e.g. Group 3 was losing \$3M per year we are now earning \$3M in profit from them on an annual basis).

- **Risks**

- Bad PR
 - High transaction costs as people try to figure out if they are affected
 - Estimates could be off
 - Lose customers that could become profitable in the future

- **Next steps**

- Move forward with instating the fee
 - Look at exempting certain groups from the fee

ChairCo – BCG Round 1

Problem statement narrative

Our Client, ChairCo manufactures metal parts* that are used to manufacture chairs. ChairCo primarily sells these parts to US based chair manufacturers. They are facing declining revenues and the CEO has asked us to evaluate the problem and suggest corrective measures.

*Metal bases that are used in the revolving office chairs.

Guidance for interviewer and information provided upon request

- If the candidate asks, tell them that there are no specific financial targets.
- Give the exhibits in the subsequent slides only when the candidate asks for the relevant data.

Difficulty: Easy

Industry: Manufacturing

Type: Profitability, Operations, Chart Based

Additional Questions to Steer Discussion

Questions for the candidate

After seeing Exhibit 1, the candidate should make an observation that prices and volume are decreasing and both these issues need to be addressed.

- Why did ChairCo have to decrease prices? *Because competition has decreased prices.*
- Why did competition decrease prices? *Because metal parts are a commodity and they might have a lower cost structure than us.*
- Why do you think our competitor has a lower cost structure? *Material and labor could be the two major reasons.*
- Why is our client losing unit sales despite decreasing price? *Because their customers are moving to low cost countries.*
- Can the client reduce costs? *Client is already very efficient and cannot decrease their costs without shifting operations to China, Indonesia etc.*

Suggested Solution and Structure

Solution Guide

- Exhibit 1 – Volumes have decreased and so have prices (\$10 to \$9.5). Ask candidate why he/she thinks the price must have gone down. The most logical answer should be that since this is a close to commodity product, prices for the entire industry have fallen down and ChairCo had to respond. Competitors might have become more cost competitive because their operations are located outside US.
- Exhibit 2 - Competition has significant cost savings in material and labor. The most logical reasons are that they are based in low wage counties such as China, Indonesia and that they are using an inferior/cheaper metal.
- Exhibit 3 – ChairCo customers are moving geographically away which explains the drop in volume despite the drop in price.

Conclusion

Recommendation

To become cost competitive and gain proximity to customers (chair manufacturers), ChairCo has to shift manufacturing to Asia.

Risk – downsizing in US will lead to a PR backlash.

Next Steps

- Analyze which country has low cost base, high proximity to customers and low barriers (regulations, etc.) to set up manufacturing.

Exhibit 1 – ChairCo Sales

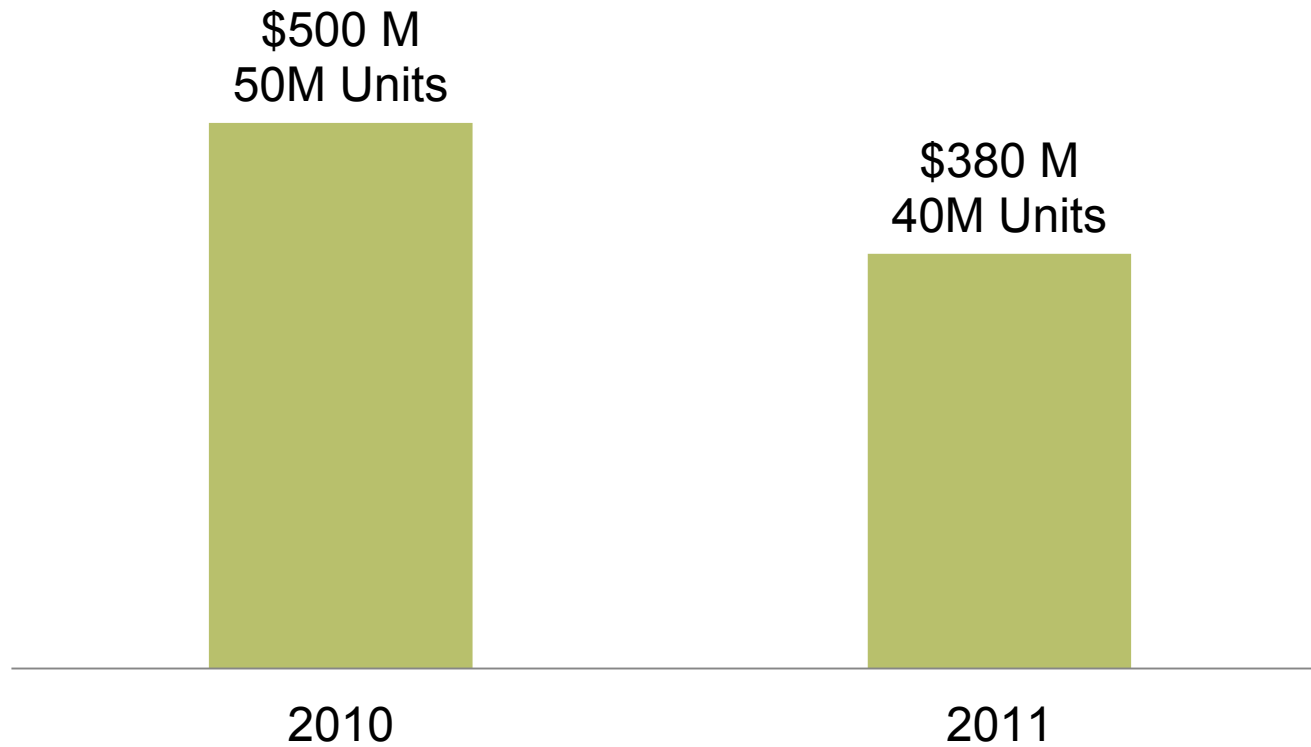
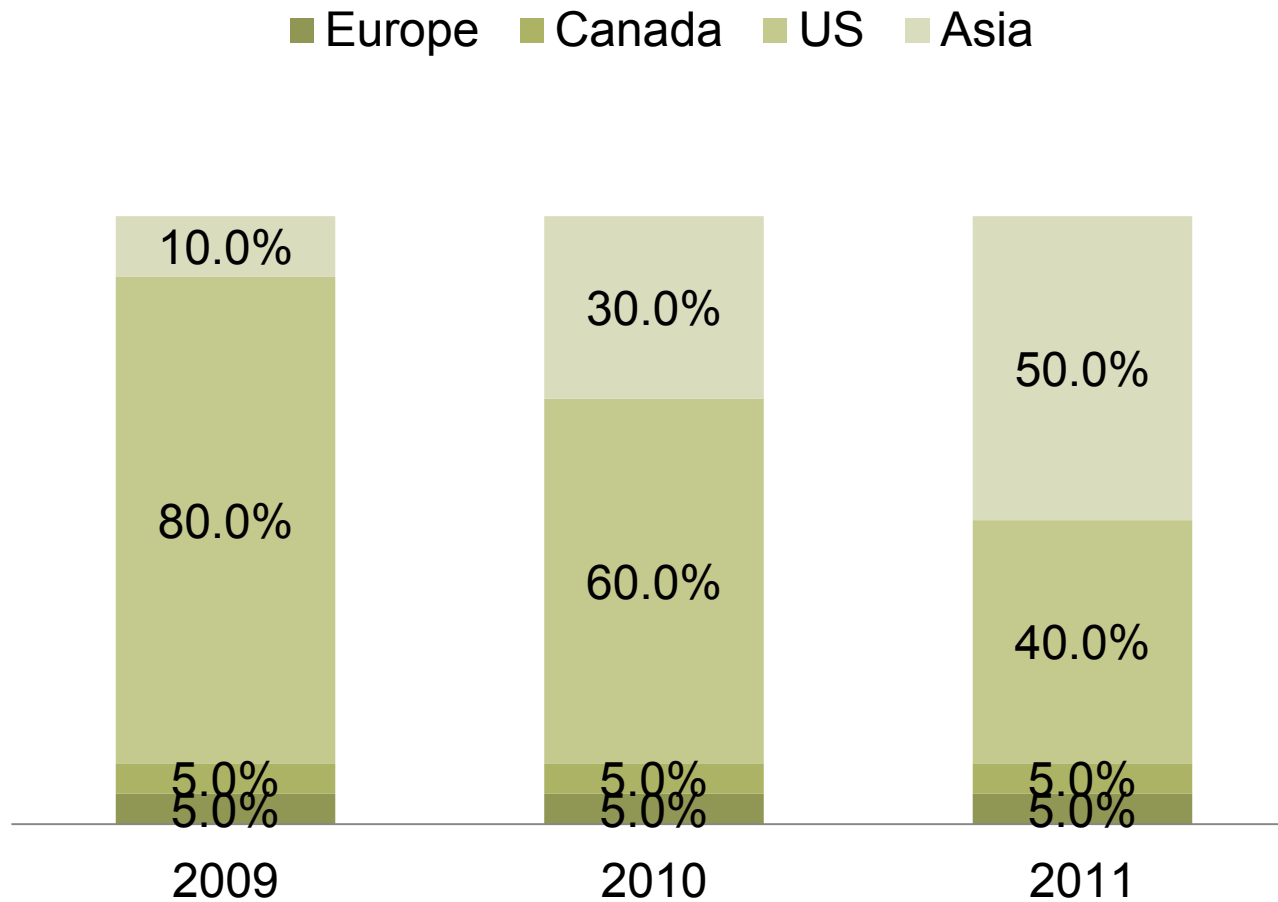


Exhibit 2 – ChairCo Vs. Competitor cost

Cost Structure		
	ChairCo	Competitor
Materials	4.9	2.5
Labor	2	1.5
Transportation	0.5	1.5
Tax	0	1
IT	0.5	0.6
Overhead	1.1	1



Exhibit 3 - Manufacturers of Finished Chairs selling in US

Molds R Us – Bain 1st Round

Problem statement narrative

Our client is a private equity firm interested in Molds R Us, small company that makes plastic moldings for houses in Russia. They want to know if we think investing in this company is a good idea. The firm also wants to understand what the 2011 market for moldings, particularly in plastics, will look like.

Guidance for interviewer and information provided upon request

- The PE firm wants to see growth of 20% in the first year to justify this purchase
- This company only plays in the Russian market and the PE firm is not interested in expanding across borders
- This company is the only player in plastic moldings
- Moldings are used where walls meet the ceiling to add a decorative appeal to houses and are only used in residential buildings
- All housing starts require moldings in the year they are started, and are all completed by the next year
- Molding Product Mix (Exhibit A)
- Market Size and Competitive Landscape (Exhibit B)

Difficulty: Hard

Industry: Manufacturing

Type: Mergers and Acquisitions

Exhibit A: Types of Moldings

Molding Options	No Moldings	PVC Plastic Moldings	Rubber Moldings	Wood Moldings	Plaster Moldings
Price per 10 Meters	0	1 Ruble	1.5 Rubles	5 Rubles	15 Rubles
Installation Requirements	None	Need Contractor	DIY	Need Contractor	Need Contractor
Replacement	None	Every 5 years	Every 7 Years	Every 10 Years	Every 25 Years

Other Important Information

A contractor can lay down 1000 feet of molding per hour

A contractor makes, on average, \$50 Rubles per hour

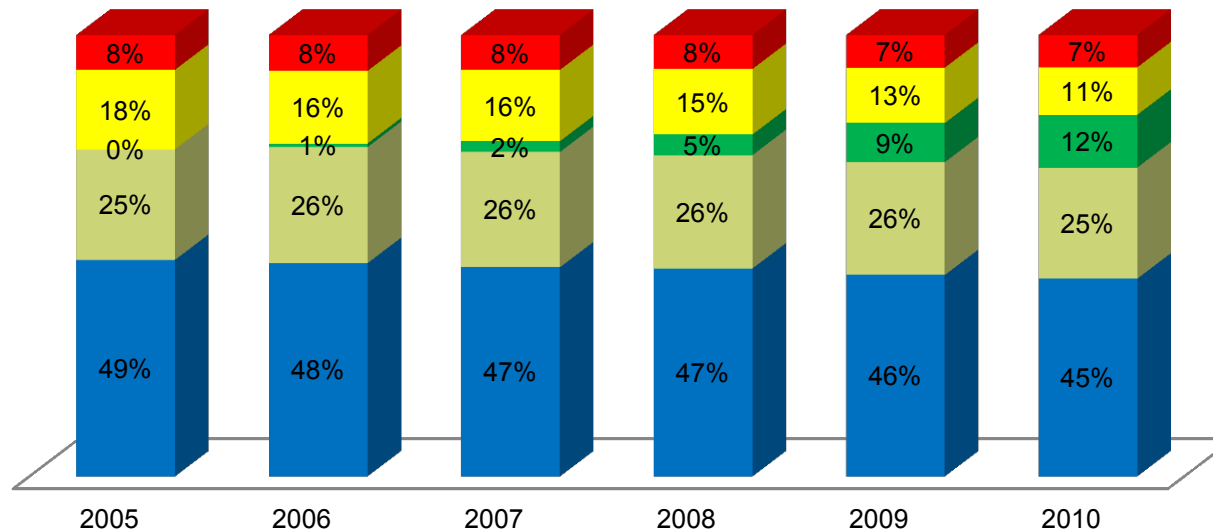
DIY-Do it yourself or self installation

The average house has 4000 Meters of walls

Exhibit B Moldings Used in the Russian Market

Moldings Used in the Russian Market

■ No Moldings ■ PVC Plastic Moldings ■ Rubber Moldings ■ Wood Moldings ■ Plaster Moldings



	2005	2006	2007	2008	2009	2010
Total Residences	29,689,297	30,145,394	30,696,939	31,375,374	32,170,804	33,122,149
Housing Starts	456,097	551,545	678,435	795,430	951,345	1,245,890

Case Progression

Case Progression

- Once the candidate lays out a framework and asks the relevant questions you should give them Exhibits A and B.
- After the candidate analyzes the exhibits **ask them to calculate their estimate for the number of meters of plastic moldings being sold in 2011**. This can be done by multiplying the market share of plastics for 2010 by the number of residences in 2011 (2010 residences + 2010 starts) plus the estimated housing starts in 2011. This gives the expected number of houses using plastics in 2011. Given that plastic moldings are replaced every 5 years, the candidate should realize that only 1/5 of existing households will be replacing their moldings in 2011.
- MATH: 34.3M Residences + ~1.4M Starts = Approx. 35.7M houses in 2011
- 34.3M Residences*25% market share of plastic moldings = 8.6M houses
- 8.6M Residences/5 years (replace moldings) = 1.7M existing houses replacing moldings in 2011
- Estimated 1.4M Housing starts in 2011 *25% market share = .35M
- So, 1.7M existing homes + .35M starts = 2.05M Houses in 2011 using plastic moldings.
- 2.05M*4K meters of wall per house = **8.2B meters of plastic moldings** being sold in 2011.

