MasterTheCase.com

Top Consulting Interview Prep

1.) Antidepressant Pricing (BCG, Round 1)

Stem: Our client, Dopamine, is the fourth largest manufacturer of drugs internationally. Two years ago, Dopamine invented a drug – tentatively branded Soma – to treat acute depression. Unlike most antidepressants, the drug is preventative rather than responsive. Whereas most antidepressants attempt to treat diagnosed cases of depression, Soma is designed for consumption *before* symptoms emerge. It is aimed at individuals who are deemed "high risk" for acute depression due to family history, an acute trauma, or a variety of other factors. The drug is available by prescription only and it has no known side effects. Soma received regulatory approval by the FDA, and Dopamine is considering how to price the drug in the United States. You have been asked to size the market and recommend a price.

Provide only the following information only if explicitly asked. If the candidate asks for other information state that "we may get to that."

1. The drug has not yet been covered by insurance.
2. Medical bills for acute depression average $10,000 annually per case (i.e. per patient). This includes costs associated with drugs, therapy, and hospitalization.
3. Development costs were $500M.
4. The drug is a single tablet taken on a daily basis.

Candidate should develop a framework to assess the problem. This case has components of market sizing, new market entry, and pricing. As such, the framework should at least include: Market (size, competitor drugs, market share), Product (strengths, weaknesses, etc.) and a Pricing model (either cost-based or price-based).

Phase 1: Insurance Coverage

Interviewer: What factors do you think are most critical to the price of the drug? This is meant to serve as a brainstorming moment to assess intuition and creativity.

Answers could include uniqueness (a lack of substitutes), the extent to which the public and doctors accept a radically new way of understanding mental illness prevention, etc. Ultimately however, the key issue will be whether insurers cover the drug. If insurers do not cover Soma, it will not gain traction in the market. Allow the Candidate to brainstorm until he or she runs out of gas. If the insurance issue is not mentioned, guide the Candidate with questions like, "what constituencies are critical to establishing the price of drugs?"

Interviewer: How would the insurance company decide whether to cover the drug?

Although other considerations are nominally relevant, this is really a question about costs: is the current treatment model cheaper than a treatment model that includes the prospective drug.

Interviewer: One price that has been floated is $50. How would you assess whether or not an insurer would cover the drug at this price if the company covered the entire cost? Allow minimal rounding.

The **Candidate** should see that he or she must compare the costs associated with current treatment model and the costs associated with the new drug treatment model. If the **Candidate** doesn't begin to perform this comparison, provide clues. Make sure that the **Candidate** uses the following assumptions:

- 300 million people in the United States
- 1 in 200 Americans suffer from acute depression
- 1 in 100 Americans are considered at risk and of that group, only 1 in 5 are considered high risk for acute depression. Assume that all individuals considered high risk would develop acute depression.
- Soma is a tablet taken on a daily basis. The drug price covers ten tablets.
- Annual treatment for acute depression costs $10,000 per case.
- Soma is 70% effective. That is, of people considered high risk taking Soma, 70% will not develop acute depression and 30% will. For simplicity, assume that the 30% who develop acute depression will *also* cost insurers $10,000 each, in addition to the cost of the Soma.
- For simplicity, assume that all individuals who suffer acute depression receive treatment.

Current costs to insurers:

300M people in America * 1/200 Americans suffer acute depression = 1.5M cases

1.5M cases * $10,000 per case = **$15B**

New drug costs:

New drug costs = cost of identified individuals treated by Soma + additional cost of identified individuals unsuccessfully treated by Soma + cost of unidentified individuals treated conventionally

300M people in America * 1/100 considered at risk * 1/5 considered high risk = 600,000 high risk individuals

600,000 high risk individuals * $50 per package / 10 pills per package * 365 days = **~1B**

Additional costs associated with individuals for whom the drug is not effective:

600,000 high risk individuals * .3 failure rate * 10,000 dollars = **1.8B**

Don't forget that there are 900,000 individuals (1.5M cases - 600,000 identified cases) who are *not* identified as high risk. This **$9B** (900,000 * $10,000) must be added to the annual cost of the new drug treatment model.

Because current costs of $15B exceed the ~$12B in costs associated with the new drug scenario (~1B+1.8B+9B), insurers would likely cover the drug.

Phase 2: Follow-up

Interviewer: What would you charge for the drug? No calculations are necessary, but do you think you could get more for the drug?

There is no correct answer here. One might answer that insurers would accept a price that brings new drug costs up to the current costs. Alternatively, the question of adoption may necessitate a lower price. Again, this is more of a check on intuition, creativity and logic.

Interviewer: What single factor would allow Dopamine to raise prices?

Improved screening. Although 1/200 individuals develop acute depression only 1/500 are identified.

Phase 3: Production Economics

Interviewer: Our client liaison from Dopamine is a bumbling guy who learned all his economics from Wikipedia. He thinks the $500M development costs for the drug must be covered by future revenue streams, or else we shouldn't proceed with large-scale production.

That is not the correct thinking. $500M is sunk. What matters is that revenues cover variable costs of production.

Interviewer: Excellent. So the variable costs of production work out to $10 per package of 10 pills. Fixed costs are zero. What's the margin? What's the markup?

Margin = $(50-10) / $50 = 80%.
Markup = $(50-10) / $10 = 400%

Interviewer: Pretty sharp. So indulge the client anyway. They recognize that the developmental costs are sunk, but still want to know the breakeven period for this drug. Assume a negligible discount rate.

Annual profits = 600,000 high risk individuals * $(50-10) per package / 10 pills per package * 365 days = **~0.8B**

Breakeven period = (500M / 0.8B) yrs ~ **between 7-8 months**

Phase 4: Recommendation

The **Candidate** should deliver a formal recommendation that restates the market size, recommends a sensible price, and synthesizes any other witty insights that arise along the way.

2.) Media Operations (BCG, Round 1)

Stem: Our client is a large media company in Los Angeles. It currently has two offices. One in Santa Monica and one in Century City. They have made the decision to combine operations into one building and will choose one of their existing buildings, but are unsure which one to choose. What should they do?

Candidate should look at two main things:

1) The economics of the move

2) The softer issues about integration

Phase 1 – The Economics

Candidate should identify rent, capacity requirements, switching costs associated with the move, the cost to upgrade the existing structure to make it usable by the increased number of employees, etc. **Candidate** should also ask if the client leases or owns the locations and what each office is used for (i.e. what divisions of the operation are housed in each).

Once they ask for these things, you can provide the following information…

The client requires 100k ft^2 of space. Yearly lease for 10 years. Will sub-lease (rent) any space it doesn't use.

	Santa Monica	Century City
Purpose	Video Games	DVD's
Space (in ft^2)	200,000	400,000
Cost / ft^2 / year	$40	$40
Build-out cost (over 10 years)	$1,500K	$500K
-		
Avg. vacancy rate of city	10%	18%

Key Assumptions:

- Assume they can sub-lease any and all unused space.

- The remaining time on the current leases is 10 years.

Interviewer: Ask the candidate what they think about the vacancy rate as it pertains to the rent they can charge for the sub-lease.

Candidate: Answer should be that the higher the vacancy rate, the more supply, and therefore the lower the price they will able to charge.

Interviewer: Given that, allow them to assume that the price they can charge per sq ft is $40 for Santa Monica and $30 for Century City.

If the interviewer has does not begin to do so on their own, ask them to calculate the financial impact of each option (may be in total OR per year):

Note: The candidate should realize that the client is already locked into a 10 year lease with both buildings.

Annual Financial Impact of each alternative:

($)	**Occupy Santa Monica only**	**Occupy Century City only**
Santa Monica Rent	($8,000,000)	($8,000,000)
Century City Rent	($16,000,000)	($16,000,000)
Build-out Cost (per year)	($150,000)	($50,000)
Total Cost / Year	**($24,150,000)**	**($24,050,000)**
Sub-lease Income - Santa Monica	4,000,000	9,000,000
Sub-lease Income - Century City	12,000,000	8,000,000
Total Sub-lease Income	**16,000,000**	**17,000,000**
Net Impact	**($8,150,000)**	**($7,050,000)**

Formulas:

- Santa Monica Rent = 200k sq ft * $40
- Century City Rent = 400k sq ft * $40
- Build-out Cost = Total build-out cost / 10 years
- Sub-lease Income of Client occupied building = (Total sq ft - 100k sq ft) * sublease rate
- Sub-lease Income of 100% subleased building = (Total Sq ft) * sublease rate

Candidate should quickly see that moving to Century City is optimal.

Note: A good candidate will note that so far, we've only looked at the financial aspects of the situation. This is NOT enough information on which to base a decision.

Phase 2: The integration issues

Interviewer: Besides the economics, what else should they consider?

Candidate: Answers should include the following. (Allow the candidate to think about this and come up with a short list of possibilities, explaining each)

- Workforce integration issues
- Proximity to clients/customers
- Proximity to employee homes

Interviewer: Ask the candidate to recommend how he/she would inform the employees of the move, and the pros and cons for each approach.

Note: There is not necessarily a perfect answer but a good candidate will identify several alternatives (which could a few possibilities from the following list). It is important that they identify the pros and cons of each alternative and clearly communicate the ramifications of each option (business strategy, talent retention, office politics, etc.)

- Office wide-meeting
- Starting with top employees to ensure they are retained
- E-mail or memo
- One on one discussions between managers or employees

Interviewer: Ask the candidate to make a formal recommendation. It should be direct while providing potential risks. Extremely good answers will have next steps such as identifying where employees live using HR to look up the zip codes, drafting up a survey to ask employees where they want to work, etc.

3.) Zippy Snowmobiles (McKinsey, Round 1)

Stem: Our client is the president of Zippy Snowmobiles. It makes snowmobiles for recreational users only. Zippy has faced falling sales over the past 7 years, of 7% per year, or about 40% over that period. Zippy's president has hired McKinsey to investigate and reverse this trend.

Question 1: What areas would you like to explore?

The candidate may outline the following high-level issues:

- **Market**: Extent of market, Size/Growth overall, Competition, Criteria for Success

- **Revenue**: Pricing, Volumes, Product Mix & Seasonal Balance

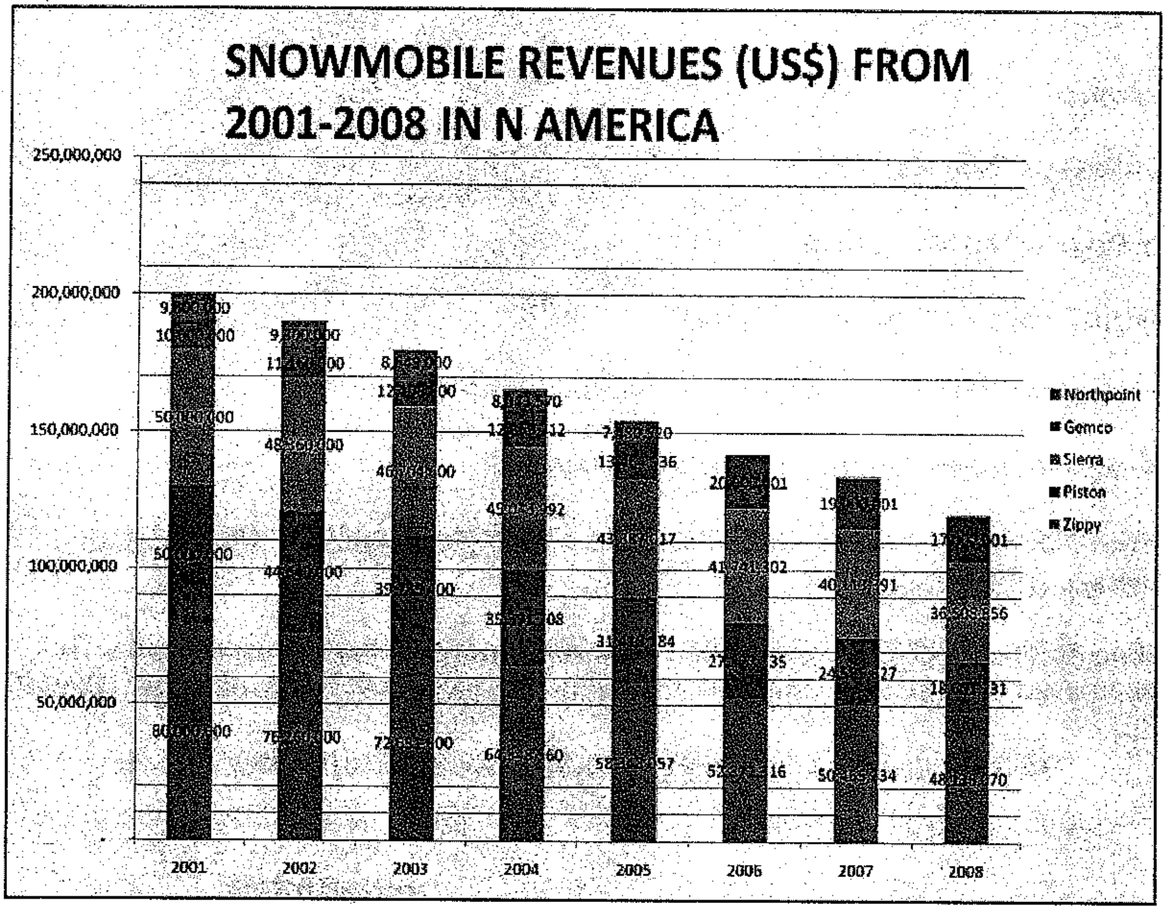
- **Costs**: While addressing revenue issues, make sure solutions do not overextend costs (e.g. diseconomies of scale if there is rapid growth) and hurt profitability

- **Risks**: Stress-test any sales improvement proposal by considering potential risks/barriers

Question 2: Examine the Market

The interviewer should show the candidate Exhibit 1 and ask for an assessment. Suggested answers:

- Overall market has shrunk about 40% over 7y period. Zippy's problem reflects industry-wide problem.
- One player Northpoint has disappeared. It could have been acquired by Gemco, which had a revenue spurt after Northpoint was gone. It might be a good idea to study Northpoint's demise for cautionary lessons.
- Sierra's market share has actually increased in a declining market. This firm's strategies may offer clues as well on best practices.



Question 3: Can you consider some revenue growth strategies?

Suggested answers by **Candidate:**

- M&A with other players
- Organic growth strategies (iaw Ansoff Matrix)
- Maximise revenues per sales e.g. use bundling, tying, loss-leader strategies
- Extend product line in current market (create seasonal balance; produce complementary products that can sell well in summer months when snowmobiles do poorly)
- Extend same product line to new markets (overseas, more regions etc).
- Potential segmentation strategy: Seek out customer segments that have specialized needs (children? Physically challenged?) and try to reach them (carve out blue-ocean) before other competitors

Question 4: The CEO wants to know what increase in market share is needed in 2009 compared to 2008, in order to maintain the same revenue dollars as in 2002.

Note: Only when asked, indicate that the overall market is expected to decline 8% from 2008 to 2009.

Calculations:

Total Market in 2002 = $190M

Zippy Revenue in 2002 = $75M

Zippy 2002 Market Share = 40% (approx.)

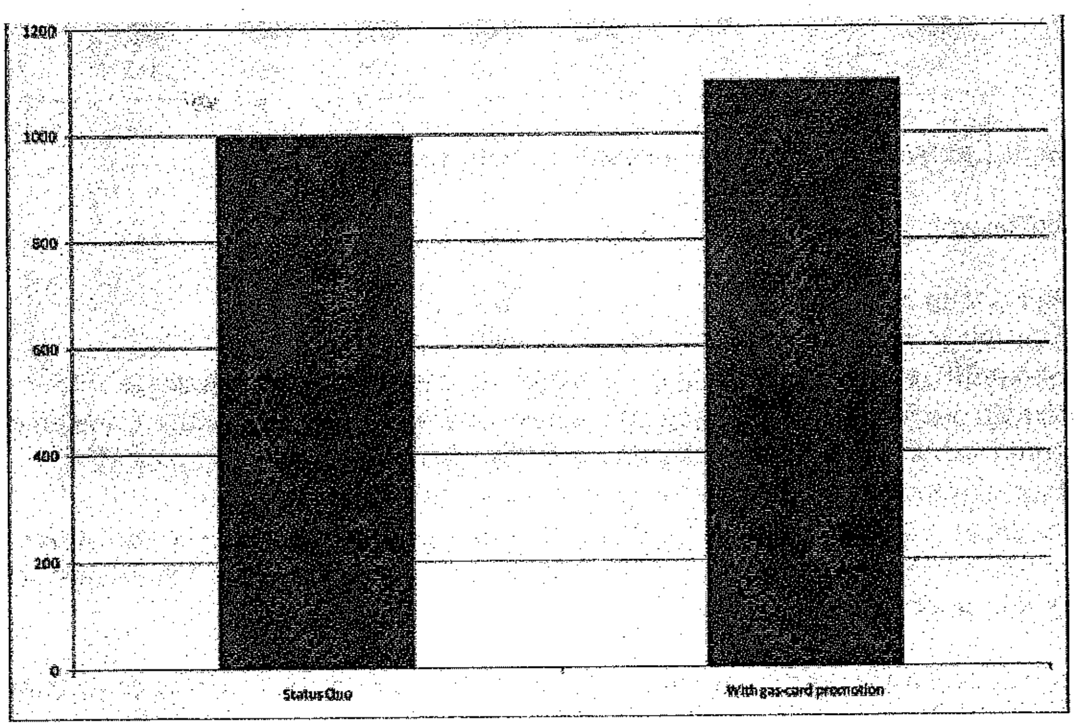
Total Market in 2009 = (1-8%)*120M = 110M (rounded is fine)

Share required in 2009 = $75M / $110M = 70% (approx.)

Increase in '09 market share vs. '02 = 70% - 40% = **<u>30% (Or about 75% when taking a percentage of the percentage)</u>**

Question 5: The Chief Marketing Officer has come up with ideas to increase sales. He would like our team to access the incremental profits generated by his plan. (See Exhibit 2.)

NUMBER OF ZIPPY SNOWMOBILES SOLD IN ONE YEAR



Interviewer should provide the following facts:

- Snowmobile buyers will get a $200 gas card with every Zippy snowmobile purchase. This entitles them to pump $200 worth of gas.
- The expected redemption rate is 30%.
- Zippy bears full costs of redeemed gas dollars.

Interviewer can provide these extra facts only when prompted:

- Retail price of each snowmobile = $50,000
- Variable cost of producing each snowmobile = $20,000

Calculations:

Incremental profits from promotion

= Additional customers x (Price – VC) – Cost of Gas Cards

= 100 x (50,000-20,000) – (30% x $200 x 1,100 cards)

= 3,000,000 – 66,000

= 2,944,000 OR $2.94M

Recommendation: What will you tell the President of Zippy's?

Recap objective: "We were asked to investigate and reverse the trend of Zippy's falling revenues."

Answer first: "Zippy's falling revenues mirror a decline of the industry as a whole. Reversing Zippy's falling revenues require a mix of organic growth measures and likely strategic M&A moves."

Elaboration:

"Under organic growth measures, Zippy can extend its product line to improve seasonal balance, or extend to new markets. The gas-card promotion is one means of boosting revenue growth and plough in profits that can finance future growth.

Under strategic M&A moves, we will need to conduct due diligence and valuation on possible candidates, such as Sierra which appears to be a strong company albeit smaller than Zippy's. The McKinsey team would be happy to study such options further."

4.) Bicycle Part Manufacturer (Bain, Round 1)

Stem: Our client is a PE fund interested in a bicycle component manufacturer. The company makes gears, brakes, suspensions – anything that goes into building a bicycle. The management claims that they will experience 10% revenue growth a year for the next five years. Our client wants to know if this growth rate is possible.

Part I: Industry growth rate

After making a structure that probably includes industry/market, company, and strategies for revenue growth, the candidate should ask questions to get the following information from the interviewer:

- The target company has 20% market share; the leading competitor has 80% share.
- There are three types of bicycles in the bicycle market: mountain bikes, road/racing bikes (what Lance Armstrong rides), and pavement/city bikes (cheap)
- The breakdown of the bicycle market (in volume) by type is 30%, 20%, and 50%, respectively.
- The target company's breakdown (in volume) by the bicycle types their parts go into is 60%, 30%, and 10%, respectively.
- The markets for each bicycle type is expected to decrease by 1%, decrease by 3%, and increase by 5%, respectively.

The candidate should realize that the next step is to calculate the growth rate of the overall bicycle market.

Mountain Bikes	- .01(30%) = -.3%
Road Bikes	-.03(20%) = -.6%
Pavement Bikes	.05(50%) = 2.5%

Overall growth rate of bicycle industry = -.3 - .6 + 2.5 = +1.6%

Key insight: growth rate of the industry is much lower than company's projected 10% annual revenue growth rate

If the candidate doesn't do so themselves, prompt them to figure out how this compares with the company's expected growth rate based on growth expectations for each bicycle type. If the candidate asks if the company has any intent on changing the product/client mix to sell parts to pavement bike companies since that is the market that is growing, tell them that the company does not want to switch its mix because pavement bikes are cheap and have lower margins.

Mountain Bikes - .01(60%) = -.6%

Road Bikes -.03(30%) = -.9%

Pavement Bikes .05(10%) = .5%

Overall growth rate for company: -1.0%

Key insight: the growth rate of volume demand for the company's parts is expected to be negative!

Note: *At this point the candidate should realize that this growth rate applies to volume only. There may be other reasons at play that may still make the management's 10% revenue growth forecast feasible.*

Part II: Strategies to increase revenues

The second part of the case focuses on determining whether the company's projected revenue growth rate is possible – and specifically, how they could achieve it.

Interviewer: What could be some ways of bringing the revenue growth rate closer to the projected 10%?

The candidate should be structured and brainstorm ideas including:

- Increasing the overall demand for parts (replacement versus accessories)
- Capturing market share from the competitors
- R&D to improve quality of parts
- Lower price
- Increase product mix to sell parts they weren't selling before
- Increase price of current products
- Enter into adjacent markets (New applications for parts)

Interviewer: Let's say we know that the company's access to the bicycle market is currently 60%; 40% of the market just doesn't buy from our company. Management thinks that they can increase access to 70% in 5 years.

Candidate: The candidate should then ask about the size of the market.

Interviewer: 100 million units are sold a year.

The candidate should then calculate:

Candidate: Currently, the company has a 20% market share. So that means that they currently sell 20 million units. Given they have access to 60% of the market (60 million units), we can conclude that they sell one out of the three units they can potentially sell. If they increase their access to 65%, they will have access to 65 million units; this implies that the increase of additional potential units sold would be 5 million multiplied by 1/3 = 1.7 million.

Key insight: increasing access to the market will result in an increase of about 8-9% (units sold) per year. However, the projected increase to 65% market access is expected to occur *over five years* so it's average annual growth over five years will most likely be something less than 8% per year.

Interviewer: What else can they do given their current market share?

Candidate: They can try to increase sales within the customers they do have access to. They only reach 1/3 of potential sales… they can potentially triple their current revenues. They can work on understanding why they are losing 2/3 of potential sales, what the competitors are doing, and whether they can increase marketing or improve products to sell more to their current customers.

Interviewer: They think that they can increase the 33% sale/access ratio to 40% over 5 years.

Candidate: Combined with the 65% market access, 40% of 65 million units is 26 million units. This represents a 30% increase over the 20 million units they are currently selling. Since the will increase their *over five years*, the annual growth rate will be something less but should be well over 10%.

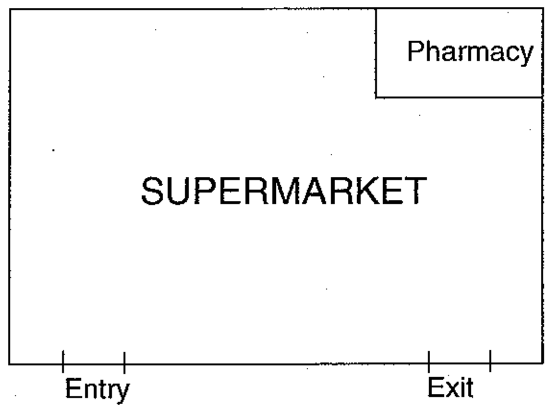
Interviewer: What is your final recommendation?

The candidate should recognize that if management's assumptions on customer access and market share are correct, they should be able to out perform their projection of 10% annual growth. This could be an opportunity for our client to purchase the target company at a discount!

As a follow-up, the candidate could recommend to confirm pricing trends, adjacency opportunities, etc.

5.) Pharmacy in Supermarket (Bain, Round 1)

Stem:
Your friend owns and runs a single supermarket. The supermarket currently does not have a pharmacy. He is considering setting up a pharmacy corner in his store (show the following figure to the candidate) to sell prescription drugs. He has approached you to ask you if he should do so.



Note: A strong candidate will ask about the goals of the investment as well as the capital constraints. If asked, advise the candidate that the goal of the investment is to increase profitability and that their friend is quite capital constrained thereby requiring a payback period of two years.

Interviewer: To begin, why don't you think about what information you might need for the analysis?

Note: The candidate should now draw up an approach that, at a minimum, includes market analysis, profitability (Revenues less fixed and variables costs), and execution strategy if investment is viable. (after ~1 minute)

Candidate: I would like to approach the problem by first understanding what the market for prescription drugs in the city or the neighborhood of the supermarket looks like, then estimating the profitability of the operations to determine whether it meets the investment criteria, and lastly look at execution strategies and associated risks if the investment does satisfy the criteria.

To approach the problem along these three dimensions, I would specifically need the following information about the market:

- (i) Population of the city/neighborhood the supermarket is serving
- (ii) Its growth rate
- (iii) The present number of shoppers in the supermarket
- (iv) Other pharmacies in the area and their share of the market.

To estimate the profitability of operations, I would like to find out:

- (i) The fraction of people in the city/neighborhood who take prescription drugs
- (ii) What is their monthly expenditure? This would help me calculate the expected revenues.

(iii) An estimate of the initial investment needed to cover the fixed expenses
(iv) The costs associated with running the pharmacy.

Phase 1: Profitability of the pharmacy

Interviewer: That seems like a good list. Where would you like to start?

Note: At this point make sure that the candidate begins by looking at the market. If he/she starts jumping to profitability, ask them to first analyze the market since it may be a logical first step in estimating overall profitability.

Candidate: I would like to begin by looking at the market. Do we know where the supermarket is located and what the population is of the area it is serving?

Interviewer: The supermarket is located in a suburb. The suburb has a population of around 50,000. The population has more or less remained constant for the past decade.

Candidate: Does my friend's supermarket cater to the entire population or do people shop elsewhere as well?

Interviewer: The supermarket in question on average gets 10,000 customers per month which results in monthly sales of $1M.

Candidate: How many pharmacies are located in this suburban area?

Interviewer: There are 3 pharmacies within a two mile radius. These are the only pharmacies in the suburb.

Candidate: How do these pharmacies compare against each other?

Interviewer: They are all similar to each other, and someone looking for prescription drugs can go to any of these stores.

Candidate: Okay, I think I understand. Allow me to estimate if the pharmacy can be run profitably or not. Is there any market data available that might tell us how many people take prescription drugs in the suburb and what their average monthly spend on drugs is?

Interviewer: There is no study specific for the suburb. But on an average, 50% of US population takes prescription drugs. The monthly drug bills are $50/person.

Candidate: I will assume that the usage trends of the population of this suburb are no different than the usage of the rest of the population. So we have a total of 25,000 people (=50,000 people*50%) which translates to total prescription drug sales in the suburb of $1.25M/month (=25,000customers*$50/customer/month).

The supermarket my friend runs already attracts 10,000 shoppers which means that 5,000 (50%) of them are likely to purchase prescription drugs. If the shoppers have no preference for one pharmacy over the other then those who have to buy drugs may as well buy them from the pharmacy in the supermarket. In addition, there is a potential to attract a fraction of the remaining 20,000 people in the suburb to purchase prescription drugs at the supermarket rather than going to one of the other three pharmacies.

Interviewer: I like where you are going. Let us focus on the store's existing customers.

