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2009

Chicago Booth Case Book

The Reference Guide to Practicing Case Interviews

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THE FIT INTERVIEW PROCESS

Introduction

The “Fit” part of the interview is often underestimated in importance. While its proportionate importance varies significantly among firms, for every firm there is a “Fit” element to the interview. In some firms like McKinsey, it is a formal evaluative component with up to 50% weight. For other firms the fit component may be shorter. In all cases, it will be important to convey to the interviewer that you are a well-rounded, likeable, and accomplished candidate (in a modest, unassuming and believable way, of course). We advise that you take time to prepare for the “fit” portion of the interview just as you would for preparing cases. Also, keep in mind that while you are cracking the case, your ability to fit within the firm is being evaluated.

Approach

When possible, try to apply the SOAR method to behavioral / fit questions

Situation – in a sentence or two, describe the situation / context / environment

Obstacle – briefly describe the obstacle needed to be resolved

Action – describe what action you took

Result – discuss the outcome of that action

Applying the SOAR method will help to ensure that your answer is well structured, concise and to the point. Remember, even when asked fit and behavioral questions, you are being tested on your ability to think and communicate in a logical / structured manner.

In addition to applying the SOAR framework, many Booth students have found it helpful to create a written outline of their behavioral answers, using four or five sentences. The first sentence in this approach is the newspaper headline. The next few sentences concisely summarize the main components of the story that will be discussed. The final sentence should reiterate the results / impact of your behavioral example. Approaching behavioral questions using the headline structure may prove extremely helpful for McKinsey’s *Personal Experience Interview (PEI)*. Additionally, it should help you organize the major discussion bullets of any story, which will be helpful for all interviews.

Fit questions

Common fit questions include (listed in random order):

- Tell me about yourself
- Walk me through your resume
- Tell me more about [a specific bullet on your resume]
- Why did you choose consulting?
- Why did you choose firm X?
- Why did you choose Booth?
- How would you evaluate the business of one of your previous employers?
- What do you like to do for fun?
- What is your favorite book? Why?
- What books have you read recently?
- What are three qualities your friends would use to describe you?
- What accomplishment are you most proud of?
- What distinguishes you from other candidates I am meeting today?
- What is one thing you want me to remember about you?
- Tell me about a time when you set your goals too high? (too low?)
- Who do you look up to professionally and why?
- Which classes have you enjoyed the most and why?
- What does management consulting mean to you?
- What are your short and long term goals?
- What are your areas for improvement?
- Who are you?
- Make an elevator pitch on why we should hire you?
- Tell me about a time when you had to persuade someone to do something they initially did not want to do.
- Tell me about a time when you had a disagreement with your boss and how you handled it.
- Tell me about a time when you had to lead a team through significant change.
- Tell me about a time when you had to deal with a difficult teammate.
- Tell me about a time a time when you had to deal with an ambiguous situation.
- Tell me about a time when you had to work with a lot of ambiguous data and how you handled it.
- Tell me about a time when you worked with people who approached things differently from you.
- How would your co-workers / classmates describe your leadership style?
- Tell me about your biggest failure.
- What is your greatest weakness?

THE CASE INTERVIEW PROCESS

Introduction

The case interview typically begins with the interviewer describing the business situation and providing the candidate with some initial information. The amount of information given up front will vary. Always make sure that you listen carefully, take notes and identify and focus on the relevant case information. Make sure you understand what questions you are trying to answer and ask clarifying questions about the business and data provided. Take some time (about a minute) to structure your analysis. For the sake of courtesy, you may want to ask the interviewer for permission to take this time.

Framework

A framework is important because it helps ensure that your response will be structured, logical and thorough. Additionally, the interviewer will begin to draw conclusions about your candidacy based on your ability to break down the problem. Several "canned" frameworks exist which can be useful in approaching case problems. For instance, many cases can be evaluated using the structures listed below.

- Porter's 5 Forces – internal rivalry, barriers of entry, substitutes (and complements), suppliers' power, buyers' power
- 4Cs – company, competitors, customers, collaborators
- Profitability = Revenue – Cost
- Value chain analysis
- Kotler's 4 Ps – product, placement, promotion, price
- Market segmentation – size, profitability, share, growth
- Internal / external factors – internal factors that affect only the subject firm vs. environmental / external forces that also impact the firms competitors
- Microeconomics factors – market structures, supply and demand, long-run vs. short-run, price elasticity, marginal cost and marginal revenue, variable costs and fixed costs
- Financial statement analysis – income statement classification, revenue and cost analysis
- Cost-benefit analysis
- Net present value (NPV) and cost of capital

Applying the framework

Never use the popular frameworks directly. You should customize the framework to the question you are being asked and be creative with your analysis. Based on the framework you have developed, you should be able to identify several possible paths towards addressing the core issue. It is important to **prioritize** the issues you will investigate in the case. The case giver may steer you in a particular direction, **take cues** from your interviewer on what is important. Based on the case information received and the framework you have developed, you should formulate an **initial hypothesis** about the problem you are evaluating. In consultant speak, a hypothesis is what you believe to be the central issue of the case, or the solution to it.

Take notes during the case interview, some interviewers will keep your notes to help them remember the path you took to complete your analysis. Sketch out your thoughts on paper, use large handwriting, and tell the interviewer what you are doing. Be as structured as possible when you are giving your thoughts on an issue or performing calculations. In the analysis phase, you should ask questions, synthesize the information provided and draw conclusions based on the facts. This process helps you to test your hypothesis. If the data proves your hypothesis to be invalid, use your framework and proceed to the issue with the next highest priority. You may have to develop a new hypothesis. Asking questions, collecting information and developing and testing a hypothesis is an iterative process. Do not forget that it is important to verbalize your thought process throughout the interview. When doing calculations, tell the interviewer the steps you are taking. As you work through the case, it is a good idea to verbally summarize where you are, what you have learned, what information means in diagnosing the problem and where you are heading next.

Always end your interviews with a **succinct recommendation**. Try not to recap your path of analysis; instead, draw on key facts to give a clear answer to the central questions of the case. Given that your analysis takes less than a half an hour, it may be appropriate to **highlight next steps, additional considerations, risks and significant assumptions**.

CASE EVALUATION CRITERIA

Structure and framework

- a. Mutually exclusive, collectively exhaustive
- b. Customized – not entirely generic
- c. Easy to understand and implement
- d. Referred to framework throughout to guide discussion

Analytical and problem solving ability

- a. Interpreted and used data well, draw strategic insights and conclusions
- b. Quick and accurate calculations
- c. Able to keep complex fact base organized and structured
- d. Creative in drawing conclusions, analyzing reasons

Synthesis and conclusion

- a. Used framework to organize and convey conclusions succinctly
- b. Conclusions were compelling and backed with evidence developed during the interview
- c. Comprehensive, captured all relevant points discussed during the case

Communication skills

- a. Verbalized and communicated thinking at every stage
- b. Communicated in a crisp and concise manner without rambling or wandering
- c. Build strong rapport with interviewer, case discussion was not a monologue

Presentation

- a. Drove the case discussion, active rather than passive
- b. Confident and relaxed
- c. Enthusiastic and engaging

A. T. Kearney – Loss of a patent

Submitted by the firm

Situation

The patent of a drug company's blockbuster –Zewal– will run out in less than a year. It generates half of the company's revenues. They have 10 other drugs that generate the other half of the revenues. R&D is more than 5 years away from the next blockbuster and mergers are out of the question. How can we help the company?

Additional Information

- **Cost:** The company is efficient and well run. In fact it has been cutting costs for the last several years. In general, costs are competitive with Industry standards.
- **Customer:** The sales representative focus mainly on selling to doctors. (Note: 20% of all doctors make 80% of prescriptions). They also keep in touch with major HMOs PPOs etc to get their drug in the preferred list, PPOs.
- **Company:** Here the main area to talk about is the marketing / sales department
 - The company has a dedicated sales force of about 150 people. On an average a sales person is responsible for 100 doctors. The industry standard is one sales person for every 50 doctors. In fact the sales department is seriously under staffed.
 - A major portion of a sales person's compensation is dependent on the contribution margin of the drugs they sell. Each sales person has a portfolio of drugs with varying degrees of contribution margins. The contribution margin for Zewal is the lowest. So far this strategy has worked as there was more pull for the drug than push required from the sales people.
- **Competition:**
 - There is presently no single drug that has a similar chemical composition as Zewal but doctors have been trying out a combination of drug regimen from a rival company. The rival company has the advantage of a bigger sales force which can reach out to 35% of all doctors in the U.S. as compared to our client's reach which is about 10%
 - When the patent expires our client will get about 6 months before generic drug companies come up in the market

Answer Guidelines

This is a cost/revenue case with life cycle product management thrown in. Quickly dismiss cost reduction initiatives, as they will not save the company since it is a well-established company and has been cutting costs for several years. The answer lies on the revenue side. Some of the key things the interviewee should be able to point out are:

- In the current year before the patent expires and till 6 months later the company should try to increase revenues:
 - This can be done by increasing the size of their sales force and send them out after more doctors. One can draw a graph to represent the firm's productivity when adding additional sales people. At what point do you quit adding sales personnel (MR generated exceed MC).
 - Other ways to bolster sales: give current sales people greater contribution margins to sell more, give them more samples for doctors and increase emphasis on advertising

- After the patent has expired: Some of the marketing programs could be:
 - Trying to patent a specific dosage size
 - Doing more direct-to-consumer marketing
 - Looking at overseas markets

A. T. Kearney – Promotion Planning

Submitted by the firm

Situation

Our client is a national grocery and drug store chain, which has been steadily losing market share to its competitors. Our client utilizes a high-low pricing strategy, in which regular prices are typically slightly higher than those of an everyday low price retailer. However, periodically high-low retailers drop prices significantly. During the time period in which a product's price is decreased, the product is also promoted through print and in-store advertising. Our client expects a significant lift in sales during the periods in which a product promoted. However, benchmarks against industry averages indicate that our client does not experience as large of a lift in sales as its competitors do during promotions. What would be your approach to increase sales lift when an item is promoted?

Additional data

- **Everyday Low Pricing vs. High-Low Pricing:** Shifting pricing strategy to an everyday low pricing model is not an option. The client has made the decision to focus on being the industry leading high-low grocer. They feel they can compete with everyday low price retailers once this goal is achieved.

- **Competition:** There are 1-2 major high-low competitors in each of the local regions in which the client operates. Our client's everyday prices, timing of promotional cycle, and percent discounts are virtually identical to their competitors in each market.

- **Promotion Planning at the Stores:**
 - **Timing:** Store managers place orders with their distribution center for promoted products several weeks before the promotion takes place.

 - **Predicting Promotion Volume:** Typically, store managers base the size of their promotional orders on the quantities *ordered* in the past on a similar promotion and more subjective factors like length of time since the item was last promoted and the store manager's gut feel based on his years of experience. (Most store managers have at least 10 years experience in the grocery industry).

 - **Unexpected Promotion Volume:** If an employee notices the shelves are running low or out of stock on a promoted item, the store manager will place an order for additional product. Orders

must be placed by mid-afternoon and are delivered the next morning. On occasion, the store will not know that they are out of stock on a particular item until a customer complains.

- **Distribution Center Ordering Process:** Buyers at the distribution centers do not receive enough lead-time to incorporate store orders into the orders placed with suppliers for promotions. However, buyers have access to the quantity of product *sold* during similar promotions in the past. Buyers typically use this data when determining how much product to purchase for a given promotion.

- **Customer Experience:** Customers routinely complain that promoted products are not on the client store shelves during promotions. Customers are typically loyal to a particular grocery store, provided that it stocks the products they consume at a reasonable price.

Answer guidelines


Determine Source of Disappointing Sales Lift: A good candidate will peel back the onion to understand the source of the disappointing sales lift on promoted items one layer at a time:

1. **Client's Promotions Generate Less Volume Than Competitors':** Our client's regular and promotional pricing is virtually identical to their competitors' pricing. Therefore, we are generating less volume on any given promotion compared with our competitors.
2. **Promoted Items Not In-Stock:** The primary driver behind this lack of sales volume is the client's inability to keep promoted items stocked on its shelves
 - a. We can't sell it if we don't have it on the shelf
 - b. Customers may not come back if they experience repeated shortages on promoted items
3. **Ineffective Promotion Planning and Execution Causing Missed Sales Opportunities:** Store managers plan volumes for promotions based on gut feel and quantities *ordered* in the past for similar promotions – not based on quantities *sold*.

Lay out Plan to Improve Process: The candidate should recognize that we need to devise a way to utilize data on quantities sold during past similar promotions.

A good answer will lay-out a strategy to include past sales on similar promotions in the planning process as detailed above. A great answer will also note that stores must have better visibility on the inventory of promoted items on their shelves.

Access to data that illustrates real-time movement of promoted items would give stores more lead-time in the event that items are selling faster than expected. A simpler non-technical solution, which could be implemented immediately, is to institute scheduled stock updates throughout the day, especially just before the daily store order deadline. This would help avoid products being out of stock for multiple days.

 **Accenture – Canada Cable Co.**
Round 1 for 1st year students
Approximate time allotted: 20 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Your client is a Canadian cable company. They are one of the leading providers of television and internet access to Canadian consumers. However, they have been looking for ways to expand their business and have contracted Accenture to help them evaluate potential options. Specifically, the firm is contemplating an entry into the wireless telephone space, particularly as the Canadian government is preparing to auction valuable spectrum that could be used for a national wireless service. The client would like your help in determining the maximum it should be willing to bid at the auction.

At this point, the candidate should begin exploring how the company should value the spectrum. Beyond any initial clarifying questions, the candidate should establish that there will be three major components to the valuation.

1. Upfront costs of building a wireless network in addition to the spectrum purchase
2. Annual variable costs that will occur annually over the life of the network
3. Revenues from selling wireless services to customers

Additional Information:

As the candidate explores the opportunity, he/she may ask for more information to ascertain the different elements of the valuation. When asked, the interviewer may provide the following:

Spectrum Data

- *The spectrum would be perfect for any wireless voice/data service, and covers the entire country*
- *The client currently does not have any spectrum assets*
- *The spectrum will be useful for six years (although it will take one year to build out the network) before new technologies render it obsolete*

Market Data

- *Canada currently has 10 million wireless customers.*
- *The client estimates that with the spectrum and a built-out network, leveraging its brand, it can achieve 10% penetration upon launch of the service.*
- *That 10% penetration will remain constant over the life of the network*

Cost Data

- *The company estimates it will cost a quarter of a billion dollars to build a network with capacity to service all the potential customers*
- *Once the network is operational, it will require significant maintenance as well as ancillary marketing/billing/other costs. These aggregate costs are estimated at \$180 million annually.*

Revenue information

- The average Canadian wireless user spends \$40/month on their cell phone service

Data and Solution:

After the initial prompt, the candidate may think of several elements that would need to be considered in valuing the spectrum. Although this may lead to many reasonable questions (i.e. how many other bidders are there? What other options does the client have for growth?) guide the candidate to consider the wireless opportunity as a stream of cash flows.

What types of costs could the Cable company encounter in launching a wireless network?

The candidate may then ask questions regarding the estimated costs of building and operating the network.

Ideally, the candidate will quickly sketch out a six year series of cash flows

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Build Out Costs	(250M)					
Operating Costs		(180M)	(180M)	(180M)	(180M)	(180M)
Revenue		480M	480M	480M	480M	480M
Total Profit (Cost)	(250M)	300M	300M	300M	300M	300M

Revenue per year calculation = 10M customers * 10% penetration * \$40/month * 12 months/year = \$480 million

A good candidate would then look to discount the stream of cash flows to arrive at a present value that can be attributed to the spectrum. However, instruct the candidate to ignore time value of money for the purposes of this exercise. Given that, the candidate should arrive at a valuation of **\$1.25 billion** for the spectrum.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Given the assumptions laid out, I would recommend bidding no more than \$1.25 billion on the available spectrum, given that the firm can realistically achieve 10% market penetration and generate \$40/month in revenue from the average customer.

Candidate should realize that if the company bids exactly \$1.25 billion, it is not making any profits.

Outstanding candidate should have asked upfront what the company expectation on ROI (or the hurdle rate) is. This will help determine the optimal amount to bid. Company ROI requirements can be based on historical figures or given by the management team for this specific project. For example, if the required ROI is 20%, then the maximum bid amount should be $\$1.25 \text{ billion} / 1.2 = \1.04 billion .

Additional Concerns:

At this point, ask the candidate if he/she has any additional concerns that have not been taken into account. These can include any number of issues, such as the following:

- Are the firm's assumptions accurate?
- Does the Cable company have any other options beyond wireless?
- Can the firm look to bundle its new wireless service with its existing service offerings to increase revenue or enhance customer stickiness?
- Are there any regulatory concerns with regard to purchasing spectrum?
- What are potential competitive responses to entering the wireless space?
- Are there strategies for entering the wireless market that don't require purchasing spectrum? (i.e. partnering with wireless companies, become a virtual network operator)

Bain – Midwest Machinery Co.
Round 1 for 1st year students
Approximate time allotted: 45 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Background:

- *Karl Gilmore, long time CEO and largest shareholder of Midwest Machinery (Midwest) is worried. Overall Midwest's competitiveness has been slipping as it has been losing business more often to competitors due to price. Through benchmarking studies and some strategy consulting work, Karl knows that his cost structure is not competitive. As a result he has been pushing his team over the last couple of months to find ways to reduce costs.*
- *Midwest makes a wide variety of machines designed specifically for the medium to heavy industrial sector that are used in everything from factories, farms, tractors and industrial buildings.*
- *Revenue is \$3B, with net profit margins around 12%. (Note to interviewer: net profit is \$360M)*
- *The CEO had demanded that management look for new ways to find cheaper ways to produce machines. This search has pushed management to comb the globe for alternate suppliers in far away places such as Colombia, Shanghai and India.*
- *Karl has also been very demanding with regard to the processes that support all of the operations. In particular he wants to ensure basic activities that do not involve intellectual capital are performed at the lowest cost possible. In particular, he does not want to overpay for labor when it is not necessary. He respects Midwest's traditions and the strong sense of community it has with the local town, but he knows that profitability must come first for him and his shareholders.*

Pressing Issue:

- *Karl's Six Sigma team has come up with a proposal to move the manufacturing process for the XL292 machine, a critical machine for many of Midwest's end products, to India. Also, these results may affect Karl's decision on whether to outsource over \$300M worth of costs. But before Karl looks at the financial data he wants to have a clear understanding of the pros and cons of outsourcing.*

Case Questions:

1. *Develop a structure for thinking through the pros and cons of outsourcing this process to India. Your structure can only cover 5 topics that may or may not concern the business. You can only ask two questions before creating your structure. Explain this model and what you would advise Karl to consider as he reviews the data.*

2. *After explaining your model, ask for the financial data and calculate the profitability of staying local vs. going abroad to India.*
3. *Using the data, return to your model and explain how it has affected your thinking. You may ask three more questions at this point before concluding with your advice to Karl.*

Additional Data if Asked:

- **Community** – Midwest is located in a small town in midwest USA and has been the largest employer in that town for over 30 years.
- **Unions** – Midwest is unionized but the union and management have typically been on friendly terms.
- **CEO Personal Incentive** – If Karl saves the company over \$50M this year, he will receive a \$1M bonus.
- **Competitors** – They have been outsourcing for years and benefiting by getting their costs down

Framework:

Let the candidate drive the case. The candidate should, at this time, draw out a framework. The framework should include most of the major discussion topics in the chart below.