Case Progression

Text

Estimating the growth opportunity

Once the candidate lays a framework and asks the relevant questions provide them Exhibits A and B

- After reviewing the charts and graphs the candidate should notice the stagnant pace of the market share of plastic moldings.
- A good candidate will begin to calculate the overall changes in market size to see if there is enough growth to make this deal worthwhile.
- Either way, have the candidate calculate the overall market growth rate from 2005-2010.
- This will begin to clue the candidate into the major issue, that the growth will not be high enough for the PE firm to move forward with these moldings.
 - Existing homes growth rate $\sim ((33.1\text{M} - 29.7\text{M}) / 29.7\text{M}) / 6 \text{ years (2006-2010)} = 2\%$
 - New homes growth rate $\sim ((1.25\text{M} - .45\text{M}) / .45\text{M}) / 6 \text{ years} = 30\%$
 - The key here is for candidate to recognize that the market of plastic moldings for existing homes (about 85% of market) far outweighs housing starts (about 15% of market - see calculations on previous slide) and thus recognize that overall market growth will fall well short of required 20%. Actual growth rate $< 10\%$.

Once candidate recognizes low growth rate ask them for their final recommendation to the PE firm

Conclusion

Recommendation

The PE firm should not purchase Molds R Us.

- Plastic molding market share is stagnant among all moldings sold.
- The overall growth in housing does not make up for the stagnant growth and they will not grow revenues by 20% in their first year.

Next Steps

- The PE firm should look at rubber molding companies to see if there is an opportunity to purchase an organization because of high growth of market share in the market.
- They should look at the sales and marketing of Molds R Us to see if there is opportunity to spurn sales to increase growth by investing in marketing, distribution, or sales channels.

Dr. Rossman's Magic Eye Drops

Bain, 1st Round

Problem statement narrative

Our client, Dr. Rossman, has invented an amazing product. He has discovered the chemical formula for Magic Eye Drops. One drop in each eye will cure short- or long-sightedness in any patient. But Dr. Rossman is a scientist, not a businessman, and he has come to our firm because he wants to sell the rights to his Magic Eye Drops to a business that will commercialize the invention. What should his asking price be?

Guidance for interviewer and information provided upon request

- Dr. Rossman has secured an exclusive, worldwide patent for the next 20 years. After the patent expires, generic versions will quickly be developed.
- Obstacles to regulatory approval are not foreseen
- The Magic Eye Drops have no known side effects or risks.
- Give the candidate bonus points for identifying laser surgery as the closest competitor, but tell him to focus only on corrective lenses (glasses and contacts) as competitors for the purposes of this case.
- Direct the candidate to focus only on the US market.

Difficulty: Easy

Industry: Pharma/Med.Devices

Type: Pricing/Valuation

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Solution Overview

- An interviewer should allow the candidate to build a framework
 - Help candidate understand that this is a valuation problem. The candidate will develop a structure to estimate the NPV of future expected revenues and costs.
- To develop revenue projections, the candidate will have to estimate the market size and the optimal price. An illustrative example of market sizing is given on slide 2 and an estimate of revenue, including pricing, is given on slide 3.
- Make the candidate brainstorm cost drivers. Once the candidate has listed cost drivers, provide him with the figures listed on slide 4.

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Solution Guide: Market Sizing

<u>Age Group</u>	<u>Pop.</u>	<u>Rate of Sight Problems</u>	<u>Rate of Adoption</u>	<u>Market Size</u>
0-15	50M	20%	10%	1M
16-30	50M	30%	50%	7.5M
31-40	50M	40%	50%	10M
41-60	50M	50%	50%	12.5M
61-75	50M	60%	40%	12M
75+	50M	75%	20%	7.5M

Total = ~50M

- Give candidate bonus points for thoughtful and creative explanations of the assumed rate of sight problems and assumed rate of adoption within each segment (e.g., adoption among young and old patients will be lower because parents will be unwilling to test out a new technology on young children whose eyes are still changing and elderly patients with fewer years to live will realize fewer years of savings from not having to purchase new corrective lenses).
- Give candidate bonus points for recognizing that the market will grow over the course of the 20 year patent. If the candidate raises this point, provide a projected annual growth rate of 3.5%. By the rule of 70, this means that the market will double before the patent expires, resulting in a true market estimate of **100M** consumers.

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Solution Guide: Pricing & Revenue

- The candidate should weigh different pricing strategies: competitive, cost based and value based.
- One pricing strategy is to use **competitive pricing**, using corrective lenses as the relevant competition. Based on personal experience, general knowledge or interviewer-provided information, the candidate should assume an annual cost of corrective lenses at about \$200.
- Revenue over the life of the patent can be calculated as shown below:

Market Size * Annual Value of Magic Eye Drops * Patent Life= Total Revenue

$$\text{▪ } \sim 100\text{M} * \$200 * 20 = \$400\text{B}$$

- The candidate may suggest factors that alter the price point – such as convenience (suggesting a higher price point) and riskiness (suggesting a lower price point). The interviewer should accept reasonable alterations.
- The solution's assumption of 20 years of revenue assumes that all customers will purchase as soon as the product comes on the market. The candidate may reasonably adjust the years of revenue downward to account for some customers waiting several years before purchasing.
- **Make sure that the candidate understands that we will disregard discount rates for the purposes of this case. In other words, assume a discount rate of 0%.**

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Exhibit 1: Costs

Costs

Driver

Cost

Management/Overhead

33% of operating costs

Operating Costs

Marketing

\$150M per year for first 10 years
\$50M per year for last 10 years

Production

\$20 per drop

Distribution

\$100M per year

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Solution Guide: Costs

<u>Driver</u>	<u>Cost</u>	<u>Math</u>	<u>Total</u>
Management/ Overhead	33% of operating costs (i.e. 33% of Marketing + Production+ Distribution)	$1/3 * 6B$	2B
Marketing	\$150M per year for first 10 years \$50M per year for last 10 years	$\$100M * 20 \text{ yrs}$	2B
Production	\$20 per drop	<i>$\\$20 * 2 \text{ eyes} * 50M$ customers</i>	2B
Distribution	\$100M per year	$\$100M * 20 \text{ yrs}$	2B
			Total = 8B

Dr. Rossman's Magic Eye Drops
Bain, 1st Round

Conclusion

Recommendation

Dr. Rossman should put the invention up for sale at ~ \$392 B (400B Revenues-8 B in Costs). Sales could however continue even after expiry of the patent.

This solution has been simplified by assuming a discount rate of zero, because calculating the NPV for this case by hand would be overly complicated.

Next Steps

Solicit buyers

Focus on strategic acquirers

Attempt to start a bidding war

Speak at conferences extolling the value

Baby Dinosaur (McKinsey)

Problem statement narrative

You are an MBA2 student, you walk into your apartment and you find a baby dinosaur in the corner of your room, what do you do?

Guidance for interviewer and information provided upon request

- Dinosaur is the only one in the world, and it turns out he is friendly. No other information is available.
- Candidate should layout some initial decision tree that could include:

Take Action: run, call 911, call family/friends for help, pick up a stick to hit it with, stay there and cry

Take No-action: Dinosaur leaves on its own, Dinosaur is friendly, Dinosaur is not friendly and you may die.

- *If* Dinosaur is friendly, student should think of ways to monetize it.

Difficulty: Easy

Industry: Other

Type: Abstract, Decision Trees

Structure to Steer Discussion

A strong candidate will be able to structure their thought process to include the following issues:

- Should they approach the dinosaur or run away? (depends on whether it is friendly).
- What can they do with the dinosaur? (Monetizing activities, vs. non-monetizing activities such as research, etc.).
- When monetizing dinosaur, they should consider selling vs. building a dinosaur business/franchise.

Questions for the candidate

- 1. What are possible ways to monetize or make money in this situation?** Sell it, or create business around it. Student should brainstorm possible ways to create a business like using it for a movie, leasing it to a zoo or an entertainment show, or creating an ecosystem around the dinosaur like a theme park.
- 1. What would you prefer to do, sell the dinosaur or use it for a business? Why? What are the possible costs and revenues you can generate in each case?**
- 2. What are the potential risks in this situation?** Dinosaur dies, dinosaur attacks/eats spectators, government seizes dinosaur and claims right to it, environmental concerns, etc.
- 3. What are the possible ways to hedge against the possibility of dinosaur death?** Insurance, clone the dinosaur, asking science experts in field for ways to take care of it, create an ecosystem around Dinosaur like a theme park or having it star a movie.

Conclusion

Recommendation

A good recommendation will include creating an ecosystem around the Dinosaur such as a theme or entertainment park. It will touch on other ways to hedge against the death of a dinosaur, and potential risks like legal or environmental risks.

Next Steps

- Next steps may include conducting a feasibility study around creating an ecosystem/theme park.

SaveMart Distribution

Accenture, Round 1

Problem statement narrative

Your client, SaveMart, is a discount superstore similar to Wal-Mart. They have 1000 retail stores across the United States. Each store receives one delivery per day from a distribution center.

SaveMart has hired you to investigate if the costs related to distribution can be reduced.

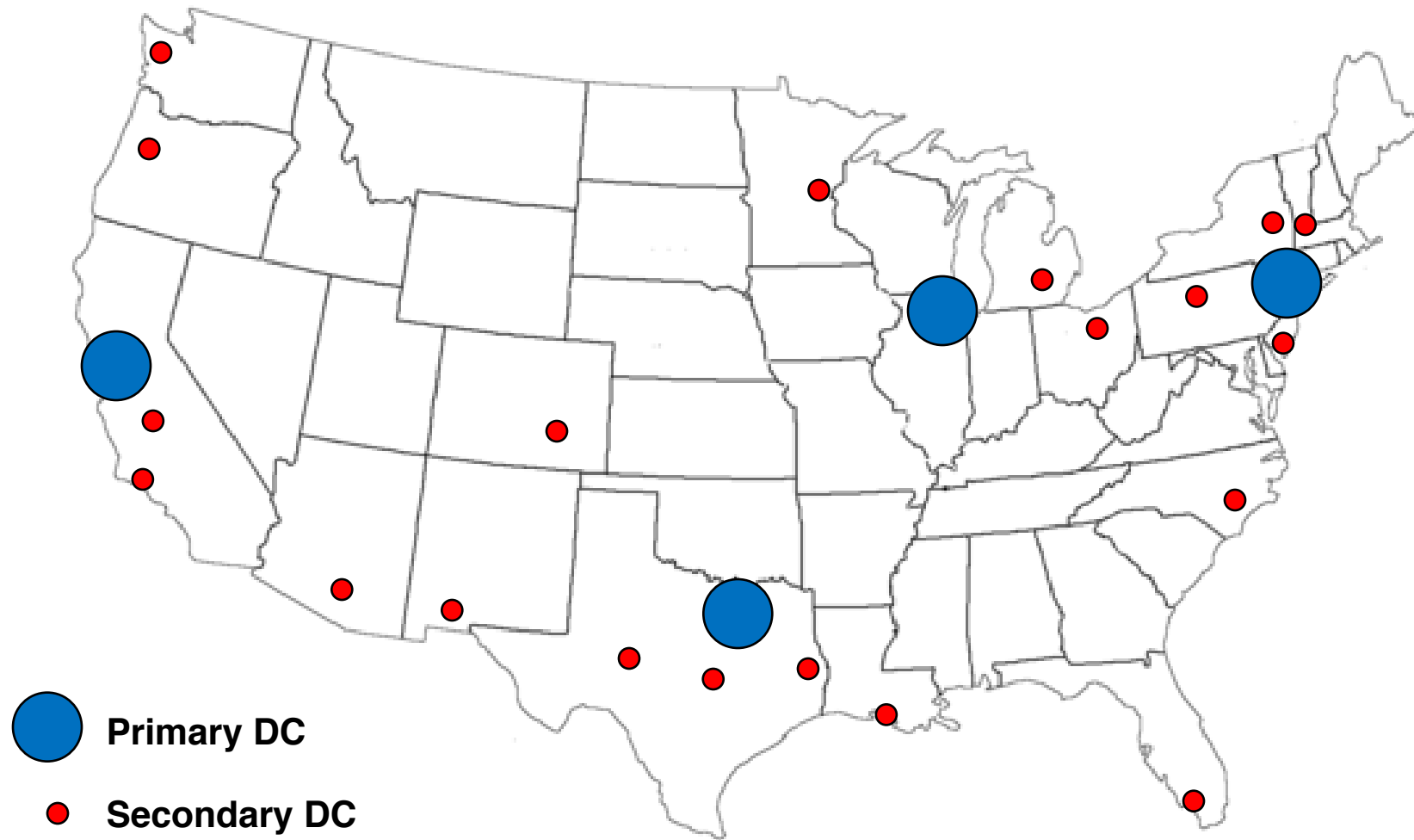
Guidance for interviewer and information provided upon request

- SaveMart owns multiple distribution centers across the United States. (Show figure)
 - The 4 primary distribution centers are located in New York, Chicago, Dallas, and San Francisco.
 - The 20 secondary distribution centers are also spread out through the country.
- All of SaveMart's products are imported from Asia and arrive daily at the San Francisco distribution center.
- Steer the candidate away from attempting numerical calculations.