Candidate: Let me calculate the revenue my friend can earn by selling drugs to the existing customers. Revenue = No. of customers * Percentage requiring prescription drugs * Average spend

= 10,000 * 50% * $50/month = $250,000 / month

Next I will need to estimate the cost of the initial investment as well as the costs associated with operations. I imagine that the bulk of the variable costs will be related to the drugs themselves whereas the as the primary fixed costs will by the pharmacists salaries and a little bit of overhead. Do we know what these costs are?

Interviewer: I like your structure. I know that the pharmacy is expected to run at 10% profit margin and would require an upfront investment of $400,000.

Candidate: This information will allow me to calculate the payback period.
Payback period = Initial investment / Operating profit = $400,000 /($250,000 * 10%) = 16 months. Clearly this falls well within the 24 month payback window my friend is looking at making the investment viable.

Note: A prudent candidate will recognize that there may be challenges associated with getting all of their current customers who purchase prescription drugs to purchase them at the supermarket.

<u>Phase 2: Effect on the overall profitability of the store</u>

Interviewer*:* Your friend is excited to hear this. They then ask you about the other potential benefits of opening up the pharmacy apart from the profitability that comes with the drug sales?

Candidate: As I mentioned earlier, the pharmacy can attract other customers to our supermarket who were shopping at other pharmacies until now. When they come to the supermarket, they can also make purchases of other products in the store.

Note: In this part of the interview, the interviewer wants the candidate to focus on additional purchases made when the customers are waiting for the drugs. If necessary, lead the candidate in this direction.

Interviewer: Okay. Another supermarket reported that sales (excluding drugs) went up 30% when it opened a pharmacy. What do you think this may be due to?

Candidate: Drug purchase would force the customers to spend more time in the store. So while they are waiting for their prescriptions to be filled, customers may be inclined to make impulse purchases of other products. For our friend, this offers additional opportunity for increased profits.

Incremental Sales =Total customers * Percentage buying drugs * Avg. monthly spend per customer * (1 + 30%)
= 10,000 * 50% * ($1M/10,000) * 1.30 = $150,000/month

Do we have information about the profit margins on the grocery and other products sold at the supermarket?

Interviewer: I do not know the margins, but the supermarket has the following cost structure for every dollar of sales: Fixed cost = $0.15, COGS = $0.75, salary of staff = $0.05.

Note: Candidate should recognize that only the COGS (variable costs) are relevant in this case since the grocery store will not need to increase fixed costs to sustain the incremental sales.

Candidate: I think the only relevant cost for calculating incremental profitability is COGS. The fixed costs will be incurred regardless. Also, if the additional sales do not require an increase in the number of employees, then the salary costs remain unchanged.
So we are looking at a profit margin of 25% which means additional profitability of $37,500/month ($150,000*.25) from the additional sales. This increased profitability will reduce the payback period even further making the investment even more attractive.

Note: The candidate may choose to calculate the new payback period but it is not necessary. At this point is should be obvious that opening up a pharmacy is a good decision IF you can at least get your current customers to purchase their prescription drugs at the supermarket.

Phase 3: Execution strategies

Interviewer: Good. So what should your friend do to get customers to purchase drugs at the pharmacy in his supermarket?

Note: This question can have many possible answers. Just make sure that the strategies recommended are practical. Some possibilities include: loyalty programs, promotions, advertising, etc.

Interviewer: Good! Do you have any questions for me? (This case does not require a final recommendation)

6.) Megabank Under-penetration (McKinsey, Round 1)

Stem: Megabank is a bank that issues credit cards. New cards are sold in three main ways:

- Cross-sell to existing banking customers
- Sell to new customers via direct mail campaigns
- Distribute via private label partnerships with retailers and airline

Megabank is looking for new card member growth areas in the United States. Its Hispanic market penetration is low compared to comparable banks' penetration rates. That group is a fast growing demographic and the bank wants to capitalize on it. What is the current problem (i.e., what are the possible reasons for the under-penetration in the Hispanic market?)? How should the bank move forward?

Interviewer: Let's start by asking what might be wrong? Hypothesize.

Candidate: Discuss briefly the potential of each of the following to affect the penetration rate:

- Product Definition – Does the card, as it has been defined, meet the needs of the customer?
- Pricing of Credit Card Terms – Are the fees and rates on par with other comparable cards?
- Marketing/Advertising – Are the messages properly directed to the audience (both content and distribution)?
- Channel Partners – Does our target audience shop at / eat at / buy from our partners?
- Internal Sales Messages/Incentive Structure – Are the sales messages correctly structure to entice our potential customer? Is our internal sales force (i.e., teller and desk personnel) trained and incented properly to promote the card? Discuss in detail (i.e., what might be misaligned, how that might affect adoption rates, etc.).

Interviewer: Calculate the number of additional members Megabank wants to add based on the following information:

- There are 40 million Hispanic people in the US
- 3/8ths of them are too young to have credit cards
- The average customer is worth \$180 to the bank over the course of his life
- Due to decreased acquisition costs, the average Hispanic customer is worth 10% more
- Currently, the bank's penetration rate is 10% (of valid customer prospects)
- They want to get to a 30% level over 5 years

Candidate: 3/8ths of 40M are too young, so 5/8ths of 40M are valid customer prospects. That translates to a market of 25M people.

They currently have 10% of 25M = 2.5M They want 30% of 25M = 7.5M They need 5M additional members over 5 years

Interviewer: How much is that additional market share worth to Megabank (or how much would Megabank be willing to spend on that additional market share)?

Candidate: If the average customer lifetime value is $180, but the average Hispanic customer is worth 10% more, each customer is worth $198. Rounding that to $200, the total value of 5M extra members is $1B.

Interviewer: Cross-selling to branch customers is significantly below the industry norms (Average = 15,000 to 20,000 per month; Megabank = 5,000 per month). What might be the reason?

Candidate: Candidate should brainstorm potential answers:

- Product – Is the Megabank product different from competitors' products? **Interviewer:** *NO*
- Pricing – Are the fees and rates different than other comparable cards? **Interviewer:** *NO*
- Customer – Are we targeting a fundamentally different audience? **Interviewer:** *NO*
- Channel Partners – Are the distribution channels misaligned? **Interviewer:** *NO*
- Marketing/Advertising – Is there something wrong with our sales mechanism? **Interviewer:** *Let's investigate.*

Interviewer: Megabank uses direct mail campaigns to solicit new card members.

- The average response rate for the non-Hispanic population is 1%.
- Megabank's historical response rate from Hispanic prospects is 3%.
- The bank is planning to target 15M potential customers with each of 3 mailings this year.
- It expects that after the first mailing, the response rate will drop by 1/3rd in each of the subsequent mailings.
- The bank has a conversion rate of 45% of respondents.

How many new customers should the bank expect after the third mailing?

Candidate:

3% * 15M = 450,000 from first mailer
450,000 – 1/3*450,000 = 300,000 from second mailer

300,000 – 1/3*300,000 = 200,000 from third mailer
450,000+300,000+200,000 = 950,000 total new customers

950,000 * 45% conversion = ~450,000 new customers

Interviewer: You rounded to 450,000. Would you expect the actual number of new customers to be more or less than 450,000 and how do you calculate that (in your head)?

Candidate: Slightly more since 10% of 950,000 is 95,000; therefore 40% is 4*95,000 or 380,000. Add 5% of 950,000 (or half of 95,000) which is 47,500 to 380,000 to get 427,500. That would be somewhere between 2M and 2.5M over five years.

CONCLUSION

Interviewer: You bump into the SVP of Sales (related to the credit card business) in the hall and he asks, "How does it look?" How do you respond (1 minute only)?

Candidate: Based on your current market position, your goal of increasing penetration by 20%, and historical conversion rates for direct mail campaigns, our initial estimates suggest that you will fall short of your goal by mainly relying on that method of acquisition. In fact, it will only get you about half way to your goal. We need to discuss other measures to increase penetration of the Hispanic market. Specifically, we need to look at your sales force compensation structure, training and specific sales and marketing messages. Let's plan to review our formal recommendations later in the week.

7.) Maldovian Coffins (McKinsey, Round 1)

Stem: Our client is a coffin maker in the Eastern European country of Maldovia. He has seen substantial change in his market in recent years and is contemplating the future of his business. Up until now, he has been in the business of building high-quality, hand- crafted coffins largely by hand with a skilled labor force. Recently, however, he has become aware of technology that would allow him to build machine-made coffins with much less labor. Should he invest in this new technology, and should he even remain in the coffin business in the first place? What strategic alternatives should the owner consider?

Good Answer: If the candidate doesn't get all of this, help them along since we need to lay this foundation for the rest of the case - We need to decide firstly whether to stay in business at all and if so, whether he uses the new technology:

- Option 1: Sell the business to a third party
- Option 2: Sell the assets of the company and shut it down
- Option 3: Keep operating as is
- Option 4: Keep operating and invest in the new technology

How would you figure out the current value of the business? *Provide the following information if the candidate asks for it clearly and directly.*

Market Size – If the candidate asks for the size of the market, first make him/her brainstorm about different ways to determine market size. A good candidate should come up with at least 4 different ways, such as:

- Calculate from population growth, total population, and birth rate
- Review of death records for a period of time
- Take sample of number of obituaries in paper serving given population base
- Calculate from population, average life expectancy

Now make them calculate the market size, giving them the following data:

Population of Maldovia: 4M
Population Growth: 0%
Life Expectancy: 75 years
Age Distribution: Assume a flat distribution (i.e. the same number of people at all ages)
Burial Customs: 75% of deaths are buried in coffins

Right Answer: 40,000 coffins purchased / year. *Note that the candidate needs to quickly realize* *that every year, 1/75th of the population will turn 76 and therefore (on average) will die.*

Price – Coffins are priced at $5,000 for a hand-made coffin.
Costs – Material accounts for 10% of the direct cost, while labor accounts for the other 90%. COGS is $4,800 per coffin. Fixed costs for the business are $700,000 per year. Assume all assets are fully depreciated and ignore taxes.

Competition – Maldovian Coffins has a 10% market share and a relative market share of about 1 *(if asked, you may explain that relative market share is the ratio of the company's market share to that of its nearest competitor.)*

Market Trends, Regulation, etc. – If asked about any exogenous factors, simply tell the candidate to assume that the market is expected to continue as it currently is.

The candidate needs to calculate the value of the business now. This is a mathematical exercise.

Correct Answer:

Contribution Margin = $200 / coffin x 40,000 coffins
x 10% market share
= $800,000

Profit = CM – Fixed Costs = $800,000 - $700,000
= $100,000

Assuming a discount rate of 10% *(candidate can assume anything reasonable here as long as they are consistent later)* a perpetuity with cash flows of $100k / year has a PV of $100,000 / .1 = $1M. So the current business is worth $1M whether they keep it or sell it.

So now what is the value of the company if it were shut down and the assets were sold?

Information to give if asked:

Assets – Since the firm has been building coffins by hand, the fixed assets are essentially only the land and improvements. The company owns assets outright.

When the candidate asks for the value of the land, have them brainstorm ways that they might determine this. They should come up with at least 3 good ways, such as:

- Look for comparable real estate and determine recent selling price
- Find comparable commercial real estate and determine the rent per square foot, then discount the cash flows generated by renting the property
- Determine rate of appreciation for property in the area and then apply to book value of current land and improvements

Give the candidate the following information and have them calculate the value of the property:

Book Value of Land: $20,000
Book Value of Improvements: $80,000
Years Owned: 48
Avg. Real Estate Appreciation: 6% / year

Right Answer: Using the "rule of 72," a 6% growth rate will double the investment every 72/6 = 12 years. Since the property was held for 48 years, the current value will be $100k * (2 ^ 4) = $1.6M.

Since the assets ($1.6M) are higher than the value of the discounted cash flows ($1M), then it would make more sense to liquidate the business and sell the assets.

What would the value of the company be if he invests in the new technology?

Provide the following information if asked:

Investment – Investing in the new technology will cost the firm $1M. **Cost Savings** – Material costs remain the same, but labor costs are reduced by 50%.

Proprietary Nature of Technology – The new coffin-making technology is currently offered for sale by a machine tool company, who holds the patent. They are not offering exclusivity to any customers (i.e. they will sell to Maldovian Coffin's competitors if possible).

Competitive Threat – It is not known whether the competitors have acquired or are planning to acquire this technology.

Customer Preferences – While the machine-made coffins are not "hand made", the quality perceived by the customer is the same or better. It is believed that the customer will be indifferent between the quality and appearance of a hand-made and a machine- made coffin.

Brand Impact – The candidate may argue that a machine-made coffin might negatively impact Maldovian Coffin's brand. If so, ask them how they would test this (e.g. consumer research), but tell them to assume that it would have negligible impact.

***Good Answer*:** Since Maldovian Coffins has no proprietary control over the technology, it is likely that competitors will also acquire it, resulting in an overall lowering of the industry cost structure. If this is the case, price will also fall as competition cuts price in an attempt to gain share. If we assume that gross margins remain the same, since the industry competitive structure has not changed we can calculate the new margin contribution as follows:

Gross Margin = \$200 / \$5,000 = 4% Labor Cost = (4800 x 90%) x 50% = \$2,160 Material Cost = \$480 COGS = \$2,160 + \$480 = \$2,640

Price = \$2,640 / (1 - 4%) = \$2,718 Contribution Margin = \$2,718 - \$2,640 = \$78 Loss = \$78 * 4,000 - \$700,000 = -\$388,000

So the introduction of the technology to the market might be expected to reduce industry profits, making this business completely unprofitable.

Candidates could argue other scenarios, by assuming that the industry would be able to maintain higher margins than we have assumed here, so the answer may be different. They should recognize, however, that the introduction of this non-proprietary technology will significantly reduce industry pricing in the absence of some other form of price support (such as branding, collusion between players, etc.)

8.) Fast Food Profitability (McKinsey, Mock)

Note: This is a "pressure" case. Do not allow the candidate to formulate a structure. Rather than deliberating and answering, the candidate should be pushed to answer quickly.

Stem: Our client operates fast food restaurants and convenience stores on the West coast. 40% of its restaurants are located in service centers on highways, often in clusters of three to five. In the past five years, costs have been increasing and revenues declining. You have been hired to determine how to address the problem.

Interviewer: Let's start with a simple question related to costs. In 2009, our cost structure was 20% PPE, 20% labor, 30% COGS, and 30% miscellaneous. In 2010, PPE has doubled, labor has stayed the same, COGS has dropped by two thirds (due to the use of beef substitutes) and SG&A has tripled. What percent of our cost structure is labor in 2010?

Consider the problem in absolute values rather than percents. PPE moves from $20 to $40, labor remains at $20, COGS changes from $30 to $10, and SG&A shifts from $30 to $90. The new "total cost" is $160. Labor ($20) is **12.5%** of $160. If the candidate cannot answer the question remain silent for ten seconds. And then offer minimal clues. If the candidate produces the correct answer, ask him if he is sure. Force the candidate to declare he is sure before moving on.

Interviewer: Ok. Let's forget about costs. Let's talk about revenues. Over the past fifteen years, the number of fast food restaurants has declined by 20%. Why do you think this is?

Possible answers include: consolidation, changing demographics that do not cater to fast food consumption, or the emergence of other low cost options stealing share.

Interviewer: Even more concerning, in addition to fewer storefronts, our revenues have declined by 30%. Take a look at this table and tell me what you think. These are our four most prominent stores.

	Jen's Fresh Burger	Miguel's Big Taco	Nate's Dogs	Rya's Gourmet Pizza Pie
# of stores ('09)	8	14	10	10
# of stores ('10)	6	12	10	6

The candidate should see that while the total number of stores has declined, some stores have fared better than others. Notably, Nate's Fat Dogs has maintained the same number of stores. The candidate should surmise that the new mix of storefronts may account for the more precipitous drop in revenue (when compared with the decline in store fronts). That is, some stores generate more revenue than others. If the candidate does not see that store mix is key prompt him.

Interviewer: Yeah, you're right about that. Rya's Gourmet Pizza Pie generated the most cash when compared against the other restaurants. Why do you think this is?

Possible answers include higher average revenue per sale or a higher number of sales.

Interviewer: Actually both. We found that although customers spent more time eating in Rya's than any other restaurant, later hours more than compensated. So why do you think the client closed storefronts rather than opening them?

The candidate should first note that high revenues are distinct from high profits. It could be the case that costs increased disproportionately. If the candidate does not realize this prompt him.

Interviewer: What costs do you think were most relevant?

The candidate should recall the changing cost structure for all the stores. Although Rya's is only one brand within the portfolio, the candidate should ask about PPE and SG&A.

Interviewer: Actually PPE costs were quite high. Rya's uses an unusual type of coal oven capable of cooking pizzas very quickly. The service on the ovens was extremely expensive and they broke down all the time. Abruptly ask, how many pizzas do you think Rya's prepares on a daily basis?

This is a generic market sizing that can be approached in any number of ways. One approach is to begin with the number of restaurants in the chain, number of customers drawn by each (which will vary based on the day of the week and the number of individuals travelling on highways) and then speculate what fraction of a pizza each customer buys.

Interviewer: Great. Thanks for coming in! No formal recommendation is necessary.

9.) Always Fresh (BCG, Mock Case)

Stem: Always Fresh is a subsidiary of a $30B consumer products conglomerate. The company's main product line is deodorant/anti-perspirant sprays, roll-ons and sticks. Sales over the last five years have been steadily growing in North America, and now the Always Fresh team is ready to take its products global. As the team's leader, how would you assess whether or not international expansion is a good idea? If so, which countries offer the greatest three-year revenue opportunity? The greatest three-year revenue opportunity?

Candidate should determine a structure for their approach.

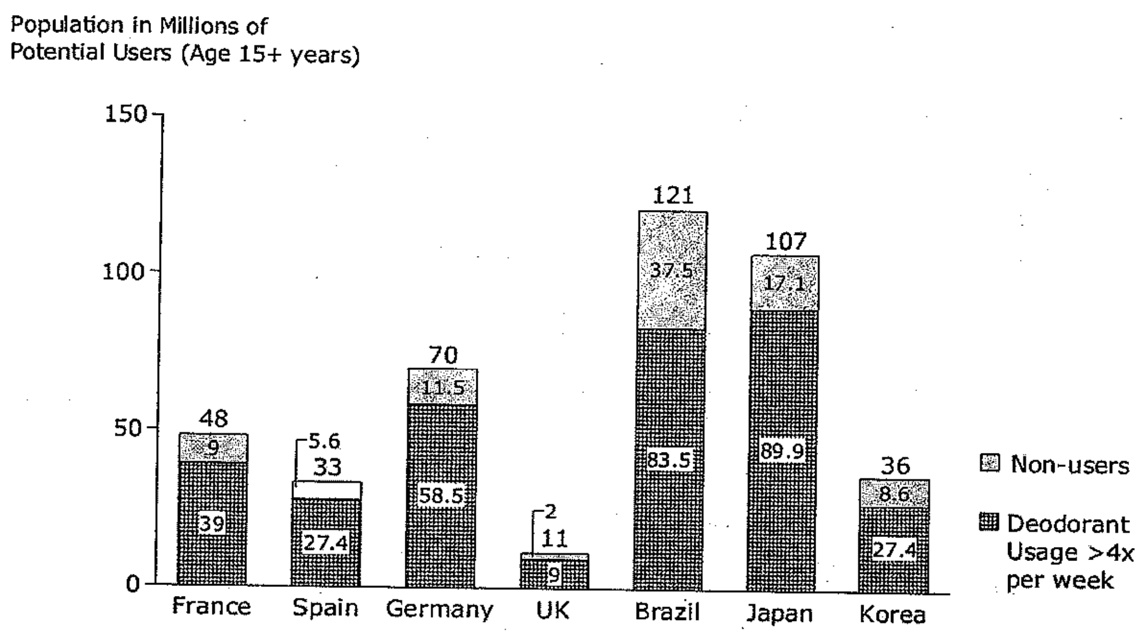
Introductory Facts
(Tell the Candidate if Asked)

- **Location preferences:** None. Management wants the project team to tell them.
- **Product line:** Any or all of the three deodorant types can be launched into new locations. Each product (stick, spray, roll-on) lasts 3 months long on average.
- **Team:** Internal resources appear sufficient to
- **Team:** Internal resources appear sufficient to handle this launch. Candidate is the leader.
- **Capital, production and distribution:** Parent company will support any well defined need. Worldwide production and distribution facilities will help. Relationships with retailers are good.
- **Financial targets:** 25% annual revenue growth for 3 years and year one sales of at least $50M.
- **North American (NAM) sales:** Last year's sales were $350M. NAM growth is about 10% per year.
- **Suppliers:** Non-issue, North American suppliers.
- **Government/ Legislation:** No barriers.
- **Financing this venture:** Non-issue.

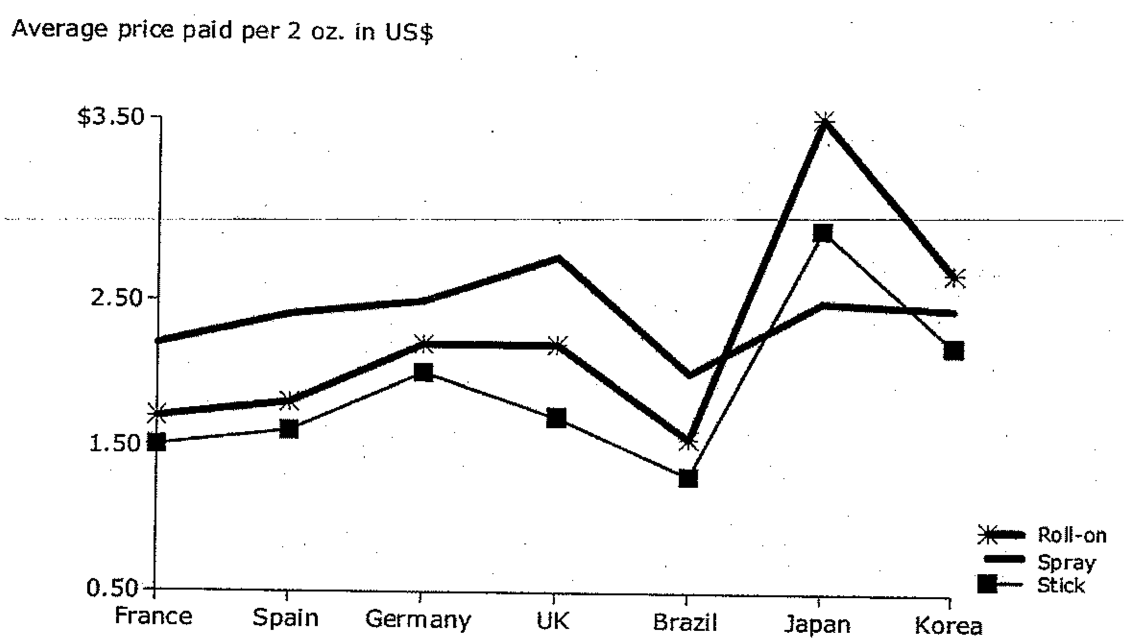
Insight Checkpoint (Redirect the discussion to these areas if necessary)
- In terms of market potential, Brazil, Germany and Japan are the largest.
- Each country is about equal in terms of deodorant usage rates.
- Prices do vary by country but in general the price points by product type do not vary much.
- Spray tends to be the highest and stick is the cheapest.
- Certain markets are more crowded than others: France, Spain and Germany. The UK, Brazil and Japan have significant fragmentation with many small competitors.
- No one type of deodorant is dominant in terms of usage.

At this point, interviewer should tell the candidate that they are going to show them 4 handouts. After each handout, ask the candidate for the key observations from each slide.

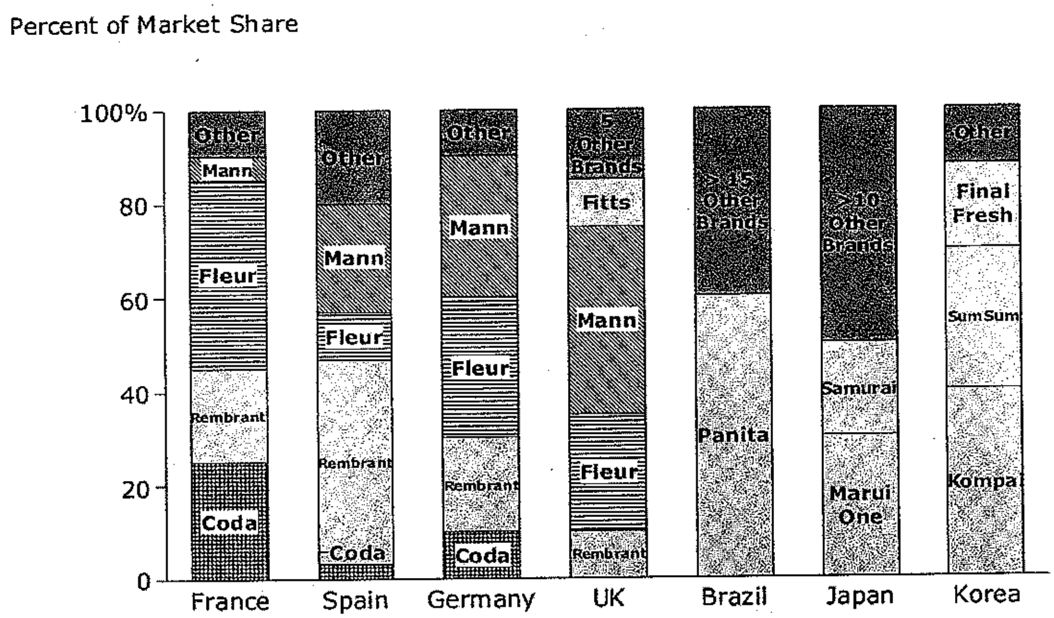
Population and Deodorant Usage



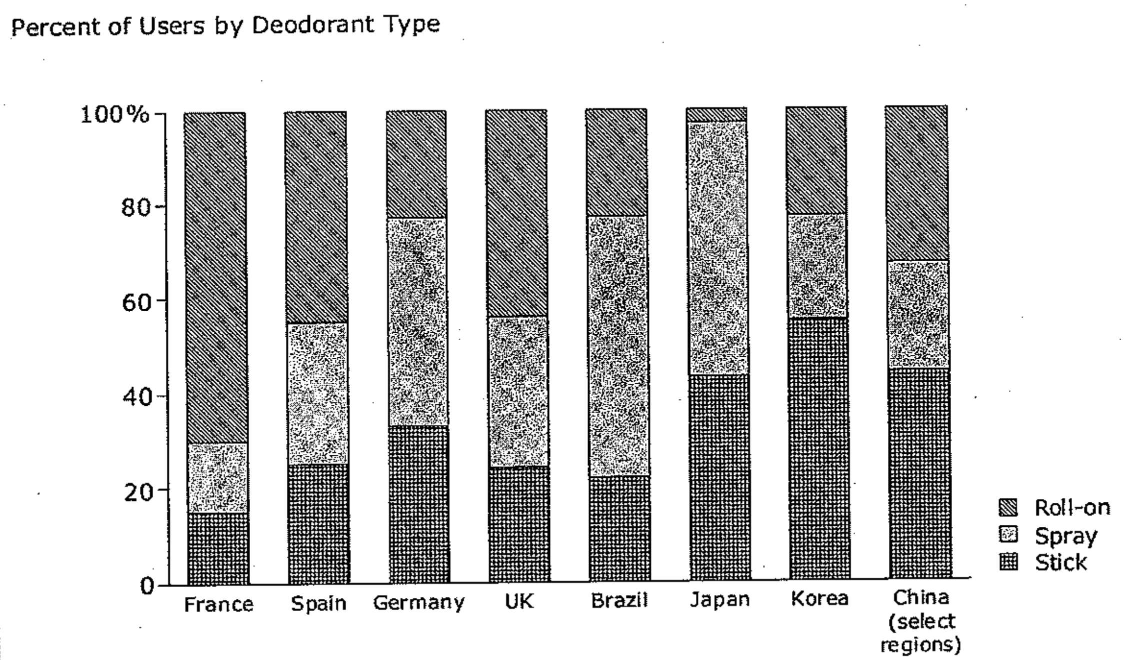
Average Price Paid per 2 oz.



Key Competitors by Market



Deodorant User Preferences



Market Sizing
The interviewer should then guide the candidate to estimate the total market size, or annual revenue, of selling into the three largest countries (Brazil, Japan, and Germany.)