Guide for Advising Karl. Use a simple structure to stay logical.

Pre-calculation discussion			
Pros	1. Financials, revenue, cost, TT	None, reduced hassle in disposing of plant assets	Most likely save money due to low labor costs and parts
	2. People	Loyalty, best people stay, morale will be up	Eliminate low level jobs may force some people to try to advance and build their skills
	3. Plant operations	Capacity should remain steady	Unnecessary production may be streamlined resulting in more savings long term
	4. Community Relations	Unions and community leaders will continue to support Midwest management	None
	5. Technology	By producing locally, Midwest can keep on top of technical changes quickly	By going abroad, Midwest will be exposed to better technology and may grow as a result
Cons	1. Financials, revenue, cost, TT	Midwest will continue to waste profit dollars	Hidden costs in terms of handling product and dealing with a foreign country may be higher than expected
	2. People	Good employees still may leave as personal opportunities diminish	Fearing for their jobs, good people may leave
	3. Plant operations	Operations are not going to change and costs remain high	Idle capacity may cause further expense in local plants
	4. Community Relations	No problem	Backlash from community may destroy value of company

	5. Technology	No problem	Cheaper prices may require cheaper technology as a result, higher capex.
		Stay Local	Go to India

Data and Solution:

For the XL292 machine:

	<u>Stay Local</u>	<u>India</u>
Total units	10,000	10,000
Labor and benefits per hour	\$22	\$7
Hours to produce a unit	12	4
Materials cost per unit	\$400	\$250
Holding cost per unit	\$30	\$20
Shipping per unit	\$12	\$44
Import duty per unit	\$0	\$150
Made in USA credit per unit	\$85	\$0

Cost = (Labor X Hours) + Materials + Holding cost + Shipping + Import Duty – Made in USA credit

Cost per unit	\$621	\$492
Total costs	\$6,210,000	\$4,920,000

Cost savings from outsourcing are about \$1.3M (\$6.21M - \$4.92M), or 20.8%.

Using this to extrapolate: assuming Karl can achieve similar savings (i.e. 20%) on \$300M worth of costs, he can save \$60M. \$60M is 17% of Midwest's bottom line (\$3B * 12% = \$360M of profit).

Additional questions if time permits:

1. What would happen if Indian labor costs doubled?

	<u>Stay Local</u>	<u>India</u>	
Total units	10,000	10,000	
Labor and benefits per hour	\$22	\$14	
Hours to product a unit	12	4	
Materials cost per unit	\$400	\$250	
Holding cost per unit	\$30	\$20	
Shipping per unit	\$12	\$44	
Import duty per unit	\$0	\$150	
Made in USA credit per unit	\$85	\$0	
Cost per unit	\$621	\$520	Savings 16%
Total costs	\$6,210,000	\$5,200,000	

If outsource all \$300M: \$48.8 million savings

New profit margin 14%

2. US production goes to 8 hours?

	<u>Stay Local</u>	<u>India</u>
Total units	10,000	10,000
Labor and benefits per hour	\$22	\$7
Hours to product a unit	8	4
Materials cost per unit	\$400	\$250
Holding cost per unit	\$30	\$20
Shipping per unit	\$12	\$44

Import duty per unit	\$0	\$150
Made in USA credit per unit	\$85	\$0
Cost per unit	\$533	\$492
Total costs	\$5,330,000	\$4,920,000

Savings
8%

If outsource all \$300M: **\$23.1 million savings**
New profit margin **13%**

3. US credit goes to \$125?

	<u>Stay Local</u>	<u>India</u>
Total units	10,000	10,000
Labor and benefits per hour	\$22	\$7
Hours to product a unit	12	4
Materials cost per unit	\$400	\$250
Holding cost per unit	\$30	\$20
Shipping per unit	\$12	\$44
Import duty per unit	\$0	\$150
Made in USA credit per unit	\$125	\$0
Cost per unit	\$581	\$492
Total costs	\$5,810,000	\$4,920,000

Savings
15%

If outsource all \$300M: **\$46.0 million savings**
New profit margin **14%**

4. Import duty goes up to \$200?

	<u>Stay Local</u>	<u>India</u>	
Total units	10,000	10,000	
Labor and benefits per hour	\$22	\$7	
Hours to product a unit	12	4	
Materials cost per unit	\$400	\$250	
Holding cost per unit	\$30	\$20	
Shipping per unit	\$12	\$44	
Import duty per unit	\$0	\$200	
Made in USA credit per unit	\$85	\$0	
Cost per unit	\$621	\$542	Savings 13%
Total costs	\$6,210,000	\$5,420,000	

If outsource all \$300M: **\$38.2 million savings**
 New profit margin **13%**

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

The savings for going abroad of about \$1.3 million for XL292 machine is reachable. Based on the discussion of pros and cons of outsourcing to India, it may be a good idea to perform a pilot using the XL292 machine and make sure this part is successful before moving the \$300 million worth of costs to India. It will be important to invest time in communicating frequently and openly with employees in order to keep motivation high. As for next steps, Karl can begin to craft a proposal for the XL292 machine pilot and to begin forecasting costs.

Additional Considerations:

What are your concerns?

Here are some examples:

- Supplier charge – large savings may disappear
- Government changes – will the taxes and credits shift
- Hourly rate – may see a big shift in hours for India

Bain China – Railroad Co.
Round 1 for 1st year students
Approximate time allotted: 45 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Our client is considering investing in a high-speed railroad between Beijing and Shanghai. Should they go ahead with the investment?

Step 1: Market Sizing

Ways to determine this:

1. Population of these two cities
The candidate should have a general sense of the population of Beijing and Shanghai. *But for simplicity, let's say 10 million people in each city. But not everyone can afford our service, since we will probably charge a premium over regular railroad services.*
2. Size of competitive services
 - a. Regular railroad
The current size is 4,000 people each way per day
 - b. Airlines
There are 20 flights each way per day. Each flight holds on average 100 people.

Which is our real competition?

- *It takes 10 hours to travel between Beijing and Shanghai by regular railroad.*
- *The flight time between Beijing and Shanghai is 1.5 hours.*
- *Our high-speed train will take 2 hours to go between Beijing and Shanghai. But with security and everything else, we estimate that our high-speed train will be 1 to 1.5 hours faster than planes.*
- *If someone is willing to spend 10 hours, they are unlikely to be our target customer!*

Step 2: How much should we charge?

1. *Look at our cost to see what margins we need:*

Fixed (Infrastructure) cost: US\$2.5 billion

Variable (Operational) cost: \$50,000 per train each day

2. *Look at people's willingness to pay:*

Round trip flights cost about \$500. Can we charge \$500?

One way to determine this is through customer survey.

Based on our study, the #1 criterion of our target customers (business travelers) is speed, followed by flexibility of the schedule, i.e. we need to be servicing as frequently as the flights. We also found that we cannot charge more than \$500 as corporate clients are unlike to reimburse.

If we want to have at least 20 departures each way, matching the airlines, given our one-way travel time of 2 hours and say, another hour for cleaning, unloading, etc., we need at least six trains for hourly departure, i.e. \$300,000 per day in variable cost. ??

Further breakdown:

- 20 round trips per day needed to meet same service level as planes
- 6 hours per round trip → 4 round trips maximum per train per day
- At least 5 trains needed (20 round trips/4 round trips per train) → more realistically, 6 trains needed to allow some buffer

If we capture 100% of the airline market and charge \$500 each round trip, we have \$500 per round trip x 20 round trips x 100 passengers per round trip = \$1 million in revenue per day. But is it realistic for us to capture 100% of the airline market? Candidate should ask for penetration rate for similar projects. We built a similar railroad system in Thailand before. *The penetration rate was 15% after three years* (i.e. \$150,000 per year in revenue for our case, which is less than our daily cost of \$300,000!)

Ask candidate to present a summary and recommendation at this point. Based on financial considerations, this should be a no go.

Candidate can also explore other use of the new railroad, e.g. transportation of perishable goods, express mail, etc. (Note to interviewer: for this case, we expect passenger fare to be the major source of income.)

Other interesting points, expected growth of market, national pride, etc.

Bain – Typep Drug Mfg.
Round 1 for 1st year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

1. *Our client, Typep, is a manufacturer of over-the-counter stomach medicine, a \$2.5 billion market. Typep has traditionally enjoyed great success as a major brand in their market holding steady at 15% of market share. However, they have recently faced competition from a private brand which has gained 20% share over the last few years and is continuously gaining 2 share points per year.*
2. *Calculate how much Typep would lose if you did nothing next year.*
3. *What do you recommend as next steps for Typep?*

Step 1:

If you do nothing, how much will you lose in revenue (in dollars) to this private label next year?

Candidate should calculate that Typep's current dollar share in the market is $\$2.5 \text{ billion} * 15\% = \375 million .

The private brand will gain a total of $\$2.5 \text{ billion} * 2\% = \50 million of new business next year.

Private brand's gain will come from the 80% of the market share that it doesn't own currently. Typep's share in this "new to private brand sector" is $15\% \div 80\% \approx 20\%$. So, Typep's corresponding loss next year will be approximately $\$50 \text{ million} * 20\% = \10 million , if Typep does nothing.

Step 2:

What do you recommend as next steps for Typep?

- Let the candidate drive the case. The candidate should, at this time, draw out a framework.

Framework:

The candidate should draw out a 3Cs framework considering factors similar to those outlined below:

Private Label	Typep
Product Mix Considerations: <ul style="list-style-type: none"> - Differences in product offerings - Profitability of offerings - Share gains of specific products over the past few years 	Customers: <ul style="list-style-type: none"> - What are our product lines? - Who specifically are we losing? - Have customers' preferences / tastes changed?
Pricing and Cost Structure <ul style="list-style-type: none"> - What are their margins compared to ours? 	Company: <ul style="list-style-type: none"> - Where are we lagging behind? - What is our cost structure? - Consider marketing effectiveness

Here is the information that can be provided to the candidate if asked:

- *Typep currently specializes in two main product lines. One is a simple, upset stomach remedy, while the other is a multiple symptom product.*
- *Each product line comprises 50% of Typep's production*
- *There are no private labels competitors for the Multi-symptom product, only for the simple, upset stomach product.*

A good candidate will probe more on the profitability of the simple product line versus the multi-symptom product where we don't face a threat from private brands.

If asked about the pricing differences, tell the candidate that the Multi-symptom line is priced higher than the one-symptom product.

If probed about the cost structure differences, ask the candidate what he/she thinks the differences might be.

Other than marketing expenses, which you can say are currently equal for both brands, a good candidate should conclude that given the nature of the drugs industry, the marginal costs of production are very low and essentially the same for both product lines. Thus, given the higher prices of the multi-symptom brand, Typep earns higher margins on that product line, and given the lack of private brand competition, Typep should focus efforts on that line.

Recommendations:

What would be your suggestions to Typep for expansion of the multi-symptom line?

A possible response:

Consider expansion into regional areas that Typep does not currently have a presence in. Also, Typep can look to expand multi-symptom line into a similar product for children, if one doesn't currently exist. Typep can also look to increase marketing efforts through additional advertising of multi-symptom product and extend deeper into specific channels such as doctors and hospitals.

Additional Considerations:

What are some of the potential risks?

Some possibilities include:

- Private brand introduces a multi-symptom line
- Threats from other brand name competitors
- New breakthroughs in upset stomach medications after investments in marketing and expansion have already been made

Bain Shanghai – Super Jr. Baby Formula

Round 2 for 2nd year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

The client is a private equity firm looking at the baby formula market in China; in particular they are looking at a company called Super Jr. Super Jr. is a local Chinese company that brands itself as a foreign company (it is considered a “local specialty company”). They advertise their products to be made and imported from Australia (which is true!). The PE firm would like your help in determining whether Super Jr. is worth looking at.

Additional Information:

If the candidate asks for more information on the product, provide the following:

- Super Jr. is a relatively new startup from 2006
- They currently have no manufacturing capabilities and source their product “Super Jr. Formula” from an Australian manufacturer
- Super Jr. has spent a lot on marketing and has gained reputation as a “decent” brand
- Super Jr. primarily distributes to regional and local super-markets. The super markets currently charges them a fee for stocking their product (for shelf space usage)
- The management team at Super Jr. is composed of people who worked in the food sales and distribution industry
- The current growth strategy is to continue expanding distribution into national super-retail stores (Walmarts etc) while investing further in marketing to penetrate the high-end segment, allowing them to price at a premium

Framework:

Open ended case.

Data and Solution:

Provide slides as the candidate requests the appropriate information. Ask the candidate to interpret the information on each slide and its implication for the client. On slides 1 and 2 the candidate should answer the questions posed on the bottom of the slide.

- Slide1: Market Growth Rate from 2001 – 2006
 - o This graph shows that there has been steady growth annually at 20% a year. This is not bad for industries considering that GDP in fast growing countries like China is around 9%
 - o At 20% CAGR a year, by 2012, the market should be at $(1 + \text{CAGR})^{\text{Num Years}} * \text{Initial Amount}$ or $(1 + .2)^6 * 9 = 27$, or by estimate, it should be greater than $(\text{Growth Amount Per Year} * \text{Num Years}) + \text{Initial}$ or $(.2 * 9 * 6) + 9 = 19.8$ or approx 20

- Slide2: Projected Growth Chart from 2006 – 2012
 - o The chart indicates the Super Jr. is projected to grow from approximately \$5MM to \$60MM in the span of 6 years. From an estimation of CAGR, this is roughly $(60 - 5)/6 = \$9\text{MM}$ a year or almost 150%. Extra points if the candidate writes out the CAGR formula of $(\text{Ending Value}/\text{Beginning Value})^{(1/\# \text{ years})} - 1$
 - o The candidate should notice that overall, Super Jr. is projecting very quick growth and their outlook is very optimistic compared to market growth. This means Super Jr. will have to outgrow the market by stealing competitor shares. How likely is this? From this graph, there is not enough information to tell. The candidate should ask for more information regarding to the following:
 - What are the core competencies of Super Jr. and how do they compare to competitors (sales, distribution, production)
 - What particular segment does Super Jr. play in and is that segment easy to penetrate/steal shares
 - What are the customers demanding and does Super Jr. do something that meets and exceeds their expectation

- Slide3: Market Share by Company Type
 - o Upon asking for more information about customer segments or competitive landscape, this slide should be given. It shows the following insights:
 - Super Jr. plays in the mid and mid – low market
 - The premium markets are dominated by very few players whereas the local established market Super Jr plays in is quite fragmented
 - Momentum is not on Super Jr.'s side as it is in the premium segment
 - In this slide, the candidate can use his/her intuition to argue for or against the future of Super Jr. For example:
 - o Pro: Super Jr. has an established brand so can try to move upstream to premium market
 - o Con: There are very few players in the premium market, it might be difficult for Super Jr. to compete in that segment

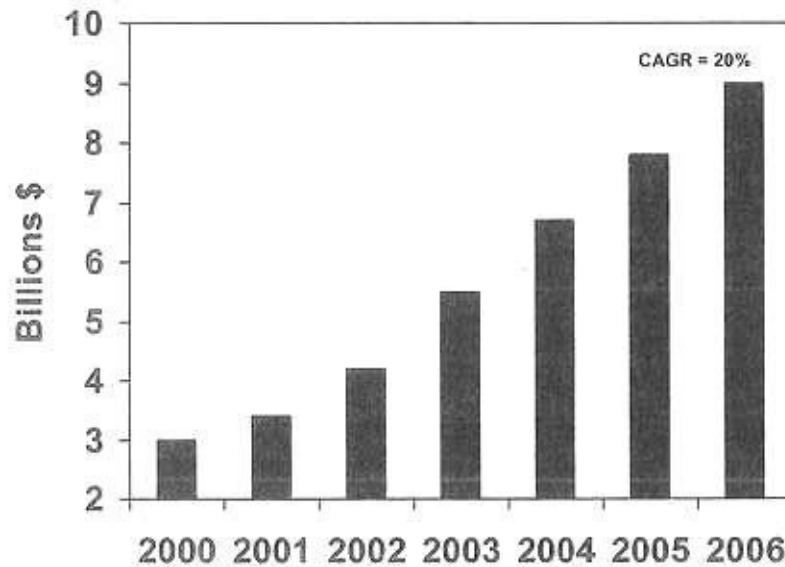
- Slide 4: Key Stats by Company Types
 - o As you can see, Super Jr. spends most of their resources on marketing and none on R&D. Candidate can argue both ways in the following manner
 - Pro: Super Jr. has an advantage because the baby formula market is all about image and brand. With an emphasis on marketing, perhaps Super Jr. can make a good reputation for themselves
 - Con: Super Jr. really doesn't have any core competence and their model is probably not sustainable given that they really don't have any R&D to compete in this market, especially in the premium market where parents may pay a lot of attention to R&D

- Other conclusions based on general company information provided orally at beginning of case.
 - o Again, here are more clues for the candidate to argue either way
 - Pro: Management team has sales experience which means maybe they can Super Jr. into a very profitable brand with wide distribution network
 - Pro: Super Jr. does not need to do R&D and as long as the Australian Manufacturer keeps its quality high, Super Jr. might not have an issue
 - Con: Super Jr. is too reliant on the Australia manufacturer and essentially does not have any core competence of its own. New entrants can easily do the same as Super Jr. is not establishing any real entry barriers to protect themselves
 - Con: Moving into the premium market may be difficult as there are currently very dominant players

Recommendations:

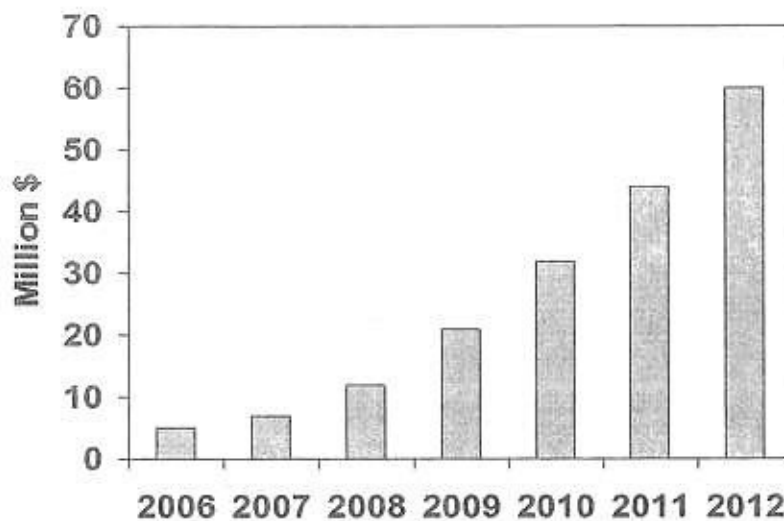
In all, this case is very open ended and really good arguments can be done either way as long as the candidate supports and sticks with their perspective. A strong candidate would argue and stick with their choice using solid support and wrap up the case in a clean and effective manner, without second guessing their choices while listing potential risks

Baby Formula Market Historical Data



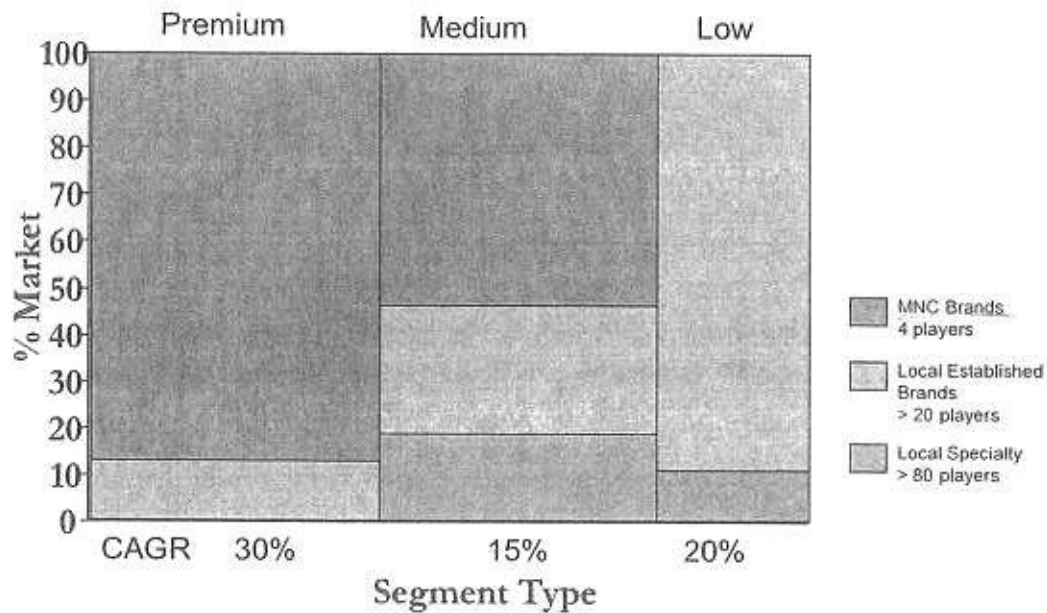
- What does this graph tell you?
- Assuming the same CAGR from 2000 to 2006, what would be the market size be in 2012?