Difficulty: Medium

Industry: Retail

Type: Operations



Wait for candidate to specifically ask about...

Current Distribution Routes

- Every day, trucks transport products from the San Francisco center to each of the primary and secondary distribution centers.
- Trucks from each of the primary DCs also make daily deliveries to the nearby secondary DCs.
- Each secondary DC makes one delivery per day to its assigned stores.
- All routes to and from the DCs are the same each day regardless of demand (static routing).
- Trucks are rented and are of uniform size.

Capacity

- Not all distribution centers (primary or secondary) are at full capacity. The three primary DCs (excluding the West Coast DC) are well under capacity.
- Most trucks are NOT at full capacity.
- Demand for products is not the same at all stores.

Sample Recommendations

- Deliver from the West Coast DC to the other primary DCs and secondary DCs on the West Coast. Do not deliver from West Coast DC to other secondary DCs.
- Consolidate secondary DCs that are not at full capacity.
- Determine optimal routes to and from the DCs.
- Dynamic Routing – do not make daily deliveries to stores/DCs if there is low demand, or keep some extra inventory at the stores.
- Consolidate trucks:
 - Use smaller trucks if it decreases the cost.
 - Buy trucks instead of renting.

Sample Risks/Next Steps

Risks

- Other primary DCs may not have enough capacity to hold the additional inventory.
- By consolidating secondary DCs, capacity risks are magnified if demand increases drastically.

Next Steps

- Determine capacities of different DCs to see which trucks to consolidate.
- Determine differences in demand of different stores.
- Investigate trucking contracts and if using different truck sizes or buying trucks would save money.

Diesel Transportation Co

A.T. Kearney, Round 1

Problem statement narrative

Our client is a national shipping company that focuses on ground transportation of commercial freight. For the past 15 years, it has been using diesel engines to power its fleet of vehicles, but now wants to explore the possibility of switching to electric powered engines (EV technology) due to rising fuel costs. The CEO has approached us for guidance and wants to know how to proceed.

Guidance for interviewer and information provided upon request

- Our client has identified a supplier to provide the electric vehicle technology since it does not have in-house capabilities.
- Since it has an extensive fleet of vehicles, our client wants to retrofit existing vehicles instead of buying new ones.
- No other ground transportation company has used EV powered engines. If our client proceeds with the conversion, it will be the first in the industry to do so.
- The candidate should now ask questions about the current costs of transportation and determine potential cost savings.

Difficulty: Medium

Quant Heavy

Industry: Transportation

Type: Cost Reduction

Guidance to Steer Discussion

Overall guidance

- The candidate should explain his/her overall framework, then identify that the current and future costs of ground transportation will determine feasibility of project.
- The candidate should then ask questions to determine the initial investment required for EV retrofitting and consider this cost along with the cost savings of the entire project.
- Candidate can assume that the current supplier offers the best EV opportunity in terms of price and efficiency.
- EV technology has the potential to double existing fuel efficiency.

Possible framework

Revenue

- Explore impact on revenue (e.g. improved business relationships due to sustainable operations or reduced carbon footprint in supply chain for partners).

Costs

- Labor, insurance, fuel, maintenance, retrofit initial investment.

Competition/Industry

- New technology may create competitive advantage for the client, thereby growing its business.
- Failure to properly implement fleet could disable operations, allowing competitors to take over.

Existing Capability

- Company has no knowledge of using EV technology, requiring a learning curve.
- First to test the technology may also pose a risk.

Costs Page

Breakdown of Current Costs

Provide the following cost data as the right questions are asked but do not give them away freely.

of vehicles: 2000
Fuel tank size: 50 gallons
Avg mpg: 10
Cost of fuel per gallon: \$3.00
Avg miles travelled per week: 1000
Avg annual maintenance and repair: \$500
Insurance: 1K / year
Labor: 20K / year

Breakdown of Future Costs

Of the costs listed below, ask the candidate which would change and why.

of vehicles: 2000
Fuel tank size: 50 gallons
Avg mpg: 20
Cost of fuel per gallon: \$3.00
Avg miles travelled per week: 1000
Avg annual maintenance and repair: \$3500
Insurance: 3K / year
Labor: 20K / year

Suggested Solution and Structure

Solution Guide – fuel savings

Current fuel costs

- Miles driven per tank = $10 \text{ mpg} * 50 \text{ gallons} = 500 \text{ miles}$
- Miles traveled per week = 1000 miles
- # of times tank is filled per week = 2
- Total cost of fuel per week = $2 * 50 \text{ gallons} * \$3.00 \text{ per gallon} = \300
- Average yearly fuel costs ($\sim 50 \text{ weeks}$) * $\$300 = \15K

Future fuel costs (candidate can perform calculations again or receives a bonus for realizing that doubling fuel efficiency reduces fuel costs by half for the year)

- Miles driven per tank = $20 \text{ mpg} * 50 \text{ gallons} = 1000 \text{ miles}$
- Miles traveled per week = 1000 miles
- # of times tank is filled per week = 1
- Total cost of fuel per week = $50 \text{ gallons} * \$3.00 \text{ per gallon} = \150
- Average yearly fuel costs ($\sim 50 \text{ weeks}$) * $\$150 = \7.5K

Annual fuel savings per vehicle: $\$15\text{K} - \$7.5\text{K} = \$7.5\text{K}$

Suggested Solution and Structure

Solution Guide – total costs

Total current costs

- Fuel: \$15K
- Annual maintenance: \$500
- Labor: \$20K / year
- Insurance: \$1K / year
- Total: \$36.5K

Total future costs

- Fuel: \$7.5K
- Annual maintenance: \$3.5K
- Labor: \$20K / year
- Insurance: \$3K / year
- Total: \$34K

- Switching to EV thus saves \$2.5K per year.
- The current vehicles have a remaining useful life of 10 years.
- Thus, switching to EV saves:
\$25K – \$5K (retrofit cost) = \$20K over the lifetime of each vehicle.
- At a fleet level, this would save the company $\$20K \times 2K \text{ vehicles} = \text{\$40M}$ over the lifetime of the vehicles.
- Candidate can ignore time value of money/discounting, but should receive bonus points for considering it.

Conclusion

Recommendation

- Given the existing data, our client should proceed with retrofitting its vehicle fleet to EV since it would save 40M over their remaining useful life.

Risks

- Our client would be the first in the industry to use EV technology, therefore its effectiveness in commercial transportation is untested.
- The vehicles need to commute 1000 miles per week and current EV technology is limited to short range use.
- There are limited recharging stations in the US.
- There may be other unanticipated costs to using the new technology.

Next Steps

- Work with suppliers to test the effectiveness of the new technology.
- Run a pilot test to determine whether EV technology works and does not negatively impact normal transportation operations.
- Gain input from drivers on efficacy of EV technology.
- Perform research to determine whether there are government incentives for EV adoption.
- Perform research to determine whether EV adoption grows customer base/revenue.

Midwest Hospital – BCG Round 2

Problem statement narrative

Midwest Hospital is a research-based hospital and takes pride in its joint replacement surgery department. Recently they did a P&L analysis for all departments and found that the joint replacement surgery department is making losses. The CEO has asked for our help.

Guidance for interviewer and information provided upon request

If the candidate asks tell them that there are no financial targets.

Give the exhibits in the subsequent slides only when the candidate asks for the relevant data.

Candidate should figure out during the course of the case that there are several levers that can increase profitability:

1. Increase price
2. Change patient mix
3. Increase total number of surgeries
4. Decrease costs
5. Provide post surgery services such as physiotherapy (vertical integration)

Difficulty: Hard

Industry: Healthcare

Type: Profitability

Additional Questions to Steer Discussion

Questions for the candidate

At some point near the start of the case, interviewer should take the lead and ask these questions after exhibits has been given

1. Exhibit 1: Would it be advisable to not cater to Medicare patients (assume no backlash)?
2. Exhibit 2: What is the number of surgeries that Midwest needs to conduct in a year to breakeven?
3. Exhibit 3: Why is Company D able to stay profitable despite having fewer patients and unfavorable patient mix?

Suggested Solution and Structure

Solution Guide

1. On fully cost allocated basis Medicare patients are unprofitable but they are still paying \$1K above the variable cost (marginal cost). This helps cover the fixed costs of the department. So, it is not recommended to stop conducting surgeries for Medicare patients.
2. Average revenue per patient is 19K. Average variable cost is 14K. Gross margin per patient is 5K. Fixed costs are 7M, so 1400 surgeries are required for breakeven. Assuming same proportion as in Exhibit 1 the hospital requires 140 commercial, 420 insurance, and 840 Medicare patients.
3. Comp D might have a lower cost structure or are able to negotiate better pricing from payers.

Conclusion

Recommendation

- Increase total number of patients.
- Change mix of patients to have a higher proportion of commercial and insurance customers.

Next Steps

- Analyze scope for cost reduction, starting with competitive benchmarking.
- Analyze scope for increase in price, starting with competitive benchmarking.
- Analyze profitability of post care services provider.

Exhibit 1: Patient Mix

Payer Type	# Surgeries	List Price	Invoiced price
Commercial (Enterprises)	100	\$40,000.0	\$40,000.0
Insurance	300	\$40,000.0	\$20,000.0
Medicare (Government)	600	\$40,000.0	\$15,000.0

Exhibit 2: Joint replacement department P&L

Revenue		19M
VC	Physician	5M
	Materials	5M
	Others	4M
FC	Facilities	3.5M
	Others	3.5M
Costs		21M
Profit		(2M)

Exhibit 3: Competitive Benchmarking

	Surgeries	Commercial	HMO	Medicare	Profitable
Midwest Hospital	1000	10%	30%	60%	No
Comp A	1200	20.0%	20.0%	40.0%	Yes
Comp B	800	30.0%	20.0%	50.0%	Yes
Comp C	900	10.0%	20.0%	70.0%	Yes
Comp D	1000	5.0%	25.0%	75.0%	Yes

Caribbean Pay Phones

Bain, Final Round

Problem statement narrative

A Ross MBA student is on a “career trek” to the exotic Caribbean island of Arborea Anna. Arborea Anna (AA) is not quite as rich or as technologically developed as the US. About 50% of the population has cell phones, and that percentage is increasing quickly. As our Ross student wakes up, he looks out his hotel room window and sees a crew of workers from the AA Telephone Company ripping out the pay phone on the street corner and replacing it with a new model. After putting his curiosity and his broken Spanish to use, he learns from the workers that they are not just installing a new model on this street corner, but replacing all 500 pay phones in the country with new models. He wonders why they are going through the time, trouble and expense when pay phones are obviously a dying technology.

Why are they replacing the phones?

Guidance for interviewer and information provided upon request

- The only significant difference in the new model of pay phone is that it is equipped to accept payment via prepaid phone cards that are available for sale in local convenience stores in addition to traditional payment with coins.
- Pay phone service in AA has been de-regulated, but no competitors to the privatized former government monopoly have entered the market.
- There is no government mandate to update pay phone technology.
- The useful life of a pay phone (both old and new model) is 10 years.

Difficulty: Medium

Industry: Telecom

Type: Profitability, Cost Reduction

Solution Overview

- This is a profitability case. The most direct approach to cracking the case is to compare the profitability of one old model phone with one new model phone.
- If needed, interviewer should encourage the candidate to list drivers of revenue and costs and consider how installation of the new model is likely to affect each driver. Potential drivers and effects are listed on slide 2. The interviewer should dismiss effects not listed. The key driver to identify is the reduction in maintenance costs. If needed, the interviewer should give the candidate hints until he/she identifies this effect.
- After the candidate has listed and considered drivers, the interviewer should encourage the candidate to develop quantitative estimates of cost effects, providing guidance as needed. As outlined on slide 2, there will be no revenue changes.
- Competition with cell phones and deregulation are red herrings. This is a case about the management of a stable business with slow or negative growth.

Revenue & Cost Effects (Qualitative)

Revenue Drivers

<u>Driver</u>	<u>Potential Effects of New Model</u>	<u>Explanation</u>
Customers per day	No change	Extra payment option for customers without coins brings new customers, but offset by generally declining demand
Price per minute	No change	Supply and demand not affected
Average length of call	Slight increase, but not relevant	Calls priced with flat fee for unlimited minutes
Advertising	No change	No additional ad space on new model

Cost Drivers

<u>Driver</u>	<u>Potential Effects of New Model</u>	<u>Explanation</u>
Installation	Significant increase	One-time installation fees will be substantial
Maintenance	Significant decrease	Company won't have to empty coins out of machine as frequently
Interchange fees (fees paid to the owners of the phone lines)	Slight increase, but insignificant	Will increase average length of day increases, but not a big cost
Rent	No change	Value of land unchanged

Cost Savings (Illustrative)

Breakdown of Costs			
	<u>Installation</u>	<u>Maintenance</u>	<u>Costs (Useful Life)</u>
Old Model	\$0	\$1000/yr	\$1000*10=\$10,000
Assumption		\$40/visit to unload quarters 1 visit/2 weeks 50 weeks/yr	
New Model	\$2200	\$250/yr	\$2200+\$250*10=\$4700
Assumption	Equipment cost = \$2000 10 hours of labor @\$20/hr	1 visit/8 weeks	

Cost Savings per Phone * Total Phones = Total Cost Savings

$$(\$10,000 - \$4,700) * 500 = \$2,650,000$$

**Assume discount rate of zero*

Conclusion

The AA Telephone Company is replacing its phones in order to save maintenance costs.