Estimate the Market

	Brazil	Japan	Germany
Total market:	~84M customers	~90M customers	~60M customers
Average price:	$2 (weight toward spray)	$3 (weight toward spray)	$2 (even weighting)
Usage rate (no info):	4x (1 per quarter year)	4x (1 per quarter year)	4x (1 per quarter year)
Est. market share:	10% (.25 of fragmented)	10% (.25 of fragmented)	5% (not fragmented)
Annual Est. Revenue:	~$70M	~$100M	~$24M

The estimated total annual revenue should be about $200M (round $70 + 100 + 24M = $194M.) A strong candidate will recognize that there may be some error in this margin and might safeguard with a 20% margin. Go with $160M to be safe.

Now the interviewer should guide the candidate to calculate the required growth:
- in the first year, they could sell about $160M
- in the second year, they could grow at requested 25% ($40M), so sell $200M total
- in the third year, they could grow another 25% ($50M) and have revenues of $250M.

Final Recommendation
The candidate should present a short, summarized version of their findings which should include their target countries to enter as well as an estimate of the total possible annual revenue from each.

10.) LearJet (Bain, Mock Case)

Stem:
Our client is a manufacturing firm, headquartered in Boston with manufacturing centers around the US. It has seen profits declining and is looking at ways to improve profitability. The firm has identified one area of interest that they wish us to advise them on: they currently lease a private jet to take executives to and from meetings in different cities. The lease is set to expire next week. What should we do?

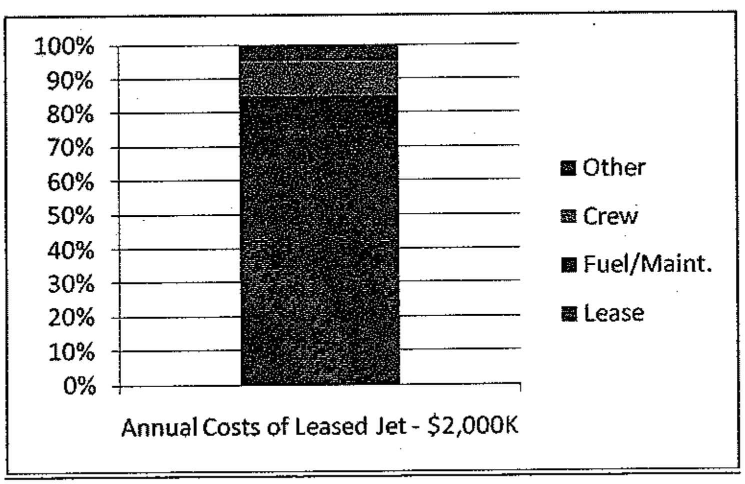
Structure:
The candidate's structure and list of investigative questions should ideally cover the following topics:
* Details of the lease itself (length and payments)
* Utilization of the aircraft (how many trips, to what cities, # of passengers, etc.)
* A systematic list of alternative courses of action, along the following lines:

- Renew the lease as is
- Lease a smaller, lower-cost aircraft that still fits needs of firm
- Do not least aircraft, but use alternative ways to attend meetings in different cities (commercial flights, train rides, videoconferencing etc
- Buy a new plane

Provide the following data and guidance ONLY when requested.

Cost of existing lease

When candidate asks for the lease cost, ask **Candidate** to identify other costs (i.e. fuel, maintenance, crew, etc.). Once done, interviewer can tell the candidate that the lease is the only fixed cost (75% of total cost) – remainder are variable costs.



Utilization

When asked, provide the following table showing the # trips and distance each way.

Utilization Data		
City	**Trips**	**1-Way Distance (miles)**
Philadelphia	100	310
New York	50	210
Cleveland	50	650

Alternatives to Jet Lease

Interviewer should ask candidate to list and discuss various alternatives. Look for structure and a methodical way of grouping and listing alternatives. Two in particular will receive deeper treatment.

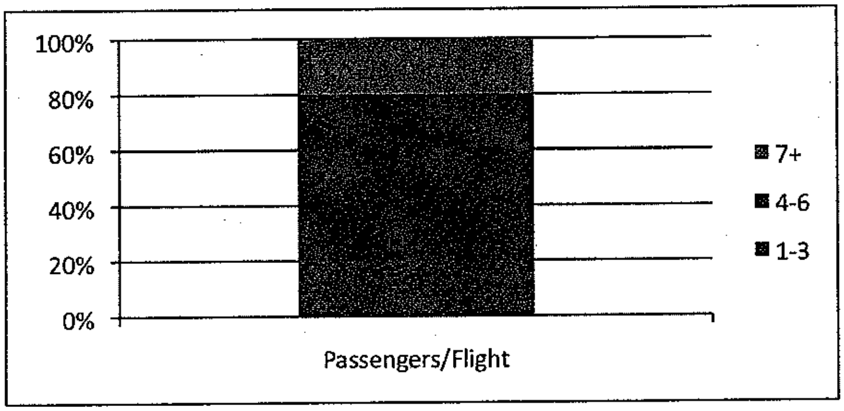
(1) *Using commercial flights*

- Cons: loss of privacy when holding confidential discussions, loss of flexibility, being at whim of airline schedules
- Pros: Potentially less costly

If candidate asks how much a ticket costs, ask for an estimate. They should understand that these are executives and would require a first class seat. Once they give you an estimate, you may provide them with the following data.

Cost of Round-Trip First-Class Ticket	
City	**Cost**
Philadelphia	$1,200
New York	$600
Cleveland	$1,400

Normally, the candidate will get excited with the data and begin multiplying the ticket cost by the # of trips. However, they should understand that these are prices PER TICKET, and that oftentimes there is more than one executive traveling at the same time. At this point, you can give them the following graph.



**You can assume that this holds true across all flights to different cities.*

Candidate can say the overall average is about 5 passengers/flight. So new table should look like this:

City	Flights/yr	Passengers/Flight	Total Tickets Needed	Cost/Ticket	Total Cost
Philadelphia	100	5	500	$1,200	$600K
New York	50	5	250	$600	$150K
Cleveland	50	5	250	$1,400	$350K
Total					**$1,100K**

(2) Leasing other types of jets

Provide the following table.

Other Types of Jets			
	Current Jet	**Type 2**	**Type 3**
Maximum Distance	2,000	1,500	1,000
Max # of Passengers	15	8	4
Cost of Lease	$1,500K	$1,000K	$500K

Candidate should spot the following

* Max distance is not an issue, since the farthest city is Cleveland (650 miles one way).

* Type 3 jet is too small and can be ruled out (assuming we don't already have excess passengers for all past flights)

Suggested answer

* Type 2 jet should suffice for most trips and could therefore be a solid option.

* However, candidate must realize that this is only the cost of the lease and not the total cost. When asked, let candidate know that the ratio of fixed to variable costs is similar across all aircraft types.

* From current type, FC = 75% of Total Costs. Therefore, for Type 2, the total cost = $1M / 75% = $1.333M.

Candidate gets bonus points for suggesting ways to push costs down e.g. by negotiating for multi-year lease discounts.

Conclusion:

Do not renew lease and go with commercial airline.

11.) Luxury Cruise (Booz, Round 1)

Stem: Our client is a global luxury cruise line. It buys ships and offers tours around the world to individuals on vacations. The board noticed that the ROIC (Return On Invested Capital) is not as the same level as competitors. We are the #2 player and have $8 BN in revenues and are half as big as the #1 player. Our client wants to know what strategy to use to obtain double digit ROIC in next 2 to 3 years.

Interviewer: How would you analyze this problem?

Student should then come up with a framework to approach the problem. A successful framework would look at revenues and costs, the typical profitability framework.

Note: A good candidate will start by thinking about what the variables are in ROIC [(Revenue - Operating Costs)/Invested Capital]. IF they do not know what ROIC is, guide them through it.

Interviewer: When prompted, the interview can reveal the following information about the client. Let the candidate calculate the ROIC.

Revenues = \$ 8B
Op. Costs \$7.25B
Invested Capital \$15 B

ROIC calculation = (\$8B - \$7.25B) / \$15B = 5%

Candidate: If we want to improve ROIC to double digits we have to increase revenues or decrease operating costs, or a combination of both.

Option1: Lower Operating Costs
ROIC = (\$8B - X) / \$15B = 10%
X = \$8B - 10% * \$15B
X = \$6.5B
Cost reduction required = (\$6.5B - \$7.25B) / \$7.25B = -10% (approx)

Candidate: So, we would need to lower Operating Costs approx 10% in order to reach double-digit ROIC

Option 2: Increase Revenues
ROIC = (\$XB - \$7.25B) / \$15 BLN = 10%
X = 10% * \$15B + \$7.25B
X = \$8.75B
\$8.75B / \$8B - 1 = 9% (approx)

Candidate: So, we would need to increase revenues by 9% in order to reach double-digit ROIC

Interviewer: Prompt the candidate to draw a conclusion from his or findings and to tell you what the next steps might be.

Candidate: Since we need to either reduce our operating expenses or increase revenue by similar percentages (9%-10%), perhaps it would make sense to address both.

Note: A good candidate will refer back to their original structure and mention several alternatives such as looking at variable and fixed cost structure, promotions, new markets/routes, taking best practices from competitors, etc. Once the candidate has completed the brain storming exercise (which you should encourage and challenge), guide him or her to look at pricing.

Price Structure

Candidate: Do we have any information on the price we charge vs our competitors?
Interviewer: We have average revenues of $250 per day on average per customer, compared to $260 for our competitors.

Candidate: Is this the price we charge per ticket on the cruise?
Interviewer: No, this is the revenues per customer, considering both the ticket and what the person spends on board.

Candidate: Does the competitor target an income segment higher than our customers?
Interviewer: No, consider that we target the same customers in terms of income

Candidate: Are we comparable to our competitors in terms of brand, quality?
Interviewer: Yes, moreover, we are more "premium" than our competitor

Candidate: Ok. So can't we simply jack up the price paid up front? I would imagine that demand is pretty inelastic given that our customers have high incomes
Interviewer: When I did this project I imagined that, but actually this industry has a pretty elastic demand curve, even when it comes to rich people! In fact, we usually don't fill up to capacity by selling at regular prices and then we discount prices heavily in the days or weeks immediately before each departure in order to reach full capacity.

Candidate: AHA!!!! But since people know that we will discount prices we might have created a tendency for people to wait out and then buy when prices are lower.
Interviewer: EXACTLY. In this industry these cruise companies have an obsession with filling up to capacity instead of thinking about profits! They could make more profits potentially by keeping prices high and having 70% or 80% capacity, but they insist on full capacity. They don't really make much economic sense. They don't realize that their variable costs would also be

lower at a lower capacity! We have been trying to work with our client to help them understand that profits are more important than capacity.

Interviewer: So, in summary, what would you tell the CEO of our client?

The candidate should then make a recommendation incorporating the information he/she has gathered from the case. An outstanding candidate will identify viable options for increasing ROIC with an appreciation for the challenges in implementing such changes. The good candidate should also present a clear set of next steps for pursuing those opportunities.

12.) Rental Cars and Frequent Flyer Miles (BCG, Round 1)

Stem

Our client is a US airline with a popular frequent flyer mile program. They sell frequent flyer miles through partnerships with credit card companies, hotels, and rental car agencies. While the business overall has been healthy, they have noticed a sharp decline in their frequent flyer miles revenue from the rental car segment: a 50% drop in the last two years. They have asked us to determine the cause for this loss in revenue, and what they can do to reverse the trend.

Phase 1: Case Facts

Behind the scenes: Let the candidate and his/her structure drive the first part of this interview, but give the following information if he/she asks questions about the following topics.

History of frequent flyer program: The frequent flyer program has been in place for over 20 years. It was created for two reasons: 1) competitive advantage, and 2) retention of customers. This airline was among the very first to have the program, but now almost every airline has frequent flyer miles.

How do car rental agencies sell these miles?: An agency will advertise that customers can get X frequent flier miles per car rental day. When customers request the frequent flier miles, they get the miles and the agency pays the airline for the transaction.

More facts about revenue from car rental agencies (only if the candidate asks for it):

- There are 7 major car rental agencies in the country
- 5 out of the 7 agencies are partners with our client
- These 5 agencies comprise 97% of all rental car business in the US.
- Number of cars rented has not gone down
- Days per rental have not gone down

- It is fair to assume that our frequent flyer members would strongly prefer to rent a car that came with miles as compared to a car that did not come with miles

Key Insight: What *has* decreased is the number of frequent flyer miles sold per day. The next question should be —Why? The rental car companies wanted to lower their own costs per rental transaction by paying less for frequent flyer miles. They asked the airline to lower the price per frequent flyer mile, but the airline said it couldn't do that. In responses, the agencies have simply started offering fewer miles per rental.

Phase 2: Possible solutions to problem

Interviewer: Ask the candidate to brainstorm some options.

Possible answers: Many logical answers are good, but let him go until he hits upon this (if not, prompt after awhile): The airline should offer exclusive partnership(s) rather than having everyone as partners. Then explain the value to these rental agencies of having a lock on this airline's frequent flyer customers.

Interviewer: Interesting idea. Why don't you try figuring out the rental agencies' willingness to pay for the miles under an exclusive partnership agreement. How much could our client benefit from such an arrangement? Structure a math problem and provide the following assumptions:

- 10 MM rentals per year
- $45 car rental per day on average.
- Average rental is 3 days
- Approx 10% margins on the car rentals for the rental car agencies before paying for any frequent flier miles.
- 10m rentals/year by our frequent flier members
- Assume 5 partners now, cut down to 3 partners.
- Current payments from rental cars to our client are $3 per transaction

Candidate should note the distinction between fixed and variable costs to the rental agency and the implications on profit. Marginal profit from extra rentals generated by the program should be calculated based on variable costs, ignoring fixed costs that will be incurred regardless. For simplicity, assume that all costs of the fleet are variable.

A. Current profit to rental agencies from our frequent flyer customers:

(10MM rentals/year) / (5 companies) = 2 MM rentals per company per year

Profit per transaction is (10% x $45/day * 3 days/rental) – ($3 for frequent flier payment) =

$10.50

Total profit (based on variable cost only) to any one agency is $21MM. This can also be seen as

$27 MM in incremental profit before paying for frequent flier miles, minus $6 MM in total frequent flier mile fees.

B. Potential profit to rental agencies under 3-partner model:

Assuming same number of total rentals, each rental agency will now get (10/3) MM customers from the frequent flier program.

The potential profit before paying for frequent flyer miles is: (10%)*($45/day) * (3 days/rental) * (10/3 MM rentals) = $45 MM.

So total theoretical WTP for the semi-exclusive arrangement, for a single rental agency, is $45 - $21 MM = $24 MM. Incremental WTP compared to the current arrangement is the incremental profit of $18 MM (or new WTP – current WTP which is $24 – 6 MM). Note we can equate WTP to price in this case because the rental agencies are basically setting their own prices.

C. So total WTP comparison is:

WTP(new) = $24 MM * 3 = $ 72 MM

WTP(old) = $6 MM * 5 = $30 MMT (assumes current fee structure equals max WTP)

Key Insight: This represents up to $42 MM in additional revenue to our client, the airline. How much of the $42 MM in value our client can capture? But even if we capture, say, half, we should have a 67% increase in ff revenue from car rental agencies.

<u>Phase 3: Other considerations to explore</u>

Behind the scenes: Throw out a question of what else the airline could think of to increase revenue from this business. This should be a conversational brainstorming session.

Possible Answers: There are many. Here is a sampling.

- How to pick agencies to partner with:
    - Do an auction?
    - Base it on geographical coverage?
    - Survey our ff customers for preference or go with existing market shares among our ff customers
- Do customers have loyalty to particular rental agencies, such that the total number of rentals might shrink under an exclusive partnership agreement?
- Actual fixed vs. variable cost for the rental car agencies to get a better sense of profit. By assuming all costs are variable we may be underestimating the profit impact of our program.
- Do we price the new partnership based on a higher price per mile, or do we mandate that the exclusive partners offer a minimum number of ff miles per rental day?
- If it is profitable to have fewer partners in the rental car space? Could we profit from similar exclusive agreements with hotels?

Recommendation

A good recommendation should sum up the facts and discoveries of the case. There is definitely a possibility to reverse the trend. The recommendation should also take into account the strongest other considerations from the last section, but wrap up firmly and positively.

13.) Spanish Trains (McKinsey, Round 1)

Stem

The railway company of Spain (RENFE), a former monopoly, is now opening to competition. RENFE has been divided into two separate companies: RENFE (train operation) and ADIF (company that manages the tracks, train stations and traffic control). A friend of yours has 90M € and has approached you for advice on starting a new train operation company to compete against the new RENFE. In particular, he wants to start by opening a new high speed train route between Madrid and Barcelona. Should your friend go ahead and launch the business?

Phase 1: Industry Overview

Behind the scenes: Let the candidate to lay out his framework and start brainstorming about the current situation in the industry: competitors, and competitive situation. Give the following information when asked the proper question. Let him or her focus on competition, and the differences between this new venture and the competition.

Case Information:

Main competitors: RENFE and air travel. Evaluate price, time and convenience

Us vs. RENFE:

- We are less expensive
- We are more efficiently run (as a former monopoly, RENFE is very inefficient)
- Equal travel time
- We are equally convenient (same stations and tracks) Us vs. air travel

Key Insight: As a result of this high-level analysis, it is possible that we have a chance in this market. Now let's evaluate profitability.

Phase 2: Business Overview

Interviewer: Now that we have identified the main issues in the market, it is time to see whether we can be profitable. How would you evaluate the viability of your friend's business? What do you think the main costs and revenue streams are?

Possible Answers: Possible forms of revenue: tickets (main revenue driver), ads in trains, food and drinks, and any others are good for the brainstorming but should be ignored for the calculations.

Costs: Marketing, Operations and maintenance, trains, personnel, IT, etc.

Interviewer: Great. Now, before moving on let me tell you about operations. You can travel by train between Madrid and Barcelona in under ~ 4 hrs. Trains run from 8am until 10pm. Taking into account all different factors, we can run two round trips per day. We will need three trains, as well as one for backup in case of breakdown, i.e. total 4 trans and 4 trips per day.

Phase 3: Break even Calculations

Interviewer: What do you need to calculate expected profits? Keep in mind that the company only has 10 years to pay back the investment.

Behind the scenes: The candidate should ask specifically for all the costs needed.

- Trains: 30M € per train (tell the candidate to think of this only at the end)
- Marketing: 15M€ per year
- Operations/Maintenance: 10M€ per year
- Train fares: Trains have a capacity of 500 people
    - If tickets cost 40€ à 95% occupancy
    - If tickets cost 50€ à 80% occupancy
    - If tickets cost 60€ à 60% occupancy

Interviewer: Given this data, how much do you think the tickets cost?

Candidate: 40€ à (.95 * 500) * 40 = 19,000€ per trip

50€ à (.8 * 500) * 50 = 20,000€ per trip

60€ à (.6 * 500) * 60 = 18,000€ per trip

Key Insight: It is most profitable to set prices at 50€.

Interviewer: Now figure out the profits per year (assuming above costs are per train)

365 days * 20,000€ per trip * 4 trips per day = 29.2M€ in revenue per year

29.2M - 25M (marketing and operations) = 4.2M€ profit per year per train

Because we on average operate only 3 trains we disregard the cots in opex and maintenance for the fourth train. Total estimated operating profit is therefore 12.6M €.

Key Insight: This does not look great – it would take almost 10 years to recoup the 120M € investment in 4 trains.

Recommendations

Interviewer: What would you recommend your friend? What options could you consider to make the business more profitable?

Possible Answers: He should not invest under the current circumstances, but may also explore options such as leasing trains, additional revenue from onboard sales and advertising, JV with a foreign operator with excess capacity, etc. (ask for brainstorming ideas)

14.) Store Label Tissue Manufacturer (BCG, Round 1)

Stem

Our client is a paper manufacturing company specializing in store label tissue paper. This covers toilet paper, paper towels, napkins, and facial tissues. The client's key customers are grocery chains, in the Western US. They would like to double in size, but this is a slow-growing market; it's been growing at 8-9% a year, but has hit a plateau. They have hired us to see how we can re-accelerate growth and if this goal is attainable.

Phase 1: Case Data

Behind the scenes: Let the candidate go through the structure and ask for data. Give data only when asked for.

- The firm has two plants, one near Las Vegas, and one in Idaho
- The biggest customers are in the Rockies and in California
- The whole market for these products is 500M cases per year (all four kinds combined).
- 400M cases are branded (ie., not what this company makes) and 100M are store label.
- There are four types of customers for these 100M cases
    - 40 million sold in supermarkets
    - 30 million sold in mass market stores (ex. Walmart)
    - 20 million sold in club stores (ex. Sam's Club, Costco)
    - 10 million sold in dollar stores
- Customers (mostly chains) make their purchasing decisions regionally, not store by store.

Key insights: The firm is limited right now to the West Coast market because the plants are located there. There's no reason why these products wouldn't be popular in the east, especially since the same chains exist there. This could be solved either by opening new plants in the east
or by shipping.

Phase 2: Costs

Interviewer: Let's look at the possibility of shipping to stores on the East Coast---how much it would cost and what kinds of margins we could expect. What would you need to know in order to calculate this?

Behind the scenes: Let the candidate ask for these, but if time is going by and a variable hasn't
been hit on, give the data.

- Retailers pay $20 per case of product
- It costs $1 to ship a case from either plant to California
- It costs $750 to send a truckload of product to Boston, plus 75 cents per mile (the width of the US is 3,000 miles)
- 1,000 cases can fit in a truck

Candidate: He or she should complete the following calculations

$0.75 * 3000 + $750 = $3000 cost to ship a case to Boston

1,000 * $20 = $20K revenue per truckload

$20K - $3K = $17K left to cover costs after shipping to Boston

1,000 * $1 = $1,000 costs to ship a truckload to California

$20K - $1K = $19K left to cover costs after shipping to California

Key insight: Shipping is too expensive to the East Coast to consider expanding from the current plants (lower profits on shipping to the East Coast). The client would need to open plants on the East Coast, possibly in less expensive areas.

Phase 3: Product Mix & Marketing

Interviewer: Now that we've looked into shipping and geography, let's talk about the product mix. Do you think it's split evenly between the four types, and if not, what percentages of each do you think are sold?

Possible answers: Facial tissues have stronger brands (Kleenex being an actual word, for example); paper towels seem almost as strong. Probably stronger sales in napkins and toilet paper, with weaker brand images.

Interviewer: You're right. Actually, the company sells a lot more of the napkins and toilet paper.

Key Insight: Maybe manufacturer should make more of the better selling products and decrease production of facial tissues and paper towels.

Recommendation

Interviewer: So, what should we tell the CEO?

Possible answers: The answer should refer back to the goals stated in the stem of doubling size and re-accelerating growth. This can happen only by opening new plants further east to serve markets there without the high shipping costs. Redistributing the product mix is also key.

15.) Fruit Juice (Bain, Round 1)

Stem

Bain is serving a private equity client thinking of purchasing a fresh fruit juice manufacturer. The company operates on the West Coast and serves the high end health food market. Currently servings are in 16 oz bottles. The juice is sold in high-end delis, cafés such as Starbucks, and large upscale grocery chains such as Whole Foods. Last year they had $90 million in revenues and they have been growing at 15% for the past 3 years. They have strong sales and marketing teams and a strong brand name. The private equity company wants us to identify whether the company is an attractive acquisition. What are some things you would look into?

Phase 1: Structuring the problem

Behind the scenes: First part should be broad. Allow the candidate to brainstorm.

Interviewer: How would you think about evaluating this opportunity?

Possible answers: Important issues to hit:

- Industry dynamics: size, growth, drivers of purchases, trends, competitors' market share,
- New entrants, customers
- Margins: price, cost structure of the firm (compare to competitors), possible future changes in the cost structure due to outside forces
- Private Equity Fit: Is the price fair? Is there an exit strategy? How does the potential acquisition fit with the current portfolio, and would there be any synergies?

Phase 2: Digging deeper in industry dynamics

Interviewer: First let's look at the industry dynamics. The high end juice market in the US is $1B. Our client is the third largest presence in the industry. The number 1 and 2 players have 70% of the market. The market overall is growing at 10% annually. What are the one or two most relevant pieces of information you'd like to have about the industry landscape?

Possible Answers:

- Are the two top players only operating on the west coast or are they nationwide?
- How have they been able to capture such a big share? Is it because they've been in the market longer, (our target looks like a more recently established company given it only operates on the west coast) or because their product is better?

Interviewer: (give the following information requested) The two top players operate nationwide. They have been in the market for longer than the acquisition target.

Key Insight: The target company has been able to be number three even though it is competing with bigger national players. If it goes national, it has the potential to be a big player because it's been growing faster than the industry. Our target's growth numbers suggest that its product is comparable to that of the top players and would be successful in the new markets.

Phase 3: Private Equity Fit

Behind the scenes: Now come back to the acquisition part of the structure. Guide the conversation to a point where the candidate asks the following question:

Candidate: Before I dig deeper does the client have anything in their portfolio that could generate synergies?

Interviewer: Yes, they own a low end soda and bottle water manufacturer makes private labels in US and Canada. The private labels are sold at retailers like Walmart and CostCo.

Key Insights: (guide the conversation to make sure that the Candidate hits on most of these) Synergies usually come from manufacturing, distribution channels, marketing etc. In terms of manufacturing, there probably aren't big synergies because the manufacturing of high-end juices is not similar to sodas (different kinds of ingredients, markets, processes, quality standards).

Then one might think of trying to sell juice in these channels because there are existing relationships BUT I think this would hurt the company in two ways: First, the placement of a high end product in a low end retailer it would hurt the brand image. Second, retailers like Walmart will use their buyer power to try and push prices down.

Also, the competencies of already-owned sales and marketing teams don't line up with this business.

Interviewer: So, what is your overall feeling about this acquisition's potential for synergies (just make sure that there is a clear wrap-up for this section before proceeding to the next)?

Candidate: The company itself seems promising, but in terms of working with other companies in the portfolio, I see no obvious synergies.

Phase 4: Company Profitability

Interviewer: Okay, we know this is a growing company, but now let's look more closely at profitability. COGS are 75 cents per bottle, manufacturing is 20% of revenue, sales and marketing is $15M, distribution is $30M. Each bottle sells for $2.50.

Candidate:

Revenue	$90M
COGS	$90M/$2.5 = 36M bottles x $0.75 = 27M

Manufacturing	$90M x 0.2 = 18M
Sales/Marketing	$15M
Distribution	$30M
Profit	$0!

Key Insight: They are not making a profit. We could look at some ways to improve this.

Interviewer: How would you go about doing that?

Possible Answer: I'd look at it from two perspectives, increasing revenue and decreasing costs.

Interviewer: Let's brainstorm. What are some ways to cut costs?

Candidate: (as many of these as possible should be hit on)

- Consolidate suppliers – centralize procurement
- Automate the factory – increase efficiency
- Change packaging to make it lighter without hurting the high end brand image –decreases fuel spending and thus distribution costs
- Reducing employees (especially higher ranking ones)
- Get rid of less profitable juice flavors through profitability analysis and identify the lines that we could let go. There would also be a potential to use shelf space to sell more of the profitable types.

Interviewer: Good. Now, what ideas do you have about increasing revenues?

Candidate: Look at price. We are selling this at $2.5, what's the competitor's price? (make sure the candidate asks; otherwise there won't be grounds upon which to reach a real conclusions)

Interviewer: Also $2.5. Would you raise prices?

Possible Answer: (others are acceptable if backed up by good logic and ideas, but this is probably the best) No, because there are more established comparable products with the same price this is a bad idea. We would either loose market share or potentially spark a price war which would hurt margins. But we could look at some increased distribution channel penetration. Given the product's high image we could go into hotels, catering companies, restaurants, etc.

Recommendation

Interviewer: So do we tell them that this is an attractive acquisition or not?

Behind the scenes: The key here is to be succinct. But overall, this is an attractive target. Though the company is currently not making profits, there are areas to cut costs and increase revenue and the company is growing faster than the industry.