Projected Growth from Super Jr.



- What does this graph tell you?
- Calculate the average CAGR between 2006 and 2012
- Is the projection realistic?

Market Share by Company Type



Key stats by Company Types

Factors	Multi-Nationals	Local Established Brands	Super Jr.
Retail Price	\$125	\$70	\$110
Profit Margin	30%	15%	15%
Raw Materials	12%	27%	45%
Manufacturing	28%	43%	0%
Marketing	20%	10%	50%
SG&A	5%	5%	5%
R&D	35%	15%	0%

BCG - Contrivedville
Round 1 for 1st year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

You are working on a project in the small town of Contrivedville. The town is an outpost in the middle of the desert, 100 miles away from its nearest neighbor to the West (Westtown) and 100 miles away from its nearest neighbor to the East (Easttown). Contrivedville has two gas stations, Station A and Station B, with each one located on opposite ends of the town. Station A's owner has engaged BCG to help grow his/her business.

- 1. Without any additional information, what are some potential strategies Station A's owner might be able to employ to grow?*
- 2. What types of information would you like to know to better understand strategic options?*

In the early part of the case, let the candidate think about how a gas station could potentially increase revenues/profits without giving away additional information. Utilizing a framework is not necessary, but may be helpful for the candidate to generate ideas.

Potential ideas may include

- Raising fuel prices
- Cutting direct labor costs
- Cutting fuel costs (long-term contracts, hedging against fuel prices)
- Advertising
- **Expanding beyond selling gas to sell other things (convenience store food/drink items)**

Once the candidate hits on the idea for selling products beyond gasoline, provide the following information: If the candidate does not immediately recognize the idea, guide him/her towards it.

Station A's owner has been approached by a snack foods manufacturer. The manufacturer would like Station A to expand its station to accommodate a convenience store-type section that would sell junk food snacks and drinks (like a Mini-Mart). The manufacturer offers to construct the addition for \$1.25 million. The owner would like your help in assessing the opportunity.

Additional Information:

As the candidate explores the opportunity, he/she may ask for more information on the town, the station's financials, etc. When asked, the interviewer may provide the following:

Market Data

- The town currently has a population of 200 people.
- The town's population is not increasing or decreasing. It will remain flat at 200 forever.
- There is no traffic flowing past the Stations from outside Contrivedville, so there are only 200 potential customers in the market.
- Currently, people purchase gasoline from whichever station is closer, and we can assume that the town's 200 residents are distributed evenly across the town.
- There are two types of people who live in Contrivedville. Fit people and lazy people.

Fit People Details

- There are 100 fit people among the 200 Contrivedville residents
- They are equally distributed across the town
- They would never buy junk food, but they do buy gas

Lazy People Details

- There are 100 lazy people among the 200 Contrivedville residents
- They are equally distributed across the town
- They love junk food, and would go all the way across town to find it (because no stores currently sell junk food)

Addition Offer Details

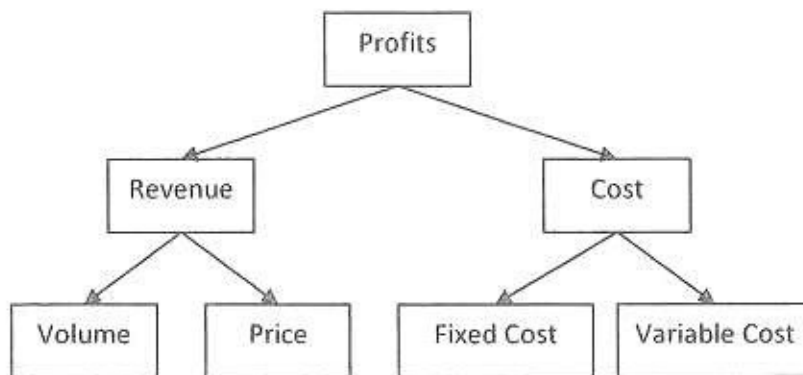
- The \$1.25 million encompasses all fixed costs of building and stocking the addition
- There are no variable costs to maintaining the addition, the manufacturer re-stocks the addition every week, and there are no incremental labor costs.

Financial Data

- All Contrivedville residents spend an average of \$30/week on gasoline.
- Certain residents may spend \$10/week on junk food products that could be sold through the new addition.
- For the sake of this exercise, we can ignore the Station's margins and assume all the revenues are profits.
- Station A's owner has a personal discount rate of 10%

Framework:

The candidate may initially draw out the profitability framework:



Data and Solution:

After the initial prompt, the candidate should brainstorm several potential ideas on how Station A can increase its revenue. These ideas may include pricing, marketing, and product changes. Once the candidate suggests the possibility of adding additional products to the station, the opportunity is presented for the candidate to analyze.

A good candidate will begin to gather information about the town and opportunity in an effort to calculate whether the future cash flows of the addition outweigh the initial \$1.25M expense.

In the course of asking for the information included above. The candidate should conclude that Station A currently has half the market, earning \$3,000/week from 100 customers purchasing gasoline only. With the addition, Station A will attract junk food spending from all 100 lazy Contrivedville customers. A good candidate will calculate the following:

100 lazy customers * \$10/week in junk food spending = \$1,000/week, or \$50,000 in annual income (assume a 50 week year)

However, this ignores the gasoline spending of the 50 lazy customers now attracted to Station A. If the candidate does not initially recognize this, work to draw it out.

- *The addition would attract the lazy customers to buy junk food. But is that all they would buy?*
The candidate would then calculate the incremental revenue from the new 50 lazy fuel customers.

50 customers * \$30/week = \$1,500/week, or \$75,000 in additional annual fuel income.

\$50,000 in annual junk food income + \$75,000 in incremental annual fuel income = \$125,000/year

A good candidate would recognize the \$125,000 as the annual cash flow, which would be constant every year given our assumptions. At this point, the interviewer may remind the candidate how to value such a perpetual income stream

So the addition would net Station A \$125,000 per year. How would you value that stream of cash flows?

Some candidates may remember the valuation of perpetuity is simply the annual cash flow divided by the discount rate (10% as stated above). The candidate should then calculate

$$\$125,000 / 10\% = \$1.25 \text{ million}$$

If the candidate doesn't know the valuation formula, provide them with it. The end result, with a present value equal to the value of future cash flows, may confuse the candidate. At this point, ask them for a recommendation

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

The candidate may or may not recommend building the addition. He may recommend building the addition to capture more customers, but they may also recommend avoiding the addition due to the execution risk of construction, potential cost overruns.

Regardless of the recommendation, interviewer should bring up Station B as a competitor and ask about competitive response to building or not building the addition.

So based on your recommendation, how do you think Station B would respond if it had the same opportunity.

If the decision is made to build, press the candidate on what will happen if Station B builds an addition to gain its lazy customers back (which it will, because this is Contrivedville). If the candidate recommends against building, ask what will happen to Station A if Station B opens an addition and takes lazy customers from Station A. ?

BCG – German Telecom Co.
Round 1 for 1st year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client is a large German telecom company. They are considering making a bid for one of 5 licenses to operate a new generation of mobile phone network (3G) in the United Kingdom. They have engaged us to help with the issue and determine the appropriate strategy for the auction.

Additional Information:

If the candidate asks for more information on the auction, provide the following:

The auction will be a sealed bid auction with all bids received simultaneously. The licenses will go to the highest 5 bidders. Each bidder can attain only one license. The British government intends for the auction to open the mobile phone market to competition to help control consumer prices. As a result, one license has been reserved for a new entrant, but the other four are open to both new entrants as well as established competitors. Because it is a sealed bid auction, our client will not know the true bidding strategies of its competitors with any certainty. The auction is the first of its kind for 3G networks in Europe. The licenses will be valid for 5 years.

If the candidate asks for more information on the technology, provide the following:

The most important characteristics of the new network are the high data speeds and increased capacity for service that it offers. 3G networks will enable data speeds of up to five times greater than the most advanced 2.5G networks available today. These high data speeds could enable applications such as speedy access to corporate networks and the Internet, video-on-demand, online shopping, and video conferencing, all via a mobile device. More importantly, however, the additional 3G spectrum enables incumbent wireless companies to build out their capacity in order to support more customers and to enable high-bandwidth services in an environment that is increasingly becoming capacity-constrained. Following the introduction of 3G technology, old technology networks will be phased out by the government over the span of 3 years.

Let the candidate drive the case. The candidate should, at this time, draw out a framework. Here is some of the information that a candidate may ask for. Provide this only if the candidate asks.

More about our client:

- *Market leader in Germany*
- *Has large presence in rest of Europe, but no presence in the United Kingdom currently*
- *Has been experiencing stagnating growth*
- *Looking for opportunities to expand*
- *Has the financial capability to bid what is needed, but does not want to overpay for license.*
- *Has the financial capability to build network that will be needed to operate in UK*

The competition:

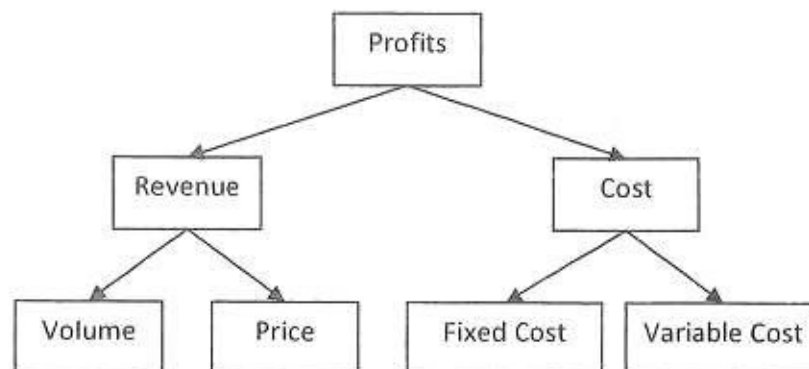
- *Unclear how many competitive bids will be received or who will bid*
- *4 major operators exist in the current UK market*
 - o *They roughly split the market equally*
 - o *Already have established networks as well as retail outlets that they can leverage for the introduction of 3G technology*

The market:

- *Approximately 30 million people have a mobile phone in the UK*
- *Growth has been slow recently (3-5% per year)*
- *Converting to the new network will require the purchase of a 3G network-enabled device*
- *Customers pay £30 per month for their current mobile phone plans*

Framework and Solution:

The candidate should approach this case in two sections. First, the candidate must assess if the market is attractive for our client. To do this, they must assess the profitability when considering entry into this market:



Do not provide the candidate with any information about the framework above. Rather, push them to make assumptions about each factor. Some of these qualitative considerations should include:

- Volume:
 - o Some potential for growth beyond current market due to new services
 - o Must consider that conversion of customers will be critical and that client is at a disadvantage compared to established competitors
 - o A likely outcome is that our client will receive less than 1/5 of the total customers due to new entrant status
- Price:
 - o Likely able to charge more than what customers currently pay
 - Could charge additional fees for additional services and allow customer to pick and choose what they want
 - Could charge more for a fixed plan with all services included
 - o However, there will also be increased competition in the market
 - o Candidate should consider both the factors that will increase the price (new services) and decrease the price (increased competition)
- Fixed Cost:
 - o Significant up-front cost for our client as they must set up network and retail chains
 - o Up-front costs not as significant for established competitors.
 - This is a key disadvantage to our client
 - o Once network is established, fixed costs consist of:
 - Network operation
 - Maintenance
 - Retail operations, etc.
- Variable Cost:
 - o Minor once network is established (i.e. one extra customer costs very little)

If candidate struggles to provide quantitative estimates of the above issues, provide the following:

- Volume:
 - o *Increase of 33% in customers (to 40M) overall*
 - o *Client will receive 1/8 of market annually (5M total)*
- Price:
 - o *Average prices will increase to £50 due to new service adoption among key customer segments*
- Fixed costs
 - o *£740M to build network*
 - o *£50M to run network annually*
- Variable costs:
 - o *£50M to run network annually*
- At this point, instruct the candidate not to worry about discounting future cash flows (or that the discount rate is 0%).

Second, after assessing the profitability, the candidate should come to a conclusion about the attractiveness of market entry. If the candidate concludes that it is a profitable venture for our client, he

or she must next develop a methodology for the bid recommendation. Points to consider when making the bid recommendation include:

- Competitors' strategies
 - o Established competitors willing to pay far more as their fixed costs are significantly lower
 - o It is unlikely that our client would be willing to outbid the established competitors as a result
- The client's real competition comes from other new entrants for the license reserved for them
- Our clients bid is based on our assessment of the profitability
 - o The bid could be as high as the total value of the cash flows from the license (i.e. at break-even)
 - o However, the candidate should consider if the bid should be lower to realize some profits from the venture.

If the candidate uses the above assumptions, their calculations should appear as the following:

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Price per Customer	£50	£50	£50	£50	£50
Volume of Customers	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Revenues	£250,000,000	£250,000,000	£250,000,000	£250,000,000	£250,000,000
Total Revenue:	£1,250,000,000				
Fixed Costs:					
Build Network	£740,000,000	£0	£0	£0	£0
Run Network	£50,000,000	£50,000,000	£50,000,000	£50,000,000	£50,000,000
Variable Costs:	£50,000,000				
Total Costs:	£1,240,000,000				
Profit (no discounting)	£10,000,000				

As a result, the bid will be no higher than £10M.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

The 3G mobile network in the United Kingdom is a profitable market for our client. Although our client will face significant competition from established players, I believe they will be able to operate profitably over the life of the license. As a result, our client should enter a bid in the auction. Based on my calculations, the most our client should bid is £10M to breakeven on the license. However, there are considerable risks surrounding this bid that should also be considered.

Additional Considerations:

What are some of the potential risks and potential upsides?

Here are some potential answers for risks:

- Customer adoption of new services may not be strong
- Competitive response is unclear and could drive prices down
- Estimates are unclear at this point and could swing the bid either way very easily

Here are some potential answers for upsides:

- May be able to attain a greater share of the market with good entry strategy
- Entry into market could provide platform for continued presence in UK
- Winning one of the first 3G license in Europe might be important and set the tone for the remaining auctions

BCG – Katrina
Round 1 for 1st year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client, a school district has been completely devastated by hurricane Katrina. The school district is in New Orleans and they saw most of their students leave and relocate to nearby states after the hurricane. 2 years into the disaster, the students are now slowly returning back. The school district has hired us to advise them on two things:

- a. What are the number of schools they need to immediately reopen and*
- b. What can be done to better the quality of education?*

Additional Information:

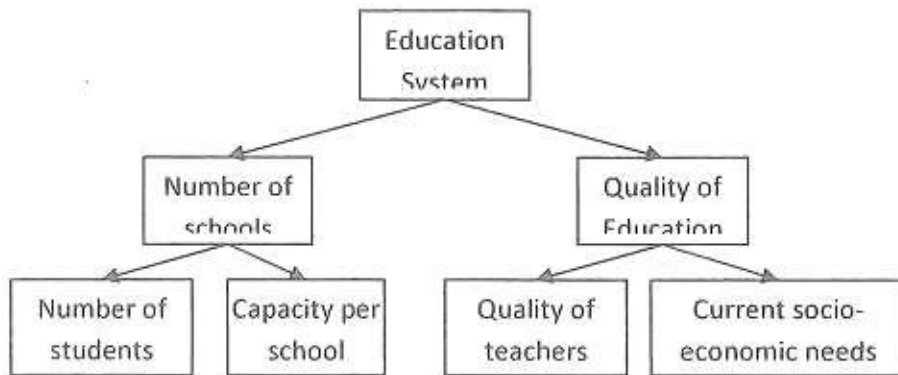
Let the candidate drive the case. The candidate should, at this time, draw out a framework. Here is some of the information that a candidate may ask for. Provide this only if the candidate asks.

More about Public School System in New Orleans:

- Before Hurricane Katrina, New Orleans Public Schools ranked as one of the lowest performing school districts in the country.*
- The district faced significant financial problems and was on the verge of bankruptcy.*
- There were 64,000 students that got displaced due to the hurricane.*
- There were 64 schools before the hurricane struck, 18 have been reopened since.*
- Approximately 24,000 students have already returned to the state.*
- About 1600 students are returning every month.*

Framework:

The candidate should, at some point, draw out the framework:



Data and Solution:

The candidate at this point should be asked to calculate the number of schools that need to be re-opened.

Before the hurricane, there were 64 schools accommodating 64,000 students. Assuming the new schools can have the same ratio of students per school, there would be $64,000/64 = 1,000$ students per school.

18 schools have reopened since $\Rightarrow 18 * 1,000 = 18,000$ students can be accommodated.

However, number of students who have returned = 24,000

\Rightarrow Under-capacity for $24,000 - 18,000 = 6,000$ students currently.

Also, every month 1,600 students are returning.