Bonus Questions

1. What is the most important assumption made in your analysis? (Reduction in number of visits to empty quarters because a significant number of consumers will change to card payment).
2. How could you test that assumption? (Customer survey, benchmarks from other industries that have shifted to cashless payment, install one new phone and run a pilot).
3. If you were the CEO of the AA Telephone Company, how would you spend your profits? (Dividends, new services, geographic expansion).

Hotel Co. Spinoff

Bain Style Case: Difficult

Problem statement narrative

Your client is Hotel Co., an international hotel corporation that owns and operates 2,700 hotels worldwide, as well as a separate timeshare business with 75 properties worldwide. Their hotel rooms are typically sold on a per night basis, whereas their timeshare properties are sold more like traditional homes via a mortgage which in turn gives the buyer the right to stay at a timeshare property for a set period of time each year.

The CEO of Hotel Co. has approached you and has asked for guidance on whether or not they should spinoff their timeshare business into a separate stand alone entity called Timeshare Co.

Guidance for interviewer and information provided upon request

- Hotel Co. wants to weigh a few criteria, including the financial impact, risk, and strategic outlook.
- Hotel Co. only uses a five year timeframe for all financial decisions.
- Hotel Co. would be spun off and taken public, with 20% of the IPO proceeds being paid back to Hotel Co. The remainder of IPO proceeds would go to Timeshare Co. and the underwriters.
- Hotel Co.'s bankers think they can sell 10 Million shares at \$220 each.

Difficulty: Hard

Quant Heavy

Industry: Hospitality

Type: Divestiture

Question 1: Financial Impact

Questions for the candidate

What is the financial decision making process for whether or not to spin off Timeshare Co.?

- Provide Exhibit 1 (Profit Projections)
- Candidate should notice that industry home sales are a good proxy for Timeshare Co.'s revenues, and forecast out five years of profits.
 - 2011 Forecast: -50M
 - 2012 Forecast: 0M
 - 2013 Forecast: 100M
 - 2014 Forecast: 150M
 - 2015 Forecast: 250M
- Total 5 year forecast profits of Timeshare Co: 450M.
- Per the opening information, if spun off, Hotel Co can expect 20% of IPO proceeds. Bankers expect to IPO 10 Million shares at \$220 each, or \$2.2 Billion total. 20% of \$2.2 Billion is \$440M to be earned by Hotel Co. if they spin off.
- Based on those amounts, **it does not make financial sense to spin off Timeshare Co.** (\$440M if spun versus five year projected revenues of \$450M if kept in-house.)
- Mitigation: \$450M revenues are expectations and subject to a lot of risk and variability versus little to no risk if Hotel Co. just takes the IPO payment.

Question 2: Risk

Questions for the candidate

What is the risk decision making process for whether or not to spin off Timeshare Co.?

- Provide Exhibits 2 (Mortgage Default Rates) and 3 (Mortgage Portfolio's Contribution to Profits)
- Exhibit 2: Candidate should notice that default rates spiked in 2008/2009, and seem to remain much higher than in the past.
- Exhibit 3: Candidate should notice how important mortgages are to overall success of business. Mortgage revenues always account for around 95% of total revenues.
- Main takeaway: Timeshare Co.'s revenues are risky given the variability of mortgage default rates, and it seems as though default rates will never return to pre-2008 levels. A "new low" seems to have been established around 4.5%.
- Thus, it seems risky to keep Timeshare Co.'s business in house. The economic uncertainty with mortgage portfolios puts too much risk into Hotel Co.'s business. **Spinning off Timeshare Co. would get rid of a lot of risk to Hotel Co.**
- Mitigation: While spinning off the business would be one way to achieve less risk, there are other options available to reduce risk from Timeshare Co.
 - Connect timeshare buyers with mortgage companies and collect a finder's fee instead of carrying mortgages in-house
 - Buy mortgage default insurance to reduce volatility

Conclusion

Recommendation

Spinoff Timeshare Co.

- IPO proceeds are only slightly less than the 5-year expected profits, but profits are extremely volatile.
- It also makes sense from a risk standpoint. While there are other ways to reduce risk, spinning off Timeshare Co. helps achieve a reduction in risk.

Next Steps

- Must examine the impact of cross selling. How many timeshares are sold to hotel customers? How can we continue to cross sell after a spin off?
- Must consider other ways to reduce risks at Timeshare Co apart from simply spinning off the business.

EXHIBIT 1: Timeshare Co. Historic and Projected Profits

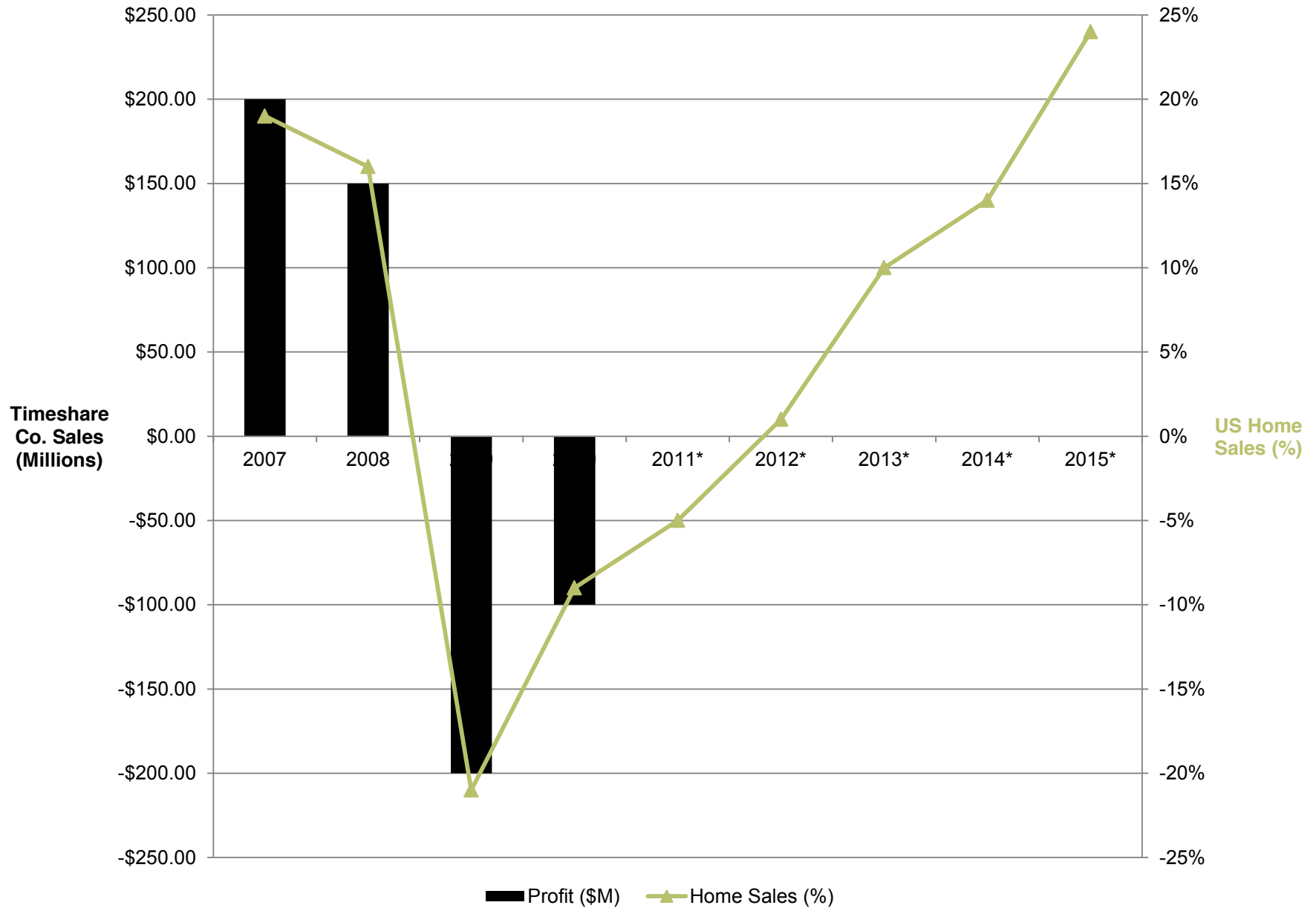


EXHIBIT 2: Mortgage Default Expectations

Year	Default Rate
2007	1.5%
2008	8.5%
2009	11.0%
2010	9.5%
2011*	8.5%
2012*	6.0%
2013*	4.5%
2014*	4.7%
2015*	4.3%

EXHIBIT 3: Mortgage Portfolio's Contribution to Profits

Year	Portion of Profits
2007	95.0%
2008	94.0%
2009	92.0%
2010	94.0%
2011*	95.0%
2012*	96.0%
2013*	95.0%
2014*	97.0%
2015*	96.0%

Upscale Restaurant

McKinsey Final Round

Problem narrative

Our Client is a upscale restaurant in TianJin, serving government officials and high-level business customers. Its monthly revenue is 1.2 Million Yuan. The CEO recently hired McKinsey to help them increase profits.

Information provided upon request

As China's economy is booming, the upscale dining market is growing at 20% every year.

Customers for high-end dining are generally price insensitive.

All competitors are earning money. Competitors' price and value proposition are similar.

Variable costs across industry is 50% of revenue. Assume no fixed costs.

On weekdays, there is always a line for individual rooms. As a result, the restaurant has to turn away half of its customers due to capacity constraint.

Difficulty: Hard

Quant Heavy

Industry: Hospitality

Type: Profitability

Information provided upon request by Candidate

Individual Room : 20 tables

Big Room : 20 tables

	Week Day	Weekend
Lunch	Occupancy: 80% Price per person: 150 Party size per table: 4	Occupancy: 30% Price per person: 100 Party size per table: 4
Dinner	Occupancy: 100% Price per person: 300 Party size per table: 6	Occupancy: 50% Price per person: 200 Party size per table: 6

	Week Day	Weekend
Lunch	Occupancy: 20% Price per person: 100 Party size per table: 4	Occupancy: 30% Price per person: 100 Party size per table: 4
Dinner	Occupancy: 30% Price per person: 200 Party size per table: 4	Occupancy: 30% Price per person: 200 Party size per table: 4

Reason for low profits

Government officials and business customers prefer individual rooms to big rooms because of their requirement for privacy. Currently our client is not meeting customer demand.

Question

What are potential solutions for this situation?

Solution

- Raising price.
- Turning big room tables into individual rooms.

Question

Through market research, we have determined that if we raise weekday individual room price by 33% , we will lose 10% of customers. How will it change our profitability?

Solution

For weekday lunch, changing the price will result in 10% customer loss.

	Previous	Now
Customer	$4 \times 20 \times 80\% = 64$	$64 \times (1 - 10\%) = 58$
Price	150	$150 \times (1 + 33\%) = 200$
Revenue	$64 \times 150 = 9600$	$58 \times 200 = 11600$
Profit	$9600 \times 50\% = 4800$	$11600 \times 50\% = 5800$
Incremental Profit		$5800 - 4800 = 1000$

For weekday dinner, the underlying demand is 200% of current capacity, so raising price WON'T reduce volume.

	Previous	Now
Customer	$6 \times 20 = 120$	120
Price	300	$300 \times (1 + 33\%) = 400$
Revenue	$120 \times 300 = 36K$	$120 \times 400 = 48K$
Profit	$36K \times 50\% = 18K$	$48K \times 50\% = 24K$
Incremental Profit		$24K - 18K = 6K$

Daily Incremental Profit: $1K + 6K = 7K$

Question

A second solution is converting half of big room tables into 5 individual rooms. It will take 2 weeks for the restaurant to finish the decoration, during which time the restaurant has to be completely shut down. The decoration will cost 100K Yuan. What is the total cost of this project?

Solution

Cost

- Capital investment: 100K
- Opportunity Cost: ~300K** (2 weeks of profits)

*** Note: The observant candidate will quickly calculate this from the initial revenue info given at beginning of case rather than making heavy calculations involved with calculating it from the table of data.

Total cost = 400K Yuan

Marie's Café

Problem statement narrative

Marie's Café is a small local coffee shop that serves coffee and latte. Marie's has been around for decades and is known for its high quality drinks and cozy atmosphere. The café has seen declining profits over the last few quarters, and the owner has hired you to increase its profits.

Guidance for interviewer and information provided upon request

- There are two other coffee shops in the nearby area that sell coffees and pastries. (There is no further information on these competitors.)
- Café currently serves two items (coffee and latte) in three different sizes.
- Note that this is an interviewer led case.

Difficulty: Medium

Quant Heavy

Industry: Hospitality

Type: Profitability, Operations

If the candidate touches on prices or costs...

1. How much profit does Marie's Café currently make per customer?

- Show tables below.
- Each customer only purchases one drink per visit.