16.) Art Museum (McKinsey, Round 1)

Stem: Our client is an art museum in New York City that specializes in 17th and 18th century European art. They usually put $150K into a fund every year, with money in the fund going towards various future expenses. Last year, revenues decreased, and the client could only put 50% of what they normally put into the fund. They have asked us to figure out how to turn this around.

Question 1: What are some potential reasons for this decrease?

Suggested answers:
* Lay out revenue sources: membership fees, admission fees, sponsorships/grants
* Possible sources of revenue decrease

- Membership fees: lapsed renewals, reduced number of new members
- Admission fees: lower visitor volume, increased competition from other museums
- Sponsorships/grants: budget crunches in sponsor organizations

Question 2: If we lower the membership fee by 20%, what is the increase in membership volume needed to bring the fund's annual deposit back to its original levels?

Assume, as a simplification, that all revenues come from membership fees
* Current membership fee is $150/year
* 25% of membership fee is used to cover costs *(Candidate should deduce that this means that 75% of each membership fee is put into the fund)*

With current membership fee ($150/yr)
* Current number of members = (50% x 150K) / (75% x 150) = 667

With future membership fee = 80% x $150/yr = $120/yr
* Amount per member entering fund = 75% x $120/yr = $90
* Number of members required for annual deposit of $150K into fund = 150K/90 = 1,667

Therefore, required increase in membership = 1,667 – 667 = 1,000

> ***Key insight:*** 1,000 new members are needed for the membership fee reduction to be sufficient in helping us achieve our goal.

Question 3: What do you think of that?

Suggested answer:
It is hard to imagine that a mere 20% drop in membership price will cause member numbers to more than double. This strategy cannot stand alone.

Question 4: What are the pros and cons of this strategy?

Pros: Low cost strategy; if successful in increasing membership strength, will lead to sustainable revenue increases (recurring renewal fees, other complementary revenue streams like sales of special tickets or merchandise to members and discounted rates driving volume sales etc etc)

Cons: Risky; if demand for memberships is price-inelastic, it can backfire horribly. Also, certain beneficiaries/donors of the museum may be strongly opposed to a low-cost strategy.

Question 5: What other strategies can the museum employ?

Revisit original structure. Suggested answer: revisit each alternative revenue source in a systematic fashion, and lay out ways to boost revenue and therefore annual deposits into that fund

Membership fees
* Investigate real source of reduced membership fees.
* Are new members' joining rate declining? If so, boost advertising for new members (and increase perks which are low-cost), without necessarily lowering fees.
* Are existing members letting their memberships lapse? Release early bird renewal specials, to encourage more renewals.

Admission fees
* Analyze visitor patterns, and employ creative promotion and price discrimination strategies (e.g. weekend special rates, family specials, co-promotions with other museums or nearby entertainment/restaurant spots)
* Boost other revenues associated with admission, such as food and merchandise sales on museum premises. Improve gift shop and cafeteria operations to attract more dollars.

Sponsorships/grants
* Court sponsors more aggressively, and persuade them that 17th/18th century European art is the right artistic cause to invest in for the betterment of New York cultural life!

Other potential sources
*Rent out museum grounds after-hours for private parties/functions
*Loan art pieces to other museums

Question 6: What is your final recommendation?

Candidate should present a short and concise answer based on their findings.

17.) Broadband Internet Service Provider (Bain, Round 1)

Stem

A Broadband Internet Service Provider (ISP) has noticed a trend where an increasing number of customers are watching TV over the Internet. They want to know if this trend is good, bad, or not important, and what they should do about it (if anything).

Interviewer: This case requires some understanding of technology. The case will refer to both bits-per-second and bytes-per-second. You can tell a candidate that there are 8 bits in a byte. 1 Mbps = 1 million bits. 1MBps (capital 'B' for byte) is 8 million bits. 1Gb is 1 billion bits, and 1GB is 1 billion bytes. Note that this is not crucial to the case as a whole, and the interviewer should not allow the candidate to get too fixated on byte and bit conversions.

Phase 1: Gathering Information and Structuring the Problem

Interviewer: How would you think about evaluating this trend? What information might you need to know? As the candidate asks, the following information can be provided:

- How many TVs does the average household have? (3)
- How fast is a typical Internet connection? (1 – 10 Mbps.)
- What is a typical video stream on the Internet? Let's think…

- How big is a DVD? (4.5 GB single layer, 9 GB dual layer.)
- How big is a blue-ray disk? (25GB)
- How many households are there in the US? (About 100M)
- Assume a 2hr video takes 4GB, even when streamed over the Internet.

Possible Answers: Important issues to hit:

- Basic understanding of the Internet video supply chain content → distribution → end customer.
- Crucial to explain why this is likely a problem for our client: many ISPs also offer cable or satellite services (such as Comcast, Verizon, etc.) which will become redundant (and therefore non-revenue generating) if many consumers only purchase a broadband internet connection and watch TV and movies over that connection. Extra points for suggesting that this is analogous to how Vonage and Skype and the mobile phone have made the landline connection less valuable over time.
- Explanation as to why Internet video is gaining popularity and importance: time spent on computer, ability to watch shows whenever the viewer wants to as opposed to a specific weekly schedule, new potential advertising revenue stream

Interviewer: If candidate does not suggest this, prompt them to think about working the numbers to understand if Internet video is a threat (i.e. what is the required bandwidth to watch an internet video at different levels of quality: standard definition, high definition/blu-ray)

Candidate: If a 2 hr video is 4 GB, this gives a streaming rate of 2GB/hr. Dividing 2GB by 3600 seconds in an hour gives 55.6 KBps, which when multiplied by 8 gives 445 Kbps. The candidate may estimate these values if they wish.

Interviewer: Does a typical broadband connection have sufficient bandwidth? (yes)

Where is there likely to be a problem?

- Downstream from the "last mile" house connection, where many houses join
- Providing high-quality video at High-Definition and Blu-ray levels

If 100 houses share a 100Mbps connection, is there a problem? (No, because that's 1Mbps per house, and it's unlikely that everybody is watching 3 TVs worth of content simultaneously.)

Phase 2: Digging Deeper into the Industry & Conclusion

Interviewer: Where does Internet TV content come from?

- Aggregators: Hulu.com, Fancast.com
- Networks websites: abc.com, nbc.com, cbs.com
- Pirate sites

How does it get to the provider? (if a value chain has already been discussed this is redundant)

- Goes through a 3rd party "internet backbone" company

Interviewer: What might we recommend to our ISP?

- Crucial to give the "answer" or recommendation first.
- Make sure the candidate restates the key issue: the ISP likely also provides TV through another service offering (cable or satellite) and is going to lose money on that revenue stream
- Answer Options:
    - Pricing Bandwidth - if the candidate emphasizes that the ISP should see itself as a pipe that is providing bandwidth to the home then he/she should be sure to suggest that customers pay a premium for increased bandwidth that will allow them to watch internet video at higher quality levels
    - Restrict Bandwidth – by restricting bandwidth the ISP is able to make sure that the cable or satellite side of the business is able to survive and focus on delivering high quality viewing experience over that platform

18.) Industrial Tools Manufacturer (Bain, Round 1)

Stem: Our client is an industrial tools conglomerate. One of their businesses manufactures two lines of products: nail and staple guns, and the fasteners used by the guns. Revenues are $1B. The Fastener product line accounts for 70% of revenues and the Tools product line accounts for 30% of revenues. All products are currently manufactured and sold in the U.S. Sales come through three channels: 1) Construction supply stores; 2) Direct-to-Manufacturer sales; 3) Home centers (e.g., Home Depot). The company has seen profit margins fall from 10% to 5% and they are still declining. Our client, the corporate parent company, would like us to figure out what the maximum potential profit is.

Structure

First review the market to gain understanding of the landscape. Then jump into the company's profit tree. Then step back to think about the company's place within the conglomerate's portfolio and any potential implications.

The Market

What do we know about the client's competitive position?

Market Share: In tools, the client owns 40% market share and is holding steady relative to industry growth (about 3%). Client is the market leader and has a great brand reputation. In fasteners, the client owns 20% market share and is seeing that decline by about 2 percentage points/yr, while the market grows at about 3%. The client is one of two top players who alternate in the market lead.

Candidate can then infer that the tool market size:

> $1B (company revenue) x 30% = $300m
>
> (Total Tool Market Size) x 40% (client's tool market share) = $300m
>
> Total Tool Market Size = $300m/0.4 = $750m

...and the fastener market size:

> $1B (company revenue) x 70% = $700m
>
> (Total Fastener Market Size) x 20% (client's fastener market share) = $700m
>
> Total Fastener Market Size = $700m/0.2 = $3.5b

Additionally, candidate can note that the client's performance in the tool business is in line with the market, but it seems like there's something happening on the fastener side to cause the client to lose market share. What's causing this?

Have candidate brainstorm different possibilities (price competition, technological improvements, competition should all be touched on). Interviewer reveals that generic fastener guns are gaining share from the client.

Candidate can then infer that generics are priced lower than fasteners, interviewer confirms that generics are 25% cheaper than client's. This is largely a commodity market so the lower price is effective at grabbing share from the client's known brand.

The Client's Profit Equation

Interviewer can suggest that we just look at fasteners since it seems like nothing much is happening with the tools side. We know fastener revenue is $700M.

Next let's look at the cost side of the equation. What do we know about fixed costs? The plant in the U.S. is very expensive and generates a lot of overhead. Our total manufacturing cost for fasteners is 80% of revenues. Candidate calculates 80% of $700M is $560M.

Interviewer asks: What options might we have for lowering that cost? Stops candidate once off-shoring has been suggested. Notes that generic competitors' operations are in Asia. Candidate suggests we could examine moving our operations to Asia.

Cost Analysis

Interviewer says moving operations to China is an available option, how we would think about the cost savings? Interviewer says not to worry about fixed/startup costs. Candidate identifies cost areas, ultimately being categorized as 1) Materials; 2) Labor; 3) Freight; 4) Overhead. Interviewer reads following cost data:

Cost Components	U.S.	China
Materials	50% of cost	50% of U.S. cost
Labor	20% of cost	90% cheaper than U.S.
Freight	10% of cost	3x price of U.S.
Overhead	20% of cost	Same as U.S.

Candidate runs calculations, determines

Cost Components	U.S.	China
Materials	280M	140M
Labor	112M	~10M
Freight	56M	168M
Overhead	112M	112M

Total	560M	430M

Candidate concludes that China option would save $130M per year. Candidate should calculate change in profit margin:

We know that profits today must be $50M (since $50M is 5% of $1B). Assuming all the calculated cost savings will go right to the bottom line, that means profits will now be $180M. Therefore if revenues remain flat at $1B, there will be an increase in the profit margin from $50M/$1B (5%) to $180M/$1B (18%)

Other Considerations

Interviewer asks candidate what other considerations come into play. Candidate suggests revisiting original structure to think about portfolio impact. Are there synergies to be realized or lost by this move to China, vis-à-vis conglomerate's other portfolio companies? Looking elsewhere, the move overseas puts a higher weight on freight costs, meaning that the company is more vulnerable to jumps in oil prices. Political factors also weigh in—this market may be especially sensitive to the idea of using American labor so the company's brand image could be hurt by moving overseas.

Final Recommendation

Relocate manufacturing operations to China. However, other factors (both market-related and logistical) should be carefully considered.

19.) Toothpaste Company (Bain, Round 1)

Stem

One of our long-term clients is a major toothpaste company (think Crest or Colgate). Their president just called us because they've been given an opportunity to sponsor a NASCAR team, and their chairman is very excited about it. The cost to sponsor the team is $20M. However, the president is not so sure that this is a good idea. He's called us to ask what some of the things he should be considering before making a decision.

Phase 1: Gathering Information and Structuring the Problem

Candidate should take a moment to come up with structure. Key elements are fit with current marketing strategy and profitability. Others such as amount of exposure/impressions work as well, but the first two should be touched upon.

Candidate should be sure to ask probing questions about the current marketing strategy:

- Customer: Candidate should explore target consumer and come to the realization that NASCAR audiences do not have a high overlap with people who make household purchasing decisions about toothpaste.
- Channels: Should also explore current marketing channels, e.g., TV, radio, print, other sports opportunities, etc. Where does this fit in?
- Budget: How significant is $20M relative to total marketing budget? *If not done so already, interviewer should reveal that company has $500M revenue, and COGS is 50% of revenue. Let candidate identify and estimate other components of the $500M such as overhead, selling expenses, etc., but should drive to discover that $100M (or 20%) of revenue is spent on advertising.* Key insight: $20M is significant portion of budget.
- Exposures – talk about how you would estimate the cost per impression (like a market sizing, but just high level approach). TV and live audience size, number of events, # of top 3 finishes, etc. Compare this cost per impression with other marketing channels.

Phase 2: Option Evaluation & Conclusion

Interviewer: We see that it is significant from a budget standpoint. How would you determine whether a campaign such as this is effective?

The candidate should realize that this is the core of the case. The candidate should discuss how we could determine whether the sponsorship will increase sales. Some ideas include looking at incremental sales, conducting market/consumer research, benchmarking.

Interviewer: It turns out that our client has a good relationship with the folks at Gillette, who also sponsor a NASCAR team for $20M. They've told us that they have seen incremental sales of $100M as a result of their sponsorship. Do you think we could hit the same number? Is their approach valid?

Candidate: No, I don't think we could hit same number. Their consumer base is more likely to overlap with NASCAR audiences (shaving versus teeth cleaning). Also, I would need to know more about their approach to know if it's valid.

Interviewer: They have NASCAR branded products with total sales of $100M.

Candidate: Approach is not valid since we are thinking about sponsoring a car to sell more of our original product whereas they are selling a new product.

Interviewer: What might be some of the issues associated with their approach to leveraging NASCAR?

Possible answers:

- Cannibalizing sales of their other products (people buying NASCAR branded shaving blades as opposed to Fusion blades)
- Marketing spend required to launch NASCAR branded products
- Alienating potential customers (those who are not NASCAR fans)

Interviewer: Taking Gillette's results, and making some assumptions about how we would compare, how would you determine whether we should pursue this?

Candidate: I would look at ROI. Initial investment of $20M + some other costs (other advertising, legal, etc.). *Make sure candidate addresses that there are costs beyond the $20M, but don't go in depth. Just call it X.* For the return, I would make these assumptions *(really doesn't matter)* to come up with incremental revenue of Y. While incremental revenue is nice, what's really important here is the incremental profit, so I would back out COGS, which makes our ROI quite small (or possibly negative depending on the numbers and assumptions). It is not important to calculate the numbers as much as it is important for the candidate to show that they understand the various financial "buckets" and can explain ROI clearly.

Interviewer: So what would you tell the president of the toothpaste company?

Candidate: I would recommend not doing the NASCAR sponsorship. Not target consumer, ROI is fairly low, and it's a huge part of our total budget. *Note: it is good if the candidate comes back to the implied reason why the company wanted to get involved with NASCAR: to target this particular population (largely male, between 25-55, living in suburban and rural locations) and perhaps offers other ways to reach this market such as providing free samples at NASCAR events, placing ads in magazines targeting this niche, etc.*

20.) Recreational Aircraft (Bain, Round 1)

Stem Part I.

Our client is a large industrial equipment company with four business units: airplane engines, industrial cranes, oil drilling equipment, and recreational aircraft. What issues do you think are important to consider in assessing the key drivers, opportunities and risks for this company?

Behind the Scenes: This is an atypical case because there is a two-part stem. If the candidate asks to make a structure, tell them there will be time for that later.

Potential responses:

- Key drivers
  - General economic factors (GDP growth, energy prices, commercial and residential construction market)
  - Natural resource availability
  - Economic policies regarding oil exploration, airline industry regulation (FAA), etc
- Opportunities
  - Trends across markets (our firm is 70% domestic, the other 30% includes emerging markets)
  - Synergies across the areas (ex: aircraft engines w/ recreational aircraft, oil drilling equipment w/ industrial cranes, etc)
- Risks
  - Issues in the suppliers' industries
  - Competition
  - Customer concentration
  - Price volatility

Stem Part II.

Recreational aircraft are small planes like Cessnas that people fly for fun. The client's recreational aircraft division was doing well in the 1980s, but started declining in the 1990s. The division was shut down in 2000. The people were moved to other divisions and the plant was closed. It is now 2009, and they are wondering whether they should get back into the recreational aircraft market or sell off the assets and get out for good. What do you think we should consider?

Potential responses: Candidate should make his/her structure. The structure may include: recreational plane industry overview (current market opportunity, competitive landscape), financials (startup costs, profit potential, etc), business fit (internal capabilities, product resurrection vs. new product development, rationale for original closing vs. rationale for re-entry, potential synergies, existing plant assets), and risks. Direct the candidate to dive right into the profitability calculation.

Interviewer: How would you go about figuring out the size of the market?

Potential responses: Two ways: top down and bottom up. Top down requires determining how many players there are in the market and their sizes. It is probably only a few, Cessna and a few others, so we could determine their revenues and add them to get the overall market size. Alternatively a bottom up approach would start at the by estimating the number of pilots and planes in the US (make sure they get this approach before moving on).

Interviewer: OK, I can tell you that 1% of the population has a pilot's license. Of those, 1/3 has a high enough income to actually own a plane or part of a plane. Of those, 10% buy their own plane and the remaining 90% belong to flying clubs where they share ownership of a plane with other pilots. We can assume there are 10 pilots per plane in these clubs.

Potential response: OK, so let's determine the number of planes we expect could be sold per year.

300M people x 1% = 3M pilots

1/3 of 3M pilots = 1M pilots with high incomes

10% of 1M = 100k planes bought by individuals

900k members of flying clubs/10 people per plane = 90k planes bought by clubs

100k + 90k = 190k planes total

Candidate should ask how often planes are typically replaced or how long their useful life is?

Interviewer: 20 years

Potential response: So if we round 190k planes to 200k and divide by 20, that's 10k planes purchased per year.

Interviewer: Great, now let's figure out how many of those we would need to sell in order to make a profit.

Potential response: In order to do that, I am going to need some information about our price strategy and cost structure.

Interviewer: I can tell you that 10 years ago our fixed costs (this is for steady state, ignore extra costs to start up the plant again) were $450M per year. Our variable costs were $1.8M per plane. Our selling price was $2M per plane. We need to assume that the numbers would be higher today, so let's assume they are 10% higher now.

Potential response: Let's calculate the number of planes that we would need to sell per year to breakeven.

If the price was $2M and now it's 10% higher, that is $2.2M. The cost per plane was $1.8M, so now it would be roughly $2M. That means $200k profit per plane. If our fixed costs were $450M, now they would be close to $500M. To get the total number of planes we need to sell to breakeven, it's $500M/$200k = 2500 planes.

Given that the market is about 10k planes per year, we need to capture 25% market share to breakeven. (a good candidate will observe this on his/her own)

Interviewer: Do you think we can do that?

Potential response: Any response will work, as long as the candidate provides good reasoning.

Interviewer: What are some risks of opening the plant?

Potential response: Technology could be obsolete (8 years is a long time to let a plant sit), may take a while to restart (maintenance, training employees, etc), need to find trained personnel, economy could go bad, fuel prices could skyrocket, FAA safety approval and/or flight testing could hold up the process, could divert focus from other product areas. We would also want to consider opportunity cost (i.e.: how much could we receive for selling off the plant).

Interviewer: What's your recommendation regarding whether to get back in this market?

Potential response: Should correspond to previous points raised, concise and direct.

21.) Consumer Packaged Goods (Bain, Round 1)

Stem

Our client sells Consumer Packaged Goods in convenience stores. They have 500 salespeople who personally visit the stores 2-6 times a year and are responsible for tracking and restocking the inventory, monitoring the expiration dates of the product, and for selling to the stores. The sales force visits 125,000 stores per year. The client wants to increase its efficiency by raising sales force visits to stores visits by 10% and increase sales by 20%.

Phase 1: Focus on the number of store visits

Interviewer: What are some ways that we can look to increase the number of visits per year?

Possible Answers: Expand geographically and in # stores, prioritize which stores to visit more

Interviewer: The sales force works 40 hr. weeks and is at capacity with regards to number of store visits. Given these constraints, how can we implement your suggestions? What factors should we explore further?

Possible Answers: The interviewee should ask for a salesperson's tasks and schedule.

- 25% of time spent stocking, monitoring expiration dates and counting inventory
- 25% of time spent selling
- 25% of time spent on administrative tasks, i.e. paperwork
- 25% of time spent driving

Interviewer: What are some ways that we can make this process more efficient?

Possible Answers: Automate processes by reducing paperwork; scan the products instead of manually checking and writing on paper, work on driver's routes to make trips more efficient.

Interviewer:

- By scanning products, we can reduce the stocking time by 50%.
- By adding GPS systems to the cars we can save 25% in driving times
- By going paperless and eliminating forms we can reduce administrative time by 20%
- Finally, all these changes will also result in increased efficiency in selling by 20%.
- What overall efficiency savings does this translate to?

Task	Current Time	Efficiency Reduction	Improved Time
Stocking	10 hrs.	50%	5 hrs.
Selling	10 hrs.	20%	8 hrs.
Driving	10 hrs.	25%	7.5 hrs.
Administrative	10 hrs.	20%	8 hrs.

This gives us a total of 5 + 8 + 7.5 + 8 = 28.5 hours under the improved system.
40 – 28.5 = 11.5 hours which is approx. 30% increased efficiency

Key insight: These changes have potential for substantial efficiency improvements, including saving enough time to increase the number of visits by at least 10%.

Interviewer: What are some potential challenges associated with increasing visits?

Possible Answers: Before committing to more visits, investigate if there even is an opportunity to visit a larger number of stores. Longer drive times to get to new stores may counteract efficiency improvements. The sales force may also be resistant to changing their routines.

Phase 2: Sales improvements

Interviewer: What are some factors you would want to look at in analyzing the potential for increasing sales?

Possible Answers:

- The success rate of multiple visits – what increase do we see in sales based on number of visits
- Sales data based on store size – are we more successful in larger or smaller stores

---

Interviewer: This chart shows the rate of sales per visit to different store sizes.

Store Size	2 Visits	4 Visits	6 Visits
Small 25% of stores	1,000	1,000	1,000
Med 50% of stores	6,000	8,000	10,000
Large 25% of stores	12,000	15,000	18,000

What does this tell you? Where should we focus our efforts?

Possible Answers: We are not getting extra value from additional visits in the small stores. We should focus our efforts on targeting multiple visits to as many large stores as possible.

Interviewer: What are some challenges associated with focusing on only the larger stores?

Possible Answer: Larger stores are going to service larger areas, so they will be more spread out geographically. This will add to the drive time. They may be chains, and therefore if one refuses to sell more of the product, perhaps all of them will, because they are dictated by a corporate purchaser.

Recommendations

Ask the interviewee to round up the points that have been covered and present a final recommendation. This is a more open-ended and qualitative case, so the recommendation will depend on the points that were raised during the discussion. Good answers should be well-organized and confidently delivered with logic to back up the assumptions.

22.) Domino's Pizza (Bain, Round 1)

Stem

Back in the 1990s, Bain Capital bought Domino's Pizza, a nationwide chain. They wanted to identify a growth strategy.

Phase 1: Industry Landscape

Behind the scenes: Let the interviewee make their structure. It should include a section on the industry landscape. Propose starting from there.

Interviewer: Let me give you a background on the industry. There are four national players.

Pizza Hut: market leader; owns mainly sit-down stores but also offers some delivery

Domino's: no sit-down restaurants, no carry-outs; entire operation is built around delivery; 80% of the stores are franchisees and 20% are company-owned

Little Caesar's: marketing campaign is 2 pies for the price of 1; restaurants are cafeteria-style, they offer carry-out; there is no deliveryPapa John's: new player in the market with very fast growth; no sit-down restaurants; their entire model is carry-out because their stores are located on high foot traffic streets so that people can pick up and go; their marketing strategy is "better ingredients, better pizza." However, when we conducted a blind taste test, we noticed that despite the fact people showed little taste preference between the four types of pizza, when the brand names were put on the pizza, people went with Papa John's.

Phase 2: Identifying Growth Opportunities

Interviewer: So what's the first thing you would look at to grow Domino's business?

Behind the scenes: There are a variety of good answers to this question. Let the interviewee offer a few, hone in on the suggestion to open more stories, when they say that.

Interviewer: What are some things you'd look into to identify where to open stores?

Possible Answers: Again, there are a lot of factors to be considered. Let the interviewee brainstorm the following list. Don't let him or her get away with simple listing the concept; make sure they get to a couple of the details after the colon in each point.

- Best Practices : Look at where we have stores right now and which of them are doing well to see in what type of places we do profitable business
- Competitors: Look at regions where there is not a high concentration of competitors, find those places and be the first mover. (To show you are digging a level deeper, be sure to touch on the point that when saying competitors, they might also include other similar fast food restaurants – like Mc D.)
- Cost structure: Look at places where labor and rent prices are affordable

- Demographics: Pizza is a "youth" trend. (Age: 13-35)
- Income: You actually don't want a high income level neighborhood because then those people would go to high end sit down restaurants and not Domino's. Income level should be low-middle.
- Growth: population is growing, the least it should not be decreasing
- Presence of Domino's: Is there a place where Domino's has no presence, then we could move there GIVEN that we see enough demand.
- Growth for pizza demand: Identify places where general demand for pizza is going up

The interviewee should wrap this up by saying something like, "Most and ideally all of these factors should go hand-in-hand for us to open stores."

<u>Phase 3: Store Specifics</u>

Interviewer: Ok, so what kind of place would be good to look at opening stores?

Possible Answers: There are lot of answers that could be given. Ask for the reasoning behind the suggestions. Here are a few examples.

University neighborhood: fits demographic of low income and young; students tend to order to their dorm rooms rather than carrying-out, which fits Domino's current strengths, the number of students universities take each year usually increases, leading to a growth in the market

Other good answers include: suburban strip malls, vicinity of office parks, near suburban schools, near sporting facilities

<u>Phase 4: Math By Store</u>

Interviewer: Ok, let's change gears. I told you that we are mostly a franchisee business. Let me give you some data. Luigi, one of our franchisees, has seen that now he sells 100 pizzas per day and charges 10 dollars per pizza. If he charges 11 dollars per pizza, he'll sell 90. Should he do it?

Behind the scenes: Make sure the interviewee asks for the cost data; Don't just give it out.

Interviewee: This will depend on his profits. What are his costs per pizza? (Bonus points for saying that you don't need to ask about fixed costs, because in the short run they will be the same in both cases)

Interviewer: 6 dollars per pizza. Now, you should be able to calculate.

Interviewee: Watch him or her go through this math.

Current margin: $10-$6 = $4 profit per pizza

Current profit: 100 pizzas/day * $4/pizza = $400 per day

Projected margin: $11-$6 = $5 profit per pizza

Projected profit: 90 pizzas/day * $5 profit per pizza = $450 per day

Key Insight: Luigi should do it. He gets $50 more per day.

<u>Phase 5: Looking at the Chain</u>

Interviewer: Ok, now let's look at the chain as a whole, and not just a single store. Would this benefit Domino's overall?

Interviewee: Should remember that this is mostly a franchise business. Should also ask what the royalty structure is (ie., how much Dominos gets from its franchisees.)

Interviewer: The franchisees pay 5% of their sales (revenues).

Interviewee: (should go back to math)

Current Revenue: 100 pizzas * $10/pizza = $1000/day

Dominos Revenue: .05 * $1000 = $50

Projected Revenue: 90 pizzas * $11/pizza = $990/day

Key Insight: The chain should not raise its prices, because before it for $50/day and now it will only get $49.5. Dominos should strictly control prices among its stores.

Interviewer: What are some things Dominos can do to control prices among its stores. Let's first start with Luigi, who we left wanting to raise prices, and then on a national level.

Possible Answers: First I would talk to Luigi and explain to him that this is actually a short term increase in his profit. Meaning that demand could be inelastic in the short term but in the long term people will just start buying from other pizza places and he'll have lost his loyal customers. I could back this up by showing blind test results; taste-wise people actually think all pizzas are comparable except Papa John's.

On a more national level, I would change the contracts with my franchisees and add in a statement about prices and the fact that they can't change them unless Dominos lets them.

Interviewer: Let's say Luigi's contract was for 5 years and this is only year 1. Can you think of anything else Dominos as a headquarters could do to discourage Luigi from increasing prices?