\Rightarrow By next month there will be an under-capacity for $6,000 + 2*1,600$ (current month + next month) = 8,200 students

\Rightarrow By end of next month, the school district should target to reopen 9 new schools (to accommodate 8,200 students).

\Rightarrow Beyond that, the school district would need to open approx. 2 schools per month to accommodate the 1,600 students that are returning every month.

The candidate should then move to the next half of the question about what can be done to improve quality of New Orleans schools. If the candidate is still working on the number of schools to be reopened, guide the candidate towards the question.

The candidate can be provided with the below information if asked:

Before the hurricane, the school district statistics were the following –

- *For every 10 students who enroll in schools, fewer than 6 make it to graduation*
- *Only 2 enroll in college*

Good candidates will want to go deeper into understanding this. There are no set answers here. The objective of this exercise is to see if the candidate can break down a problem statement to analyze the different causes that might be resulting in the problem.

The candidate should deduce that the school district should –

1. Attract, develop and retain quality teachers, principals and school administrators.
2. Improve the student teacher ratio to allow more individual attention
3. Engage students better by catering to courses that are more pertinent to today's world. For example, look to introduce courses like computer education etc. that can give the students an edge in getting jobs in high-paying sectors. Also, offer education in areas like carpentry, masonry, nursing etc. that can allow students to learn skills that can prove helpful to find jobs in the market.
4. Ensure adequate capacity in the schools.
5. Experiment with new school models by setting up a Charter system allowing private groups and corporations to be involved.
6. Benchmark best practices with other school districts.
7. Get the community involved and have parental involvement in school activities. They could also be encouraged to volunteer time that could help especially in the early days when the system is being revamped.
8. Make information about the new changes available and advertise to ensure that the community supports and participates in the changes for the better.
9. Grant some amount of autonomy to the schools in exchange for increased accountability, encouraging sharper focus on student achievement. This will also allow the schools the incentive to find creative ways to decrease spending in utilities and instead invest the money in instruction.
10. Get local and national non-profit and/or corporate involvement. This will allow for funding to achieve the goals set.

Any other creative ideas are also to be rewarded. The idea is to see that the candidate can think on the fly and think of the potential resolutions that the school district can investigate.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

1. The number of students who have returned to the state far exceeds the capacity of the 18 schools that have reopened. Investments should be made to reopen 9 more new schools on an urgent basis.
2. With the rebuilding, there exists a potential to revamp the education system to make it more engaging and useful to find jobs. This can be done while ensuring the quality of education is improved by attracting and retaining high quality teachers and principals.

Additional Considerations:

What are some of the potential risks?

Here are some potential answers:

- For a community that is rebuilding itself, costs can be a constraint. However, it can be also viewed as an opportunity to get endowments to fund the plans.
- The possibility that media and community might focus on the negatives especially if the school district cannot provide adequate capacity in the schools quickly enough for the returning student body. In such a case, students might be dissuaded from returning causing more harm to the school district. Forging relationships with the local media to cover the advancements and achievements of the schools will be a way to mitigate the risks.

BCG – Skylight Goods
Round 1 for 2nd year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client, Skylight Goods, is a \$12B industrial goods manufacturer. They have various divisions and the division we are working with makes pressure sensitive self adhesive canvases for sign boards. This division has seen revenues stagnate over the past few years and profitability has declined. Skylight has engaged BCG to help them with this issue. The two questions facing them are:

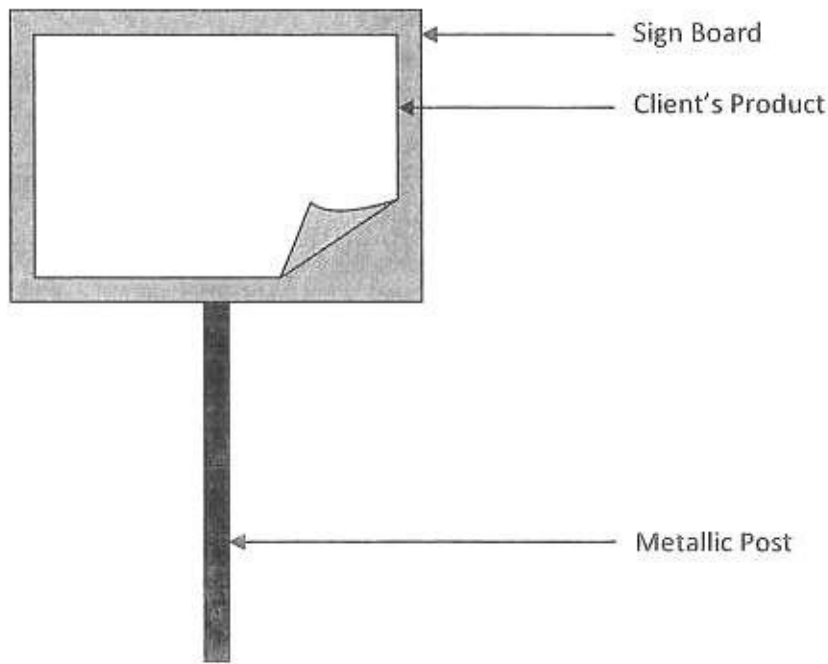
- 1. How to restore profitability*
- 2. Should we improve our delivery channel?*

Additional Information:

If the candidate asks for more information on the product, provide the following:

To understand what the product is, think of any signboard that you see. One part of the signboard is the metallic posts that holds the board up, and upon that board you can stick our client's product. Skylight's customers buy blank canvases from Skylight, print their signs onto the canvas and then simply paste the canvas over sign boards, just like you would paste a normal sticker.

The graphic below is only for the interviewer's understanding. This should NOT be shared with the candidate.



Let the candidate drive the case. The candidate should, at this time, draw out a framework. Here is some of the information that a candidate may ask for. Provide this only if the candidate asks.

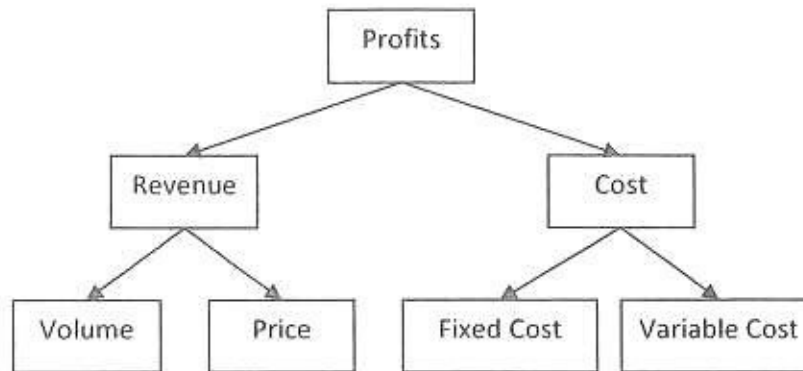
More about Skylight Goods:

- *Skylight is among the largest market share holders in the pressure sensitive self adhesive canvas market.*
- *Skylight supplies the entire US.*
- *Skylight has been in this industry for a long time and hence, has an established brand.*
- *Skylight has grown through acquisitions and has a few manufacturing plants that it has acquired.*
- *Assume that there is only one kind of product in the client's product mix. There are no opportunities to change this.*
- *As far as distribution goes, the client has already asked us whether we should look at improving our distribution channels.*

The Market:

- *There are 2 other big players. Skylight, and each of the two big players have about 25% of the market each. The rest is fragmented.*
- *The market is growing at 3% (A good candidate should be able to figure out that this must be an industry that is growing as fast as the GDP)*
- *Our competitor's products are very similar to ours and are priced similarly too. Our competitors do not have any differentiation when it comes to the product, promotions, or price.*

Framework:



Here is the information that can be provided to the candidate for the above framework:

- *The Revenue has stagnated at about \$100M*
- *The price has not changed. There are no opportunities to increase or decrease price.*

Data and Solution:

When the candidate discusses costs, provide Exhibit 1.

If, after seeing exhibit 1, the candidate asks about the manufacturing costs, provide Exhibit 2. If the candidate does not ask about manufacturing costs, drive the candidate towards manufacturing costs and then provide Exhibit 2.

Along with Exhibit 2, provide the following information:

The product is sold by the yard. The way the process works is that the raw materials are fed into the machine for a pre-set run length (run-length = length of canvas produced in the run). The machine runs for that period, generates the pre-set amount of canvas, and then stops and needs to be set up again for the next run.

A good candidate will notice that Skylight Goods has produced the same length of canvas per year. However, their average run length has been decreasing, number of employees increasing and the employee overtime hours increasing. The inventory turns has been increasing too. You may provide the following if the candidate asks related information:

- *Skylight Goods has heard about inventory management and they have learned that a high inventory turn is generally good for the company*
- *Inventory turn = total volume / average inventory (at this point, good candidates will infer that the average inventory has been decreasing)*
- *Skylight Goods has sought to increase inventory turns because they feel that the demand in the market for these canvases is uncertain. So, they are unwilling to keep inventory indefinitely.*

If the candidate asks about why the client feels that the market demand is uncertain, say that that's what a different consulting firm has told them. Good candidates will want to go deeper into understanding this. Tell them that the product can be kept in inventory for long periods and Skylight Goods already has the capability to store them. Candidates should infer that the decrease in run lengths was done to reduce inventory, but it has in turn caused inefficiencies in the manufacturing process.

How inefficient is Skylight Goods today in comparison to 2004?

The candidate should calculate this:

In 2004, an average run took $1000/25 = 40$ mins. The set up time was 20 mins. Thus, total time = 60 mins to produce 1000 yards. $\rightarrow 1000/60$ yards per minute = 16.67

In 2006, an average run took $500/25 = 20$ mins. The set up time was 20 mins. Thus, total time = 40 mins to produce 500 yards. $\rightarrow 500/40$ yards per minute = 12.5

i.e. to produce 1000 yards in 2006, Skylight will need 80 minutes, i.e. 33% more than that in 2004. So, Skylight's efficiency has gone down 33% as a result of the 'supposed' improvements in inventory turns.

If a candidate asks if it is possible to produce at more than 1000 yards run lengths, tell them that it is possible to go up to 1500 yards per run. At 1500 yards per run, an average run will take $1500/25 = 60$ mins. The set up time is 20 mins. Thus, total time = 80 mins to produce 1500 yards. $\rightarrow 1500/80$ yards per minute = 18.75 (which is a 50% improvement over our 2006 results and a 12.5% improvement over our 2004 results)

At this point, candidates should move into the question on distribution channels. If the candidate is still working on profitability, guide the candidate towards the distribution issue.

Provide this information if asked:

- *Currently, Skylight Goods works with two distributors who sell the canvases to end customers. One distributor is based on the west coast and another on the east coast. Customers generally prefer distributors close to them in terms of time zone.*
- *Our competition uses several distributors.*
- *The distributors (be it for Skylight or for competition) work on standard percentage of sales.*
- *Most distributors are open to stocking multiple brands.*

The candidate should deduce that Skylight Goods should engage more distributors in other regions in the US to ensure that sales grow at the rate of growth of the industry.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

Our profitability has gone down because we have reduced our average run length from 1000 yards to 500 yards. This has reduced our efficiency by 33%. To restore profitability, Skylight Goods should aim to increase run lengths to the maximum of 1500 yards per run. This will increase their efficiency by 50% over 2006 results and by 12.5% over 2004 results. Further, we should also engage more distributors in geographically diverse regions of the US so our customers may be able to source the canvases more easily. This will allow us to regain our growth and start growing at the market growth rate again.

Additional Considerations:

What are some of the potential risks?

Here are some potential answers:

- We will need to fire some employees. This may result in a loss of goodwill and may create some bad press.
- Running machines at capacity may result in more wear and tear, resulting in added maintenance expenditure.
- Engaging new distributors may make our existing distributors unhappy.
- Skylight Goods will need to spend resources to find new distributors and to find ways to get the canvases to them.
- Skylight Goods can also explore reductions in their inventory holding costs (less manpower, less inventory storage space) to realize the benefits of increased inventory turns. The reduction of these costs may be enough to compensate for increases in manufacturing costs, but we need further analysis to confirm this.

Exhibit 1: Skylight Goods Income Statement
(in \$ m)

	2004	2005	2006
Revenue	100	101	101
COGS	40	42	42
Contribution	60	59	59
Manufacturing Cost	40	44	49
SG&A	15	14	15
Net Income	5	1	(5)

Exhibit 2: Skylight Goods Manufacturing Cost Details

	2004	2005	2006
Total Volume (Yards)	50M	50M	50M
Average Run Length (Yards)	1000	750	500
Yards of material produced per minute	25	25	25
Average Set-up time for each run (Minutes)	20	20	20
# of employees	100	110	120
# of over time hours per employee per year	100	200	300
Inventory Turns	8	9	10

BCG – NYC Hotel
Round 2 for 1st year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client, is the New York City hotel association. They have come to us after September 11th to help them answer two basic questions:

- 1. Estimate the monetary damages to the industry*
- 2. Help develop a recovery plan*

Key Issues:

Like many 2nd round interviews this case did not really deploy a framework. Instead it was a conversation about the issues that the industry faced. As a result the partner posed questions and we then had a discussion around those questions

Ask the candidate what he/she thinks are the biggest issues facing the hotel industry:

A good candidate will identify issues both on the revenue and cost side

Revenue:

- Decreased occupancy rates: Both from business travelers and leisure*
- Decreased Conference revenue*
- Decrease in service revenue (restaurants, movies, room service, etc...)*

Cost:

- Loss of economies of scale increases average cost per room*
- Increased cost of attracting employees to work in NYC*
- Increasing advertising budgets to attract tourists/businesses*
- Increased investment in security measures (limited)*

After having listed all the items, ask the candidate which area he thinks is most important to restoring health of the industry. Candidate should identify revenue losses as the biggest driver. Push candidate to explain why revenue is the most important issue.

Calculating Lost Revenue:

To determine the amount of revenue lost the hotel industry uses a measure called REVPAR. The formula for REVPAR is % occupancy * Average Daily Rate.

The REVPAR for NYC has been the following post September 11th

2001 pre Sept 11: \$200 (highest in US)

2001 post Sept 11: \$100

2002: \$125

2003: \$175

Ask the candidate what information he /she would need to calculate the total lost revenue per year. Push them until they get to total hotel rooms

The total number of hotel rooms in New York is 100,000.

Based on that how much money did the hotel industry lose in 2002 vs. 2001?

2001: $\$200 * 100,000 * 270 = \$5,400,000,000$

2001 post Sept 11: $\$100 * 100,000 * 90 = 900,000,000$

2002: $\$125 * 100,000 * 360 = \$4,500,000,000$

2001 - 2002 = $4,500,000,000 - 6,300,000,000 = \1.8 bn

Next ask how much money was lost in 2003 vs 2001:

2003: $\$175 * 100,000 * 360 = \$6,300,000$

In 2003 the industry had recovered back to 2001 levels.

Develop a recovery Plan:

What are the 3 things you would do to drive continued growth in 2004 and move the industry REVPAR to \$200.

If the candidate suggests price push them on this and make them defend it.

Some possible answers:

- Partner with the city to increase advertising
- Partner with city to promote safety and tourism in NY

- Offer getaway packages – weekend specials, special treatments, etc.
- Ask for city loans to drive profitability recovery
- Add free amenities to the rooms (movies, discounted room service)
- Discounts to corporate meetings (free lunches, drink hours)
- Stay 3 get the 4th night free promotions
- Offer tickets to theater and sporting events to guests

BCG – Beer Co. Broadcasting Rights

Round 2 for 1st year students

Approximate time allotted: 30 minutes

Tell the student everything in Italics. This case is structured more as a discussion of various issues vs. actually doing the numbers.

Situation:

The client is one of New Zealand's largest beer manufacturers. The client has been contacted by an Australian broadcast company for a sale of an exclusive broadcasting right of a pre-determined TV program in New Zealand. The client has come to us and wonders how that is related to their business.

Additional Information:

If the candidate asks for more information, provide the following:

The exclusive broadcasting right is for \$10M. The TV program is pre-determined and our client cannot change it. If our client wants to advertise on the TV program, they would have to pay as everyone would. The pre-determined program is a popular sport in New Zealand. Currently, there is no program like that in New Zealand.

The New Zealand beer industry is dominated by our client who has 50% of the market and its closest competitor has the remaining 50% of the market. It's a mature industry, growing at GDP.

Bars in New Zealand can only source beer from one brewer, namely either our client or its competitor. A bar cannot buy beer from both.

If asked, the interviewer would tell you the profit margin of beer. I can't remember the exact number, it's something like 50cents per beer.

Framework:

Figure out why the TV program is relevant to the beer company. We can use the investment framework. Calculate sources of income and NPVs.

- Market/Customer:
 - How will the market react?
- Valuation:
 - Sources of revenue
 - Costs
 - NPV/cash flows
- Strategic Fit:
 - How does this fit with the company

- What alternatives exist for investment
- Competition:
 - Reaction

Data and Solution:

Let the student make estimates for the different sources of revenue and guide them on how to validate these estimates.

It turns out that the beer manufacture can purchase the TV program and play them only in bars which carry its beer. This way, they will attract more people to the bar and keep people in the bar for longer. At this point, I was asked to do a market sizing, to estimate how much more revenue would come in from this source.

Then you have to realize that this is not the only source. Another channel is beer consumption at parties or at home. Because of the popularity of the client's bars and TV program, people would like to buy more of its beer to drink at home as well. I was asked to estimate this source of revenue as well.

Lastly, it's to calculate the NPV to see if it makes sense to invest.

I was also asked in the middle about how to verify my estimate on increases of beer sale in the bar. It's a creative question, you can come up with as many as you can think of. For example:

- Test market: measure the increase in the test bars
- Interview waiters in the bar and see what they think

Then it's the conclusion. Make sure you talked about both the pros and cons about the deal. This is typical of expansion strategies. Think about the benefits and how well this aligns with the company's core business. Does this help with entering the Australian market?

Booz & Company – Casa Construction

Round 1 for 1st year students

Approximate time allotted: 20 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Our client, Casa, is a constructions material producer in North West Mexico. They produce cement like materials that are used in constructions. Casa has recently researched a new product which is a special cement to be used in construction for single storey low income houses. It cannot be used for multiple storey houses and it has a coarse finish, so it cannot be used in high quality houses. However, there is a strong market for single storey low income houses and Casa says that the product will sell like hot cakes. We trust Casa's judgment on this.

The client has been approached by Oxe Constructions Company about this new product and Casa has to respond to Oxe within a week. The options that Oxe has given Casa are:

- A. *Casa and Oxe will be partners. Oxe will help Casa in selling and distributing the new material.*
- B. *Casa will sign Oxe as the exclusive supplier of this new material.*
- C. *Oxe will buy over the rights to the formula for the new material and will contract Casa to further improve the formula.*

Booz is to help the CFO of Casa to decide which of the three options to take.

Among the first questions that a good candidate will ask is: Why look at Oxe at all? Can't Casa not worry about Oxe's offer and just do everything by itself? The answer is that Oxe has great capabilities in sales and distribution. They are the 2nd largest supplier of such products in Southern US and in Mexico. They have a reach that is much farther than that of Casa and Casa will benefit from the alliance.