Product	Price	% Customers who Purchase
Coffee (8)	\$1.00	15%
Coffee (12)	\$1.50	15%
Coffee (16)	\$2.00	15%
Latte (8)	\$3.00	20%
Latte (12)	\$4.00	20%
Latte (16)	\$5.00	15%

Product	Cost
Cup (8)	\$0.30
Cup (12)	\$0.40
Cup (16)	\$0.50
4 oz of Coffee	\$0.10
4 oz of Latte	\$0.50

1. Solution: Average Profit = \$1.50 / customer

Product	Price	% Customer Purchases	Cost	Profit	Profit per Customer
Coffee (8)	\$1.00	15%	\$0.50	\$0.50	\$0.08
Coffee (12)	\$1.50	15%	\$0.70	\$0.80	\$0.12
Coffee (16)	\$2.00	15%	\$0.90	\$1.10	\$0.17
Latte (8)	\$3.00	20%	\$1.30	\$1.70	\$0.34
Latte (12)	\$4.00	20%	\$1.90	\$2.10	\$0.42
Latte (16)	\$5.00	15%	\$2.50	\$2.50	\$0.38
				Average Profit	\$1.50

- Strong candidates will point out that larger sizes yield larger profit margins, and suggest new profit increasing strategies (like promoting sales of larger sizes, introducing a 20oz size, eliminating 8oz sizes, etc.).

2. What is the average profit that Marie's Café earns per day?

- Each customer purchases exactly one beverage.
- Two baristas are working at any given time. Baristas are paid \$15/hour.
- Hours: 7AM to 10PM, Monday through Friday. Closed on weekends.
- The number of customers per hour is listed below. Customers leave if they can't be served quickly.
- On average, it takes 2 minutes for a barista to complete an order. Coffee is served fairly quickly, while lattes take significantly longer to make. (Candidate should realize that only 60 customers can be served per hour.)

Time	Average Demand per Hour
7AM to 10AM	100
10AM to 1PM	80
1PM to 4PM	60
4PM to 7PM	40
7PM to 10PM	15

2. Solution: Assuming 2 baristas per hour, \$607.50 (See below).

- Candidate should realize that the café is losing money in the evening hours. Candidate should suggest adding or subtracting baristas based on demand.

3. If you could change the number of baristas during each time period, what would be the daily profit for Marie's Café?

- **Solution: By adding a third barista in the morning shifts and reducing one at night, the new profit would be \$787.50 – see below.**

Time	Demand per Hour	Served	Current Profit	Optimal Baristas	Optimal Served	Optimal Profit
7AM to 10AM	100	60	180	3	90	270
10AM to 1PM	80	60	180	3	80	225
1PM to 4PM	60	60	180	2	60	180
4PM to 7PM	40	40	90	1 or 2	30 or 40	90
7PM to 10PM	15	15	-22.5	1	15	22.5
			\$607.50			\$787.50

4. Marie's Café does not offer wireless access for its customers. Should the café add this service?

- Positives
 - More customers
 - Potentially charge customers for service
 - Customers may order larger sizes of drinks
- Negatives
 - Costs of wireless setup, outlets
 - Sufficient room for customers
 - Customers stay longer, slowing sales during busy periods
 - Image of café – may change current atmosphere

If candidate mentions that competitors sell pastries while Marie's Café does not...

5. What factors should Marie's Café consider before purchasing an oven to sell pastries?

Revenues

- Doughnut sales, increased synergies with coffee/volume of customers.

Costs

- Fixed costs - purchasing/maintaining oven, setting up display case, storage, advertising.
- Variable costs - ingredients, hiring/training staff.

Capacity

- Room in café for oven and ingredients.
- Baristas available to accommodate for increase in demand.

Brand image – Marie's is known for its coffee and atmosphere; adding pastries may change image and drive away loyal customers, especially if they are low quality.

Competition – price and quality compared to competitors.

Alternative opportunities – purchasing doughnuts from somewhere else.

6. A new espresso machine, priced at \$2000, can greatly decrease the time it takes to make a latte. The average time it takes to complete an average customer's order decreases from 2 minutes to 90 seconds. How long would it take to pay back the machine?

- Daily profit shown below, calculated with the optimal number of baristas.
- Machine would be paid back in 14.8 days (922.50 – 787.50 from Question 3).
- 4 Baristas in the 7-10AM would also yield similar profits with the advantage of turning away fewer customers.

Time	Demand per Hour	Served	Profit	Optimal Baristas	Optimal Served	Optimal Profit
7AM to 10AM	100	80	270	3	100	315
10AM to 1PM	80	80	270	2	80	270
1PM to 4PM	60	60	180	2	60	180
4PM to 7PM	40	40	90	1	40	135
7PM to 10PM	15	15	-22.5	1	15	22.5
			\$787.50			\$922.50

Chinatown Bus

Problem statement narrative

Your client is a Northeast-based bus company that operates inter-city passenger buses along the Boston – DC corridor. The client has been in this market for over 40 years and has been reasonably profitable for most of that time.

In recent years, the client's market share and profitability have been declining. Looking at the competitive landscape, the client recognizes that a number of low-cost, no-frills bus companies have entered the market. As a result of these new entrants and high gas prices, overall demand for bus services has been on the rise even as our client loses customers.

The client has hired us to determine whether they should launch their own low-cost bus line and if so, how they should compete in this market?

Guidance for interviewer and information provided upon request

Info to be provided on request:

- The client targets a 40% gross margin for any new investments.
- The overall market is growing at about 5% per year.
- The client's two main routes are Boston – New York and New York – DC. There are 5-6 competitors on each route.
- The low-cost bus lines typically operate out of Chinatown in the respective cities or pick up on the street (not in stations). They tend to use older equipment and have poor reputations for reliability and safety.
- The client struggles most with “first-time riders”, who tend to be younger, perhaps in college, and are riding inter-city buses for the first time. The client has a stable base of long-term customers where they have not seen much erosion.

Difficulty: Medium

Industry: Transportation

Type: Profitability, Competitive Response

Suggested Structure

Guide to Structure

A good structure for this case would focus on profitability, but might also touch on issues of assessing the market, differentiation of the competitors, the client's capabilities, and customer segmentation. Ideally, the case taker should ask if there are any metrics that the client focuses on before structuring the case, which would demonstrate that profitability is going to be the focus. You can allow the interviewee to pursue some other areas of investigation initially but try to guide them towards the profitability question eventually.

While there could be a number of ways to look at profitability (and you should let the case taker think through how to approach this), the case takes a simplified approach of looking at one bus operating on one route and assumes that this would be scalable across additional buses. The fictional data presented below is for the Boston-New York route. Feel free to make the math a little harder (e.g. bus makes 900 trips per year) if the interviewee needs to practice.

Once the interviewee has completed the profitability analysis, have them brainstorm responses for the second question of the case: How could the client effectively compete in this market?

Revenue and Costs Page – data provided on request

Breakdown of Revenue

- The client currently charges \$40/one way on the BOS-NYC route
- Low cost competitors are currently charging an average price of \$15/one way
- Each bus has capacity of 60 seats and estimated avg. utilization of 67%
- Total revenue per trip (new bus line) = $\$15 * 40 = \600

Breakdown of Costs*

Fixed Costs: *(bus operates 330 days/year at 3 trips per day)*

Bus: \$250k (useful life of 10 years) = \$25/trip

O&M: \$20k/year = \$20/trip

Insurance: \$15k/year = \$15/trip

Variable Costs:

Labor: 1 driver @ \$25/hour for 5 hours = \$125/trip

Fuel: \$4/gallon, 200 miles, 10 miles per gallon = \$80/trip

Tolls: \$75/trip

Total Cost = \$340 / trip

Profits = \$260

Profit Margin = 43.3%

* Since our focus is on gross margin the interviewee can ignore SG&A costs

Question 2: How should the client compete?

Potential Responses

Good responses to this question should recognize that customers that take the new bus-lines are very price conscious and thus the client will have to compete on price (i.e. match competitors' prices). However, given that the client should look for how they can differentiate their product from the new competitors. Potential responses include:

- Focus on safety and reliability
- Offer additional amenities (e.g., wifi, music, movies, etc.)
- Offer food and drink service (bonus points if they mention this as an additional revenue opportunity)
- More direct routes
- More convenient pick-up locations
- Loyalty programs
- Leverage existing brand (WARNING: This would likely hasten cannibalization and is not a good idea)

Conclusion

Recommendation

Client should launch their own low-cost bus line

- Meets gross profit target of 40%
- Room for new competitor in growing market
- Will continue to lose customers if they do not act

Risks:

- Cannibalization of existing customers (THIS IS A BIG ONE)
- Competitor Response: engaging in a price war with competitors that have lower costs
- Rising fuel costs

Next Steps

Potential next steps include:

- Identify opportunities to generate additional revenue sources in order to make up for lower profitability of new bus line
- Conduct market study of “first time riders” to determine what additional amenities they would value the most
- Develop retention strategy on existing bus service to minimize cannibalization
- Develop distinctive branding strategy for new bus line
- Launch pilot on one route to validate financial assumptions and test competitor response

CPD - Content Publisher and Distributor

Problem statement narrative

Our Client is a research content aggregator and distributor to academic institutions, local libraries, government institutions. The 2010 revenues are 1 billion dollars.

However, the CEO thinks that the organization has not tapped into potential opportunities that are out there and wants your help in understanding how to go about these opportunities.

How would you approach the situation?

Guidance for interviewer and information provided upon request

- **Industry:** although recession had a negative impact on some local libraries, the industry is pretty stable.
- **Competition:** low – medium in research content space.
- **Products:** the firm has three products – one for each segment. These products are ACA_RES, LIB_RES, GOV_RES. These products are web solutions that can operate independently or in integrated fashion with other database tools clients typically have.
- **Individual revenue streams:** ACA_RES, GOV_RES revenues went up, but LIB_RES revenues went down.
- If asked, mention that the revenues of LIB_RES went down by 3% compared to previous year.

Difficulty: Medium

Industry: Online Services

Type: Profitability, Industry Analysis

Additional Questions to Steer Discussion

Questions for the candidate

- Ask why the LIB_RES revenues may have gone down.

Suggested Solution and Structure

Solution Guide

- Economy: many local libraries depend on funds from local city government and state/federal grants. The 2008 recession had an impact on the people's livelihoods because of which the tax dollars went down constraining grants to local libraries.
- Also due to poor economy, libraries were not able to raise funds from private institutions as they were able to pre-recession period.

Additional Questions & Guidelines

Guidelines for Interviewer

- Candidate should go back to the original question of how to tap into some of the market opportunities.
- Candidate should pick up that it is a revenue related question and put out his/her approach on how to increase the revenues.
- A good candidate will prioritize the issues related to revenues and would say he/she will take a look at the LIB_RES product and its revenues and see what caused the decline besides economic issues and if something can be done about that.

Additional Questions

- Directly ask the question “What do you think about the LIB_RES product?” if candidate does not point it out.

Additional Questions & Guidelines

Guidelines for Interviewer

- Candidate should ask about all the aspects of revenues and costs:
 - # of clients: 2000 in the US
 - Average sale price: 45,000 per annum
 - Contract period: 1 year
 - Sales channels: direct sales force
 - Cost to sell and manage each contract: \$20,000 including sales overhead and salaries
- Candidate should identify that number of clients may have changed due to economic pressures.
- Candidate must calculate the profitability of this segment.

Candidate Hypothesis

- Candidate should identify that it is a profitable segment (profit of 25,000 per client) and price could be the most likely reason for declining revenues.

Additional Questions & Guidelines

Guidelines for Interviewer

- Candidate should get product and its pricing.
- Possible questions candidate may have:

Candidate Questions	Answers
How is the product sold?	Sold as a package whether the client uses the features or not.
Does the client have options from competitors?	Yes, but our product is best in the industry for ease of use especially for children and elderly that frequent the public libraries.

Refined Hypothesis

- Candidate should pick up on given information and point out that there are some features that our clients do not want in our product. Maybe there is an opportunity to examine some of the key feature offerings and unbundle and offer them as a configurable, customizable product for a lower price.
- Offer the product based on number of users – license based.
- Charge clients based on usage of our information.

Additional Questions & Guidelines

Guidelines for Interviewer

- Our client wants to go with license-based pricing.
- Ask the student to calculate the price per user license.
- Ask also for the breakeven volume of seats.

Candidate's Questions

- A good candidate will ask one or more of these questions.
- Average number of users per public library (per month):

Segments within Public Libraries	Small, Medium, Large
# of users of these libraries	small – 2000, medium – 5000, large – 8000
# of libraries	small – 800, medium – 750, large – 450
# of users of our product	60% on average

Calculations

Candidate's Calculations

- Average number of users per public library (per month)

Small	Medium	Large
$2000 * .6 = 1200$	$5000 * .6 = 3000$	$8000 * .6 = 4800$

- Candidate should mention that to keep up with our revenues and possibly increase them, we should price each license at a minimum price of current revenue for the product / Total users.
- Total users per month: $1200 * 800 + 3000 * 750 + 4800 * 450 = 5,370,000$ per month.
- Current revenue = $\$45,000 * 2000 = \$90,000,000$.
- Price = $\$90,000,000 / 5,370,000 \Rightarrow$ approximately \$17 dollars. (If they rounded 5,370,000 to 5,000,000 they would get \$18 dollars which can also work)
- A good candidate will also look at profits for each segment within LIB_RES and calculate breakeven licenses for all segments.
- Break Even = Costs/Margin per seat = $20,000/16 = 1250$ licenses per library, assuming the variable cost of each license is \$0 because it is a software product.

Conclusion

Recommendation

Given the license price we just arrived at, our client should sell each seat at a minimum of \$17.

A good candidate will say that because of our product quality, larger clients may pay more for each seat, e.g. \$20 a seat. In that case, the revenues can be greater than the current revenues.