Interviewee: Well, I would think that Dominos is doing the marketing and advertising on behalf of the franchisees. If that's the case, we could say something like suggested price of $10 in the national advertisements so that when people would buy at Luigi's they would know the price is over charge and complain and this would stop Luigi because there is the danger of losing customers for him.

<u>Recommendation</u>

Open more stores, don't raise prices, and control franchisee prices to max revenue.

23.) Credit Card Company (Bain, Round 1)

Interviewer: My most recent case has me working with a credit card company. What do you think are some of the sources of revenue for a credit card company?

(Note 1: if candidate asks, clarify that we are not talking about MasterCard/Visa, which own the network. We are talking about an issuing bank, which issues cards and extends credit)

(Note 2: Don't let the candidate make a structure. This is a non-traditional conversational style interview that jumps right in)

Candidate should brainstorm and come up with a list.

- Fees – annual fees and late fees
- Interest payments
- Merchant fees

Interviewer: What about on the cost side?

Candidate should again brainstorm and come up with a list.

- Advertising
  - Direct mail
  - Other advertising
- Borrowing costs
- Default/write-offs
- Labor, overhead, other

Interviewer: Let's assume that the credit card company has done all they can on the cost side. What are some ways that they can look to grow revenue?

Candidate: Here's how I would break down the different ways they can increase revenues

- Price
  - Raise Interest Rates / Fees
  - Raise Merchant Fees
- Quantity
  - Increase the number of cardholders
    - Grow the market (get new people to start using credit cards)
    - Take share from competitors
  - Get existing cardholders to make more transactions
    - Loyalty program
    - VIP club

- Get more retailers to accept the company's card, so that cardholders can use it more often

Let's assume that we can't increase interest rates based on government regulations and that merchant fees are fixed by the network owners (MasterCard/Visa). What are some strategies we could use to grow the quantity of transactions?

Candidate:

- Improve marketing conversion rate (may get new people to start using credit cards)
- Improve the "product"... maybe offer different rewards programs to take share from competitors? This might also cause existing customers to make more purchases.

Interviewer: I like your idea about improving the product. Let's say that a cell phone company has approached our client with a technology that would allow people to make payments using their cell phones. What are some of the things you would want to look at to assess this opportunity?

Candidate:

- Profitability
  - Number of customers of the cell-phone company; overlap with our customers
  - Estimated rate of adoption of the technology among customers
  - Revenue / Cost on a per customer basis
- Competitive position
  - Who else has this technology or is planning to use it? (cell phone companies, credit card issuers)
- Risks
  - Technological (new technology comes along, network "standard" fight?)
  - Picking the wrong cell-phone company to partner with
  - Terms of the joint venture... who has makes the investments, reaps the rewards?

Interviewer: Wrap it all up for me. What would you tell your client about this new technology?

Candidate should be concise and take a stand one way or other. Possible answer: Our client should continue to pursue the cell phone technology opportunity. It is a new technology in the U.S. that would give them first-mover advantage, it would help them increase their customer base, and it would also increase the number of transactions per customer, all of which would help increase revenue. As they continue to pursue this, some things they need to be aware of are the market size and adoption rates in the U.S., the ongoing costs, and the competition's position.

24.) Utility Company (Bain, Round 1)

Stem

Our client is the sole utility provider in Washington state. It is regulated by the government, which allows it to earn a maximum of 10% of assets as income. Our client's capacity is 1M megawatt hours (Mwh) per year.

The government recently mandated that our client generate 10% of its capacity from renewable sources. The company has two options: 1) buy green credits from a 3rd party and 2) set up a wind farm

What should our client do?

1st phase: Economics of each option

Behind the scenes: Let the interviewee come up with a framework, which should emphasize evaluation of costs/benefits for each option. Competition or market issues should not be relevant since the client is a heavily regulated monopoly. Ideally, the framework should address internal capabilities.

Example starting framework:

Cost / Benefit

Wind	Credits
Upfront costs • Land • Construction • Equipment • Transmission System	Upfront costs • Trading desk • New technologies (IT)
Ongoing costs • Maintenance	Ongoing costs • Credits • Staff
Benefits • Increase revenue potential with asset base growth • Green perception in market	Benefits • Flexibility • No capital costs
Risks • Variability of wind • New / disruptive technologies	Risks • No reliable market • Limited information on value • Future supply unknown • etc.

Suggest focusing on costs for this first part of the interview; ask the interviewee what they would like to know about costs.

Interviewer: What would you want to know to analyze the options?

Possible Answers:

Wind farm

- Cost of building wind farms ($2,000 per Mwh)
- Life of wind farm (30 years)
- Maintenance cost (assume $0 for simplicity)

Credits

- Cost of credits ($20 / megawatt hour)
- Change in credit costs over time (price has increased from $5 / Mwh two years ago)

Interviewer:
For each option, could you figure out how much it would cost the client a year to fulfil the government's mandate? [Note – ideally candidate will proactively volunteer to go in this direction]

Possible Answers:
Renewable source requirement is 10% → either purchase green credits for 100,000 Mwh or build a wind farm with that capacity

1) Green credit: 100,000 x $20 = $2M
2) Wind farm: 100,000 x $2,000 ÷30 years = $6.7M (assuming straight-line depreciation)

Interviewer: Assume the of implementing either option is absorbed entirely by the consumers through rate hikes. If the client buys green credits, utility rate charged to the consumers will be increased from $0.10 to $0.11.
What could we expect the rate to be if the client were to set up a wind farm?

Possible Answers: For green credit purchase, $2M in cost translates into a 10% increase in rate. The wind farm costs $6.7M → the rate would be **$0.133** = ($6.7M/$2M) x 10% x $0.10 + $0.10

Interviewer: Can you comment on profitability implications of each option?

Possible Answers: Under option 1, which is to purchase the green credits, we know that all costs would be absorbed by the consumers so profitability would be unchanged. This is certainly true for building a wind farm as well, but what's interesting is that our asset base has increased due to the CapEx investment for the wind farm. This would lead to a bigger allowance for income earned (under the rule of maximum 10% of total assets)

2nd phase: Qualitative assessment

Behind the scenes: This section focuses on qualitative benefit/risk profiles of each option. It would be great if the interviewee suggests going down this path, but it's fine to ask the question directly as well. Ideally, the interview would include internal capability factors, green factors, and governmental view

Interviewer: What do you think are the most important pros and cons of each option?

Possible Answers:

Option	Pros	Cons
Green Credits	- Limited capital commitment - Easy and quick to implement - Easy to scrape if regulation changes	- Exposure to market uncertainty (400% increase in price in the last two years from \$5 to \$20) o May not be able to pass all costs to consumers in the future - Quick fix (not actually green power source in the state)

Wind Farm	- Improve company's image by being green (taking big step)
	    o To consumers
	    o To government
	- Create more jobs for the state by essentially setting up a new business
	- Potentially earning more income now that total assets are bigger (i.e., get more for the 10% cap on earnings on assets)
		- Large upfront investment
		- Require additional expertise and internal capabililties to develop
		- Risk of investment becoming obsolete if gov't eliminates requirement

Interviewer: What might the government not like about building a wind farm?

Possible Answers: Although it is green, it results in a higher rate hike (officials who are under political pressure may not like this). On top of that, being able to earn more income now that total assets are bigger, the client may push to sell more electricity, which may conflict with the government's goal of limiting energy consumption.

<u>Wrap-Up</u>

Behind the scenes: The ideal answer is a hybrid model. However, it is fine to pick either option as long as the interviewee gives compelling reasons.

Interviewer: So, what would you recommend?

Possible Answers:

1) Hybrid model: Look into buying green credits to fulfil the requirement in the short term and investigate the possibility of building a wind farm
    - This is superior because the company has an option of switching to the wind farm if credit price goes up
    - The company can buy time to develop internal capability to build a wind farm

2) Wind farm
    - Sustainability is increasingly becoming an important issue so risk of regulation being reversed is very small
    - More environmentally friendly and will generate positive PR
    - Could be used to make existing operation more efficiently (i.e., add capacity during peak hours) to mitigate effect of higher rate hike

25.) Dairy Farm (Bain, Round 1)

Stem

Our client is a private equity firm deciding whether or not to invest in a dairy farm in Iowa. The farm only produces milk. The client doesn't have any investments in the dairy industry or in farming more broadly. Should they purchase this dairy farm?

Phase I: Competitive Environment

The interviewer should reveal the following pieces of case information when asked a relevant question:

- Dairy farming is a localized market:
  - Bonus points for candidate who brainstorms why this might be true (e.g. spoilage during transport, government restrictions and co-operatives)
  - Our potential target competes with other dairy farms in the same area in Iowa
- Competitive sizes:
  - Our potential target has 10,000 cows
  - Competitor 1 has 7,500 cows
  - Competitor 2 has 2,500 cows
- Market shares:
  - Our potential target produces 100 units of milk per cow
  - Competitor 1 produces 80 units per cow
  - Competitor 2 produces 50 units per cow

- Not all cows produce the same amount of milk (bonus points to the candidate for asking this question!)
  - Cows produce more milk when they are happy – when they are more comfortable being milked and when they are milked faster.

Behind the Scenes: Candidate should synthesize the above data into a chart such as this:

	# of cows	Units/cow	Total units	Market share
Potential Target	10,000	100	1M	> 50%
Competitor 1	7,500	80	600K	About 33%
Competitor 2	2,500	50	125K	< 10%

Key Insight: Our potential target has 50% of the local dairy market in terms of number of cows and 60% of the market in terms of units of milk.

Phase II: Revenue Streams

- **Value chain:** Our potential target's milk is sent to a processor who makes cheese, yogurt, butter, etc. The processor must purchase all the milk produced by the dairy farms in its co-operative, and the price is set by the government at $16 per unit.

Key Insight: Since the price is set, and the processor has to purchase all the milk produced by the farm, the limiting constraint on the revenue side is the amount of milk produced.

Phase II: Cost Drivers

Behind the Scenes: After exploring the competitive market and the revenue streams, the candidate should move onto cost drivers.

Case Information:

- Cows, machinery, machinery maintenance, labor, SG&A, land, cow feed, transportation, veterinarians, etc.
- Primary variable cost is cow feed. Cow feed is $10 for 1 unit
  - Candidate should ask whether he/she can assume all other variables costs are negligible
- Fixed costs scale with the size of the farm (the # of cows). The fixed costs for our potential target are $4M per year.

Phase III: Profitability Analysis

Profits = (1M units x $16 per unit) – (1M units x $10 variable cost/unit) - $4M fixed cost = $2M

Profit margin = $2M/$16M = 12.5%

Interviewer: How would you think about whether or not this is a good profit margin?

Possible answers: How does this margin compare with competitors? How quickly would our client break even on this investment? How does this compare to the other companies in our client's portfolio?

Interviewer: Let's say that the fixed costs scale with the size of the farm (# of cows). How does our profit margin compare to our competitors?

Candidate: The selling price and variable costs are the same, and therefore our potential target has a higher profit margin, because they are able to produce more units of milk per cow. Competitor 1 is making about half the margin and Competitor 2 is losing money.

Candidate could synthesize the data they have collected into a chart such as the one below:

	# of cows	Total Units	Total Revenue	Scaling Factor	Fixed Costs	Variable Costs	Profit	Profit Margin
Potential Target	10,000	1M	$16M	1	$4M	$10M	$2M	12.5%
Competitor 1	7,500	600K	$9.6M	7500/10000= 75%	$3M	$6M	$0.6M	6.25%
Competitor 2	2,500	125K	$2M	2500/10000= 25%	$1M	$1.25M	($0.25M)	(12.5%)

Key Insight: If cows are happier because of a larger farm (perhaps more space to move around, etc), then this is a business where you will get higher margins with a larger farm. Our client may want to consider acquiring more than just one business or securing other land to expand.

Phase IV: Risk Assessment

Interviewer: What are some risks associated with acquiring this business?

Behind the Scenes: Candidate may consider developing a mini-framework to categorize the different types of risks (e.g. cost risks, revenue risks, regulatory risks, market risks etc.)

Possible Answers:

- Uncertainty about the acquisition price – competition for the deal may drive up price
- Our client doesn't have expertise in this sector (What if we can't keep our cows happy enough to produce this much milk?)
- Revenue uncertainties: Government could change the price of milk or the co-operative policies

- Cost uncertainties: price of feed, risk of cow disease
- Risk of change in consumer demand and preferences (substitutes to milk, people may want to switch to soy for health reasons, etc)

Phase V: Recommendation

Interviewer: Please summarize your findings for our P/E client.

Behind the Scenes: A good answer should have a strong recommendation along with next steps and potential risks.

Possible Answer: The client should acquire the farm because it is an industry leader in market share (>50%) and operates with double the profit margin (12.5%) of its nearest competitor. The client should proceed by performing further due diligence on the acquisition price (e.g. examine other profit multiple comparables) and carefully weighing the risks (e.g. lack of experience, lack of synergies with other portfolio investments, macro trends in the dairy industry, etc).

26.) Shoe Manufacturer (BCG, Round 1)

Stem: Our client is a shoe manufacturer who designs and manufactures shoes for women, men and children. The company sells its shoes to a range of retailers from national department stores like Macy's, mass retail stores like Target, and shoe retailers like Famous Footwear. While the revenue for the children's shoe segment has been increasing over the past few years, profits have been declining. Our client has brought us in to address this issue.

Candidate should come up with a structure that addresses costs and possible increases in costs due to manufacturing, distribution or marketing. The candidate should also include product mix in the structure – profits may be decreasing because the mix of shoes sold has shifted towards lower margin models.

Phase I: Profitability & Trends

After candidate has asked about product mix, prices and costs for shoes, provide the following charts:

Price/Pair

	2004	2005	2006
Brand A	64	56	56
Brand B	54	51	49
Brand C	33	38	46

Cost/Pair

	2004	2005	2006
Brand A	35	37	41
Brand B	31	36	38
Brand C	26	28	28

Price/pair is the revenue generated from selling shoes to the retailers and cost/pair is the fully-loaded cost associated with designing and manufacturing a pair of shoes. Candidate should calculate the profits for each brand in 2004 and in 2006 to compare how the profits have changed over the two years.

Example calculation: (64-35)/64 = 45%

Profit Margin/Pair

	2004	2005	2006
Brand A	45%	34%	27%
Brand B	43%	29%	22%
Brand C	21%	23%	39%

Candidate asks about the types of shoes and the differences between them. If not, guide them to this, Let them know that Brand A and Brand C are casual shoes and Brand B is a formal shoe.

Key insights: The client is likely decreasing prices for Brand A and Brand B because of decreasing sales volumes. Decreasing price is leading to eroding profit margins. On the other hand, the company has been able to increase price for Brand C and this has lead to increasing profit margin for that category. Since Brand A and Brand C are both casual, there may be some cannibalization of sales, especially if Brand C offers similar appeal to kids at a lower price.

Phase II: Sales & Strategy

Candidate should ask about sales volume for each brand to confirm the above hypothesis.

Sales Volume/Pair (000's)

	2004	2005	2006
Brand A	295	290	280
Brand B	390	390	380
Brand C	36	78	96

Candidate should calculate total revenue in 2006. For example, 280,000 pairs * $56/pair = $17.1MM. Candidate should also calculate the % of revenue from each shoe for 2006 as well as for 2005 and 2004. Though general "guesstimation" of numbers may be legitimate.

Total Sales (MM)

	2004	% of total sales
Brand A	18.880	46
Brand B	21.060	51
Brand C	11.88	3

Total	41.128	100%

	2005	% of total sales
Brand A	16.240	42
Brand B	19.890	51
Brand C	29.64	8
Total	39.094	100%

	2006	% of total sales
Brand A	17.1	42%
Brand B	19.4	47%
Brand C	4.4	11%
Total	40.9	100%

Key insights: Sales volumes are declining for Brands A & B even though price is decreasing while there is significant growth in sales volume for Brand C despite the fact that price is increasing. Brand C accounts for a small portion of total sales, but the proportion is increasing relative to other brands due to sales decline for the other two brands.

Interviewer: If you had $50MM to invest in one brand only, which brand would you choose and why?

Brand C is the most attractive segment because (1) there is increasing demand for the product and potential for greater sales growth and (2) it has become the most profitable amongst all brands and hold promise for enhanced profitability due to potential of increasing prices.

27.) New Drug Sales Increase (BCG, Round 1)

Stem: Our client is a pharmaceutical manufacturer that has just released a new drug 18 months ago and has been underwhelmed with sales. They want BCG to figure out why the sales have been so dismal, and also, what can be done about it.

Phase 1: Competitive Landscape and Product Differentiation

When prompted for information, you can reveal this:

- The drug treats high blood pressure
- There are many kinds of drugs that treat hypertension, and they're grouped into 5 classes according to how they work
- Our drug is in a new class → class six
- Our drug retails for $120 a month, after insurance covers a portion of it, patients need to pay $25 a month out of pocket
- All other classes but 1 have gone generic, and retail at $4 a month after insurance covers the other portion
- The other drug class that isn't generic yet is a class called ARP, it retails also at $120 a month with similar insurance breakdown. However, ½ of the ARP drugs will have patents expire the next year, so generic versions will come out very soon thereafter. The other ½ of ARP drugs will meet a similar fate in 2 years… Ultimately, the only other drug that is sold in non-generic form will be gone in 2 years.
- Our drug is safe with no reactions to other drugs or side effects. It sets blood pressure down about 14 MMGH, the range for all drugs is 14-17, and the ARPs lower blood pressure to around 14-16…. So, our drug is on the low end, and doctors prefer drugs to lower pressure as much as possible, although hypotension can be a big concern
- The only differentiator between our drug and the ARPs is that our drug stays in the system longer. With hypertension medication, if you miss a dose (once a day), your blood pressure spikes up even more than before you started taking the drug, which is very unsafe. With our drug, you can miss a dose and everything will be fine.

Phase 2: Stakeholder Relations

When prompted, you can reveal the following:

- The drug company has good relations with most insurance carriers and the drug has gotten onto most formularies, and should be easily accessible. Contacting the insurance companies has been exhausted, and there is marketing saturation with the company's means of being able to reach out to other insurance companies. Ultimately, pushing to more insurance companies is not an option

- Patients don't know much about blood pressure drugs, and don't really care what they get
- Doctors are aware of the drug, but think it's very expensive, don't believe it's on formularies, and aren't sure when and to whom to prescribe it.

Phase 3: Marketing Ideas

Marketing more to insurance companies is a dead end, as they're saturated already. Marketing efforts should be focused first on doctors (providers), and then on patients.

Some possible things to bring up for doctors:

- High-touch sales efforts – office visits to get awareness out
- Materials to bring awareness of the drug, its benefits, and also its insurance formulary availability to light
- Guidelines on when and to whom to prescribe.

Some possible ideas for patients:

- Ads or commercials bringing out the fact that the drug is more forgiving on missing a dose
- There should be adequate messaging so that patients don't feel encouraged to act recklessly on moral hazard
- Try to hammer on the fact that patients should be motivated through the big value proposition of accidentally missing a dose with no ill consequence to ask for this drug from their doctors

Phase 4: Recommendation

The candidate should bring to the fore that the problem in revenue growth has come as a result of the stakeholders in charge of prescribing and purchasing the drug not having enough information about it. The candidate should focus on the fact that making doctors aware of the drug's insurance connections and increasing education of physicians will have the most drastic impact. Also, with the right ads and commercials, it's possible that this could become the first "celebrity" blood pressure drug, and further pull demand with patients requesting the drug from their doctors.

28.) Shoe Manufacturer Acquisition (BCG, Round 1)

Stem: Our client is a major global shoe manufacturer. They are currently #2 in the US and are seeking to dethrone the #1 shoe manufacturer. They have tried several strategies in the past and none have worked. They are now looking to purchase the #3 shoe manufacturer to see if combined, they can overcome #1. Manufacturer #3 has quoted a price of $480M preliminarily for the sale. Should they go forward with the acquisition?

Structure should include target attractiveness, economics of deal / financials, fit with acquirer (with factors like synergies, cannibalization risk etc), alternatives to acquisition.

The candidate should start methodically gathering data about the specific situation with questions about the three players, their target customer segments.

When asked by the candidate, the interviewer can release the following data:

- Both manufacturers make similar shoes (primarily dress shoes)
- Both manufacturers sell in roughly the same places
- The #3 manufacturer's shoes are perceived as being of lower category
- Despite being one company, the two brands could remain separate, however they would not want to market against each other in advertising as they have been in the past
- There is a risk of market cannibalization, leading to total sales being lower
- If the brands were to be seen as being produced together, they could affect consumer perceptions, also affecting sales
- There is a possibility for synergies leading to more efficient operations and improved profit margins for both companies

The key part of the case is economics and valuation and the candidate should get there quickly.

Phase 1: Valuing the company

Interviewer: What would you take into account when going through a valuation of this deal?

strategic transaction

- Could look at Multiples/Comparables analysis, NPV of cash flows, Book Value
- When NPV comes up, say that you're not interested in the time value of money effects

Interviewer prefers valuing this with an aggregate cash flow analysis, like NPV assuming that the value of the money will stay the same, and no cost of capital needs to be taken into account:

- The payback period would be 8 years
- The current revenue for the #2 manufacturer are $1B, with a 10% profit margin ($100M profit per year)

CF(1+r) + CF8

$NPV = -P + \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \ldots$

rule of 72.

- The current revenue for the #3 manufacturer are $750M with a 8% profit margin ($60M profit per year)

After an initial analysis of the profits from the #3 manufacturer aggregated over 8 years ($750M * 8% = $60M per year of profit, times 8 years = $480M), suggest what were to happen if:

- The synergies from the deal increased the total profit for #2 client manufacturer by 15% (would now make the total profit $115M per year), and increased the total profit per year of #3 by $10M, how would that affect things (#3 would now have $70M profit per year)?

Candidate: Must add the 70M to the addition 15M from the synergy, leading to $85M in profit per year, and then again multiply by 8, leading to $680M.

In conclusion, if the candidate acknowledges that these are assumptions on synergies that are reasonable, this seems like a great opportunity.

Phase 2: Synergies

Interviewer: What kind of synergies could we have here? (brainstorming)

Candidate: Revenue and cost, with more opportunities in cost. On the revenue side, there are volume pricing synergies and negotiation tactics with large retailers as a large manufacturer. On the cost side the value chain is Material -> Labor / manufacturing -> Distribution -> Retailer / Customer. On Materials, there's an opportunity to negotiate and consolidate. On manufacturing we could consolidate plants potentially.

Interviewer: If the client has 3 US plants and the target has 3, how would you determine how many to shut down?

Candidate: I'd evaluate the existing capacity in plants, the economics/profitability of each plant, the strategic rationale for their existence (e.g. distance to inputs, outputs), and the cultural and political underpinnings of each plant relative to the combined company. Also, the marginal cost to produce products from each plant is a key consideration and the lower the better. We could also look at outsourcing to lower costs.

Once you are reasonably satisfied with the synergies, move towards risks

Phase 3: Addressing the Risks

Push the candidate to identify some risks

Possible answers: Cannibalization, brand dilution due to lower quality of #3 manufacturer.

Interviewer: It's possible that the risks you identified of cannibalization and brand confusion may indeed come to pass. To make sure that this isn't something we should worry about, what should be done?

Possible answers:

- Identify customer demographics through sales tracking
- Get a representative focus group together to see how they would react to brand differences, or if they would care if the two were owned by similar companies
- Send a survey to a larger group of customers, or the general population to assess the effects

(Other reasonable answers equally valid)

Overall, listening to the voice of the customer could give insight into how they would react to the deal and any semblance that the two shoe manufacturers are working together.

Phase 4: Recommendation:

The candidate should remark that the company should go ahead with the acquisition at the price #3 has stated, as the potential profit given the synergy assumptions leads to a great profit. The candidate should state that they need to make sure that the synergy assumptions are sound, and that market research should be done to make sure that customers will not have adverse reactions to the merger or that their brand awareness will be impacted so as to potentially damage sales.

29.) Pharma – New Vaccine (BCG, Round 1)

Stem:

Our client is a pharmaceutical company interested in expanding into vaccines. They have no vaccines on the market, but have a new flu vaccine in clinical trials. Estimate market demand and give them a positioning strategy.

Additional data if asked:

Is this flu vaccine different than the one I get every year?

Yes. We'll talk about how it is different later; for now, assume that the current flu vaccine is a commodity with no differentiation. It must be given every year. This is the vaccine that the CDC recommends that certain segments of the population get every year to prevent the seasonal flu and is either given via injection or nasal mist. Our vaccine is differentiated, and a number of other pharma companies have differentiated flu vaccines in their pipelines. All are in late clinical trials and none are on the market yet.

Structure: Ok, I'm going to look at this problem this way:
Market Demand; Current Market; Future Market

First we'll look at the question asked, which is the demand for commodity flu vaccine. Next we'll use this to look at the current market and its growth, customers, buyers, and suppliers. Lastly, we'll look at the future market to figure out our strategy. When we look at the future market, we'll need to find out more about how the product is differentiated so we can look at who the customers are (and possible segmentation) and how this relates to our competitors.

Phase 1: Current Market
Well, the current market is driven by the CDC's recommendations on who is most at risk. I know I don't get the shot every year, but I know other age groups are much more likely to. Let's break it down by age.

Assume 300 million people in the US. I'll divide them into 6 age groups, each with 50 million people. The CDC recommends that the very young and very old get the vaccine, so we'll assume 100% vaccination at the ends. I know that myself and my peers don't often get the vaccine, so our rate will be lower and will likely be a minimum for people 30-60. Let's see what this tells us about market size.

Age Range	Population (M)	% Vaccinated	# Vaccinated (M)
0-15	50	100	50
15-30	50	50	25
30-45	50	10	5
45-60	50	10	5
60-75	50	50	25
75+	50	100	50
		Total	160 million

So I estimate the annual market demand is 160 million doses.

How do you think we could grow that number?

Well, the most room for growth is the middle. There's also some room at the ends of the age range since the real rate is <100%, but that's not as big a growth opportunity.

The first way would be to get people like me to get the shot. For a vaccine, the end user is not the buyer – the buyer is local, state, and federal health authorities and medical practitioners like doctors and hospitals. This means that direct marketing (like TV ads for Lipitor) probably won't do us a lot of good because the end user isn't buying the product. Instead, we could work with those health authorities to raise awareness of the flu vaccine and its importance for people in the middle age ranges, if not for themselves then for the safety of the young and old around them. Lastly, the young and old are likely limited by distribution – moms who can't get their infant to the doctor and the elderly who can't get to a clinic easily. Thus, we could work with health authorities to increase access, maybe by having a mobile van that vaccinates at day cares and nursing homes.

Ok, what's next?

Let's talk about the current market. We've basically covered a lot of this already – our growth depends on working with public health authorities (and population growth), our buyers are medical people and health organizations, and we and our competitors all duke it out on price for very little margin.

Phase 2: Future Market

Let's look at the future market. At this point, I really need to know more about the product. How is our product different?

You tell me. What are some ways that it could be differentiated?

(Comment: This specific Sloan candidate had experience in the industry, and therefore had some technical knowledge. If this is not the case for the current candidate, provide the info as is requested).

Well, current vaccine is delivered via nasal spray, prefilled syringe, or multiuse vial and a separate syringe, so one way would be a new delivery system. Also, the current flu protects against three strains of flu, so we could add strains to add protection. Though it's unlikely, it could also be a longer lasting vaccine that protected for multiple years. It could have less side effects, not be egg-based (for people with egg allergies), or could have higher efficacy.

Assume our differentiator is a delivery system. Our vaccine is a pill.

Is that different than our competitors' new vaccines?

Yes, they differentiate based on something different.

That's great! That allows us to explore a few options:

- Reach market segments that are currently hard to capture. For instance, some people don't get the shot because they don't like needles.
- If our pill doesn't require refrigeration like the current vaccine, we can lower costs by not having to use refrigerated equipment in the distribution chain.
- A big part of flu vaccines COGS is the syringe or nasal inhaler itself – depending on how much the vaccine itself costs, this could have lower COGS than current vaccines

So what's our strategy?