The following table lists the merits and demerits of the three approaches. Candidates can be given the information in the table, but ONLY if the candidate asks for it. The information should not be supplied as a table. Instead, supply bits and pieces as and when the candidate asks for it. For example, if the candidate asks, "What's the price that Oxe will pay for option A?", reply: "We do not know the exact price, but we know it's lower than what they will get for option B".

	Merits	Demerits
Option A	<ul style="list-style-type: none"> - Casa can sell through other channels/distributors as well - Casa can reach the markets that it would not be able to without Oxe. 	<ul style="list-style-type: none"> - Oxe will pay a lower price for this than that for option B
Option B	<ul style="list-style-type: none"> - Oxe will pay a higher price than that for option A - Casa can reach the markets that it would not be able to without Oxe. 	<ul style="list-style-type: none"> - Casa will not be able to sell through any other distributor.
Option C	<ul style="list-style-type: none"> - There will be a one-time payment that is mutually agreed upon. It is believed that Oxe is willing to pay a really high price for the formula because of its "will sell like hot-cakes" nature. - Casa can continue to work on the formula. Casa will get the recognition for being the inventors of the formula. - Casa Does not have the capability to manufacture enough of the new material to supply the southern US and Mexico. It's a small company, specializing in R&D and can only supply to North West Mexico. 	<ul style="list-style-type: none"> - Casa will lose rights to the formula - NPV analysis may be difficult to do because of the immense future of this formula.

The key bit of information above is that last bullet in Option C merits. It shows that Casa will not be able to supply to a large market and so, the best option for it is to sell the rights to the formula to Oxe and to focus on its core competency, R&D.

Booz & Company – IT Redundancy

Round 1 for 1st year students

Approximate time allotted: 25 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

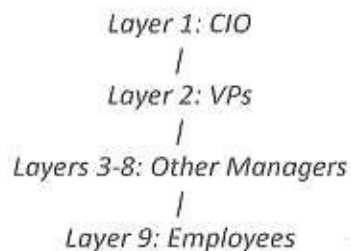
Situation:

Our client is the CIO at an IT Organization. He feels that there are some redundancies in his organization. So he wants to find out the following:

- *Where are the people?*
- *What are they doing?*
- *What are their skill sets?*

To help with this, he got help from Booz & Company to make a spreadsheet survey that will contain all this information for all the company's employees. He also got Booz & Company to write an instruction sheet on how to fill up the spreadsheet survey.

There are 9 layers in the CIO's organization:



There are 10 VPs and 1800 people in all in the organization. Assume it takes 30 minutes to read the instruction sheet and 3 minutes to fill information about each person in the spreadsheet survey.

There are three options for the CIO to conduct the survey:

- A. *Send the survey and instructions to the 10 VPs who will complete the survey and send it back to the CIO.*
- B. *There are 360 people with people management roles in the organization. These 360 people will fill up the survey for all their direct reports.*
- C. *Choose 60 managers who will fill up the information for 30 people each.*

This is just a starting point for the complete redundancy study. Which of these 3 ways do you recommend the client to use?

Additional Information:

All relevant information is provided in the outlining of the situation.

Framework:

The candidate should calculate the total time required for each option. For purposes of this case all individuals time is considered equally valuable although a strong candidate will point out that some adjustment should be considered for the fact that managers time is more valuable than workers.

Data and Solution:

Option A: Send the survey and instructions to the 10 VPs who will complete the survey and send it back to the CIO:

Each VP spends 30 minutes reading the instructions.

Total time to read instructions: $10 \times 30 = 300$ minutes

There are a total of 1800 employees, and for each employee, 3 minutes are required on the survey.

Total time to fill the survey: $1800 \times 3 = 5,400$ minutes

Total time required: $300 + 5,400 = 5,700$ minutes = 95 hours

Option B: There are 360 people with people management roles in the organization. These 360 people will fill up the survey for all their direct reports:

Each person with people management responsibility spends 30 minutes reading the instructions.

Total time to read instructions: $360 \times 30 = 10,800$ minutes

There are a total of 1800 employees, and for each employee, 3 minutes are required on the survey.

Total time to fill the survey: $1800 \times 3 = 5,400$ minutes

Total time required: $10,800 + 5,400 = 16,200$ minutes = 270 hours

Option C: Choose 60 managers who will fill up the information for 30 people each:

Each manager spends 30 minutes reading the instructions.

Total time to read instructions: $60 \times 30 = 1,800$ minutes

There are a total of 1800 employees, and for each employee, 3 minutes are required on the survey.

Total time to fill the survey: $1800 \times 3 = 5,400$ minutes

Total time required: $1,800 + 5,400 = 7,200$ minutes = 120 hours

At this point, candidates may jump to the conclusion that option A is the best. Stop them from concluding and get them to think further. Ask:

Is time the only factor that will decide which method you will use?

Candidates should, at this point, start thinking on the lines of why this survey was being done. Time is a good factor, but it's also important to get the right data from the study. Once the candidate mentions the data quality issue move on to the recommendation and conclusion.

Recommendations:

So let's talk about the merits and demerits of the three methods to help us decide which method to pick. Let's find 2 merits and 2 demerits of each method.

A good candidate will draw a table similar to the one shown below. Get the candidate to think of the merits and demerits and write them down.

	Method A	Method B	Method C
Merit	<ul style="list-style-type: none"> - Minimum Overhead of 95 Hours. - Easy to communicate the reasons and instructions for the survey. 	<ul style="list-style-type: none"> - People have great knowledge about the people that they are writing for. Great accuracy. - There is no chance of cooking the books. 	<ul style="list-style-type: none"> - People have good knowledge about the people that they are writing for. Good (albeit not the best) accuracy. - There is no chance of cooking the books.
Demerit	<ul style="list-style-type: none"> - VPs have limited knowledge about people several levels below them. Thus, accuracy is limited. - There is a chance that the VPs will cook the books to get data that they prefer 	<ul style="list-style-type: none"> - Maximum Overhead of 270 hours. - Difficult to communicate the reasons and instructions for the survey. Difficult to gather the collected information back in a timely fashion. 	<ul style="list-style-type: none"> - Difficult to communicate the reasons and instructions for the survey. Difficult to gather the collected information back in a timely fashion. But not as difficult as method B. - Higher overhead of 120 hours.

Based on these merits and demerits, what recommendation would you give the client?

Possible response: I recommend the client to choose method C. This method, while about 25% more time consuming than method A, is far better (about 60%) than method B in terms of turnaround time. Method C gives us a good understanding of what the people in the organization are doing. Given the problem at hand is just a starting point for finding where some redundancies may lie, it is sufficient to have a good idea and not the deepest detail as method B would give. Method C also removes the risk of the books being cooked. So, this method is the most efficient way to get to the information needed.

Additional Considerations:

If time allows ask the candidate to list additional considerations.

Booz & Company – Truck Battery Mfg. Co.

Round 1 for 1st year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client, is a manufacturer of battery-operated portable generator sets. The client has come up with a new product which lasts 20% longer than existing generators in the market and wants us to help them evaluate if there is a demand in the market and what kind of volumes can they be expected to sell.

Additional Information:

Let the candidate drive the case. The candidate should, at this time, draw out a framework. Here is some of the information that a candidate may ask for. Provide this only if the candidate asks. Please note that some of this information is key to solving the case and if the candidate does not delve into it, this information should NOT be provided willingly at all.

More about the new product:

- *The product is typically used by the trucking industry.*
- *When the trucks are powered off, i.e. they are in the rest areas and the engine is idle, the trucks use generators to cool the inside of the cabin when the driver naps or relaxes. The generators typically power portable refrigerators, air-conditioning/heating of the driver cabin, TV/entertainment units etc.*
- *The existing options in the market include diesel powered generators.*
- *Diesel generators run using diesel and give out the familiar strong smelling stench. They are definitely not environment friendly. They also run making a large amount of noise.*
- *Our product is better than diesel generators on both the above respects. Our generators are silent and we because we don't run on diesel, our generators have no smell. Our generators however need to be charged prior to use and typically need 4 hours of truck running to charge fully.*
- *The drivers can also choose to leave the engine running and use the engine to cool the cabin, power entertainment units etc. However, in this case the truck will be consuming gas.*

Framework:

The candidate should, at some point, draw out the framework:

Note: this is just an example and is not intended to be comprehensive.

Here are some things to consider:

- Market Sizing/Demand:
 - Trucks sold that would require a generator
 - Customer segments
 - Customer needs
 - Growth rate
- Competition/Substitutes:
 - Substitutes
 - Cost/benefit analysis
 - Market share of competitors
- External considerations:
 - Environmental issues
 - Patent protection??
 - Competitive reaction

Data and Solution:

The candidate at this point should be asked to calculate the market size.

You can either provide the data below or let the candidate make assumptions (that you can validate) depending on stage of case preparation:

There are 10,000 trucks being sold in the US on an average daily. Of these 60% of the trucks are designed and used for long-distance travel. The generators will be a feature that will be wanted by the long-distance drivers since they will be making the rest area stops and needing power during the break.

Of the old trucks sold, there are none that can have this product installed in now, so they are not a potential market.

Thus, average market size in the US = $60\% * 10,000 * 30 = 180 \text{ K trucks/month}$

Since there is no other company that has the same product we can safely assume that we can capture this entire market if a) we can meet demand estimates with production capacity and b) we conclude that the entire potential market will appreciate and value our product features and not take to any of the substitutes.

The candidate should then move to address if the second assumption is indeed true. Guide the candidate towards the question.

Good candidates will want to go deeper into understanding this. The objective of this exercise is to do a cost-benefit analysis of the options and see which option the truckers would prefer.

The candidate can be provided with the below information if asked:

- *The battery operated generator will be sold –*
 - *For \$15,000 a unit*

- It is costless to charge the generator since it charges during the run time of the truck and does not cost gas or any other resources
- The generator has a useful life of 5 years and a zero salvage value
- The generators are used for 40 hours a month on an average.
- Generators can run for a stretch of 10 hours when fully charged.
- The diesel sets –
 - Cost 12,000 a set and have zero salvage value. They last for 5 years as well.
 - Every hour of the diesel generator costs a gallon of diesel that sells for \$2.50 a gallon
- Leaving the truck on is also an option –
 - It would cost a gallon of gas on an average to power the standard units for .5 hrs. Gas costs \$4 a gallon.

One possible approach to the cost-benefit analysis is shown below –

11. Assume that the trucker makes a rest area stop for 10 hours and compare the cost-benefit of each option around that.
12. We break the costs into fixed and variable costs. We amortize the cost of the unit over the number of hours it will last and calculate the fixed costs.
13. We use the run time of 10 hours to find what the variable costs will look like. You could also do this on a per hour basis. The key is to pick a simple basis for comparison and add the fixed cost to the analysis.
14. We compare the total cost for each of the options and note that the client's generators are financially the cheapest option available to the truckers.

	Fixed Cost (per 10 hours)	Variable Cost (per 10 hours)	Total Cost
Option 1 – Leaving the truck running	\$0	$10 / .5 * \$4 = \80	\$80
Option 2 – Using diesel generators	$\$[12,000 / (12 \text{ months/yr} * 5 \text{ yrs} * 40 \text{ hours/month})] * 10 \text{ hours} = \50	$10 * 2.50 = \$25$	\$75
Option 3 – Using the client generators	$\$[15,000 / (12 * 5 * 40)] * 10 = \62.5	\$0	\$62.50

Any other creative ideas are also to be rewarded. The idea is to see that the candidate can think on the fly and think of the potential benefits and cost that might impact the recommendation.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

1. There is a steady demand for the product at about 180K units per month and we can capture a large share of the demand with the right advertising and manufacturing capacity.
2. We should look to educate the buyers of the benefits of our product – clearly both financially and environmentally we are much better than our competition/substitutes.
3. Risks include competitors copying the concept and the high upfront cost of purchasing the product.

McKinsey – Army Hotel

Round 1 for 2nd year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Your client is a PE firm that has the opportunity to invest in building a 400 room hotel on an Army base. The idea was given to the PE firm by the army. The government has decided to give your client the land for free – Your client can build the hotel and keep all of the profits. Your client has hired you to find out what they need to know to determine if they should build it or not.

Additional Information:

If the candidate asks for more information on the product, provide the following:

Existing hotels near the base. Each is approximately 20 miles away:

Hilton - \$110/night

Hampton Inn - \$75/night

Days Inn - \$40/night

Purpose of the hotel: The hotel is for the use of soldiers at the base for training as well as temporary housing for those who have been relocated to the base. There are two training classes held at the base:

- Basic Officer Training: 200 soldiers per class. Class lasts 10 weeks. Class held 5 times per year.
- Advanced Officer Training: 50 soldiers per class. Class lasts 4 weeks. Class held 10 times per year.

With respect to temporary housing: soldiers are transferred every 3 years and are given 15 days to find a permanent place to stay. There are 9,000 active duty soldiers subject to this rotation.

Framework:

Profitability framework can be used to solve the case.

Data and Solution:

The Army will reimburse soldiers \$75 per night (per diem). How much would you charge at the hotel?

- If asked clarify that the per diem reimbursement is also intended to cover the soldiers dinner and breakfast.

- Probe the student to determine how much per night the hotel will charge and what services should be included. Assume for purposes of the rest of the case that the client decides the hotel will charge a fee of \$60/night.

Assuming that the classes and relocation of soldiers are the only sources of revenue what is the total potential revenue per year for the hotel?

Type of Training	Number of People	Time Period	Times a year	Total Rooms per year
Basic	200	10 weeks	5	70,000
Advanced	50	4 weeks	10	14,000
Temporary	3000	15 nights		45,000
				129,000 (round to \$130,000)
				At \$60 / night
				\$7.8 million

Having addressed the revenue side lets talk about costs. What are the costs associated with operating a hotel?

After the candidate lists relevant fixed and variable operating costs such as labor, supplies and utilities tell them to assume that total operating costs are \$4 million per year.

What is the other costs associate with running a hotel?

Here we are looking for the student to talk about investment costs. We determined that the Hampton Inn made an initial investment of \$50,000 per room. We will assume the same costs for our hotel. The student should calculate a total initial investment of \$20 million to build a 400 room hotel.

Are there any issues that may keep the hotel from attaining the calculated revenue?

We are looking for the candidate to touch on capacity issues. After the candidate mentions capacity state that during their business part of the year, which lasts four months, the hotel runs a capacity shortage of 80 rooms.

As the candidate to recalculate the revenue projection created earlier.

They will be short of 80 rooms x 4 months x 30 days per month = 9600 rooms per year (tell the student to round this to 10,000 rooms) So, the new number of rooms are 120,000 x \$60 per night = \$7.2M/ yr - \$4M (Operating Cost) = \$3.2M per year (profit).

What is the breakeven period for the PE Firm?

\$20M / \$3.2M = 6-7 years.

Is this a good rate of return? Why do you think so?

Let's assume the client wants to break even by 4-5 years.

What else can you do to bring down the break even time?

Probe the student to come up with ideas

Some suggestions:

- Add a restaurant to the hotel
- Find ways to decrease costs
- Decrease number of hotel rooms and keep utilization up

Recommendations:

Ask the candidate to summarize the findings of the case.

McKinsey – Contact Lenses
Round 1 for 2nd year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text. In this case, the interviewer leads the case i.e. asks the interviewee the questions. The questions to be asked are listed in **Bold** text within the Frameworks and Data and Solution sections.

Situation:

Your client is a well-known contact lens provider called BB. BB manufactures and distributes contact lenses in the U.S.

*While BB is one of the largest players in the US market, and has been for quite some time. However, the company feels that **compared to its main competitor, it is not doing as well as it could.***

BB had called in McKinsey to find out how to solve this problem and to recommend a solution.

Additional Information:

If the candidate asks for more information on the product, provide the following:

- *For the scope of this case BB manufactures and distributes only in the US.*
- *Demand for contact lenses has been growing steadily at about 3% annually.*

The problem of the case as read is intentionally very vague. Interviewee should clarify what is meant by “compared to its main competitor, not doing as well as it could”, not just assume that it means lack of growth, etc.

- *BB completed a benchmark study of itself versus its biggest competitor and discovered that its profits are not growing as fast as the competitors’.*
- *Two main players in market: BB and Competitor. Other, smaller firms exist, but for scope of case are negligible.*
- *Competitor is also a US-only manufacturer & distributor.*
- *Market is equally divided between BB and Competitor.*
- *BB and Competitor are of roughly equal size.*
- *BB and Competitor sell same products.*

Framework:

Question: How would you go about structuring an analysis of this problem?

Note: If the interviewee hasn’t clarified the purpose of the case (i.e. what problem does BB want them to solve?), push them to do so. A lot of people automatically assume that BB’s sales aren’t growing at industry rate, or that BB isn’t satisfied with its market share. If they do, I usually read back the statement of the issue in the introduction (“is not doing as well as it could”) and ask them to explain to me what that could mean. If they still don’t get it, I point out that the statement is very subjective (as in, could be interpreted to mean many different things) and by then, they usually figure it out.

This is a profitability problem, so classic profitability framework.

The best candidates will be specific about their bullet points, giving concrete examples and eliminating certain areas based on their communicated hypotheses.

Most students don't do this, so after the framework is laid out, I usually push back and ask them.

Data and Solution:

Question: "Based on the information I've given you so far, and based on what you know about the contact lens industry, where do you think the problem lies?"

What answer they end up with doesn't matter, but they should concretely and rationally eliminate certain options.

Easiest way to reason out possible problem area is by thinking about current, established major contact lens players – Bausch & Lomb, Johnson & Johnson.

This is an example of how to analyze the situation:

Industry is defined by high barriers to entry (since high R&D outlay necessary); also, industry is mature (20 years plus) & dominated by two players, so can expect players to be equal in most things. Thus

Cost side

- Variable costs
 - Raw Material: inputs will be plastic, saline solution (water, salt), packaging (paper, aluminum foil, plastic). These are all commodities. Any issues BB has with raw material costs are likely also experienced by the Competitor. **Thus not an issue.**
 - Labor: will be unskilled, wage rate probably set by minimum wage standards. Unless unionized and competitor not, nothing here to put BB at disadvantage to Competitor. **Thus not an issue.**
- Fixed costs
 - Plant, Property & Equipment: given US contact lens industry, probably no difference between BB and Competitor (think Bausch & Lomb or Johnson & Johnson). There should be no major difference in plant costs or plant efficiency. Probably no major equipment differences.
 - R&D: big cost factor, but probably equal between BB and Competitor.
 - Overhead (People): Again, no major differences as companies are of similar size.
 - Marketing/Distribution: Probably no differences.
 - Legal issues? Possible, but BB is probably big enough that even a huge class action settlement shouldn't affect its bottom line too much.
 - Etc.

Sales side

- Pricing
 - Contact lenses are fairly commoditized. Minor differences in pricing may exist, but probably nothing major.
 - Customers may be price sensitive, but given that lenses are fitted to a person by their doctor, customers do not purchase lens purely on price. Comfort/fit and compatibility is a big issue.