Next Steps

- Client should conduct a survey to see if clients are interested to pay per seat/license including the price point per seat.
- This would also help our client understand other issues public libraries may face in terms of customer visitation patterns and how that can impact the per license sale of our clients product.
- Other ways to increase revenue is to sell to consortiums (group of libraries in a State/City).

Ross School of Business – On Campus Summer Employment

Problem statement narrative

The Ross School of Business is looking to promote its MBA program's reputation and ranking position, by improving its on-campus summer internship employment stats. Currently, only 60% of Ross MBAs secure an internship through on-campus recruiting. The Dean has hired our firm to provide insight and recommendations on how to improve the on-campus offers.

Wait for interviewee to ask clarifying questions about specific objectives:

1. Primary objective: increase on-campus internship offers to 75%
2. Secondary objective: the school is very cost sensitive and is only willing to spend up to \$500K

Guidance for interviewer and information provided upon request

- Assume that Ross has 500 students in each class
- Push interviewee to understand the “value chain” of on- campus recruiting (see next slide)

Difficulty: Medium

Industry: Education

Type: Value Chain, Operations

Value chain

Ask interviewee to brainstorm the value chain for Ross to assist its students to get internship offers.

- Data for current on-campus recruiting:
 - # of companies that recruit on-campus = 100
 - avg. # of positions offered per company = 2
 - # of interview slots per position = 15
 - Interview success rate = 10%

(assumption = each student receives only one offer)

Then ask interviewee to brainstorm on possible ways to increase # of total offers made (he should go over the “value chain”)

- The school is looking into two possible strategies:
 - Increase the number of companies that recruit on campus
 - Improve the interview success rate

Increase # of companies

To attract more companies, OCD needs to hire additional firm relations managers.

Each manager can handle 5 companies and requires an annual salary of \$75K. Additional costs (travel, marketing expenses, etc.) per manager are estimated at \$50K.

$$\text{Target \# of offers} = 500 * 0.75 = 375$$

$$\text{Current \# of offers} = 300$$

$$(375-300)/300 = 25\%$$

$$\text{Ross needs to increase the number of firms by } 25\% * 200 = 50$$

$$\text{\# of additional OCD firm relations managers} = 50/5 = 10$$

$$\text{Annual cost} = 10 * (75K+50K) = \mathbf{\$1.25MM}$$

Value chain

Have interviewee brainstorm on possible ways to increase interview success rate

According to recent a survey the most important factor in interview success rate is the number of mock interviews.

For every 0.5% increase in success rate Ross will need to hire 15 MBA2 counselors

Each MBA works 40hrs , with an hourly wage of 20\$

Recruiting lasts 5 months

Every 2% increase in success rate attracts 5 new companies that recruit on campus.

Adding 2%:

$(100+5) * 2 * 15 * 12\% = 378$ offers

Annual cost = $2\%/0.5\% * 15 * 40 * 20\$ * 5 = \$240K$

Good candidate will make sure we have sufficient MBA2 “Capacity”

Conclusion

Recommendation

Recommend that Ross hires 60 additional MBA2 OCD counselors. This will increase total # of offers to 378, (meeting the goal of increasing on campus offers to 75%).

Possible Risks (mitigation)/ Next steps)

1. Difficulty recruiting so many MBA2s (*can increase hourly wage up to \$40 without exceeding target budget*)
2. Economic downturn may cause companies to reduce the number of positions / slots
3. Limited # of study rooms at Ross to accommodate such an increase in the # of mock interviews (*reach out to law school / Michigan Union to get access to their rooms*)
4. With so many MBA2s spending so much time on counseling, their grades may be negatively impacted, affecting the total Ross brand image (*employ grade non disclosure policy*)

Coming to America - BollyFlix

Problem statement narrative

Our client, BollyFlix, is an Indian company providing DVD rentals by mail, as well as movie and TV streaming services, to the Indian market, both under a subscription model. The company serves content made in India for the Indian market (known as “Bollywood” content), and currently has no international operations.

Recently, driven by the explosive growth of Indian immigrant and Indian American citizen populations in the United States, as well as the increasing popularity of Indian movies among non-Indians around the world, BollyFlix began to consider launching operations in the United States.

Should the company enter the US DVD rental market, the online streaming market, neither, or both?

Guidance for interviewer and information provided upon request

- BollyFlix provides only movies and television content made in India (Bollywood) for the Indian market.
- Major US competitors (like Netflix, Blockbuster, etc.) do not serve any Bollywood content. BollyFlix does not serve any non-Bollywood content.
- There are outlets, in both traditional retail and online, that sell such content, but none offering a rental /streaming model in the US at this time.
- BollyFlix operates their DVD and streaming businesses separately.
- BollyFlix’s only goal is to establish a profitable business.
- Note that this is a longer case in terms of time.

Difficulty: Hard

Quant Heavy

Industry: Media

Type: Market Entry

Market Sizing

A good candidate will recognize that a proper market sizing is an essential first step to this problem. If they do not, steer them toward this exercise with a question like “Who do you think might be the target customers for such a business?”.

Let the candidate brainstorm as to what inputs they would like.

Good answers might include (but are not limited to) requests for data on –

- Size of the American and Indian American population
- Segments within these populations
- Data on non-Indian consumption of Bollywood content
- Data on current patterns of non-Bollywood content among target populations

Next provide them with the data in the next column and ask them what the market for both their DVD subscription service and video streaming subscription service would be.

Guidance for interviewer and information provided upon request

- The population of the US is about 300M, and about 1% (~3M) claim Indian descent.
- 70% of those who claim Indian descent were born outside of the US. 30% were born in the US.
- Based on demographics and market research, we believe that of those born outside the US, 30% would be likely customers. Of those born in the US, 10% are likely customers. These numbers hold for both lines of business.
- 0.1% of non-Indian US residents are interested in Bollywood content and are likely to become customers.
- BollyFlix plans to charge \$100/year for their DVD rental subscription service, and \$50/year for a subscription to their online streaming service.

Market Sizing Calculations

Market sizing calculations are in the table below. Tell the candidate to assume that we capture 100% of likely customers. Suggest to round to 1M customers and \$150M in revenue if they do not ask.

US Population	300,000,000
Indian descent population within US	3,000,000

		Population	Likely Customers	Total
Indian Descent	US born	900,000	10.0%	90,000.00
	Foreign born	2,100,000	30.0%	630,000.00
Non-Indian population		297,000,000	0.1%	297,000.00
			Total Market (population)	1,017,000
			Total Market (DVD)	\$101,700,000
			Total Market (Streaming)	\$50,850,000
			Total Market	\$152,550,000

Cost information

Having established a market size, the next step is to determine what it would cost to operate in the US market.

Ask the candidate what sorts of costs a company like this are likely to encounter.

Good answers may include –

- Content rights fees (streaming)
- IT infrastructure/bandwidth (streaming)
- Postage
- Costs to establish and operate distribution centers
- Purchase of DVDs
- SG&A
- Marketing

Guidance for interviewer and information provided upon request

- For DVD customers, our variable costs would be:
 - \$60/year/customer to purchase DVDs and cover overhead
 - \$20/year/customer to cover shipping costs
- It costs \$4M/year to lease and operate a distribution center in support of the DVD rental business.
- Nationwide coverage for DVD distribution would require 6 distribution centers.
- Rights to stream Bollywood content in the US would cost \$20M.
- IT Infrastructure, bandwidth and other overhead within the streaming business would cost \$8M.

Market Sizing Calculations

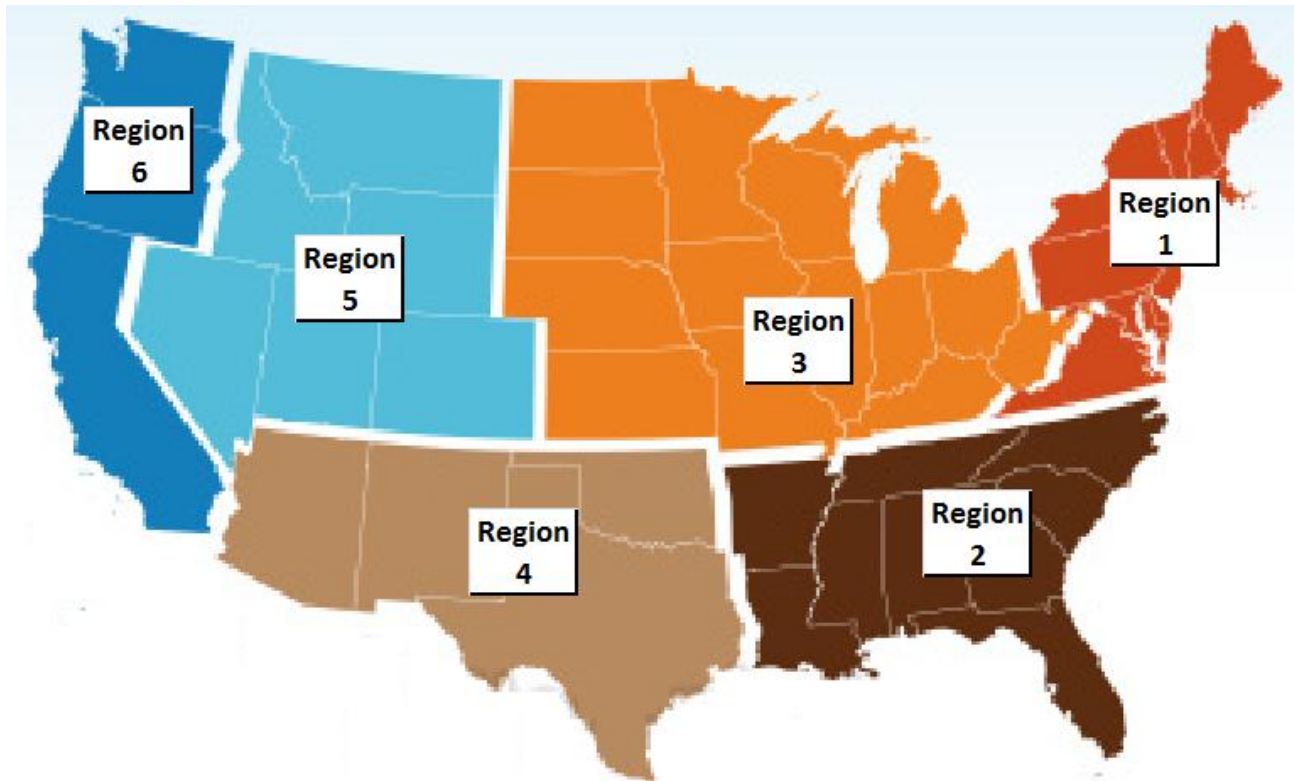
The candidate should compute roughly the numbers below. They should conclude that given available information, the DVD rental business is not viable, whereas the online streaming business is very high margin.

Projected Profit		
	DVD	Streaming
Projected Revenues	\$100,000,000	\$50,000,000
Cost of DVDs	-\$60,000,000	\$0
Cost of Postage	-\$20,000,000	\$0
Cost of Distribution	-\$24,000,000	\$0
Rights Fee's	\$0	-\$20,000,000
IT Infrastructure	\$0	-\$8,000,000
Total	-\$4,000,000	\$22,000,000

Next, tell the candidate that we have engaged in a market segmentation study, and come to realize that concentrations of our target population vary considerably by region within the United States. Show them Exhibit 1 and ask for their immediate takeaways.

Exhibit 1

Distribution Center Service Regions



Region	Population (M)	Indian (%)
1	60	1.8
2	70	0.4
3	70	0.9
4	40	0.3
5	10	0.3
6	50	1.8

Note: Assume that likely customers include 0.1% of the general population, and 25% of the overall Indian population

Regional analysis

If the candidate does not suggest such an analysis on their own, ask them to determine if the DVD business might be viable on a regional basis, if not a national one. To ease calculations, you may remind them that 80% of revenues are immediately eaten up by variable costs, leaving \$20/customer in potential profit, and that the cost to serve a region is \$4M (the distribution center).

Given time, they should be able to produce roughly the following calculations.

Region		Population	Likely Customers	Revenue	Total revenue	Marginal Cost	Profit per Region		Serving only Regions 1 and 6
1	Non-Ind	60,000,000	60,000	\$1,200,000					
	Ind	1,200,000	300,000	\$6,000,000	\$7,200,000	4,000,000	3,200,000		\$3,200,000
2	Non-Ind	70,000,000	70,000	\$1,400,000					
	Ind	200,000	50,000	\$1,000,000	\$2,400,000	4,000,000	-1,600,000		
3	Non-Ind	70,000,000	70,000	\$1,400,000					
	Ind	500,000	125,000	\$2,500,000	\$3,900,000	4,000,000	-100,000		
4	Non-Ind	40,000,000	40,000	\$800,000					
	Ind	100,000	25,000	\$500,000	\$1,300,000	4,000,000	-2,700,000		
5	Non-Ind	10,000,000	10,000	\$200,000					
	Ind	30,000	7,500	\$150,000	\$350,000	4,000,000	-3,650,000		
6	Non-Ind	50,000,000	50,000	\$1,000,000					
	Ind	1,000,000	250,000	\$5,000,000	\$6,000,000	4,000,000	2,000,000		\$2,000,000
Totals					\$21,150,000	\$24,000,000	-\$2,850,000		\$5,200,000

Note to Interviewer: Revenue here assumes \$20 per customer (what is left over after subtracting \$80 in per-customer fixed costs). General population numbers are rounded.