Let's segment the market. If our COGS are higher than current products, health authorities have strapped budgets and want the low cost option for most people, but we'll position our product as a higher cost option to serve the hard-to-reach segments that are currently underserved. If our overall COGS turn out lower, we might be able to lower price and expand into the existing commoditized market. It would take years for a competitor to get a similar product through development and clinical trials, so we've probably got a 5 year headstart to take over the market. After that, it will be harder.

That sounds good. Incidentally, besides reaching more of the population, why might health authorities like our product?

The pill might not require refrigeration, would prevent accidental needle sticks, would remove the high cost of disposing of biohazardous waste, and would be much faster to deliver.

Great, thanks.

30.) Global Healthcare Charity (BCG, Round 1)

Stem: Our client is a large global healthcare delivery non-profit organization. Each year they make $2 billion in grants to reduce the incidence of disease in developing nations. Every year, they allocate 20% of this budget to fighting malaria. 80% of their malaria budget goes toward R&D and 20% to onsite implementation.

A few facts about malaria: Approximately 50% of the world's countries are considered "at risk", which means malaria is common among the population. The biggest problem is in Sub-Saharan Africa. In this region, the disease has a 40% incidence rate among children under the age of 5. However, children who live past the age of 5 usually acquire immunity to the disease by this stage of their life.

It is early 2008, and the malaria team has just found out that for this year, and this year only, their budget will be increased by 20%. These additional funds could be invested into the purchase and distribution of bed nets, or they could be used to further R&D on a malaria vaccine with a robust pipeline. The team is equally divided between these two options and has brought us in to help them decide how to invest the additional funds.

***Key Insights*:** While drawing their structure, the candidate should have already calculated that additional malaria team funds amount to $100M. The key to the case is to compare each option and determine which can save the greatest number of lives. Impact on the number of lives saved should be included in the candidate's structure.

Phase I: Sub-Saharan Africa demographics

The following information can be provided if requested by the candidate

- Total population is 800M
- Average life expectancy is 50 years, but the population is weighted more heavily toward the 0-5 age group
- Roughly 10% of the population falls into the 0-5 age group

Behind the Scenes: *The candidate can calculate the population of the 0-5 age group in one of two ways. If they ask for the percentage, then they can simply multiple 800M by 10% to get 80M children aged 0-5 years old.*

If they ask for life expectancy, they can divide 800M/50 years and multiply by 5 to get 20M. They need to remember though that population is not weighted evenly so they should multiply 20M by at least 2 to get a final 0-5 year old population of 40M-80M.

Phase II: Determining the benefits of bed nets

Behind the Scenes: *Once the candidate has the above information, they should move to evaluate the impact of investing in either bed nets or the vaccine. It does not matter which they start with, but they should be clear that they wish to do a side-by-side comparison before the following information is provided.*

Candidate: I'd like to start by evaluating the bed nets. Do we have any information on how effective bed nets are?

Interviewer: There are two factors that contribute to the usefulness of bed nets. Efficacy is 40%, which is the frequency with which they yield the desire result. There is also a compliance rate, which is the frequency that the nets are actually used. The compliance rate is unfortunately only 50% because once they are distributed families often use them for other purposes or don't use them at all.

Candidate: Do we know how much each bed net costs?

Interviewer: They are $5 each. That includes everything – purchase from the manufacturer, shipping, and distribution.

Candidate: Ok, so $100M divided by $5 = 20M bed nets

Key Insight: Candidate should note that 20M bed nets is only enough for 25% of 0-5 year old population.

Candidate: 20M bed nets x 40% efficacy x 50% compliance rate x 40% incidence rate = 1.6M cases averted. How long do bed nets last?

Interviewer: They last for 2 years.

Candidate: Ok, 2 years x 1.6M cases averted equals a total of 3.2M cases of malaria averted if we invest the $100M into bed nets.

<u>Phase III: Determining the benefits of vaccine R&D</u>

Candidate: What information do we have about the vaccine pipeline?

Interviewer: The vaccine will be ready for launch 4 years from now.

Candidate: Do we know the efficacy and compliance rates for the vaccine?

Interviewer: Studies show that the vaccine will have an 80% efficacy rate. Can you tell me your intuition about the compliance rate?

Candidate: Sure. How would the vaccine be administered and in how many doses?

Interviewer: The vaccine can be taken orally and only a single pill is required.

Candidate: Compliance rate would likely be close to 100% then since clinicians can ensure that the pill is taken properly and the patients do not need to return for additional doses. Do we have any information about how much the vaccine will cost?

Interviewer: The cost is $30 per vaccine, but our $100M investment will only cover research and development costs. However, if we fund the research, another organization has agreed to donate an additional $150M dedicated to the production and distribution of the vaccine.

Candidate: $150M/$30 = 5M doses of vaccine.

5M doses x 80% efficacy x 100% compliance x 40% incidence = 1.6M cases averted

Key Insight: The candidate should realize that because the vaccine provides lifelong protection, more cases could be averted if the vaccine is administered when children are younger. If the candidate asks, the vaccine can be administered safely when the child is as young as one year old. The vaccine will then protect them for an additional 4 years of their life while they are still susceptible to the disease, so 1.6M is multiplied by 4 to get a total of 8M cases of malaria averted.

Additional Insight: While this is not a traditional business case, a cost-benefit analysis can be used. After analyzing the two options the candidate may also want to think about how bed nets and the vaccine fit in with the organization's central mission and knowledge, and what other organizations in the space are doing.

Phase IV: Final recommendation

Key Insight: Candidate should recognize that neither approach is a cure-all for malaria since a large proportion of 0-5 year old population remains unprotected. However, investing the $100M in either approach would have a significant impact on saving lives.

Recommendation: The final recommendation will depend on whether the candidate gets the key insight for vaccine administration. Recommendation should be direct and include both analysis and recognition of other factors (mission alignment, etc).

31.) Global Airline (BCG, Round 1)

Stem: Our client is a global airline company that wants to introduce wireless Internet services in its international flights (i.e., flights between US cities and non-US cities). While other airline companies already provide wireless services for domestic flights, different technology is required for flights over water (i.e., no access to wireless towers on land). Currently, there is only one vendor available in the market that provides a new technology that allows wireless Internet over water. The client wants to know at what price they should deploy this service.

Candidate could prepare a simple framework with customers (willingness to pay, segmentation, needs), profitability (revenues, fixed costs, variable costs) and risks.

Candidate should ask about the customer's willingness to pay for the wireless service.

- 30% of passengers are WTP if price is under $5/hr
- 15% of passengers are WTP if price is under $10/hr
- 5% of passengers are WTP if price is under $20/hr

Candidate should ask for fixed and variable costs.

- Investment of $600,000 per airplane for installation and access to wireless technology
- $4/user hour (includes all variable costs)

Candidate should also ask about # of airplanes, # of flights, number of passengers, capacity, etc.

- One international flight can carry 500 passengers
- On average, flights have 80% capacity → 400 passengers
- Average international flight = 8 hrs → assume each user spends 3 hours online
- 500 planes flying internationally, 2 flights per day

If they don't on their own, direct them to figure out the payback period of the alternative prices. To figure out how long it would take to cover investment of one airplane, candidate should determine the optimal pricing for maximizing profit. In this case, charging less than $5/hr is not profitable. Considering the passenger's WTP above, the client can either charge $9/hr or $19/hr to target 15% or 5% of passengers, respectively. The interviewer should prepare a table (in presentable format) similar to the one below:

Price	$9/hr	$19/hr
Profit/hr (excl. investment)	$9/hr - $4/hr = $5/hr	$19/hr - $4/hr = $15/hr
Profit/passenger	($5/hr)(3 hr/pass) = $15/pass	($15/hr)(3 hrs/pass) = $45/pass
Profit/flight	($15/pass)(15% WTP)(400 pass) = $900/flight	($45/pass)(5% WTP)(400 pass) = $900/flight
Profit/day	($900/flight)(2 flights/day) = $1800/day	($900/flight)(2 flights/day) = $1800/day
Days required to cover investment	($600,000/plane)/($1800/day) = 333 days	($600,000/plane)/($1800/day) = 333 days

Key insight candidate should make on their own: The payback period is about 1 year, regardless of whether the client charges $9/hr or $19/hr to its passengers. Annual profit after payback is about $330M ($1800*365 days*500 planes).

Recommendation: The investment in wireless service on international flights is attractive because the payback period is only 1 year and annual profit is about $330M. Revenue potential could be even greater due to the secondary effects of adding such a service – more passengers flying our airline, more passengers using the service, different pricing methods. There are some risks, including reliability of new technology and adoption by competing airlines.

32.) Project Investing Methodology (Booz, Round 1)

Stem: Our client is a health insurance company. In 2007 (two years ago), we helped them develop their strategic plan, which would govern the direction of the company over the next five years. The client has explained the strategy to the individual business units, and asked the units to submit ideas for new initiatives that would support the strategy. The business units have submitted approximately 80 initiatives all together. It is now 2009 and the economy is in a recession. Due to the increased uncertainty in the market and the difficulty in accessing capital, our client will have to be more selective with the initiatives that it selects to move forward. The client has hired our firm to help them develop the criteria and methodology to enable them to prioritize the initiatives so that they can move forward with implementation as soon as possible.

Phase 1: Case Facts

Behind the Scenes: Let the candidate layout a framework and brainstorm what criteria he/she would consider in developing a prioritization schedule. Ideas might include: strategic fit, financial value, ease of implementation (i.e. low hanging fruit), growth opportunities etc.

The interviewer should reveal the following case information when asked a relevant question:

The strategic plan included 3 main goals for the insurance company:

1. Increasing scale of the business
   a. Increasing sales volume of insurance plans.
   b. Improving the efficiency of the administrative functions and overall organization enabling them to handle larger workloads.
2. Increasing customer involvement in insurance plan selection
   a. Creating programs/tools to enable customers to take more ownership of plan selection (note: this is industry trend that our client doesn't want to be left behind).
3. Rebuilding the brand
   a. Our client is viewed as a traditional brand, and they would like to unveil themselves as a 21st century healthcare insurance provider.
   b. Attract more new customers.

- All three of these goals are equally important.
- An initiative can support more than one goal.
- The client wants diversification within all the initiatives chosen, so that there will be an equal distribution of initiatives supporting the three goals.
- Due to the difficult economic situation, it is important to the client to see results/impact of initiatives as quickly as possible.
- There is a steering committee that understands the work of the individual business units and will impartially evaluate the effectiveness of each initiative in addressing the strategic goals.

- The company prides itself on being very data driven and is looking for as quantitative a measure as possible.

Phase 2: Developing a Ranking System

Interviewer: So, the steering committee has gone ahead and ranked the initiatives based on their fit with the strategic goals. Chart A below represents a sample ranking as determined by the committee, with only 4 initiatives (instead of all 80) and 2 goals (instead of all 3). The ranking applies a higher number to a better fit with the goal (e.g. rank of 4 denotes best fit with particular goal; rank of 1 denotes poorest fit with particular goal).

Chart A:

	Rank	
Initiative	**Goal 1**	**Goal 2**
A	1	N/A
B	2	N/A
C	3	2
D	4	1

Possible Answers: The candidate should suggest that a weighted average of the ranks be taken to derive an overall score. Because all of the goals are equally important, the weighting should take a 50% - 50% split between the two goals. If an initiative doesn't address a goal (as in the two N/A's), that rank should be considered 0.

Key Insight: Since the ranking system assigns the highest number to the project with the best fit with a particular goal, the ranks for Goal 2 need to be equalized with Goal 1. In this case, the "2" and "1" for Goal 2 need to become "4" and "3" respectively.

After taking the weighted average, options "C" and "D" tie at 3.5, suggesting the requirement for further analysis in order to prioritize the initiatives. The chart below summarizes the scores (don't show to candidate).

	Rank			
Initiative	**Goal 1**	**Goal 2**	**Adj. Goal 2**	**Overall Score**
A	1	N/A	0	0.5
B	2	N/A	0	1
C	3	2	4	3.5
D	4	1	3	3.5

Phase 3: Financial Analysis

Interviewer: So, since two initiatives can tie under this ranking system, what would you do next?

Behind the Scenes: If the candidate does not suggest looking at the financial attractiveness of each initiative, then the interviewer should encourage them in this direction.

Interviewer: How would you assess the financial attractiveness of the initiatives?

Possible Answers: The candidate may suggest looking at the payback period, IRR, and NPV evaluations. However, due to the tenuous economic situation in 2009, the candidate should primarily suggest a payback period analysis as the leading financial indicator of the attractiveness of each initiative. This analysis could be supplemented with an NPV and/or IRR analysis to understand the magnitude (NPV) and effectiveness/efficiency (IRR) of the investment.

Phase 4: Prioritizing the Initiatives

Interviewer: Now that you understand the client's needs and their ranking methodology, we need to prioritize the list of initiatives. The client's primary concern is the fit of the initiative with their strategic goals, followed closely by the financial impact of the initiative. Given this information, how would you structure the prioritization plan that we will propose to them for all 80 of their initiatives?

Possible Answers: The candidate can be creative in developing their methodology, but should be consider the key areas of importance to the client (strategic fit with goals, then financials) and develop a structure that is logical, straightforward and intuitive (i.e. not introducing unnecessary levels of complication to the model).

For example, the candidate could move towards stratifying the initiatives into groups. Those initiatives that address all three goals would be in Tier 1, those that address two goals in Tier 2, and so on. From there, some combination of the weighted average of the project's overall rank and payback period or other financial analysis can lead to further stratification within each tier.

Phase 4: Recommendation

Interviewer: So, you're heading into a meeting with the steering committee to present your recommendations for their project investing methodology project. What do you tell them?

Possible Answers: The candidate should succinctly summarize the methodology that was developed and the criteria that were considered. The candidate should also mention other qualitative considerations that should be taken into account for initiative selection (e.g. synergies between initiatives that may reduce their costs or increase value, political issues of initiative selection between units, bread/diversification of initiatives, competitor responses etc). The final methodology should be the result of a combination of quantitative analysis and broader managerial thinking.

33.) CompressCorp (McKinsey, Round 1)

Stem: Our client is the CEO of Andover Compressor, a company that produces natural gas compressors. A compressor is used to pump gas out of a well, compress it, and move it to a pipeline. Andover is preparing to merge with Bellspan, a compressor company of approximately equal size to form CompressCorp. Both companies produce similar products and both manufacture, sell, install, and service their compressors. (The companies are almost identical…) Investment bankers involved with the merger have assured Andover's CEO that the merger will "create significant value," and he has hired our firm to investigate how value will be created and what CompressCorp can do to best take advantage of the merger.

We have a meeting with the CEO tomorrow morning, and we want to be effective with his time, so what would you want to investigate to approach this problem?

Behind the Scenes: The candidate should structure an approach to identify value creation opportunities. In general, the structure should address how the changes resulting from the merger can be leveraged to create a competitive advantage for the merged firm. A good structure might include:

- *Market* – How will the merger create a better market position for the combined firm?
- *Company / Operations* – Investigate how new revenue opportunities and/or cost savings will spur increasing profitability in the future.
- *Financial Strength* – Will CompressCorp have easier access to capital due to the merger that will allow the company to expand more effectively?

Part 1: Market Position Analysis

Interviewer: (Encourage the candidate to look at market positioning first). From a market-positioning standpoint, what are some possible benefits of the merger? What are some possible concerns?

Possible Answers:

Benefits

- Increased market power could allow combined firm to charge a higher price.
- If geographies and/or customer

Concerns

- Ability to leverage market power to raise price could be restricted by anti-trust regulation and/or due to offering commodity type product.

segments are different, combined firm will have an expanded market with more product variety and channels.
- More effective competitive position if combined firm's technology is a market leader or their financial position is stronger.
- Economies of scale advantage in US market.

- Reduced competition may leave customers resentful as they have reduced options and feel trapped by 'big player'
- Reduced competition may stifle further drive for innovation.
- Potential response by competitors in other markets (either geographic or product-based).
- Impact on corporate identify/brand perception in the market.
- Government/regulatory restrictions on new firm's activities.

Behind the Scenes: Anti-trust and customer responses to the merger are the primary concerns that the candidate should list. Share the following information with the candidate when he/she asks relevant/insightful questions:

- Lawyers have determined that the merger will go through but that CompressCorp will not be able to raise prices on customers based on anti-trust regulation.
- Andover and Bellspan currently each have about 40% of the US market (i.e. CompressCorp will have about 80%).
- International markets are much more fragmented, and both companies have small market shares in various locations globally.
- Customers include both large oil and gas multinationals and small independent operators.

Interviewer: I think this is a good list of benefits and concerns. Based on your market analysis, can you give me a few recommendations you would make to at our meeting with the CEO tomorrow?

Candidate:

- The merger will give us a dominant position in the US market with 80% market share and we should first focus on integrating the companies and strengthening our US position.
- We will need to actively address the concerns of our US customers about reduced competition in the market.
- We should consider how the merger will relay into a new strengthened brand and positioning in the market.

- We should look for opportunities to leverage our newfound scale in international markets in order to grow market share and seek to grow that business organically or through further acquisitions.

Part 2: Customer Concerns

Interviewer: Good. Let's look a little bit more at the concerns of our customers. (If customers weren't brought up in the earlier exercise, bring them up now. It is best if the candidate creates a "mini-structure" to identify customer concerns. He/she should also remember that our client offers services across the entire value chain).

Possible Answers (Concerns):

- Customers may be concerned that we will raise prices.
- Customers may be concerned that we will try to service everyone with fewer resources and that service quality will suffer.
- Assuming we will only offer one line of compressors, some customers will have to switch technologies and re-train their staffs.
- Customer concerns about maintenance on discontinued models.

Possible Answers (Response):

1. Communication is key! Since most of our customer base is comprised of the large oil and gas companies, we can communicate directly at the C-level. We should emphasize these points: We will not raise prices (given regulatory constraints this isn't an option anyways) and will offer the same level of service as before. We will also add more value by using the best technology and capabilities of both companies.

Part 3: Company Operations and Synergies

Interviewer: Let's take a look at the companies now. How will the merger create value from an operational standpoint?

Behind the Scenes: The candidate should structure their response. One option is to create a structure based on cost reductions and revenue opportunities. Another option is to consider value creation throughout the value chain.

Possible Answers:

Revenue Growth (Should focus on Quantity)

- Being the clear market leader (US) may attract additional customers.
- Being market leader may give more flexibility in launching new, creative sales models/product types.
- Any differences between the firms in their product portfolios (e.g. service packages, warranties, add-ons) could provide new cross-sell opportunities to the customers from other firm.
- Identify added value resulting from the combination of technologies and service capabilities.
- Leverage market leader position in US to build international market (gain access to multinational accounts).

Cost Reduction

- Procurement: Increased purchasing power with suppliers.
- Production: Shift production to less expensive plant / expand plants / improve asset utilization. Generally take advantage of economies of scale. Simplify product offering to discontinue less profitable products.
- Sales: Lower sales and marketing cost by reducing sales force where clients or geographies overlap. Integrate customer relationship management processes.
- Service: Servicing a reduced product line will be more efficient.
- SG&A: Leaner management structure, eliminate redundancies and consolidate functions such as procurement, IT, HR, logistics, finance etc.

Part 4: Sales Model Analysis

Interviewer: The CEO would like to simplify operations by focusing on one of three current sales models for CompressCorp's machines. Take a look at this sales data and tell me what method should be pursued? (Show **Exhibit A**, and let the candidate keep it.)

Key Insight: Since "Service Contract" is the highest margin method, CompressCorp should clearly focus on this type of sale. CompressCorp also needs to exit its leasing business quickly, since the margins are significantly less attractive.

Interviewer: Let's say that at our meeting with the CEO we suggest moving to the Service Contract sales model and he responds that he thinks we should pursue Direct Sales instead because the Direct Sales method will improve CompressCorp's Return on Assets. The CEO's justification is that selling the compressors will result in lower assets on the balance sheet and more income, which will in turn increase ROA. The CFO responds that the Service Contract creates more value, which is more important than ROA in the long run. What would your input be into this discussion?

Behind the Scenes: The candidate needs to give a *confident answer (!)* and ultimately should stick to the initial answer of the higher margin method.

Candidate: Even though the ROA may be lower under the Service Contract model, it will create more value for CompressCorp in the long run which is the more important metric. We could also look at other relevant ratios such as the leverage or the current ratio, which would be improved by focusing on Service Contract sales (extra points for this last insight!)

Interviewer: That seems like a good answer, but the CEO says he needs some numbers to be convinced. What would you need to show him which method is more valuable to CompressCorp?

Candidate: We can use the information we have to determine the value each type of sale and then compare amongst them. Let's try to see what profits each method generates for CompressCorp.

Interviewer: Good. How would you value each option? What information would you need? (Offer the following information as the candidate works through the problem and asks for it).

- A Direct Sale generates $1M in revenue.
- A Service Contract generates $300,000 in annual revenue.
- Service Contract contracts are very long term (should use a perpetuity)
- Margins can be used from the previously revealed Exhibit A. (The candidate should get this on his/her own.)
- Assume a discount rate of 10%

Candidate:
We need to compare the profit generated from each type of sale to see which creates more value.

Direct Sales: Can be calculated using the 30% margin and a sale price.
- Profits = 0.3*1,000,000 = **$300,000**

Service Contract: This is a long-term agreement, so we should do a NPV calculation to compare it to the Direct Sales method. We'll need to know the cost of producing a compressor (initial investment), the annual profits from the service contract and the length of the contract.
- Since the margin on a $1M direct sale is 30%, we can infer the cost is 70%.
  Cost= 0.7*1,000,000 = **$700,000**
- Annual Profit: Can be calculated using the $300,000 fee and a 40% margin.

Annual Profit = 0.4*$300,000 = **$120,000**

- PV for a perpetuity = Annual Profit/discount rate = $120,000 / 0.10 = **$1,200,000**
- Subtract cost of compressor from discounted profit to get profit value today.
  Profit = $1.2M - $0.7M = **$500,000**

We can see that the Service Contract is significantly more profitable (66%) than Direct Sales, and these numbers should allow us to make a more affective argument to the CEO.

Interviewer: OK. So what would you do if a customer wasn't interested in a Service Contract and only wanted to buy a compressor?

Possible Answers: This depends on our relationship with the customer and whether or not we are at capacity. In general, we wouldn't want to walk away from a 30% margin when faced with no other option. Transitioning to a Service Contract might be a long-term effort with each client. Angles to consider:

- If we are not at capacity, then we should sell the excess compressors directly while considering the effect and perception by other customers.
- If we are at capacity, and the customer is a small or infrequent buyer, then we should either not sell them the unit or charge $1.2M for the sale (in order to receive the same $500K profit that we would have received under the Service Contract model).
- If we are at capacity and the customer is a large, high volume buyer like Exxon, then we will have to consider the customer relationship more closely in decided to sell them the compressor. We may not be able to afford to lose this business, and, in the long run, selling many compressors to this client will likely be more profitable than servicing fewer compressors to other clients.

Recommendations

No formal recommendation is necessary, but if the candidate offers one it should be concise and well-structured.

Here's one good approach: This merger will create value by giving CompressCorp a dominant position in the US Market which they can leverage to create value through significant cost reductions resulting from economies of scale and their greater geographic presence. In addition, they can utilize their strength to pursue increased market share in international markets. In order to optimize their profitability, CompressCorp should focus on servicing contracts through the Service Contract model which is 66% more profitable over the Direct Sales model.

Exhibit A: Sales Methods for Andover and Bellspan

	Revenues - Andover	Revenues - Bellspan	Margin
Direct Sales: Customers buy a compressor and operate it themselves. They also provide maintenance in house.	\$700 (M)	\$400 (M)	30%
Leases: Customers lease the equipment and pay for a service package.	\$75 (M)	\$50 (M)	15%
Service Contract: Customers sign a service agreement and the company handles all operations needed to get gas from the well to the pipeline.	\$425 (M)	\$600 (M)	40%
	\$1,200 (M)	\$1,050 (M)	

34.) Golf Club Producer (McKinsey, Round 1)

Stem

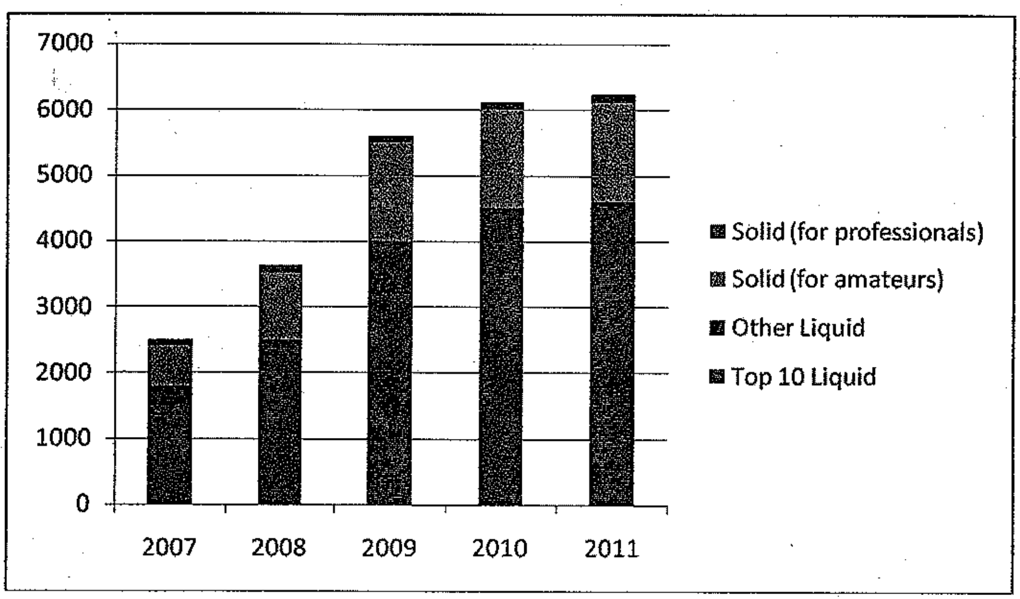
Our client is the CEO of a family owned business called GCP, which produces golf clubs in the United States. They used to produce clubs that were easy to use, so most of their customers are beginner players. They recently received a patent for a new club that would enhance the performance of amateurs and professionals alike. Product innovation is paramount in this industry and they want help capitalizing on this development with a strong product launch.

Interviewer: (If the interviewee asks for time to come up with a structure, ask them to wait until they hear the specific questions first.)

1st phase: Analyzing the market

Behind the scenes: Start by showing the chart. Give the candidate 20 seconds, then wait for insights. If candidate doesn't answer questions 1 and 2 by then, push for it.

Interviewer: There are two main ways to produce clubs: liquid and solid production. GCP currently use liquid production only, but some competitors use solid production. The chart below represents the number of golf club sets sold in each year. We have historical data from 2007 and 2008, and estimates for 2009 and the next two years. What do you see?



1) What do you think of this market?

2) Does being one of the top producers matter? Why do you think so?

Possible Answers:

1) The market has been growing rapidly: more than 100% in two years; it is definitely attractive.

2) The top 10 liquid producers have a huge market share, so being top is clearly important. Some possible reasons are:

a) It's easier to invest in product innovation

b)There are economies of scale in production, distribution and advertising

2nd phase: Should we build a new plant or expand ours?

Behind the scenes: You can give all information at once, rather than waiting for questions. The intent is to give all information quickly and let the candidate work with it.

Interviewer: We estimate demand for our new club to be 60,000 sets over the next few years. Given the information below, do you think we should build a new, additional plant or expand the current plant? (All machines are equally durable.)

Building a new, additional plant:

Initial one-time investment of $2M.

Two types of machines are available:

Machine line I: 2000 sets / month, costs $12.5M

Machine line II: 1250 sets /month, costs $8M

Restriction: Can only have total of 3 lines operating there.

Expanding the current plant:

Initial one-time investment of $2M

Two types of machines are available:

Machine line I: 1250 sets / month, costs $8M

Machine line II: 7500 sets/ year, costs $5.5M

Obs: All machines last for exactly the same time.