- Product mix: Maybe competitor is selling more profitable mix of lenses?
- Distribution/Sales channels: Competitor may be selling through more profitable channels?
- Volume:
 - Substitute goods: May be substituting away from BB? However, any substitutes (Lasik, glasses, etc.) will likely hit Competitor equally.
 - Competitor may capture more of market – better branding, better distribution, better price, better products? Could be possible.

Question: After analyzing BB's cost structure, McKinsey is confident that BB's costs are extremely competitive. Knowing this, where do you think the problem could lie?

Sales Side

Question: McKinsey analyzed the distribution channels of BB and its competitor, and came up with the following information. (show Customer Mix slide)

Slide is vague. Interviewee should immediately walk through and clarify what is being shown. Most students won't do this. If they don't, start pointing things out to them.

- Slide shows customer mix in terms of volume. Competitor and BB sell equal volume annually (10,000,000 lenses per year or whatever).

→ So big takeaway is that Competitor sells more via Doctor's offices; BB via Optical Retailers.

- Big Box Discounter = Walmart; Sam's Club
- Doctor's Offices = your local mom & pop non-chain doctor's office
- Optical Retailer = Lenscrafters, etc.

→ So obviously, varying degrees of buying power. Walmart purchases in large volume; Doctor's office is purchasing in small quantities, probably also not super business savvy (no procurement department). Lenscrafter is in the middle.

In addition, different differentiation: Walmart is known for cheap prices; Doctor's office is specialized & high on service; Lenscrafter in the middle.

- BB and Competitor charge same prices for same products (as established earlier in framework).

→ At this point, great students will remember the problem at hand (less profitable than competitor), combine it with the new information and realize that there must be a pricing difference between the different sales channels.

Once difference in pricing is established, ask:

Question: Does this Surprise You?

Student should make some sort of intelligent comment about how, given the types of retailers, no, it does not surprise him/her.

(Now show student Profitability by Customer slide)

Question: Can you tell me what you see here, does any of this surprise you? (Show profitability by customer slide)

Student should point out that prices are in line with what was expected. Walmart is lowest, Rx offices highest. Given purchasing power, makes sense. Also, customers generally are willing to pay a premium at a Doctor's Office, since service is more individual.

COGS: makes sense that equal in all channels, as same product in each channel.

Sales, Distr: interesting that different. Could be because Walmart requires more advertising, cash for shelf space?

Fixed costs: makes sense that equal. Again, same product.

Question: Ask student to calculate profit and percent profit margin. Ok to estimate on margin.

Big Box Discounter: \$1.50 (9%)

Doctor's Office: \$16.00 (57%)

Optical Retailer: \$8.00 (36%)

Question: Does any of this surprise you?

Comment.

Question: Given this information and given the initial problem you're solving for, what would you want to look at now?

How can we sell more lenses via the Doctor's Office channel?

Excellent students might also comment that they're curious as to why BB is even bothering to sell in the Big Box Channel – why not pull out and focus resources/attention on improving sales in Doctor's Offices, instead?

Question; Like its Competitor, BB relies on sales reps to distribute its contact lenses to the Doctor's Offices. Currently, BB has 5 reps in its call center dedicated to reaching out to the Doctor's Offices and doing whatever is necessary to get them to sell as many BB lenses as possible.

Interestingly, McKinsey has discovered a relationship between call frequency and sales generated:

- For every 2 calls made to a customer per month, our client sees a 5% increase in revenue from that customer
- For every 3 calls made, our client sees a 15% increase in revenue over revenue for 1 call

Currently, each B&B sales person has 100 customer accounts. Each account must be called at least once a month, as B&B does not want to lose any customers. Assume that sales per customers, when the customer is called once a month, is \$100.

Given these findings, what should BB do?

To maximize profits, student must consider how to best distribute phone calls.

Additional information to be given if asked:

- Each sales call takes 30 minutes.
- Each sales rep works 20 days per month, 8 hours a day.
- Each sales rep spends approximately 3 hours of each work day on administrative work, lunch break, etc.

Calculation:

8 hours a day less 3 hours a day for admin = 5 hours a day for sales calls.

5 hours divided by 30 min per call = 10 calls per day.

10 calls per day times 20 days total = Max. capacity is 200 calls per month per rep.

200 calls max less 100 calls necessary = 100 "free" calls.

You have already called all customers once, so to reach 3 calls per month, must only call customer 2 more times. $100/2 = 50$ customers you are able to call 3 times per month.

However, B&B could also call $100/1 = 100$ customers 2 times per month.

1 call = \$100

2 calls = $\$100 * 1.05 = \105 .

3 calls = $\$100 * 1.15 = \115 .

If all customers are called twice then sales = 100 customers * \$105 per customer = \$10,500

Otherwise, sales = 50 customers * \$100 + 50 customers * \$115 = \$10,750

Recommendations:

The company should call 50 customers once and 50 customers three times

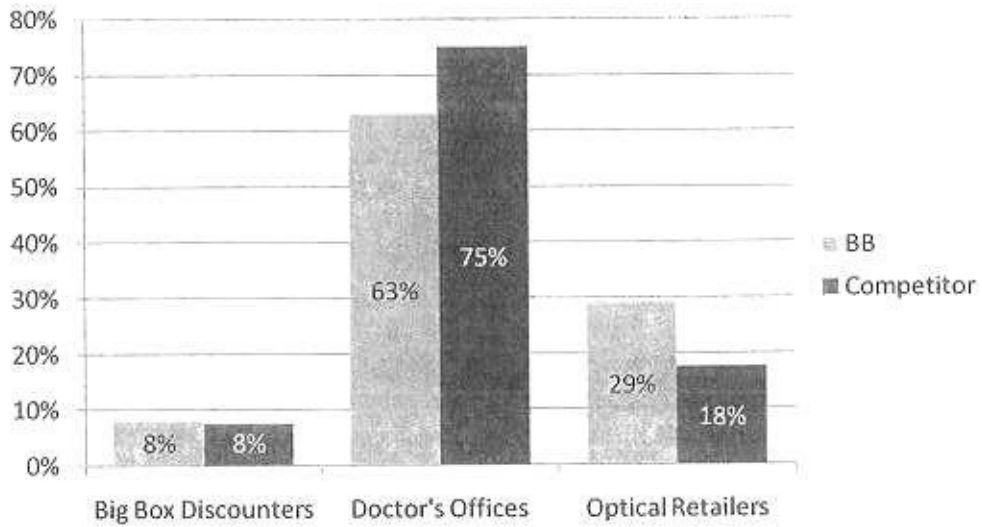
Additional Considerations:

See Above

Primary Takeaways From Case:

- Make sure you understand what problem you're trying to solve. If the problem is vague, clarify it before you start your framework, otherwise, how do you know what you're solving for?
- Don't jump to conclusions on slides. Even if you think you understand everything on it, verify with the interviewer to make sure your understanding is correct.
- Take every sub-conclusion back to the main question.
- Sanity check everything you conclude and/or see. Does this make sense? Is this what I expected to see?

Customer Mix



Profitability by Customer

Per box of contacts (6 lenses)	Big Box Discounter	Doctor's Office	Optical Retailer
Revenue	\$16.50	\$28.00	\$22.00
COGS	\$8.00	\$8.00	\$8.00
Sales, Distribution	\$5.00	\$2.00	\$3.50
Other Fixed Costs	\$2.00	\$2.00	\$2.00
Profit			

McKinsey – Cleaning Products
Round 1 for 1st year students
Approximate time allotted: 20 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Our client is a prominent manufacturer of household cleaning products such as soap. They feel that an opportunity exists for them to do better in the market. They have tasked McKinsey to help them with this.

What will be some of the first things that you will ask the client?

There can be many possible answers here. Drive the candidate to ask: What is meant by ‘doing better in the market’? At this point, ask:

What do you think that may mean?

Possible replies may include ‘have stronger growth’, ‘occupy more market share’, ‘be more profitable’, etc. The interviewer can choose to ask deeper questions (“*What else?*”) to judge the depth of the candidate’s understanding of the problem. Possible questions may include:

What is a good growth rate in this industry?

What can a company do to increase market share?

Eventually, drive the candidate to draw out the profitability framework:

Profits = Revenue – Cost

Revenues: made up of Volume and Price

Cost: made up of Fixed Cost and Variable Cost

There may be many products in the client’s product mix.

Once the candidate presents this framework, say:

This looks like a good place to start our analysis. What questions will you ask our client to help you get the information you require?

Give the following information (It is preferred that the candidate asks for this information. If not, drive the candidate towards the information. Give it away as a last resort to ensure progress in the case.)

- Revenues in the last year: \$3Billion
- Client's product mix: Dish washing powder, Clothes detergent powder, Hand wash liquid, Shower gel, All-purpose soap
- There are no opportunities in cost savings or in adding new products to the product mix.

By this time, the candidate should realize that the only way to increase profitability is to get an increase in revenues. If the candidate does not realize this even after getting the above information, tell the candidate to focus on the revenue side of the framework.

How can we increase revenues?

The candidate should figure out that this can be done by altering prices or increasing volumes. Good candidates will talk about price elasticity at this point. Show the candidate the following table:

Based on your ideas, you conducted a market research study. Your research has shown that if the prices of their products are changed all at once in the percentages shown in the following table, the volumes of the products sold will remain unchanged. It is important to note that the changes in price either happen all at once or none at all.

Product	If product's price is changed by this %, McKinsey's research shows that the volume will remain same	% of revenues (Current)
Dish Washing Powder	-2	5
Clothes Detergent Powder	1	20
Hand Wash Liquid	0	30
Shower Gel	2	30
All-Purpose Soap	4	15

Table 1: To be given to the candidate

(Separately included on last page of case)

The client has told us that they will be happy with a 1% increase in revenues. Should they go ahead with the price change as the table above recommends?

Candidates will use the information in this table and the information about last year's revenue (\$3Billion) to calculate the following figures:

Table 2: Interviewer's guide to Candidate's calculations

Product	If product's price is changed by this %, McKinsey's research shows that the volume will remain same	% of revenues (Current)	Current Revenue (\$million)	Revenue after price change (\$million)
Dish Washing Powder	-2	5	150	147
Clothes Detergent Powder	1	20	600	606
Hand Wash Liquid	0	30	900	900
Shower Gel	2	30	900	918
All-Purpose Soap	4	15	450	468

Based on the above, after the price change, the revenue will be \$3.039 billion, i.e. an increase of \$39 million. The client's target was 1%, i.e. \$30million. So, the candidate should recommend that the client go ahead with the price change as reflected by McKinsey research.

Is there anything that our client should watch out for?

Some possible responses:

- Competition's moves may undermine our price changes.
- Are we a monopoly producer? If so, we may invite anti-trust suits by price increases.
- There is a risk that the research was not reflective of all the geographies that our client supplies its products.
- This is a one-time increase in revenues. The client cannot expect to continue raising prices to keep a steady top-line growth.
- We have only analyzed revenues. There may be some additional cost associated with the price increase (such as advertising to explain the price increase) that may eat into the profits generated through the \$39million additional revenue.

Table 1: Tables for Interviewee

Product	If product's price is changed by this %, McKinsey's research shows that the volume will remain same	% of revenues (Current)
Dish Washing Powder	-2	5
Clothes Detergent Powder	1	20
Hand Wash Liquid	0	30
Shower Gel	2	30
All-Purpose Soap	4	15

McKinsey – On Line Video
Round 1 for 2nd year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Your client is a VC firm that is interested in investing in a profitable venture - videos.com. The company provides home delivery of rental DVD/VCDs which are ordered online. The venture would serve only the Manhattan area in NYC. Should our client do this? What do we need to know?

Data and Solution:

Estimate the size of the market in two years.

Assume the population of New York is 1.5 million and 2/3rds of the population has internet access. Assume that 10% of households currently rent videos online and that this is expected to grow at 10% per year.

1.5M people * 66% = 1M people

1M people = 500K households

500K households * 10% = 50K

Households renting videos online:

Today = 50K

Year 1 = 55K

Year 2 = 60.5K [*this is what the student should get to*]

Right now, we know that people who rent movies online rent 1 movie a month. But we know that this number will decrease to 8 videos a year in two years. What is the change in our market?

The student should calculate the following:

Total rentals:

Today = 50K * 12 = 600K videos a year

Year 2 = 60K * 8 = 480K videos a year

This is a 20% decrease in market size.

What does this mean for your client? What ways can our client mitigate this issue?

Potential answers could be to sell complimentary goods along with videos. Video games, gift certificates, popcorn etc.

Suppose Blockbuster charges \$3.50 per movie. Our focus is to make a profit of \$30 per hour. Since our client is going to hand deliver movies, our delivery cost is \$22 per hour with 5 deliveries per hour and an

average of 3 movies are included per delivery. The prepaid envelope to return the movies is 50 cents each. Can we match Blockbuster's price?

Our cost should be:

$\$22 / (3 \times 5) = \$1.50 + \$0.50 \text{ (envelope)} + \$2.00 \text{ (required profit)} = \$4.00.$

No, we will not be able to match Blockbusters price.

Recommendations:

What are your recommendations to our client?

Additional Considerations:

If time allows ask the candidate the list other risks and considerations.

McKinsey – Electric Utility
Round 2 for 2nd year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Our client is GPE, a producer of electricity. Here are a few concepts about electricity generation that will help you through this case:

There are several ways to produce electricity:

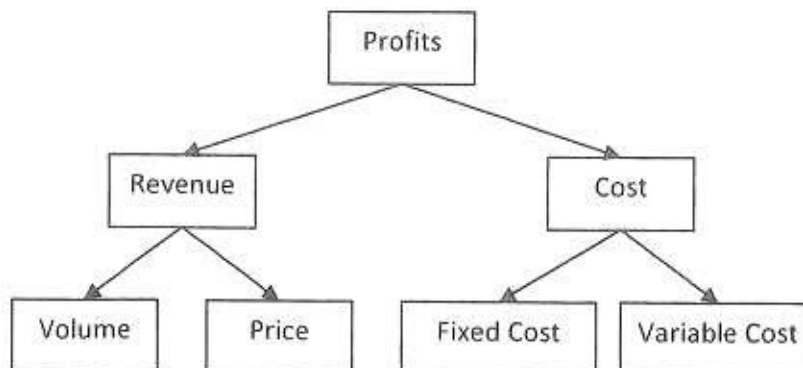
- *Water*
- *Coal fired plants*
- *Nuclear*
- *Wind*
- *Etc.*

These are some other facts about the industry:

- *Electricity can be supplied to a wholesaler or to consumers directly.*
- *Electricity transmission is highly regulated (because the wires used to transport electricity are mostly government controlled). However, electricity usage is mostly deregulated, i.e. the government does not set the price. Instead, the price is set by competitive forces.*

Our client has 10 plants that produce electricity using coal. The client obtains coal partly from his own coal mines and partly from 3rd party providers. Off late, the client has seen the profitability from their coal generated electricity decline. What could be causing this?

The candidate should take some time to summarize the issue and to process the above information. The appropriate framework to address this issue is the profitability framework.



As the candidate goes through the various parts of the above framework, share the following information. Wait for the candidate to ask for this, but share the information even if the candidate does not explicitly ask.

Volume:

- *GPE supplies electricity to over a million customers (a customer is a household or a business) in deregulated markets through wholesalers.*
- *Volume is generated by demand. The market is fragmented and GPE supplies electricity through wholesalers.*
- *The market is growing at about 3% per annum.*

Price:

- *This is a deregulated industry. Price is set by competitive forces.*
- *There is one constant price that applies throughout the year (i.e. no peak pricing, etc.)*
- *As a simplification, consider that the same price is charged to all customers, be they residential or industrial.*

Good candidates will deduce that since the market sets the price and this is a mature industry, currently the supply meets all the demands. i.e. there is not much opportunity in terms of volume and price.

Fixed Cost:

- *GPE runs 10 plants around the US.*
- *GPE pays a fixed cost to lease transmission lines to transmit the electricity produced.*

Variable Cost:

- *As a simplification, consider the main raw-material to be coal.*

The candidate should consider looking deeper into the cost side (because it was already deduced that there aren't any opportunities in the revenue side).

Lets explore the cost side in more detail. A simplified supply chain for electricity consists of 3 parts:

- 1. Acquiring the coal*
- 2. Generating the electricity*
- 3. Transmitting the electricity*

What potential issues may lie in each of the above?

Allow the candidate to brainstorm at least 3 potential issues for each of the above issues. Prompt the candidate to brainstorm more by persistently asking "What else?" after each response till the candidate provides at least 3 issues for each part of the supply chain.

Note that this case is about brainstorming and generating ideas and not about numbers.

Here are some possible responses that candidates may provide:

1. Acquiring the coal:
 - The coal may have to be transported across some distance. This could be done through rail or road. There are potential savings here in optimizing the transport channel.
 - The coal is received from several sources: GPE's own coal mines and 3rd party mines. The quality of coal (its energy content) is likely to be different in different mines. Hence, processing different type of coal probably takes different processes and machines. This diversity could be a potential cost generator and this could be handled by sourcing for more similar coal varieties.
 - The coal mines could be in a geographically separate region, subjecting GPE's coal supply to other regions' risks (for e.g., climatic factors such as hurricanes, political turmoil, etc.)
 - The coal mines are probably unionized, and that may add to volatility in our coal supply.
2. Generating the electricity
 - The electricity generators may be old and not functioning as efficiently, inducing waste in the system.
 - There are 10 different plants in the client's company. Differences in operations of these plants may induce volatility in the system.
 - The availability of labor may have changed by the arrival of other industry or competitors in our plants' vicinity.
 - Given that GPE generates electricity through coal, some new environmental laws may have come into force increasing the cost of electricity generation.
3. Transmitting the electricity
 - Transmission could be streamlined by finding more customers closer to the electricity plants themselves.
 - GPE could look into a bandwidth sharing contract so that their lease may be cheaper.
 - GPE can look into checking the transmission lines for repairs etc that may be required so that there is less electricity loss in transmission.

GPE is primarily an electricity generating company. Do you think they should keep the coal mine?

Here is some information that can be shared with the candidate if the candidate asks for it:

- *GPE gets coal at 30% cheaper rates when it gets coal from its own coal mines are compared to 3rd party coal mines.*
- *There is a large market for coal. Coal customers are diverse, electricity producers are just one of many. As a simplification, assume that all coal customers pay the same market price for coal when they purchase coal from coal mines.*

With the above, candidates may be tempted to deduce that GPE should keep the coal mine because they get coal cheaper from their own coal mine. If candidates say this, remind them that:

Yes, GPE is getting coal cheaper from their coal mines. But they can also sell the same coal to other customers and make the same profit. So what is the advantage of using the coal for their electricity generation operation?

Potential responses are:

- Having their own coal mine reduces supplier power for GPE. GPE's electricity generation operations have the advantage of encountering lesser volatility in the supply of their core raw material, coal. GPE can control the coal production and can hence have lesser volatility in coal quality and labor issues.
- GPE's business is more diversified through the coal mining operation.

On an average, GPE operates at 80% utilization. GPE's CEO saw this statistic and asked McKinsey if he should look into increasing this from 80% to 90%. How would you approach this problem? By the way, the industry average is to operate at 77% utilization.