Regional analysis

- The candidate should recognize that it is profitable to serve Regions 1 and 6, and very close to profitable to serve Region 3. Ask them what might change in region 3 that could effect this in the future.
- Good answers could include:
 - A reshaping of the region so that it better encompasses target populations
 - Growth in the Indian population, either organically or via immigration
 - Growth in demand for Bollywood content among either the Indian or non-Indian population (either natural or spurred by increased marketing)
 - Pricing changes that drive revenue or volume
 - Consumption via DVD could increase (or decrease) overall

Recommendations/Risks

The candidate should conclude that BollyFlix should enter the streaming business immediately, and enter the DVD rental business on a regional basis.

Changes in demographics or consumer preference could have a large effect on this business.

This may be easily copy-able by competitors.
Slim DVD margins could disappear overnight.

High margins in the streaming business could attract competition, driving up content prices and pressuring consumer pricing power.

Next Steps

- Begin setting up infrastructure to open the content streaming business.
- Move to open warehouses and begin marketing in Regions 1 and 6.
- Examine potential levers to move Region 3 into profitability.

Retail Business Restructuring

Business Situation

Our client, Unlimited Brands, is a large national retailer with revenues of \$12B. Recently they have experienced declines in revenue and profits. They attribute these declines to both changes in consumer tastes as well as decreased investment in several brands due to the desire to preserve capital during the recent downturn. There are two units they are interested in potentially divesting:

Fast Fashion: a young women's professional clothing retailer with sales of \$500M last year (cater to 18-25 yr old women).

Devine Design: a fashion forward clothing retailer offering both professional and casual clothing at competitive prices, with sales of \$750M last year (cater to 40-55 yr old women).

You have been hired to determine the most viable business unit to divest and plan for the separation of the unit from the firm, while maximizing shareholder value.

Problem Statement

For interviewer to provide upon problem statement clarification. No other data will be provided outside of the tables given. Assumptions are ok and encouraged.

What things will the firm need to consider when selling one or more of their business units? (note to interviewer: this should be a brainstorming session and focused on retail business, force the interviewee to continue to provide ideas until they say they have explored all they think they can)

Which business unit of the two initially decided upon should Unlimited Brands consider selling to strengthen its cash reserves and deliver the most value to shareholders? What price should they target for each unit?

To sell additional work to the client what ideas would you recommend to Unlimited Brands to strengthen their business?

Difficulty: Hard

Quant Heavy

Industry: Retail

Type: Restructuring

Prompt Questions and Responses (For interviewer reference ONLY)

1. What things will the firm need to consider when selling one or more of their business units? (*continue to probe until the interviewee declines for exploration*)
 - **Culture/People Impact:** Selling off assets can disrupt your employees and impact the image of the company. Retaining key talent is also very important to maintaining the strength of the company. Employees may worry about what will be sold next, and be less effective until they know better.
 - **Impact to Revenue:** Although these units have been viewed as underperformers, it will be important for the firm to make sure they explain the impact to earnings to shareholders and think how decreased earnings could affect their borrowing options in the future.
 - **Potential Buyers:** Need to understand who the potential buyers will be and what selling to them will do to the clients' competitive position. Will this change give a competitor strength over the client?
 - **Separation:** Considering the separation issues that will occur is important. IT, stores, shared space in malls, distribution of products and suppliers are all important for performing a smooth transition to a buyer.
2. Which business unit of the two initially decided upon should Unlimited Brands consider selling to strengthen its cash reserves and deliver the most value to shareholders? What price should they target for each unit?

[Note to interviewer: Provide data sheet to the candidate]

Based on the data provided

Candidate should walk through the tables and determine:

- Revenue and profits have been decreasing at Fast Fashion while increasing at Devine Design.
- A **good** answer is when the candidate simply takes the average PE from each deal table they will determine that the implied potential price for Fast Fashion is \$1.2B (16 PE x \$75M NI), and \$2.1B (14 PE x \$150M).
- A **better** answer will see that the PE's used to value similar firms to Fast Fashion most recently have been higher, at 20 and would yield \$1.5B. Similarly, the PE has been declining for Devine Design to 10, and would result in \$1.35B.
- The other table will show that the Fast Fashion customer segment is growing fast, while Devine Design's is actually declining, but the revenue is actually projected to grow faster for Devine Design than Fast Fashion. The number of competitors does not drive much of the analysis. (*these facts should supplement their choice*)

The candidate should decide which business unit they would select and defend their choice:

- **Fast Fashion:** Higher price based on most recent multiples, fast growing segment with increase spend could yield upside to a buyer and thus result in a higher price.
- **Devine Design:** Lower price based on recent PE's but if using average higher price. Revenue and profits have been increasing and revenue is projected to grow faster even with a slight reduction in spend.

Unlimited Brands Business Restructuring – Data Sheet

Fast Fashion

	2009	2010	2011
Revenue (\$M)	625	550	500
Net Income (\$M)	125	96	75

Devine Design

	2009	2010	2011
Revenue (\$M)	600	625	675
Net Income (\$M)	90	109	135

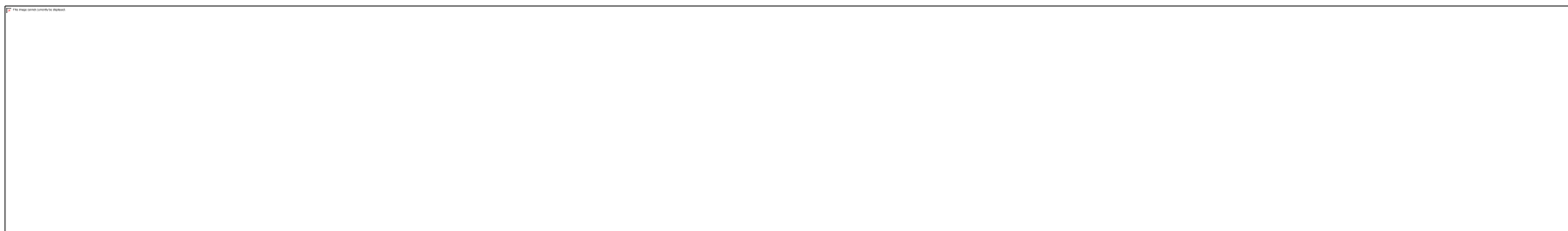
Fast Fashion Comparable

	Deal Date	PE Multiple	Deal Size (\$B)
Fast A	Oct 2009	12	0.6
Fast B	Apr 2010	16	0.7
Fast C	Dec 2011	20	1.4
Fast D	Nov 2010	16	1.9
Fast E	Mar 2011	20	2.5
Fast F	Jun 2009	12	3.1

Devine Designs

	Deal Date	PE Multiple	Deal Size (\$B)
Fast A	Dec 2011	10	0.4
Fast B	Oct 2009	18	0.6
Fast C	Mar 2011	10	1.1
Fast D	Apr 2010	14	2.2
Fast E	Jun 2009	18	3.0
Fast F	Nov 2010	14	4.0

Industry Overview



Prompt Questions and Responses (For interviewer reference ONLY)

3. To sell additional work to the client what ideas would you recommend to Unlimited Brands to strengthen their business?

Several examples below:

- Improved Pricing
 - Could examine their current pricing structure and ensure price realization is maximized
 - Promotion strategy; when to promote, who to target, what to promote, etc
- New Market Opportunities
 - They may be able to target new customer segments or sell new classes of products to existing customers
- Acquisitions
 - Could use the proceeds from the sales of an underperforming unit to buy a smaller player in a different space to enhance the companies' portfolio of brands

Conclusion

- Client should sell Fast Fashion for \$XB or Devine Design for \$XB (**Note to interviewer: rationale should come from their defense earlier, either answer is reasonable, key is to make them choose and stick to it**)
- Assist the client by:
 - Creating a clear plan and strategy to effectively separate the businesses
 - Maximize value to shareholders by attaining the best price
- Risks:
 - Selling to a competitor and providing them opportunity to succeed at our expense
 - Not calculating the right value
 - Losing talent to attrition and fear of being sold
- Next Steps:
 - Identify potential buyers
 - Establish Day 1 and Day 2 plans for separation after client sale
 - Work with client to sell additional work highlighted earlier

Electric Vehicle Auto Manufacturer

Problem statement narrative

Our Client is an electric car manufacturer and wants to know how to position a new car model in the market.

1. Ask the candidate whether the industry is attractive for our client.
2. CEO hired you to help him develop strategies to identify the right segment they can sell the vehicles to.
3. Secondary goal (if asked): Profitability.

Guidance for interviewer and information provided upon request

- Company background: client is a startup, started in 2003, that has developed a new patented battery technology that is validated and tested for viability in cars.
- When candidate asks about the current car model, provide the information on the slide about their current product.

Difficulty: Hard

Quant Heavy

Industry: Automotive

Type: New Product

Additional Information to Provide

Current Car Model

Client has currently one product in the market and they are planning to release their second vehicle in the next 24 months.

Sportster	110,000	Premium Sports Segment
------------------	----------------	-------------------------------

The Sportster has the following ratings across its features.

	Purchase Price	Styling	Performance	Quality	Safety	Features	Green Rating
Sportster	110,000	9	10	6	6	6	10

For segment worth and Competitor's market share, refer to Exhibit C.

Additional Questions to Steer Discussion

Candidate Structure

- Candidate should come up with the below structure for the industry attractiveness.
- Using Porter's 5 forces it's clear that the industry is attractive for incumbents.

Buyer's power	High
Suppliers power	High in EV segment as the technology is new.
Competition	Very High (entire auto industry)
Substitutes	Very High (other modes of transportation)
Barriers to Enter	Med-High. This means that it is hard for new entrants to enter.

Suggested Solution and Structure

Financial Status and Cost Structure

- The client has yet to make a profit. The Sportsters sold 2000 units across 30 countries in the world.
- Client has funding from government, private equity firms and recently they went public and raised money.
- Depending on the target segment's needs the production cost for 100K vehicles is given below (all costs inclusive in USD)
- AT THIS POINT, PROVIDE EXHIBITS TO INTERVIEWEE

Premium Sedan	43,000
Sedan	38,000
Coupe	33,000

Calculations

Price per Unit and Profitability per Unit (provide this to Interviewee):

	Segment Size	Competitors Share		Units Sold	Avg Price	Cost to Produce	Profit / Unit
Sports Segment	1000000000	0.8	800,000,000	8000	100,000	90,000	10,000
Premium Sedan	1200000000	0.75	900000000	18000	50,000	43,000	7,000
Sedan	1800000000	0.82	1476000000	36900	40,000	38,000	2,000
Coupe/Other	1000000000	0.95	950000000	31666.667	30,000	33,000	-3,000

Calculations (Continued)

Potential market size and profitability calculations (this also requires information from the exhibits):

	Addressable Share	In Units		Segment Profitability	
Sports Segment	20%	$0.2 * (100/80) * 8000$	2000	$2000 * 10,000$	\$20,000,000.00
Premium Sedan	25%	$.25 * (100/75) * 18000$	6000	$6000 * 7000$	\$42,000,000.00
Sedan	18%	$.18 * (100/82) * 36900$	8100	$8100 * 2000$	\$16,200,000.00
Coupe/Other	5%	$.5 * (100/95) * 32000$	16842	-50526315.79	NA

Additional Questions & Guidelines

Guidelines for Interviewer

- Ask the candidate which segment to target.

Candidate Hypothesis

- Candidate should identify that per unit profitability is high for vehicle in premium sedan segment (7000). So this might be the profitable segment to go after. Also, because electric technology is still new, customers in premium sedan segment might be willing to pay a premium for the eco-friendly factor. Whereas customers in other segments may not put much emphasis on this aspect as they are more price sensitive.

Conclusion

Recommendation

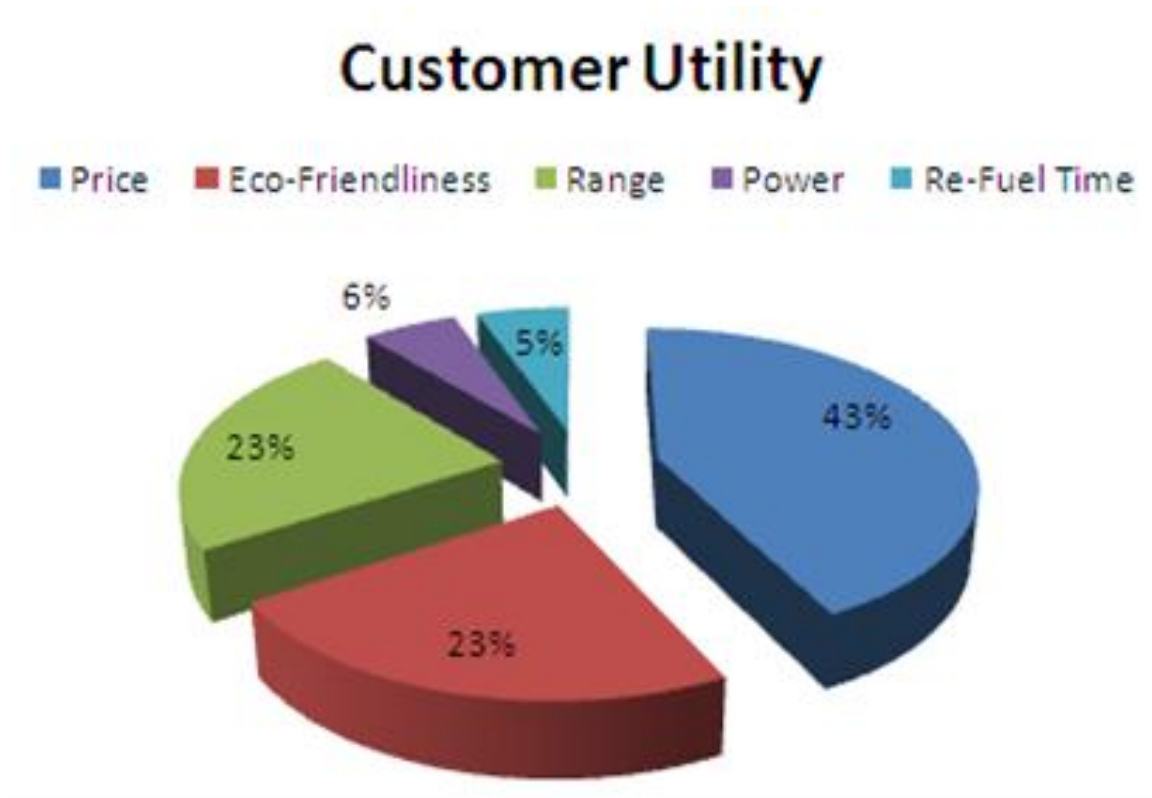
After doing the analysis, client should enter premium sedan segment for the following reasons:

- Competition is low as addressable market size is 25%
- Segment profitability is high with 7000 per unit profitability
- Customers in premium segment are more likely to pay a premium for the eco-friendly feature of our client model.