Possible Answer: Ok, let's compare the total costs in each case. The one-time investment is the same in either case so we can ignore it when comparing):

For building a new plant:

There are two possible alternatives, two type I machines or three type I machines), we conclude that it would be optimal to have two type 1 and one type 2 machine, for a total cost of 2*12.5+8 = $33M and total production of 2000*12*2+1250*12 = 63K

For Expanding the existing plant:

It's useful to notice that 1250 / month = 15,000 per year, thus type I is much less expensive than type II. With 4 type I machines, we produce exactly 4*1250*12 = 60K sets, for a cost of 4*8 = $32M.

Conclusion: Costs are roughly the same (the extra million for a new plant could be offset by future capacity needs), so we need to include further considerations to decide what to do.

3rd phase: Other issues in deciding which project to pursue

Behind the scenes: This is a brainstorm session. Keep asking "what else" to get the most of the candidate. If candidate runs out of ideas, you can help by saying "what about … how do you think that impacts the decision?", but that clearly hurts candidate overall performance in the case.

Interviewer: Given that the calculated costs are roughly the same, what other issues would you want to analyze? What are the pros & cons of each of them? Which would you choose?

Possible Answers:

- Management/Admin: Lower labor and G&A costs if you only have one plant
- Product quality: easier to have a standard if you only have one plant
- Distribution: might be cheaper if you can distribute from two different locations
- Event risks: insurance would be cheaper with 2 plants (diversifying event risk)
- Capacity for future: new plant has higher capacity (3k club sets per year more)
- Time to implement
- Impact of implementation on current production capacity for other club lines
- Etc…

4th phase: Possible problems:

Behind the scenes: This is, again, a brainstorm session. If candidate is stuck, ask something like "have you ever remodeled your house? What were your main concerns?".

Interviewer: The CEO decided to expand, and there are two main issues regarding the expansion project that don't allow him to sleep at night. Assuming our market estimates are 100% right, what do you think these issues are?

Possible Answer:

- Timing: We said product innovation is important and the market is quickly expanding, so it's important to launch the product on time.
- Costs: It's important to guarantee that construction costs won't raise after he decides to go for the expansion project.

Interviewer [After candidate answers the above]: how could the CEO protect himself against it?)

Possible Answer: The CEO could protect himself by buying an insurance policy.

<u>5th phase: Insurance Price</u>

Behind the scenes: *There is more than one way to come up with a price, so guide the interviewee to calculate it through the data we provide.*

If interviewee asks whether he/she could simplify the calculations, the answer is no. If candidate miss the last point and say instead that the answer is 660,000, ask him whether he is sure about that before ending the interview.

Interviewer: What do you think the insurance price will be? What information do you need in order to calculate that?

(after the answer): What would the price be if you assume the following:

- GCP has contracts to sell 60,000 sets for $500 each.
- If GCP can't produce more than 90% of the 60 thousand in the next eight months, they lose 10% of the contracts. This happens with probability 20%.
- If GCP produce 90% or more in the next eight months, they don't lose anything.
- The insurer operates with 10% margin

Possible Answers:

From the insurer perspective: with probability 80% they have zero loss, and with probability 20% they have a loss of 10%*$60,000*500 = $3M.

Therefore, the expected expense is 20%*$3M = $600,000

Since they operate with 10% margin, this expense should represent 90% of their price.

Therefore, the price charged is $600,000 / 0.90 = $666,667.

<u>Wrap-Up</u>

Behind the scenes: There is no need to do a wrap-up in this case, but it doesn't hurt if the candidate proactively comes up with a conclusion/summary.

35.) Loyalty cards for Canadian supermarket (McKinsey, Round 1)

Stem

Our client is a major supermarket chain in Canada. They are one of three major players in this sector and the rest of the market is split amongst smaller, regional firms. In January 2000, they introduced a loyalty card scheme (run by a third party provider), but have not been able to make this scheme successful. The CEO has called us in to review their program and suggest ways to improve it.

1st phase: Overall approach for review

Behind the scenes: If the candidate asks further questions, you should explain that the card works in the following way: For every $1 spent in store, the customer receives 1 point. These points can be redeemed for discounts at the store. 100 points can be redeemed for a 1% saving on every $100 spent.

Interviewer: What areas should we investigate to determine the performance of this scheme?

Possible Answers:

- What are the goals of the scheme? Profitability? Business intelligence?
- Benchmark the potential profitability of loyalty card schemes (look at competitors' schemes or grocery stores in other regions)
- Compare the profitability of this scheme – is there a gap? If so, why? What drives value for a loyalty card scheme? What improvements could be made?
- Consider alternatives- are there other pricing/promotion/customer loyalty schemes that can match or surpass the loyalty card scheme?

Profitability of a loyalty card scheme will be determined by

- Total customers * % customers with card *extra profits generated by scheme (per customer)
- For a given customer, extra profits generated by scheme depend on the increase in the frequency of their visits and the spend per visit

2nd phase: Cost structure

Behind the scenes: the candidate should keep in mind that the program is run by a third party provider

Interviewer: What are the costs associated with running a loyalty card program?

Possible Answers:

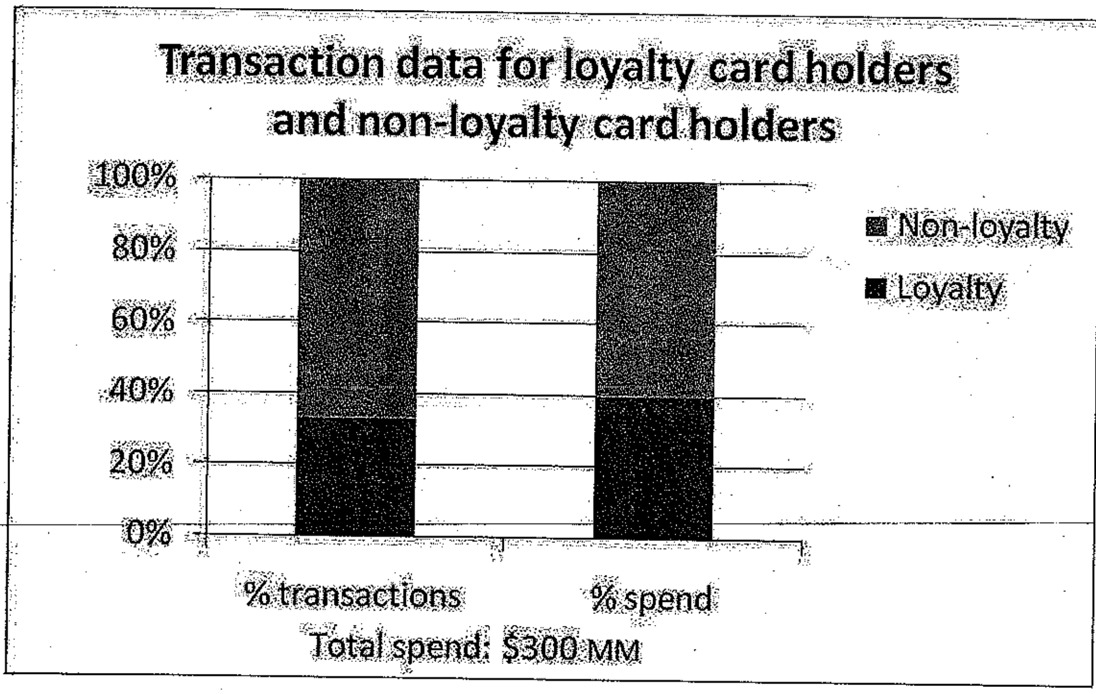
- Discounts (largest cost)

- Software upgrades to registers
- Promotion of scheme
- Customer support
- Printing cards, maintaining data etc – this will likely be borne by the third party provider and paid for on some kind of rate (e.g. per customer)

3rd phase: Loyalty card vs non-loyalty card transactions

Behind the scenes: The interviewee should bear in mind that the value they are calculating is on a per transaction, not a per customer, basis. Pause after question (a) below to allow them to talk before asking (b). Before doing the calculation in (b), the candidate should request the total number of transactions. The total number of transactions is 10 million.

Interviewer: We received this data from the client. (a) How would you interpret it? (b) Can you calculate the average revenue per transaction for loyalty card holders and for customers who do not hold a loyalty card?



Possible Answers:

(a) A lot of transactions involve customers who do not have a loyalty card. This suggests that there may be a lot of customers do not know about the scheme (there is potential to grow it). However, this data tells us nothing about the number of customers with the card, simply the number of transactions.

If we look at the relative percentages it looks like loyalty card holders spend more per transaction. However, this could imply one of two things: Customers who shop a lot at this chain are more likely to get the card and make the most of the discounts OR the card encourages customers to spend more each visit. There is insufficient data to determine causality.

(b) Spend per transaction = (Total $ spend * % $ spend)/ (Total # transactions * % # transactions)
i.e. for Loyalty customer transactions, spend = ($300 MM * 40%)/ (10MM * 1/3)

= $36/transaction

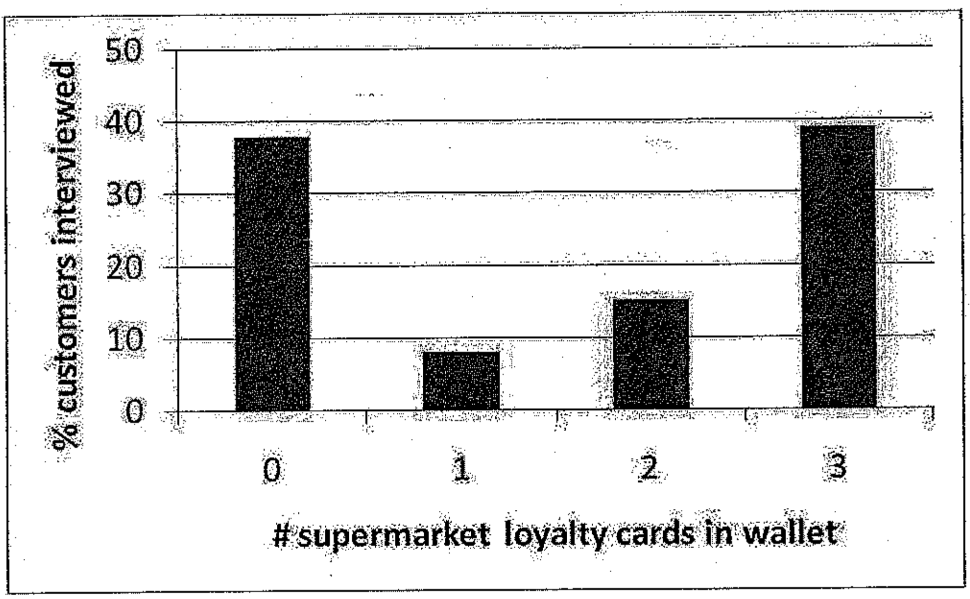
For non-loyalty customer transactions, spend = (($300 MM * 60%)/ (10MM * 2/3)

= $ 27/transaction

What might explain this? This could be because the non-loyalty customers are not regular customers – they may be buying things like newspapers, milk, and other small purchases. Loyalty card customers are more likely to be doing a regular trip and may purchase more items in stores where they have discount schemes.

4th phase: Are customers really loyal?

Behind the scenes: Show the interviewee a bar chart:



Interviewer: We interviewed customers in-store and asked them how many supermarket loyalty cards they had in their wallet. We found out that the distribution was bimodal. What does this information tell you?

Possible Answers: Most customers either have no loyalty cards, or have cards for three supermarkets (probably our client and the other two majors). This suggests that 'loyalty' cards do not in fact encourage loyalty to a particular chain. There is a portion of customers who do not care/ aren't informed about the scheme. The rest will carry a card for each supermarket and use the appropriate card wherever they go.

Key take-away: Loyalty cards will probably not determine where someone shops, but can affect what products, and how much, they buy at your store. The program should reflect this e.g. by offering bonus points on high- margin products.

<u>Wrap-Up</u>

Behind the scenes: There are several ways that this data could be interpreted, so accept any reasonable answer that is well structured.

Interviewer: What would you recommend to the CEO?

Possible Answers:

- There is potential to grow the scheme, so run promotion campaigns to enroll more card members
- Give additional loyalty "points" for high-margin products.
- Restructure loyalty card formula to give dollar-amount discounts on particular (high-margin) items to steer customers towards those items.

36.) Beverage Manufacturer (McKinsey, Round 1)

Stem

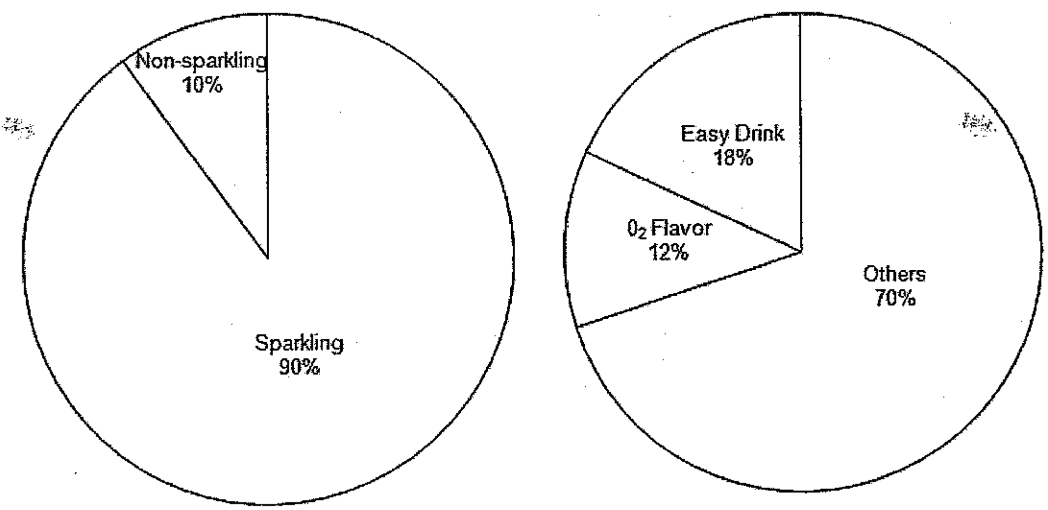
Our client is one of the top three beverage manufacturers in the US. They are thinking of launching a new non-sparkling flavored water product. The company is a vertically integrated beverage manufacturer that makes the drinks, has five bottling plants, and owns their own distribution channels. They have asked us to determine whether or not they should launch the new product, how to do it, and what the marketing strategy should be.

Phase 1: Background

Interviewer: Let the interviewee ask questions from their structure, but make sure that they ask some variation of the following questions about the beverage market, and give these answers.

What is the size of the entire water market? Answer is: 8 million gallons sold per year

Specifically, what is the breakdown in the water market, and what percentage of sales are in sparkling versus non-sparkling? The interviewer should now provide the following graphs (the second graph represents a further breakdown of the 10% show in the first graph: O2 and Easy Drink are flavored water products.



The interviewee should now volunteer some key insights, which should include:

- Flavored water represents a small share of the overall market
- Only two competitors have large market shares → our client may have an opportunity to emerge as a third large competitor in this highly segmented market

How will the drinks be packaged?: Everyone packages their water in 16oz bottles, and our client will do the same (*this will be important for the market sizing)

How will the drink be priced?: $1 per bottle

Phase 2: Market Sizing

Interviewer: Ask the interviewee to do a market sizing and then determine how long it would take to break even on this product

First, the interviewee should calculate the size of the flavored non-sparkling water market: 10% of 8 million gallons = 800,000 gallons of flavored non-sparkling water sold each year

Each bottle contains 16oz; there are 64oz in a gallon, then 4 bottles make a gallon.

800,000 gallons*4 bottles in a gallon = 3.2 million bottles sold each year in this market

Phase 3: Break even analysis

Interviewer: The next step is to figure out how long it will take to start making money on this product. Give information on the margins:

Costs = 90 cents per bottle

Key Insight: The interviewee should see that since each bottle is sold for $1, the company makes 10 cents on each bottle

Interviewer: The launch will cost $400,000. How many bottles the client will have to sell in order to break even?

Interviewee: $400,000 / 10 cents per bottle = 4 million bottles need to be sold

Key insight: The interviewee should see that 4 million bottles is larger than the entire annual market for such products, so it will take a few years to reach this amount (assuming not change in market size).

Interviewer: So how many years will it take?

Interviewee: Looking back at the graph, the interviewee should determine a reasonable market share goal or estimation that this product will grab. Here are some possible thought processes:

Since the new entrant is a major company, it should come in strong with brand name power

Since the other main competitors have 12% and 18%, and our product is backed by a strong company, perhaps this product will come in somewhere in that range. (Any estimate that is backed by logical reasoning and reasonable assumptions is acceptable here.)

Using 15% as an estimate, the calculations should look like this:

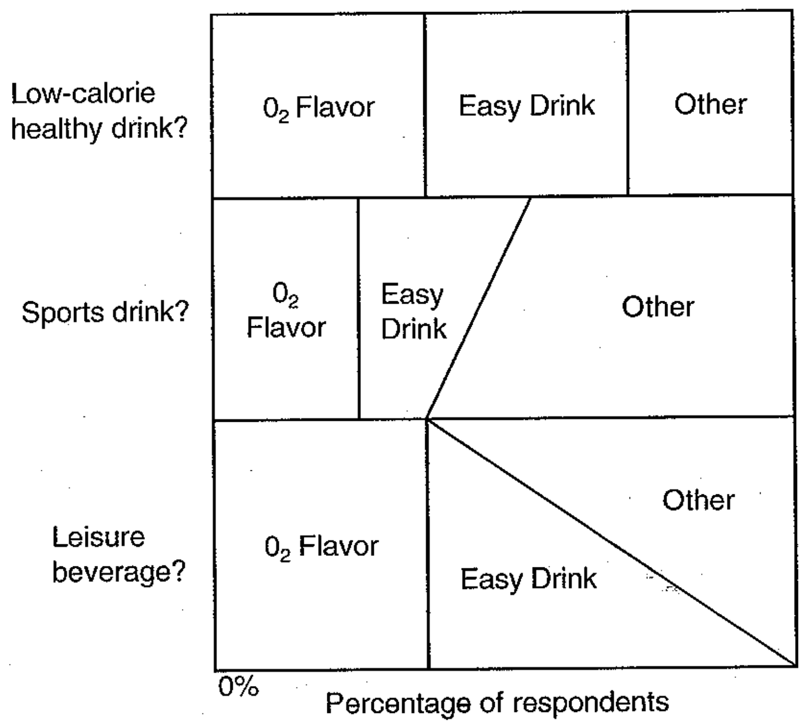
15% of 3.2 million bottles = 480,000 bottles to sell each year → about 0.5 million
4 million bottles / 0.5 MM bottles → it will take 8 years to break even

An excellent candidate would comment that 8 years is an "eternity" in a market like beverages (especially because new beverages emerge constantly and trends change).

Phase 4: Other marketing issues to consider

Interviewer: Knowing this information, how should the client position the product in the market?

Interviewee: Should ask for information on how the two main competitors are positioning their drinks. When she does, show the following chart



The key takeaways from this chart are:

- our beverage will be in the "other" category and need to make a name for itself there
- our client should position the drink as a sports drink or leisure beverage, since those are the categories where "other" has the largest market share

Interviewer: Ask to brainstorm some problems with this new venture. Possible answers include: changes in the market landscape for beverages (perhaps flavored water is a fad?) and cannibalization (how many other similar products does this company make?)

Recommendation

This is probably a questionable investment. It will take some time to break even. However, if interest in this kind of product remains strong, and the company can leverage its existing strengths to get an immediately strong market share, this has potential for being a profitable product.

37.) Fancy Truck (McKinsey, Round 1)

Stem

Our client is the CEO of Fancy Truck, a producer of trucks that sells mostly to logistics services companies. Fancy Truck's main current product is a truck called Evolution. Now they came up with a new engine, and they want to start selling another type of truck, called Revolution, that will use this engine. The only difference between Revolution and Evolution is the engine and Fancy Truck's plan is to have both Evolution and Revolution in the market. The CEO hired us to help him find out a pricing strategy for Revolution.

1st phase: Brainstorm on customer needs

Behind the scenes: Try to get as many good customer needs as possible, so keep asking what else until you have a good list. The candidate should use a clear structure e.g. Driver Needs, Purchaser Needs, Maintenance Needs (user change).

Interviewer:
What do you think customers main considerations are when comparing the two models? When deciding which one to buy?
Possible Answers:
Price, Fuel efficiency, Durability, Maintainance costs, …

2nd phase: Pricing – qualitative analysis

Behind the scenes: *Let the candidate mention different pricing strategies. If they say "let's see competitors' price", tell candidate nobody has a similar model and ask for other methods.*

Interviewer: How would you come up with a price for the new truck?
Expected Answers:

Analyze competitors price:	In this case nobody has a similar model, so N/A.
Cost-based (cost + mark-up):	
Value-based (customers value):	Paramount to understand how much value we are bringing to the customer

3rd phase: Pricing – quantitative analysis

Behind the scenes: *Don't give all information upfront. Hold the information about price of fuel until the candidate asks for it. Candidate may assume zero cost of capital, but can't do math simplifications.*

Interviewer: Our current truck, Evolution, sells for $100,000. Here is a quick comparison between the Evolution and the Revolution trucks:

	Evolution	Revolution
Fuel efficiency:	10km/L	Can do 25% more kilomters with same fuel.
Useful life:	4yrs	4yrs

On average, our clients drive 250 thousand km per year.

Salvage value: Same for both.

Price of fuel: $1.50 / L

How much do you think we could sell Revolution for?

Possible Answers:

In four years, the expected fuel costs for customers are:

Evolution: 4*(250K km/ 10km/L) * $1.50 /L = 4*37.5K

Revolution: 4*(250K km / (10*1.25km/L)) * $1.50/L = 4*30K

So the difference is 4*(37.5 – 30)K = $30K

Therefore, assuming everything else is the same, we could charge up to $130 thousand for the new Revolution truck.

4th phase: Market survey:

Behind the scenes: *Let the candidate ask for the costs, don't give them upfront. If candidate forgets, remind him that Evolution sells for $100K.*

Interviewer: In order to get a better sense of the market, Fancy Truck did a survey and came up with the following results as an estimate for demand in the next years:

If Revolution was sold at a price of:	$100K	$115K	$130K
% customers buying Revolution:	90%	80%	40%
% customers buying Evolution:	10%	20%	60%

Assuming the survey is representative, which of these three prices would you choose for Revolution?

Behind the scenes: Here interviewer should stop for a while and wait to see what candidate does. Candidate could try to analyze, but he/se must ask about costs because the goal is to maximize profits, not revenues:

Interviewer: Fixed costs are the same for both Revolution and Evolution, but because Revolution has a more complex engine, it costs Fancy Truck $10 thousand more to produce each Revolution.

Possible Answers:

- We wouldn't sell for $100K. Since there is a $10K extra costs associated with producing Revolution, at $100K it's better to only sell Evolution.
- @115K, extra profits from selling Revolution would be 80*(15-10) = $400K per hundred trucks sold
- @130K, extra profits from selling Revolution would be 40*(30-10) = $800K per hundred trucks sold

Therefore, it is better to sell it for $130K.

Observation: It's not necessary to know the market size in order to conclude that $130K is the better choice.

5th phase: Final brainstorm

Interviewer: Why do you think some people would still buy the old model even if the price was the same?

Possible Answers:

- Logistics companies don't want to change all their new fleet before they test the new truck and confirm what the producer says about fuel efficiency.
- Customers may fear that it would not be easy to find mechanics to fix the new engine when it broke.
- There are no old revolution engines available, so repair/replacement by third parties could be harder.

Observation: The fact that the 250Km figure is an average is not a valid reason given that the price is the same. Regardless of the annual usage, it would always be better to have the engine that is more fuel efficient.

Wrap-Up

Interviewer: The CEO is coming and you need to tell him what your conclusions are.

38.) Carpet Manufacturer (McKinsey, Round 1)

Stem: Your client is a carpet manufacturer that sells to both commercial and residential customers. Your current production process is as follows:

- Buy dyed/pre-colored yarn
- Load yarn spools in a specific order onto machine
- Weave yarn into carpet
- Run carpet through carpet backing machine
- Cut, roll, and store the finished carpet

You are considering investing in a new technology that will cost $25M (initial investment). With the new technology your production process will change to the following:

- Buy un-dyed yarn
- Spool yarn
- Weave yarn into carpet
- Die carpet through a printing process, much like an inkjet printer
- Cut, roll, and store the finished carpet

The client wants to know if they should invest in the new technology.

<u>Phase 1:</u> Differentiating current carpet from new carpet (if asked)

Candidate: If I may clarify, will the carpet made with the new technology be different in any way from the current product?

Interviewer: We can assume that the new carpet will have a better texture and can therefore be sold at a higher end offering.

<u>Phase 2:</u> What do you expect would be the likely impacts on our costs?

- Yarn costs decrease ➔ only buy un-dyed yarn
- Ink costs increase
- Labor decreases on spool loading
- Maintenance costs of new machine
- Electricity costs increase
- Training costs for new machine
- Warehousing costs decrease from ability to quickly make to order

<u>Phase 3:</u> What would you take into account to decide if this was a good investment?

Focus on the costs; look for an answer of valuing the cost savings. However, could you also increase your revenue by selling the carpets at a higher price point?

"We have aggregated the changes in costs, and it turns out that we will save 25 cents per finished yard of carpet. How would you value the investment?"

Provide following data when asked:

- We produce 10M yards of finished carpet per year
- The machine has a 10 year useful life

Possible answer: 10M yards * .25 savings → $2.5M savings per year.

$2.5M per year * 10 years = $25M savings.

Recognize the time value of money, so this wouldn't really break even in today's dollars just based on cost savings. Not to mention that we're not taking into account maintenance costs of the machine, as well as the ink itself.

"So what would you have to believe in order to justify this investment?"

Possible answers:

- We would be able to sell for a higher price, and increase revenue
- We would be able to win market share from our competitors, and increase revenue
- We would be able to serve new markets, and increase revenue
- We would be able to be more flexible in our offerings, since we can dye the yarn on demand, instead of forecasting which pattern will be the most successful.

Phase 4: Turns out we can sell the new, higher quality carpet for $20/yard, which is a 25% premium over the standard carpet. We would still be able to produce and sell the standard carpet as well. What types of things would you think about in this scenario?

Possible answers:

- Cannibalization of old customers
- New customers that you couldn't previously serve

Phase 5: "Turns out we have done research, and now know that 30% of our existing customers would upgrade to the new carpet. Also, there is a 70M yard/year market for higher quality carpet that we couldn't sell to previously. We estimate we could capture 5% of that market. What would the incremental revenue be given we start selling the high quality carpet?

Possible answer:

- Standard carpet price must have been $16/yard
- We're told that we produce 10M yards of finished carpet, so we will assume that all 10 are sold ➔ 30% are cannibalized, so we now will sell only 7M yards of the standard carpet.
- New carpet sales: 3M + 3.5M (5% of 70M) = 6.5
- Old revenue: 10M*16 = 160M
- New revenue: 7M*16 + 6.5M*20 = 112M + 130M = $242M
- Incremental revenue is $82M

<u>Phase 6: Given this new information, what would you say about the NET incremental revenue from this machine?</u>

Look for:

- We are selling 3.5M yards more than before so there would be an additional production cost. This would be the difference between the production cost of 10M yards of standard carpet, and 7M standard and 6.5M new carpet.
- To calculate NET incremental revenue they will need cost figures. When prompted:
    - o The cost per yard of the original carpet was $10/yard
- Old production costs: 10M * $10/yard = 100M
- New production costs:
    - o Standard carpet: 7M * $10/yard = 70M
    - o New carpet: 6.5M * 9.75/yard = (roughly) 65M – 1.6M = ~63M (exactly 63.36)
    - o Total costs: 133M
- Net incremental costs: 133M – 100M = 33M

- Net Incremental Revenue: 82M – 33M = 49M per year

<u>Phase 7: Provide Recommendation</u>

I would suggest going forward with the acquisition of the new machine. We can definitely tap into a new high-end market, and can make additional $49M net revenue per year. I would look into the expected maintenance costs, and verify the cost trend for the ink itself.

39.) Sample Case (McKinsey, website)

Stem: Our client is Great Burger (GB), a fast food chain that competes head–to-head with McDonald's, Wendy's, Burger King, KFC, etc.

GB is the fourth largest fast food chain worldwide, measured by the number of stores in operation. As most of its competitors do, GB offers food and "combos" for the three largest meal occasions: breakfast, lunch and dinner.