Tell the candidate that *the demand for electricity is cyclical*. Ask the candidate what that might imply. Candidates should point out that that means that there are peaks and troughs in electricity demand (e.g. air conditioners working over time during summer). As an electricity company, GPE is committed to meet the peak demand and so, it is normal to operate at less than 100% utilization. GPE is already operating at close to the industry average and it may be unrealistic to expect the utilization to increase to 90%.

The CEO would like to hear a summary of our analysis. Please help!

Good candidates will take a minute to gather their thoughts. The initial question was about what might be causing the decline in profitability. Candidates should be able to point out that this is a cost issue. Specifically, candidates should talk briefly about the supply chain analysis, showing potential issues and cost saving opportunities. Candidates should also recommend continuing the use of GPE's coal mine and ignoring pressure to increase utilization to 90%.

Roland Berger – Technologic Inc.

Round 2 for 1st year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client, Technologic Inc., is a large manufacturer and seller of office appliances and peripherals. They are the leading firm in the market, with significant penetration and a devoted customer base that likes the firm for its advanced technology and great technical support staff. However, the firm has failed to meet its profitability goals, and is being criticized by investors and industry analysts. Technologic has engaged Roland Berger to help them with this issue. The two questions facing them are:

- 1. What is/are the main driver(s) of poor profitability?*
- 2. What possible steps could the company take to address these issue(s)?*

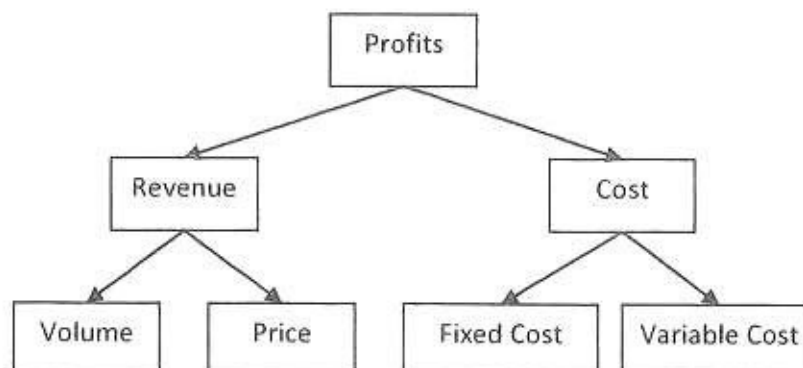
Additional Information:

If the candidate asks for more information on the firm's products, provide the following:

The firm specializes in making three products, printers, scanners, and fax machines, as well as peripherals for those machines, such as power cords, toner cartridges, etc. They currently sell their products directly to consumers, mostly small business users. Currently, each of their three products sells for \$150, while each peripheral sells for \$50.

Framework:

Let the candidate drive the case. The candidate should draw out a profitability framework and flesh out potential causes of poor profitability. Guide the candidate to the cost side of the equation, and eventually get them to focus on customers.



While the candidate may use the framework to generate ideas and hypotheses as to why profitability is declining, it may not be specifically useful in this case.

Data:

The company isn't sure why it can't meet profitability goals, but they think it may have something to do with their customer base. They conducted a survey that's given them a better sense of their 50M global customer base.

- 60% of all their customers buy at least two products (meaning a scanner and a fax machine, or a printer and a scanner)
- Of the portion of customers that purchases at least two products, one-third purchase all three products.
- The remaining customers buy only one product.
- With regard to peripherals, they are pretty integral to the machines. Every customer who buys at least two products also buys two peripherals, while a customer who purchases only one product only buys one peripheral

The candidate should use this survey information to build a matrix of the different customer 'types' as illustrated in the chart below. Feel free to ask the candidate to compute any of the numbers included in the chart, as it will be helpful during the remainder of the case.

Total Customers: 50 Million	Customer Type 'A'		Customer Type 'B'		Customer Type 'C'	
Number of Customers	10 Million		20 Million		20 Million	
Number of Products Purchased	3		2		1	
Price per Product	\$	150.00	\$	150.00	\$	150.00
Product Revenue	\$	450.00	\$	300.00	\$	150.00
Number of Peripherals Purchased	2		2		1	
Price per Peripheral	\$	50.00	\$	50.00	\$	50.00
Peripheral Revenue	\$	100.00	\$	100.00	\$	50.00
Total Revenue/Customer	\$	550.00	\$	400.00	\$	200.00
Total Revenue/Segment	5.5 Billion		8 Billion		2 Billion	

At this point, ask the candidate what they think about this information. Although they may try to jump right to profitability, try to get some preliminary hypothesis about what might be the problem or what the company might want to do given this customer base. Potential answers could include upselling 'C' customers, bundling, targeted marketing, or other creative solutions.

With this information, guide the candidate to focus on profitability. The candidate may begin asking questions about the cost structure of the firm's operations. Although this will not be part of the solution, feel free to ask candidates what kinds of information they would want or any hypotheses they may have.

We don't have a lot of information on the cost structure of the firm's manufacturing operations. The firm is a global leader in the space, so it's safe to assume they have the most efficient manufacturing and distribution operations. We do know that the firm earns a 20% margin on each product it sells, as well as a 50% margin on peripherals.

The candidate may jump to the conclusion that the firm should sell more peripherals than products based on the margin discrepancy. But guide them to calculate the profits earned on each unit sold, as well as the profits for each customer type. The results of their calculations are illustrated in the table below:

Total Customers: 50 Million	Customer Type 'A'		Customer Type 'B'		Customer Type 'C'	
	10 Million		20 Million		20 Million	
Number of Customers						
Number of Products Purchased	3		2		1	
Price per Product	\$	150.00	\$	150.00	\$	150.00
Margin Earned (20%)	\$	90.00	\$	60.00	\$	30.00
Number of Peripherals Purchased	2		2		1	
Price per Peripheral	\$	50.00	\$	50.00	\$	50.00
Margin Earned (50%)	\$	50.00	\$	50.00	\$	25.00
Total Margin/Customer	\$	140.00	\$	110.00	\$	55.00

At this point, the candidate may think the problem is clear, that a large percentage of customers aren't very profitable. However, press the candidate to think if there are any possible costs that haven't been accounted for. Remember, the firm is known for its great technical support. This support comes at a significant cost.

The firm maintains call centers with support personnel. These employees are well trained and skilled. Unfortunately, they are also expensive. The firm estimates that each call answered and addressed by the staff costs the firm \$25. The number of calls for each customer type also varies. Customers who purchase two or more products are generally more sophisticated and typically call support once. However, customers who purchase only one product often rely on Technologic for many issues, calling them an average of three times.

This makes the profitability of each customer much different, as illustrated in the chart below:

Total Customers: 50 Million	Customer Type 'A'	Customer Type 'B'	Customer Type 'C'
Total Margin/Customer	\$ 140.00	\$ 110.00	\$ 55.00
Service Calls/Customer	1	1	3
Total Service Costs	\$ (25.00)	\$ (25.00)	\$ (75.00)
Total Profit/Customer	\$ 115.00	\$ 85.00	\$ (20.00)

Solution:

A good candidate will take the initial information regarding product lines and work to figure out how many units are sold and how profitable the firm is. With the customer survey information, he/she should be able to ascertain the total firm revenues (\$15.5 Billion) and revenues by segment as illustrated in the matrix presented above.

Following this information, the candidate may look to learn about the cost structure of the firm and whether that has changed significantly. With only the margins to go on, the candidate should be able to calculate margins for each customer segment, but may be unsure how to proceed.

It is important to ask the candidate if they have considered all potential costs, particularly if they begin to make recommendations. Once the service costs are given, the candidate should have no problem arriving at the conclusion that the 'C' level customers actually cost the firm money due to their service needs. At that point, the interviewer may ask the candidate for possible solutions.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Here is a possible response:

The firm's profitability issues stem from customers who don't generate substantial revenue but impose substantial costs through their service needs. Although they generate \$2 billion in revenue, ultimately the firms lose \$400 million on these customers. There are a number of potential solutions to the problem, which include increasing their revenue, decreasing their service costs, or changing the service model.

The candidates may think of many options, such as:

- Charging customers to receive technical support
- Creating other service options (web knowledge base, email) that are more cost effective for simple problems
- Replace expensive customer service representatives with cheaper alternatives for the low profitability segment
- Bundle products to make low-value customers profitable

Additional Considerations:

What are some of the potential risks?

Here are some potential answers:

- Any change to the company's service model may hurt the brand identity
- Would customers switch providers if they know service will cost them?
- Would changes to cater to low-value customers hurt the higher value customers?
- Working to increase revenue from low-value customers may not succeed
- Survey data that we've based these assumptions on may not be accurate
- There may be other reasons behind profitability concerns that we have not yet explored

Unknown – American Express Case

Round 1 for 2nd year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

American Express (Amex) is a consumer services company providing a variety of services to its card holders. Its primary service is its well-known charge card, that enables "members" (i.e., card holders) to purchase goods and services from millions of merchants that accept the card. Unlike other credit cards, cardholders are required to pay off their accrued balances each month, and interest is not charged.

Recently, Amex has faced strong competition from new credit cards entering the market. They have considered dropping the \$55 annual fee. Visa has engaged our firm to answer two questions:

- 1. What are the economics of such a decision, and*
- 2. Should the fee be dropped or not?*

Solution Structure/Framework:

Determine how American Express makes money.
Evaluate the pros and cons of dropping the annual fee.
Explore options for replacement revenue.
Make a recommendation.

Data and Solution:

Data should be given to interviewee when they ask. Encourage the interviewee to establish estimates.

\$55 x the number of members (round to \$50 for simpler math)

The number of cardholders is approximately 14 million (you can round to either 10 or 20 to simplify the math) – Encourage the interviewee to estimate this number on their own.

No additional revenues from consumers, since balances are paid monthly. (Amex doesn't enforce late fees)

1% merchant fees for transactions from merchants honoring Amex card.

Est. annual transactions are \$1,000.00 per cardholder. ($\$1,000 \times 1\% \times 10\text{mm} = \100 million)

The candidate should reach the following conclusions:

- If the annual; fee is dropped, Amex loses $\$55 \times$ number of cardholders.
- Candidate to calculate: Amex would have to generate new or additional revenues to overcome the loss of annual-fee revenue. Using a conservative estimate, lost revenue will be $10\text{mm} \times 55 = \550 million .

Question: Will consumer spending increase sufficiently to generate merchant-transaction revenue?

- Not likely, since cardholders must still pay-off balances at the end of the month. Therefore, must increase number of cardholders to increase merchant-transaction revenue.

Question: Is it possible to increase the number of cardholders enough to offset the lost revenue?

- The average annual transaction revenues are $\$1,000 \times 1\% = \10 per member.
- Therefore, the number of new customers required to overcome the revenue loss would be $550\text{mm}/10 = 55 \text{ million}$. Is it possible for Amex to gain 55 million new members this year? Not likely!
- Also possible to raise transaction fees: more revenues, but must address consequences for vendor relations.

Question: Should Amex charge interest and allow card-members to hold a balance? What would the impact be?

- Prior to making such a change the company should consider the impact of the change on the brand.

Question: Would the new revenues from interest off-set losses from dropping the annual fee?

- Depends on rate of interest and average balance (estimate 10% and \$500). If average balance = \$500 at 10% APR = $\$50$ per member $\times 10 \text{ million members} = \500 million annually.

Recommendations:

Based on economic analysis, don't drop the fee. It is difficult to replace the lost revenue. While some options exist (i.e., charging interest on balances) the consequences should be explored. Amex could issue an interest-driven credit card under a new brand name (in fact, Amex did so with the Optima card).

Additional Considerations:

The client specifically inquires about the economics of aborting the annual fee. Good answers should focus on this issue, and should provide recommendations based on the analysis.

Good answers should explore the issue of rival credit cards entering the market, how their product offering is similar or different from the American Express card, and the strengths and weaknesses of American Express's position. Alternative revenues should be explored. One option is charging interest and allowing cardholders to hold a balance. Answers should address how this would affect the AMEX brand, i.e., the consequences of becoming a just another ordinary credit card. Another is enforcing late fees, or raising merchant fees. The consequences of these should be addressed also.

Outstanding answers should also explore the effects of competition among credit cards and recommend how Amex could increase revenues without dropping the \$55 fee. For example, comment on the quality of new members acquired, since competition is forcing many credit card companies to issue cards to riskier consumers.

Unknown – Boozy Co. Case
Round 1 for 2nd year students
Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text. Data/slides to be shared are at the end of the case.

Situation:

Our client, Boozy Co. produces commodity widgets. Profits have declined over last three years. Boozy has engaged us to help them with this issue. The two questions facing them are:

- 1. Determine why profits have declined*
- 2. How can Boozy Co. restore profitability*

Additional Information:

The candidate should, at this time, draw out a framework. Here is some of the information that a candidate may ask for; provide only if the candidate asks.

More about Boozy Co:

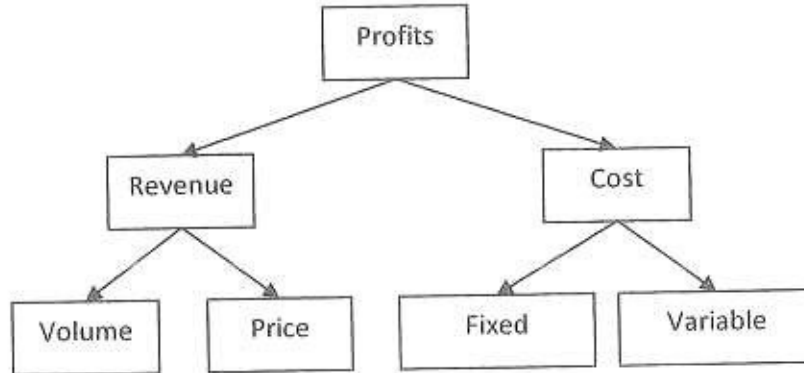
- True commodity products, no ability to differentiate*
- Pricing has held constant for each product line*
- Overall quantity has remained constant at 100% effective capacity*

The Market:

- No substitutes in market (make it clear this is not a “five forces” case)*
- Overall market demand has remained constant*
- COGS and SG&A should be allocated pro rata across total units produced*
- There are 2 other big competitors in the market*
- Our competitor’s products are very similar to ours and are priced similarly too*
- Our competitors have limited differentiation when it comes to the product, promotions, or price*

Framework:

The candidate should, at some point, draw out or at least speak to the profitability framework:



When the candidate discusses revenue/historical company performance – *provide Exhibit 1.*

Data and Solution:

Basic P&L framework (Revenue = Price * Volume; Rev – Costs = Profits)

If, after seeing exhibit 1, the candidate asks about the product mix, provide Exhibit 2. If the candidate does not ask about different products under the Boozy portfolio, drive the candidate towards factors that drive revenue – *provide Exhibit 2.* The candidate must ask about product mix before being given Exhibit 2.

Explain to the candidate that the Snoozie and Coozie are manufactured interchangeably with the same machines. Let the individual drive forward on calculations of individual product profitability. This can only be accomplished if, after seeing exhibit 2, the candidate recognizes that the cost component is still outstanding – *provide Exhibit 3.*

- a. The candidate should recognize that on a fully-loaded basis, we lose money on each Snoozie (\$6 total cost, \$5 price). Management didn't realize this because they failed to allocate SG&A.
- b. If demand has remained constant, and price is only differentiator, Coozie is overpriced and Snoozie is under-priced. Upon reviewing relative cost position slide, the student should attack SG&A first and raw materials second and offer thoughtful, specific ideas about how to reduce costs.

Other Exhibit 3 Considerations:

Higher performing candidates will also consider that higher materials/lower labor costs may be related. For example, some locations may have low cost labor, but be far away from raw materials. Or, a highly automated manufacturing process may require less labor, but more materials, etc. It may even be that competitors define each category differently – some costs we put in SG&A may be in Festive's "labor." People say some pretty smart things looking at that very simple graphic.

Instruct the candidates to recalculate or speak to changes in the income statement given a mix change. Higher performing candidates should address the reality that over the long term, commodity prices converge to costs, so Boozy Co. must lower costs to compete.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

Responses will include a discussion surrounding the rationale of a shift in strategy to become the low-cost producer in the industry, and/or a broader discussion of enhanced market fragmentation to take advantage of its product mix. Additionally, the candidate must appeal to both the short-run and long-run options. The short term fix (raise price on Snoozie, and lower costs on Coozie to adjust product mix) should be distinctive from any long-term solutions, which can be a bit more creative, surrounding strategy shifts and implementation.

Additional Considerations:

What are some of the potential risks?

Here are some potential answers:

- Is our labor cost component lower, and sustainable? Will there be significant capital expenditures due in the near future to maintain/upgrade facilities?
- Any change in operations may result in modest product deficiencies and/or distribution issue – what is our recourse under this scenario? This may result in a loss of goodwill.
- Running machines at capacity may result in faster wear and tear, resulting in added maintenance expenditure.

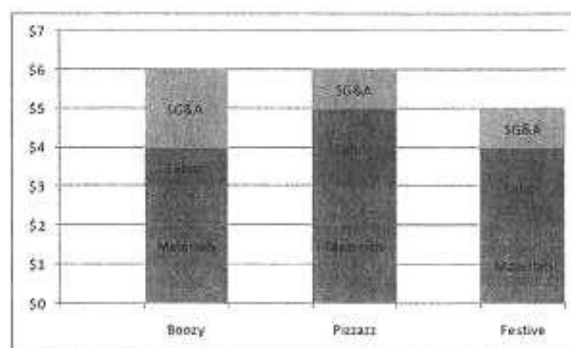
Boozy Co. Summary Income Statement

\$ in millions	<u>2004</u>	<u>2005</u>	<u>2006</u>
Net Sales	\$100	\$90	\$80
Cost of Goods	\$60	\$60	\$60
Gross Profit	\$40	\$30	\$20
SG&A	\$30	\$30	\$30
Operating Income (EBIT)	\$10	\$0	(\$10)

Boozy Co. Product Mix

<u>Price</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Snoozie	\$5	\$5	\$5
Coozie	\$10	\$10	\$10
<u>Quantity (millions)</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Snoozie	10	12	14
Coozie	5	3	1

Unit Costs vs. Competitors



Unknown – Burger Palace

Round 1 for 2nd year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Our client is Burger Palace, a Chicago area fast food restaurant with 20 locations. They have been approached by Midway airport about opening a new location inside the main terminal. They have asked us to come to a meeting in 20 minutes and tell them if we think this would be a profitable venture. What do you think we should tell them?

Additional Information:

If the candidate asks for more information on the product, provide the following:

Facts about Burger Palace – assume these will hold for the new location

- Average transaction size \$10
- Variable Costs Run 80% of sales
- Fixed Costs \$250,000 royalty fee paid to Midway annually
\$200,000 in rent and fixed operating costs

Midway airport information we know

- Assume all passengers who come through the airport would have the opportunity to eat at the BP location (there is one main food court for the whole airport)
- Midway is open every day of the year
- Burger Palace will be open the same hours/days that the airport is open
- Gates at Midway 25
- Hours of operation 4am – 12am (20 hours per day)
- Average planes per hour 1 per hour per gate
- Average plane size 150 pass...think Southwest (6 across X 25 rows)
- Average load factor 66% (number of seats filled on average)
- People who will eat at Midway 5% of passengers will eat at Midway
- Number of employees 2,000
- Employees who will eat each day 50%

Competition at the airport

- There are currently 4 restaurants at Midway. They each have an equal market share. If BP were to open a restaurant we expect that each of the 5 restaurants would gain an equal market share (20%). We would not expect the number of customers to increase because of the new BP location. The share of employee business is also spread out evenly over all restaurants.