Risks

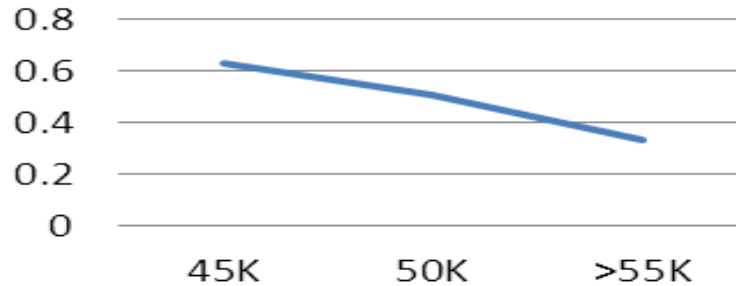
- Getting the product right to suit the customer needs is necessary as the client is already under financial pressure.
- Client may not be able to service all the vehicles in the premium sedan segment as the segment is large. Relationships need to be established with service providers.
- As the client is still new in the market, establishing brand value is necessary, especially in the premium segment where brands like BMW, Mercedes, Lexus compete.

Appendix A: Electric Vehicle Utility By Feature

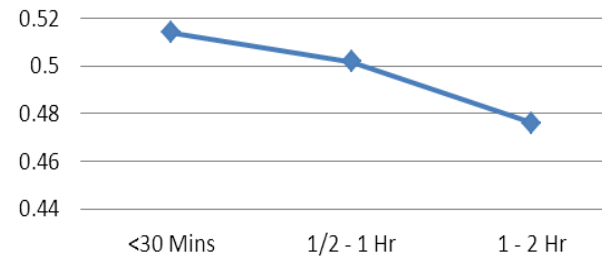


Appendix B: Customer Preferences and Relative Sensitivity

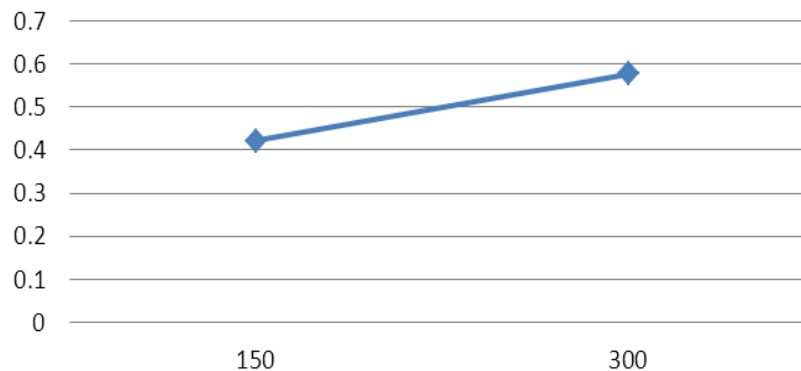
Price (USD)



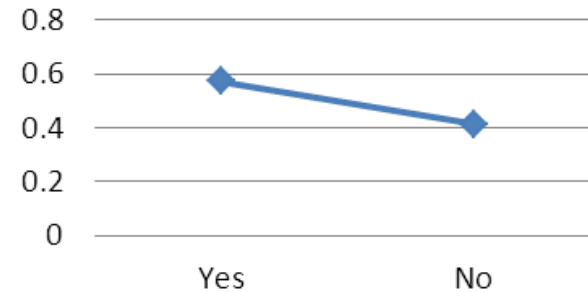
Fuel (Recharge) Time



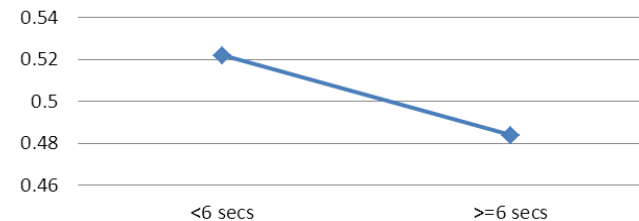
Range: Miles/Charge or (tank)



Eco-Friendliness



Power 0-60 Miles



Appendix C: EV Segments and Share of Competitors

Segment	Segment Worth	Competitor Share	Avg Units Sold
Sports Segment	1 billion	80%	8,000
Premium Sedan Segment	1.2 billion	75%	18,000
Sedan Segment	1.8 billion	82%	36,900
Coupe/Other	1 billion	95%	32,000

Grocer's Decision to Add a Pharmacy

Problem statement narrative

You have a friend who owns a single supermarket (mom & pop). This friend has called you for some free advice because you are an MBA and consultant. He says that he has noticed his supermarket competitors have added pharmacies and he is wondering whether or not he should do that himself.

He has some data sources and can provide you with what you need but first needs to know what data do you need to make this decision.

Guidance for interviewer and information provided upon request

This case interview is meant to be conversational with the giver of the case to ask enough probing questions to keep the interviewee on their toes and thinking through the problem.

Investment criteria: because this is a small operation, needs a payback of < 2 years (no discounting necessary).

Difficulty: Medium

Quant Heavy

Industry: Retail

Type: New Product/Market, Bus. Dev.

Suggested Structure & data to be provided upon request

Customers

- He has 10,000 unique customers every month.
- On average, 50% of the population have prescriptions.
- They average 1 filling per month.

Competitors

- 2 Pharmacies and 2 Grocery Stores within 4 miles of his store.

Revenues

- Each customer spends \$100/month at his store (assume 1 visit/month).
- Each prescription sale brings in revenue of \$50.
- Each prescription customer tends to spend 30% more on groceries at the store.

Costs

- Initial investment for pharmacy: \$1.2m.
- For pharmacy assume costs are equal to 90% of revenue.
- Current grocery operations cost structure:
 - 70% Food / COGS
 - 15% Labor
 - 10% Fixed Overhead

Additional questions that help to steer discussion

Not all questions need to be asked if the candidate is leading the conversation

Questions for the candidate

- What is the population of the town/addressable market?
- What is the minimum market share needed to break even in 2 years? Is this reasonable?
- What are the two major costs of operation that the grocer will incur when opening a pharmacy?
- What margin do you assess for incremental grocery sales? (Only if the individual asks about revenue synergies)

Suggested Solution

Solution Guide

Current population estimate:

- Estimate current market share of grocery business at 33%
- $10,000 / .33 = \text{Unique customers each month} = 33,000$
- $33,000 \text{ customers} * 3 \text{ people per household} = \text{Population} = 100,000$
- Pharmacy market is then 50,000 customers
- Odds of each household containing at least 1 pharmacy customer = $1 - 0.5^3 = 87.5\%$
- Of your 10k customers, 8,750 have prescription needs

Incremental value of a pharmacy customer per year:

- $\$240 = 12 \text{ months} * \20 ; $\$20 = \$5 \text{ margin (drug sales)} + \$15 \text{ incremental margin (food sales)}$

To break even in 2 years

- $1.2\text{m} / \$480 = 2,500 \text{ pharmacy customers}$
- Only need ~ 30% of the households who have prescriptions and currently shop at your store to break even in two year

Conclusion

Recommendation

- Invest / Expand to include a pharmacy because there is an extremely high likelihood that you will break even in less than two years.
- Value of a pharmacy customer is very high because of margin on pills and increased sales in the store.
- Only need 30% of your current customers who have prescriptions to switch to your store to make it profitable.

Next Steps

Some suggestions:

- Make design plans for the pharmacy
- Get a bank loan
- Interview pharmacists
- Market the new service to customers
- Contact drug reps / determine suppliers
- Contact drug-store competitors to see if they want to do a JV/partnership because you will probably put them out of business

Lonestar Oil

Problem statement narrative

Your client, Lonestar Oil, is a large petroleum refining company that owns service stations. Lonestar is looking to expand, and is looking to run a service station in one of the main ports in Seattle. The CEO has hired you to determine how to proceed.

Guidance for interviewer and information provided upon request

- Port is operating 24 hours per day.
- Port area is slowly growing because of consolidation occurring along Northwest ports.
- There are three existing service stations in the vicinity. These stations are of equal size and capabilities.
- Two of these are owned by major corporations like Lonestar Oil, and the third is family owned.
- Lonestar requires a 5-year payback on initial investment. Disregard cost of capital.

Difficulty: Medium

Industry: Energy Retail

Type: New Product

Notes for entering port

Market

- All three stations are similar in location, operations, demand, etc.
- All stations are currently operating at full capacity. There is no concrete information on full demand, but estimates place demand between 15,000-20,000 gallons of gasoline per day for the port.

Building new service station

- Revenue
 - Gas
 - Minimart sales – *Existing stations in area do not have minimarts*
- Costs
 - Initial investment
 - Fixed: PPE, maintenance, labor, utilities, marketing
 - Variable: gas, minimart items

Buying existing station – *(do not mention this upfront)*

- Can only buy the privately owned station; other two are not for sale.

How much would a new gas station make per year? (Info on request)

- New station costs \$650,000 in initial costs, and includes a minimart.
- New station can sell 5,000 gallons per day.
- Gas sells for \$3.00 per gallon.
- Station makes margin of 10 cents per gallon.
- Assume 300 days in a year.
- Costs \$250 to run the station (utilities, labor, etc.) per day.

Including the minimart:

- Operating the minimart costs an additional \$100 / day.
- Daily sales: \$500
- Daily cost of merchandize for the station: \$200

Solution – Gasoline only

- Calculation: $\$0.10 \text{ per gallon} \times 5000 \text{ gallons} + 250 = \$250 / \text{day}$ in profit.
- $\$250 \times 300 = \75000 profit per year on gas alone.

Solution

- Calculation: $\$500 - 200 - 100 = \$200 / \text{day}$ in profit for minimart.
- Total profit : $\$ (250 + 200) / \text{day} \times 300 \text{ days} / \text{year} = \$135,000$ per year.
- **In five years: $\$135,000 \times 5 = \$675,000 \rightarrow$ Enough for payback (by \$25,000)**

Purchasing the existing station

The owner is looking to sell his station and wants \$530,000, but the station has no minimart. Building a minimart would cost an additional \$130,000.

The station has the same capabilities as previously calculated (5000 gallons per day).

Guidance for interviewer and information provided upon request

- If the student chooses to calculate breakeven with no minimart: \$75,000 profit/year (see earlier) * 5 = \$375,000, not enough to cover the \$530,000 investment.
- With the minimart, the station would earn \$675,000 (see earlier) with a \$660,000 initial investment, thus earning a \$15,000 profit over 5 years.
- Based on numbers alone, student should conclude that building is a better strategy. But purchasing the existing station may be the better decision (see next slide).

Other factors to consider

- Demand – although demand exceeds supply now, there may not be enough demand to support four stations. Therefore, buying a station is considerably safer in this instance.
- Timing – it would take longer to build a new station, thus favoring buying.
- Competition – another company could buy the existing station, thus favoring buying now. Buying would also deter new entrants as there isn't necessarily enough demand to support four stations.
- Expansion – could add more pumps to the existing station to support demand.
- Marketing – could sell more variety of products at the minimart. Adding a minimart could also drive traffic towards Lonestar's station and away from competitors, although this would only be useful if Lonestar can expand.
- Next steps – closer analysis of demand to confirm that buying is a better idea than building a new station.

Case Recommendations

Top 20 Recommended Cases from Old Casebooks

- | | |
|---------------------------------------|---|
| 1. UPS Italy, Columbia 2007 | 11. Sandwich Bags, Ross 2005 |
| 2. Wind Turbine, Ross 2009 | 12. Great Burger, Ross 2007 |
| 3. Airport Parking, Ross 2009 | 13. Giant Bank, Ross 2007 |
| 4. Jamaican Land, Wharton 2008 | 14. Fertilizer Innovation, Ross 2005 |
| 5. Office Vending Services, Ross 2008 | 15. Moldavian Coffins, Wharton 2005 |
| 6. Apache Helicopter, Ross 2008 | 16. De Beers Retail Venture, Wharton 2008 |
| 7. Airplane Deicing, Ross 2006 | 17. Hong Kong Port, Ross 2005 |
| 8. Regina Jet, HBS Case | 18. Bottled Water Market, Wharton 2008 |
| 9. All-Mart, Wharton 2008 | 19. Winter Olympics Bid, Kellogg 2003 |
| 10. Cash Rich Energy Co, Wharton 2008 | 20. Bagging Co, McCombs 2008 |

Operations Examples (non-revenue related components and cost based):

UPS in Italy, Columbia 2007

Benjamin Carpet, Cornell 2004

Canadian Oil Sands, McCombs 2007

New Airline Routes, Ross 2009