What we don't know

- Anything about the profitability of the other Burger Palace locations
- We don't know anything about the types of restaurants currently at Midway

Framework:

Given the simple nature of the case, a cost/benefit framework with detail expanding the revenue calculation should help the interviewee work through the problem.

Data and Solution:

This is a simple cost/benefit analysis with a market sizing component needed for the revenue calculation. There are many different ways to size the market, but this case is designed to go down a specific path based on the case facts that are available. Specifically, the estimate starts with the number of gates, then planes per gate, people per plane, etc. Some interviewees will have trouble starting the market sizing and may need a little nudge to begin thinking in that manner. That is OK; it isn't about whether or not someone can read the mind of the instructor, it's about how logically they think about the problem as they go. Do they make realistic assumptions about how many people are on a plane? Do they account for the fact that the planes won't all be full? Do they simplify the math to make it easier for themselves?

There are two big insights in the case. First, can the interviewee keep the big picture in mind later in the case? If you concentrate just on the passengers, the math shouldn't work to make the venture profitable. If you remember that there are other people at the airport (employees), it turns profitable. Also, the location would be great advertising for Burger Palace's other locations. How would the interviewee value that advertising?

Revenue from Passengers

	25	gates at Midway
x	1	plane per hour per gate
x	20	hours day
	500	planes per day
	6	seats across on a plane
x	25	rows per plane
	150	passenger capacity
x	66%	average load factor
	100	passengers per plane
x	500	planes per day
	50K	passengers per day
	5%	passengers that will eat at the airport per day
x	20%	share of total passengers per day that will eat at BP
	1%	passengers per day that eat at BP
x	50K	passengers per day

	500	passengers that are BP customers
x	\$10	average transaction size
	\$5K	passenger revenue per day
x	20%	profit margin
	\$1K	profit per day
x	365	days per year
	\$365K	profit per year

Note: at this point the profit of \$365K < \$450K in fixed costs, but who else will be eating at Burger Palace every day? Employees.

Revenue from Employees

	2K	Midway employees
x	50%	share of employees who eat at the airport each day
	1K	employees who eat at the airport each day
÷	5	restaurant options
	200	Midway employees that will eat at BP each day
x	\$10	transaction size
	\$2K	staff revenue per day
x	20%	profit margin
	\$200	staff profit per day
x	365 days per year	
	\$146K	profit from staff

Yearly Revenue from both sources

	\$365K	profits from passengers
+	\$146K	profits from employees
	\$511K	Total revenue
-	\$450K	total fixed costs per year
	\$61K	Total profit

By including the staff, the project should generate about \$60K in additional profits to Burger Palace per year.

What else should Burger Palace consider when evaluating this opportunity?

This would be a huge advertising opportunity for BP's other locations. If the interviewee comes up with that answer, ask how they would value that advertising. Remember, we believe in market economics at Chicago: think about what it might cost to buy a similar amount of ad space at the airport to get a baseline of what that might be worth to BP.

Recommendations:

Ask the candidate to summarize their findings for the client.

Unknown – The Guggenheim Spiral

Round 1

Approximate time allotted: 15-30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text. Items that are bolded provide context for the case for the interviewer but should not be shared with the candidate.

This case is an interesting case that is unique in that it is challenging for both those new to the case interview process as well as those who have had substantial experience with cases.

For new case takers: This case presents an interesting challenge but does not require the case taker to have memorized any particular framework. It can thus be used as a very early case in someone's case prep regardless of their level. It combines critical thought, analysis and some rudimentary mathematics.

For experience case takers: The case is intended to be somewhat frustrating – forcing the candidate to think through a rather exhaustive list of possibilities. Candidates looking to practice the MECE concept (similar to a McKinsey interview of "What else?") will find this challenging. It is also a challenging case because no framework is likely to fit well.

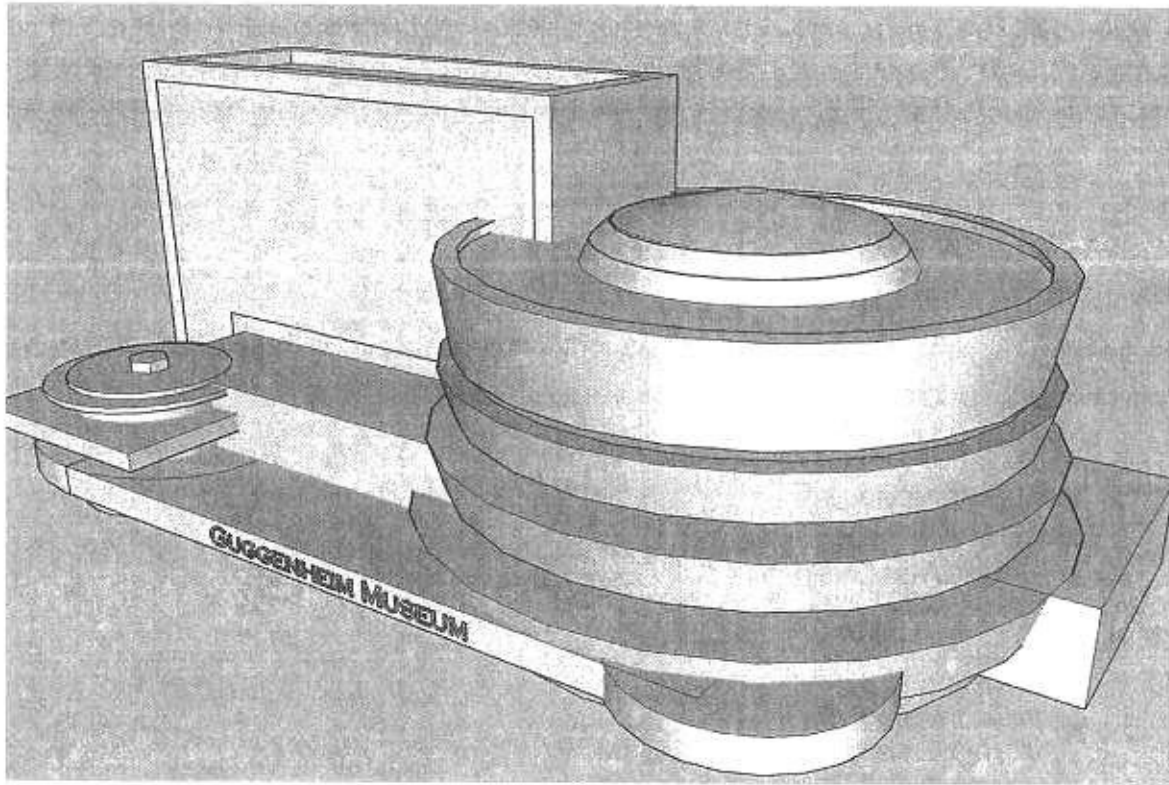
Situation:

Our client, the Guggenheim museum, is looking for help understanding why they are experiencing big problems with visitor congestion in their museum. You have been hired to resolve the issue. You need to identify the cause of the problem and recommend a solution.

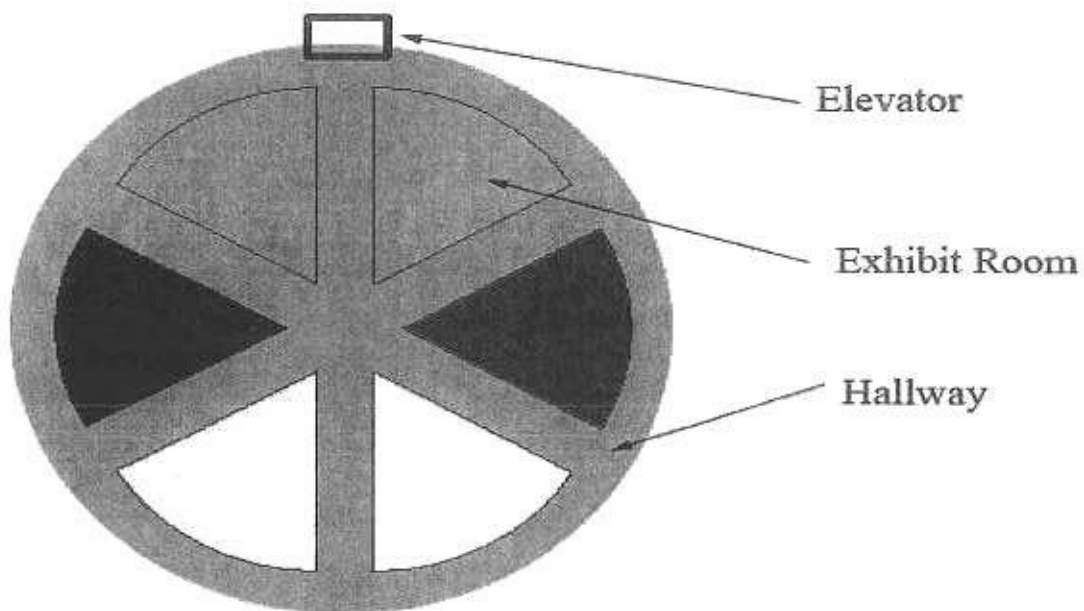
Additional Information:

When the candidate asks about the layout of the museum should you provide the below. If the candidate doesn't ask, let them probe around a bit and then provide.

Here is the Guggenheim:



The exhibits are held in the circular dome like shape. The layout of the exhibits is in a pie like format as follows:



There are a total of 6 Exhibit rooms per floor. There is a hallway that goes around the room and through the center (in gray). Each exhibit has a door leading into the exhibit room. There is one elevator that leads to the entrance at the front. People exit the elevator and move to their desired exhibit room. What next?

Framework:

The beauty of this case is that there is no single appropriate framework. Let the candidate attempt to build one, but they are likely to find themselves stuck quickly. A typical framework might look like this:

- Customers
 - Number of visitors
 - Length of stay
 - Seasonality of demand
 - Demographic shift
- Museum
 - Lower price
 - New, more popular exhibits
 - Logistics and flow through the museum
 - Change in advertizing, marketing efforts
- External environment
 - Other museums (renovation, closures, price increases, etc.)

Data and Solution:

Ask the candidate: What should we look at?

Often the candidate will list off many obvious things. The point is to drive them to a very specific solution. Give them the chance to exhaust ideas. In general, the answer is “no that’s not it”. Some common questions are below:

- Can we add more doors to the exhibit rooms? No.
- Can we stagger the flow somehow? No.
- Is it always busy? Yes.
- Are some floors worse than others? No, they are all bad.
- Can we add a second elevator? No.
- Are certain parts of each floor worse? No.
- Has congestion always been this bad? Yes.
- Has volume increased over time? No.
- Has the kind of people visiting changed? No.
- Do people stay longer than they used to? No.
- How long do people stay at the museum? Doesn’t matter, congestion is always bad.
- Are certain exhibits more popular? Yes, but it doesn’t matter. And no, we can’t move them anyway.

- Can we expand museum hours? No we cannot.
- Can we move exhibits? No.
- Can we do anything at all with the layout? Nothing substantial no.
- Are there stairs somewhere? No, and you can't add them.
- Can we put in timers in the rooms that limit amount of time? Yes, but customers would backlash, so no.
- Can we raise ticket prices to reduce volume and ease traffic? A good idea, but no, we cannot.
- Is the problem seasonal in any way? No it isn't.

The case is now about optimization. Guide the candidate to think about how people flow when they get off the elevator. Eventually the candidate should realize that someone has to decide whether to go east or west when walking out of the elevator. If they don't get there (many don't), you can ask them to think about how people get to the exhibits they want. The next question they should ask is whether or not there are signs or maps that are handed out to the visitors.

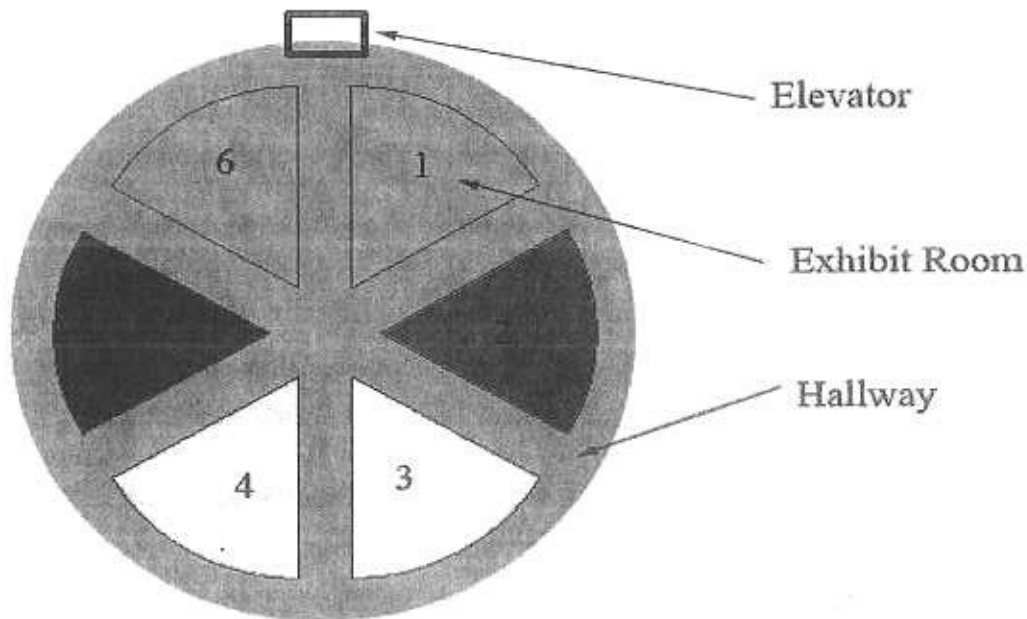
Once the candidate identifies that the problem deals with flow, and specifically, signage or maps – provide the candidate with the following statement.

As it happens, we do provide individuals with maps. We do not however, have signage on each floor. Do you think we should put it there?

All candidates will say yes. Unless they elaborate, you should push them to state what the signs should say. Force them to be explicit. The candidate should realize that given 6 “slices” the question becomes when does it make sense to go east instead of going west and when does it make sense to go through the middle? If the candidate does not realize this, help them by asking:

Ok so we put signs up near the elevator and exhibit rooms and in the middle. Pretty much everywhere. But what should they say?

Show the candidate a slide with the rooms numbered:



A typical candidate response is usually “the signs should say the right for 1,2,3, to the left for 4,5,6”. If they forget the middle ask:

When should you go down the middle?

They will typically reply “when it’s shorter”. Insufficient! If you receive this response, ask the candidate to demonstrate when it is shorter to go down the middle.

In general, the answer is as follows (A detailed complete solution follows later in the text): The individual should go left (as they got off the elevator) to get to rooms 1 and 2. The individual should go down the middle to get to rooms 3 and 4, and the individual should go right to get to 6 and 5. If a candidate says this, ask them to explain why that is. They should, again, be explicit and provide the solution similar to that below. Simply stating “cause that’s the shortest path” is insufficient! Push the candidate to demonstrate why that is.

Here are the explicit steps required to solve the last part of this problem. If the candidate needs help, you can push them along with these questions. Only use if the candidate cannot solve on their own.

1. *How far is it from the elevator to the other side?* Given a circle with radius “ r ”, the distance down the middle to the other side is: $2r$.

2. *What is the circumference of a circle?* The circumference of the entire circle is $2\pi r$.
3. *So how far is it to room #1?* The degrees to one room away (in either direction), moving along the edge is $60/360$. Thus, the circumference of that distance is $1/6 * 2\pi r = (1/3)\pi r$. This can be approximated as roughly $1r$.
4. *So how far is it to room #2?* The distance two rooms away moving along the edge is $120/360 * 2\pi r = 1/3 * 2\pi r = (2/3)\pi r$. This can be approximated as roughly $2r$.
5. *So how far is it to room #3?* If you were to go along the outside of the ring to get to room #3, you'd travel $180/360 * 2\pi r = 1/2 * 2\pi r = \pi r$. This could be approximated as $3r$.
6. *Therefore, should you go down the middle for room #4?* As identified in part #5 Since, $\pi > 2$, then by definition πr must be greater than $2r$. Therefore the distance to get to room #3 via the outer ring is $3r$. The distance via the middle is $2r$. Therefore: going along the outside to get to rooms #3 or #4, rather than down the middle, is inefficient.
7. The solution can be generalized for N rooms. If the arc length of the outer passage is less than $2r$, the visitor should go along the outside, if not, they should go along the middle.

Recommendations:

The client has asked us for our recommendation. What would you tell the client?

A good response would be crisp and simple:

"The problem may be that people are not finding what they need or are getting to their locations in an efficient manner. We need to optimize how an individual gets to an exhibit once they get off on a given floor. Based on our current configuration, I would recommend that we optimize movement by directing flow down the middle of the rooms for rooms 3 and 4, to the left for 5 and 6, and to the right for 1 and 2. We should add appropriate signage when you get off the elevator to direct individuals."

Unknown – Vitamin Universe

Round 1 for 2nd year students

Approximate time allotted: 30 minutes

Instructions: The candidate is told everything in *italics*. The instructions for the interviewer are in normal text.

Situation:

Your client is a financial investor and is interested in purchasing Vitamin Universe – a chain of health stores. The chain has over 1000 stores in shopping malls, strip malls etc. They sell vitamins, herbs, dietary supplements, food products, diet drinks etc. Should your client purchase Vitamin Universe?

Data and Solution:

We want to find out what the annual impact on profit is if we increase the percentage of young men who are heavy users (ages 18-24) who shop at Vitamin Universe from 30% to 35%.

The student should start by determining the market size of young men ages 18-34.

Their analysis/thought process should look like this:

Population	300M
Male (50%)	150M
Ages 18-24 (10%)	15M
Heavy Users (1/3)	5M
From 30%	1.5M
To 35%	1.75M

When the student asks what our revenue streams look like, you can tell them the following:

Each person spends \$50/month

Their calculations should look like:

$.25M * \$50 = \$12.5M$ (incremental revenue per month)

$\$12.5M * 12 = \$150M$ (incremental revenue per year)

The student should ask what our cost are? Ask the student what types of costs would you expect a health store to have?

After they answer, tell them:

Lets assume that their cost margin is 50%.

The student should calculate annual profits to be \$75M per year

Walmart begins to sell the products that Vitamin Universe currently sells and is under pricing 75% of our products. Do you think this will affect Vitamin Universe's performance?

Potential answers could include – It depends on the type of customers that shop at vitamin Universe – if they are price sensitive they will go to Walmart, but they like Customer Service, they will continue to shop at Vitamin Universe.

What other ways can we suggest our client to cut costs?

Suggested answers include:

- Change suppliers – find low cost supplier
- Minimize labor costs

Recommendations:

Ask the student to wrap up the case.



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