Even though GB owns some of its stores, it operates under the franchising business model with 85% of its stores owned by franchisees (individuals own & manage stores, pay franchise fee to GB, but major business decisions e.g., menu, look of store controlled by GB).

As part of its growth strategy GB has analyzed some potential acquisition targets including Heavenly Donuts (HD), a growing doughnut producer with both a US and international store presence.

HD operates under the franchising business model too, though a little bit differently than GB. While GB franchises restaurants, HD franchises areas or regions in which the franchisee is required to open a certain number of stores.

GB's CEO has hired McKinsey to advise him on whether they should acquire HD or not.

Questions

In most McKinsey & Company cases the interviewer will guide you through the case with a series of questions that will allow you to display a full range of problem solving skills. Below is a series of questions and potential answers that will give you an idea of what a typical case discussion might be like.

Question 1. What areas would you want to explore to determine whether GB should acquire HD?

A good answer would include the following:

There are a number of things I would want to look at here:

- I would want to consider what the value of Heavenly Donuts would be to Great Burger.
- I would also want to look at the strategic fit of the companies. Do they complement each other? Can they achieve further benefits (or synergies) from combining their operations?

A very good answer might also include the following:

- I would want to look at the cultural similarities/differences, to see if the management/employees of the companies would fit in well together
- I would like to have a sense of how well positioned GB is to execute a merger with another company. Have they done this before, for example.

You may choose to dive deeper into some of these issues, of your interviewer may ask you to do this, for example:

To understand the value of HD to GB, I would want to look at a number of things

- Growth in market for doughnuts
- HD's past and projected future sales growth (break down into growth in number of stores, and growth in same store sales)
- Competition – are there any other major national chains that are doing better than HD in terms of growth/profit. What does this imply for future growth?
- Profitability/profit margin
- Investment required to fund growth (capital investment to open new stores, working capital)

Question 2. The team started thinking about potential synergies that could be achieved by acquiring HD

Here are some key facts on GB and HD.

Stores	GB	HD
• Total	5,000	1,020
– North America	3,500	1,000
– Europe	1,000	20
– Asia	400	0
– Other	100	0
• Annual growth in stores	10%	15%

Financials	GB	HD
• Total store sales	\$5,500m	\$700m
• Parent company revenues	\$1,900m	\$200m
• Key expenses (% sales)		
– Cost of sales*	51%	40%
– Restaurant operating costs	24%	26%
– Restaurant property & equipment costs	4.6%	8.5%

– Corporate general & administrative costs	8%	15%
• Profit as % of sales	6.3%	4.9%
• Sales/store	$1.1m	$0.7m
• Industry average	$0.9m	$0.8m

***Variable costs, mostly food costs**

What potential synergies can you think of between GB and HD? For your information, a synergy is an area where additional benefits can be captured over and above the sum of the two companies (such as cost savings or additional revenue).

A good answer would include the following:
There appear to be opportunities in cost savings and in revenue gains.

In cost savings:
- There may be an opportunity to save on General & Administrative Expenses through combining management locations/functions
- There may be decreased Cost of Sales (per unit) because the companies are purchasing greater volumes together

In revenues:
- Additional sales can be achieved through selling Donuts in GB stores
- Also GB have a greater global presence which HD could leverage in order to grow outside the US

A very good answer might also include the following:

- GB appear to manage their property and equipment costs better, which means that they may be able to transfer this skill to HD
- Since GB has greater Sales per Store, they may have better skills in finding good locations for stores, and could transfer this skill to HD
- Since GB is bigger, it probably has more investment capital available to help HD grow at a more rapid rate.

<u>Question 3</u>. The team thinks that, with synergies, it should be possible to double HD's US market share in the next 5 years, and that GB's access to capital will allow it to expand number HD of stores by 2.5 times. What sales per store will HD require in 5 years in order for GB to achieve these goals? You should assume:

- **Doughnut consumption per head in the US is $10/year today, and is projected to grow to $20/year in 5 years**
- **For ease of calculation, assume US population is 300m**
- **Use any data from the earlier table that you need**

A good answer is as follows:
HD will require a sales per store of $1.2m
- Today's market share is $700m/$3b = ~25%. *This is available from the earlier table, and you are encouraged to make sensible, round estimates in a calculation.*
- Expected US market in 5 years = $20 *300m = $6b
- If HD double today's market share, the will have a market share of 50%, so their sales will be 50% x $6b = $3b
- They are also expect to have 2,500 stores (= 2.5 x 1,000)
- So sales per store = $3b / 2,500 = $1.2m

A very good observation to make is that this seems like a realistic growth target, because we are requiring stores sales to less than double, while we already know that per head consumption of donuts is likely to double.

<u>Question 4</u>. One of the synergies that the team thinks might have a big potential is the idea of increasing the businesses' overall profitability by selling doughnuts in GB stores. How would you assess the impact of this move on overall profitability?

A good answer is as follows:
I would try to work out the incremental impact this move would have on profits. To do this I would:
- Calculate the incremental revenues we would get from selling donuts in GB stores (how many, at what price, etc)
- Calculate the additional incremental costs that would be incurred from doing so (for example, additional staff, additional training, additional marketing, additional distribution and purchasing costs)
- I would also look at the additional store investment we would have to make (for example, extra space, new equipment, etc)

A good answer would also include:
We should also investigate if the additional donut sales would mean lower sales of traditional GB products. For example, breakfast products might be affected as many people have donuts for breakfast. *In case you are unfamiliar with the term, this concept is known as "cannibalization".*

<u>Question 5</u>.
What would be the incremental profit per store if we think we are going to sell 50,000 doughnuts per store at a price of $2 per doughnut at a 60% margin with a cannibalization rate of 10% of GB's sales? Note that the cannibalization rate is the

percentage of GB products which we think will not be sold because they have been replaced by donut sales. Here is some additional information which will help you:

Current units of GB sold per store	**300,000**
Sales price per unit	**$3 per unit**
Margin	**50%**

A good answer is as follows:
There will be $15,000 incremental profit per store:
- Donut sales will bring in an additional $60,000 in profit ($2 price x 50,000 x 60% margin)
- However, we will lose $45,000 in the original profit from GB sales (10% cannibalization rate x 300,000 products x $3 price x 50% margin)

<u>Question 6</u>. You run into the CEO of GB in the hall. He asks you to summarize McKinsey's perspective so far on whether GB should acquire HD. Pretend I am the CEO - What would you say?

A good answer would include the following:

Early findings lead us to believe acquiring HD would create significant value for GB, and that GB should acquire HD
- US Growth targets seem achievable given the expected growth in Donut consumption in the US
- There are other opportunities to capture growth from international expansion of HD
- We also believe there are other potential revenue and cost synergies that the team still needs to quantify

A very good answer might also include the following:
- We believe can HD add $15k in additional profit per GB store simply by selling donuts in GB stores. This represents a ~25% increase in store profit from this move alone.
- We will also provide you with recommendations on the price you should pay for HD, as well as any things you need to think about when considering integrating the two companies.

40.) Household Appliances (Siemens Management Consulting)

Stem

Our client is Bosch, a German household appliance company. They are known for their high-quality, German-made washing machines. Bosch is thinking of expanding into the Chinese market with their washing machines, specifically in Shanghai. They have hired us to find out if they should, and if so, how they should do it.

Phase 1: Market Sizing & Background

Behind the scenes: A large part of this case will be a market sizing, which should be reflected in the interviewee's written structure. Tell him or her that this is what the first part of the case will focus on. The stem didn't give much information, so the interviewee should drive the information-discovery part of the case by asking questions.

One of the first things the interviewee should think about is the washing machine market in terms of products. If this doesn't happen naturally, then prompt the discussion. There are three sub-markets: residential washing machines, washing machines for laundromats (which are somewhat similar to residential ones), and commercial washing machines (such as you'd find in a hotel basement). Once this point has been covered, say that Bosch is not looking at the commercial market for these products. So, we're focusing on in-home and laundromats.

Interviewer: What are some facts and numbers we need to know in order to estimate this market?

Possible answers: There are multiple way of doing a basic market sizing exercise here, but make sure the interviewee is clear about what data is necessary, makes assumptions, and explains the reasoning behind each assumption (the following are necessary) .

- The population of Shanghai: 18 million people. (This is the one number that is fixed and which the interviewer should give)
- Number of people per household?: about 4
- How do people do laundry?: Pretend that there is an even split between in-home machines, going to the laundromats, and doing it by hand. So, there are 33%, or 6 million people for each option. This translates into 1.5 million households in Shanghai for each option.

Phase 2: Calculations of Market Opportunity

Behind the scenes: Prompt each step of the math problem, but let the interviewee go through the equations herself.

Interviewer: Now that you have gone through the total market for each type of machine, let's look at each one individually. Bosch is thinking of selling these machines for $400. From this, figure out the market opportunity in dollars.

A. In-home machines:

$400*1.5 million households = $600 million

Key Insight: But people don't buy washing machines very often. The interviewee should estimate somewhere between every 5 and 10 years for a new purchase. If we take 10, then: $600 million / 10 years = $60 million to be made each year from the residential market

B. Laundromats:

Behind the scenes: Let the interviewee make assumptions about the following categories that pertain to laundromat use as a way of estimating how much money Bosch could potentially make from this market every year. Give the interviewee the answer to the following questions if he/she asks:

- How many times per week does a household visit?: 1 time (give this information if the interviewee asks for it)
- How many washing machines are in a laundromat?: 20 machines
- How many loads does the family wash in each trip?: 3 loads
- How long does one load take?: 1 hour
- How many hours is the laundromat open for each day?: 10 hours

The interviewee should now go through the exercise of calculating the dollar value of each market. If the interviewee is stuck, you can ask one or more of the following questions:

1) How many families are customers at each laundromat?

   20 machines / 3 loads per family at 1 load per hour = about 7 families per hour

   7 families per hour * 10 hours/day * 7 days per week = 490 families per week → round to 500 families per week per laundromat

2) How many laundromats are there in Shanghai?:

   If 1.5 million households use them, and each one has a capacity of 500 households per week, then there need to be 3,000 laundromats in the city.

3) How many laundry machines are in laundromats in Shanghai?:
   Since we said there are 20 machines per laundromat, 20 machines * 3,000 laundromats = 60,000 machines in laundromats in Shanghai

4) How many machines are purchased per year?:

   The interviewee should take note of the fact that these machines are being run constantly, and that therefore, the same assumption of 10 years used in the residential calculations won't work here, because these will wear out a lot faster. For example, she could say that laundromats buy new machines every three years.

5) How much revenue can Bosch make per year in this market?:

$400 (assume same price as households) * 20,000 machines = $8 million per year in the laundromat market

Behind the scenes: Make sure the interviewee tells you what he or she thinks of the numbers. Are they logical and reasonable? How much of this market does he/she think Bosch could capture and why? A good interviewee should also say something about Shanghai in particular. Key points are: a) the city is growing rapidly, b) there are a lot of poor people, c) the number of wealthy people is also growing, d) the housing situation is not the same as many Western cities and perhaps apartments are not properly wired for washing machines, etc.

Phase 3: Costs and Marketing Considerations

Behind the scenes: Now that the interviewee has figured out the market potential for the two sub-segments, turn the attention to other considerations so that he or she can really decide if this is a good opportunity for this company.

Interviewer: "So what do you think of this opportunity for our German appliance company? What do you think might be challenges and positives in this idea?"

Possible answers: Here are some problems that the interviewee should come up with:

- Shipping: washing machines are very heavy, and shipping costs will be high. Also, the company is in Germany, and Shanghai is halfway around the world. She should remember that the brand is based on high-quality German engineering, so building a new plant in China to circumvent the shipping costs will be not only expensive for this potentially risky venture, but also water down the value proposition.
- Sales: How would the sales force be built? She should ask if Bosch already has a sales network and presence in China that they could tap into, or if sales departments and relationships would have to be built from scratch.
- As a last consideration, ask the interviewee how she thinks Bosch should market the product, if they decide to go for it? How should they appeal to both the residential customers and laundromat owners?

Recommendation

This is probably not the best idea for Bosch. It's risky. The market estimations are rather high and the overall market size modest given the number of poor people in Shanghai. The shipping logistics are expensive. Establishing a brand in China may also not be easy for Bosch.

41.) MVNO Market Entry (BCG, Round 2)

Stem: In 2003, a client asked us to evaluate whether or not they should enter the US wireless market. Our client was an international wireless carrier that successfully operates in Asia and was looking for international growth opportunities. They came to us to understand 1) whether or not they should enter and 2) what key challenges they might face upon entry.

Our client intends to enter the market using an arrangement known as an MVNO (Mobile Virtual Network Operator), in which they will lease network capacity from an existing wireless network operator in the US, referred to as an MNO (mobile network operator) or Host Operator.

Phase 1: Big Picture Analysis

Behind the Scenes: Give out information as the Candidate asks for it. He or she should ask detailed questions about the market, growth, competition (you can give the entire competition block at one time), and marketing

Market:

- Forecast for 2004: 180M wireless subscribers in the US with an annual growth rate of 10%

Competition:

- The market can be divided into three main categories:

  o National carriers

    - This includes larger network operators, such as Verizon (25% market share), AT&T/Cingular (25%), Sprint/Nextel (20%) and T-Mobile (15%)

    o Regional carriers

    - Includes smaller network operators, such as Alltel and Dobson
    - Represent 10% of the market in total

  o Other MVNOs

    - Includes Virgin Mobile, Tracfone, etc.
    - Represent 5% of the market in total

Value Proposition / Target Customers:

- Other MVNOs have focused on targeting niche segments, such as low-credit consumers, teens, and ethnic groups, using no-frills prepaid services
  - o Virgin Mobile was able to capture 4M subscribers
- Our client intends to leverage its existing assets and experience, specifically next-generation handsets from Asia and a platform for mobile applications, to target high-end consumers
  - o These exclusive technologies are several years ahead of the competition
  - o They already have a successful wireless application platform they can replicate in US
  - o Although US wireless data is under-penetrated relative to Europe and Asia, new 3G networks and entertainment services are expected to accelerate adoption
- Between 10 and 20% of US subscribers would be willing to pay for a premium mobile handset with wireless data services

Phase 2: Profitability and Breakeven Analysis

Interviewer: How can we calculate the number of subscribers needed to cover the initial investment and the annual fixed costs?

Candidate: First, we would need to determine the contribution margin of each individual subscriber

Interviewer: Here are some points that can help simplify this complex problem. First, you don't have to discount the cash flows. Also, you can ignore the $10/month for data services (with 60% gross margins). Finally, you can assume that you get all subscribers during first year of service due to pent up demand for this business. Now, knowing these facts, what data would you like me to provide in order do this calculation?

Behind the scenes: Let the Candidate ask for as many of these as they can think of. After they have exhausted the list, prompt questions that will let you give the rest. For example, make sure the Candidate asks about margins, fixed costs, investment costs, administrative costs, and customer statistics (such as tenure and minute usage).

- Average customer tenure = 4 years (48 months)
- Revenue

o Price per minute = $0.06

o Average monthly minutes of use (MOUs) = 900

- Costs

o Initial investment = $25m (it will take one full year to develop and integrate new platforms with MNO before launching)

o Annual fixed costs after launch = $25m

o Per customer costs

  - Marketing and advertising cost per customer = $100
  - Sales commission per contract = $50 (for 24 month contract)
  - Subsidy per handset = $200
  - Average handsets purchased / contract period (every 24 months) = 1 (so 2 for 48 months)
  - Cost per minute = $0.04 (based on contract with mobile network operator)

Interviewer: Ok, now I think you're ready to make some calculations. We're looking for how many subscribers we need to get us to the breakeven point.

Candidate: These don't necessarily have to be done in this order; just as long as they get to the answer.

- Customer Lifetime Value = (average monthly revenue – average monthly costs)* tenure – acquisition costs
- Revenue per month per customer = (0.06 – 0.04) * 900 * 48 = $864
- Customer acquisition/maintenance costs = (200 + 50) * 2 + 100 = $600
- Lifetime value = $864 – $600 = $264
- Subscriber breakeven volume = Total Costs (initial investment + annual fixed costs) / subscriber lifetime value
- Total fixed costs = 5 x 25 = $125m (5 comes from 4 years of customer tenure and 1 year of development)
- Breakeven volume = $125m / $264 = 473K subscribers

Key Insight: The company will need to sell close to 500K subscriptions in order to break even. Given that this is only 1% - 3% of the premium market (36-18M) and Virgin Mobile was able to achieve ~10x that number, this seems reasonable. Bonus point: if you remember the additional data services we ignored ($6/month GM), you need less than half that number.

Phase 3: Critical Success Factors / Execution Challenges

Behind the scenes: Have a conversation about the potential challenges and other issues the company will face in this endeavor. Ask questions, and let the Candidate brainstorm. A variety of answers are acceptable, but make sure he or she is thinking about this specific market, and not just saying generic things.

Interviewer: What kind of branding is necessary for this service?

Possible answers:

- The company will need to invest heavily in marketing and advertising campaigns to develop a new brand in the US
- Need to reward loyal customers and encourage referrals
- Will need to be powerful enough to overcome switching costs of changing carriers, including the loss of free in-network mobile to mobile calling

Interviewer: The company has no existing relationships with customers and will likely have to rely on a 3rd party to sell on their behalf. Evaluate some of the trade –offs between different options

Possible answers:

- Online: While an important, low cost channel, most customers will still want to experience the new handsets and data services in person
- Build Your Own: Maximizes brand control and customer experience, but requires significant capital investment, trained sales force, and locations in urban markets
- Carrier owned stores: Strong distribution capabilities, geographic footprint, and sales skills, but incentives may not be aligned to promote your devices/services over their own
- Big box retailers (e.g., Bestbuy): While they have expertise in selling electronic equipment and data services, it may be challenging to stand out from all of the other electronic devices sold in their channel
- Non-traditional (e.g., high-end department stores, jewelry stores): Although these channels may help differentiate as a luxury good and target premium consumers, they may not have the technical expertise to sell wireless services

Interviewer: How do you think the company should go about developing content?

Possible answers:

- Must understand the entertainment needs / preferences / habits of US consumers, which are likely different than current Asian customers

- Need to develop digital content for data services that is appropriate for US:
    - Localizing existing content (e.g., translate into English)
    - Licensing existing/new content from external developers
    - Developing new content in-house

Interviewer: Are there any other issues you think need to be looked at?

Possible answers:

- Customer service / billing
- Handset logistics / maintenance
- Extra charges for roaming, directory assistance
- Regulatory environment must remain friendly

Interviewer: What do you think are some issues to consider when partnering with an MVNO?

Possible answers:

- Requires the ability to differentiate MVNO services from the network owner to avoid cannibalization
- Must target customer segments where network operator is less profitable (either through lower acquisition costs, longer tenure, or higher margin / month)
- MVNO arrangement avoids capital requirements for spectrum and network rollout, but requires excess capacity of partner's network
- Host network operator must be willing to accept some loss of customer control and offer competitive rate in exchange for improved network utilization
- Must also be willing to ensure network quality and customer support

Recommendations

Behind the scenes: This looks like an attractive market, and the potential for profit is high. The recommendation should also include some of the biggest issues/challenges to come out of the brainstorming phase, but overall, this seems like a good investment.

42.) Marlin Toys (Parthenon, Round 2)

Stem: Your client is a large toy manufacturer named "Marlin" (think of a company such as Hasbro or Mattel) with $3B in sales. They are interested in potentially acquiring a smaller company named "Dolphin" which sells educational toys.

Dolphin is different from Marlin since it employs a direct selling model. They hire independent contractors (ICs) to sell their toys for them: these ICs find people to hold parties for them, and invite about 8-10 people whom they sell these toys to. The ICs are paid 20% commission. If the ICs refer a friend to sell Dolphin products and does so, that sale still generates 20% commission for the new IC, but also an additional, smaller commission for the person who originally referred him. This process continues and you get an increasingly smaller cut of sales from members that were referred by those you referred, etc. This "down-stream" sums up to approximately 10% commission total.

Dolphin has been losing revenues lately. Two years ago they had $35M in revenue, one year ago they had $28M, and this year they have $20M. This year they are operating at zero profitability - breakeven.

Although the cost of the acquisition is not significant due to their relative sizes, Marlin wants to have a company that can pay its own way. Two questions:

1. What do both parties have to gain from this acquisition?
2. Why is Dolphin losing revenues and what can they do about it?

Structure: There are two questions. Let the candidate decide whether to keep the questions' sequence, or identify question (2) as higher priority. If the candidate keeps the sequence, keep the discussion on question (1) brief.
For question (1): relevant buckets are: revenue synergies, cost synergies, Marlin itself, and the educational toy industry.
For question (2), relevant buckets are: external vs. internal factors or decrease in price vs. decrease in quantity.

Additional Information (Give when prompted by Candidate):

-The educational toy market is growing at a rate of 3%; overall toy market is flat
-Dolphin is the only company currently selling educational toys with direct sales method
-There were no recent competitor entries in educational toys
-Other educational toys are sold through retailers such as Target and Wal-mart

-Marlin does not have any educational toys now, but other large toy manufacturers do

Interviewer: Why might Dolphin be losing revenue?

Let the candidate brainstorm some internal factors such as market saturation, old or unpreferred products, prices are too high, or not enough sales force. However, let the candidate know that Dolphin products are in high demand and that although price premium should be assumed for this selling model, people are willing to pay for it. In fact, many people complain that they cannot find a party when they want to. This is because recently the number of ICs has been declining at 10% Although IC's are being added, more ICs are leaving than joining. However, data shows that average party revenue remains constant at $200.

Candidate: Dolphin's decline in revenue is not an external factor since the market is growing. There is demand for this product which means we are not distributing it sufficiently. IC's are declining at 10% - however, this does not account for the total decline in revenue (which is > 20% per year) and revenue per party is constant, so each IC must be putting on less parties.

Interviewer: Why is each IC holding less parties than before?

Candidate: There compensation may not be incentivizing them enough or they may be having a hard time finding the right areas to hold their parties.

Interviewer: Correct, Dolphin parties generate on average $200. The IC commission rate is 20%, so $40 per party. Industry average (similar job functions) is 30% with party revenue of $300, so $90 per party. These sellers may pursue multiple jobs and prefer to hold parties for products other than Dolphin. *Management believes that by increasing commission rate to 30% but maintaining "downstream" rate the same, number of parties will double. Assume these parties still have $200 sales on average. Will this solve their company's problems?* (The candidate should be concerned about this statement since their new commission, while improved, is still lower than industry average.)

Provide the following cost structure when asked: COGS = 50%, Fixed Costs = 20%, Selling Cost = commission + "downstream"

The candidate should create the following chart:

	Before	After Commission Change
Revenues	**$20M**	**$40M**
COGS	$10M (because we know COGS = 50% of costs, and that costs = revenues since this is breakeven year!)	$20M
Fixed Costs	$4M	$4M

Selling Costs	$6M (20% IC; 10% downstream, therefore 30% of $20M revenue)	$16M (30% IC; 10% downstream, therefore 40% of $40M revenue)
Total Costs	**$20M**	**$40M**
Profit	**$0M**	**$0M**

Candidate: Increasing the commission rate to 30% gives us no difference in profitability, and the doubling of parties held seems unlikely. Perhaps we can increase commission further to determine impact on profitability or explore other distribution channels.

Interviewer: How do you think Marlin and Dolphin can help each other in this respect? (i.e. revisit Question (1))

Candidate: In terms of revenue synergies, Dolphin benefits by using Marlin's current store distribution channels. Because they are in high demand they should do well in the stores as well. This will solve the profitability problem for Dolphin as a stand-alone business, and Marlin does not acquire a money-losing business unit. Marlin can gain brand loyalty by entering the educational toy market and exposing customers to their other products, and improve its competitive position relative to other large toy manufacturers. In terms of cost synergies, all toys are made from similar physical materials, so an acquisition might allow both companies to share manufacturing facilities and streamline its operations.

43.) Grape Control Systems (Bain, Round 2)

Stem: Grape Control Systems (GCS) produces, installs, and services air temperature control systems. The company has been losing profit at a rate of about 2%. GCS has asked Bain to help them understand what's going on and how to increase profitability.

If requested, share the following product information:

- □ The air temperature monitoring systems consist of two primary components: digital readers and remotely controlled flaps that are placed in air ducts
- □ GCS bundles their air temperature control systems with installation
- □ GCS sells service plans (i.e. warrantees, maintenance, and repair) separately from the monitoring system

***Note:* The candidate should provide an approach that includes <u>at least</u> the following:**
Competition, Customers, Profitability, and Product Mix.

Competition

Interviewer: Provide the following information, when prompted:

- □ There is little differentiation among manufacturers of air temperature control systems. The market is evenly split among several national players.
- □ The competition tends to be more profitable than GCS.
- □ GCS's air temperature control systems can be serviced by GCS, by customers (in house), or by a 3rd Party
- □ GCS cannot service a competitor's air temperature control system. The opposite is also true.

Profitability

Interviewer: At this point, ask the Candidate to talk about why they believe that the competition tends to be more profitable, despite the fact that there is not great deal of differentiation among air temperature monitoring systems.

Candidate: The ideal response from the candidate will include at LEAST the following:

☐ Mix of product versus service

☐ Mix of customers

☐ Relative profitability or costs for each

Interviewer: Once the interviewer has identified product/service mix as a possible driver, provide the following information:

☐ GCS Mix: 70% Product (monitoring systems/installation) and 30% Service

☐ Competition Mix: 60% Product and 40% Service

Interviewer: Ask the Candidate what they think about the mix.

Candidate: Candidate should observe that mix <u>MAY</u> be a driver of GCS' lower profitability - GCS derives more revenue from products on a percentage basis - <u>BUT</u> we can't know for certain that this is true without knowing what the relative profitability of Product & Service is. A savvy Candidate should hypothesize that services margins should be higher than product margins, because there is keener competition between products (little differentiation) than between service providers (since services are tied to respective manufacturers' product installed base). Once the Candidate recognizes this point, provide the following information:

☐ GCS Product Margin: 4%

☐ GCS Service Margin: 15%

☐ Competition's Product Margin: 5%

☐ Competition's Service Margin: 15%

Interviewer: Now ask the following: Based on this information, can you tell me what the overall profitability is of GCS relative to the competition assuming that the margin percentages reflect the full cost of their businesses, respectively? (if the Candidate does not calculate it on his/her their own, cue him/her to)

Answer:

☐ GCS Profit Margin: (4% * 70%) + (15% * 30%) = 2.8% + 4.5% = **<u>7.3%</u>**

☐ Comp's Profit Margin: (5% * 60%) + (15% * 40%) = 3% + 6% = **<u>9%</u>**

Interviewer: So based on this information, 1.) why does GCS have a lower profit margin than the competition and 2.) what if GCS could focus on ONE area, where should it focus?

Candidate's answer to part 1 of question: GCS has an unfavorable mix of product/service AND profit margin on their product side of the business is lower.

Candidate's answer to part 2 of question: GCS should focus on improving its product mix since that will be provide a greater boost to profitability than improving product margins. Also, its service provides 4.5%points of its overall profitability of 7.3%.

Customers

Once the Candidate identifies service as the area of focus, let them know that there are two types of services we provide: Break/Fix and Long-term Service Contracts.

Now inform them that we've spoken with two of our clients' CFOs who stated the following:

5. CFO A: "Purchasing a long-term service contract makes perfect sense"
6. CFO B: "Purchasing a long-term service contract make no sense at all"

Interviewer: Assuming that both statements are correct, how is it possible that the two CFO's statements are so contradictory?

Candidate: The candidate's response may include several possibilities such as financial reporting/metrics or CFO finance incentives. HOWEVER you should cue the interviewer to think strategically. In this case, the correct explanation is that the CFO's are supporting facilities that have varying degrees of tolerance for air temperature control system downtime (i.e. break/fix agreements). For example, office buildings versus hospitals.

Interviewer: Once the Candidate gets to this point, inform them that the majority of GCS's service business is Break/Fix (as opposed to Service Contracts). Now ask them to think about why this might be the case.

Candidate: *The ideal answer* will reference the fact that customers will be drawn to service contracts depending on their business model. Businesses for who continuous temperature control is critical will likely gravitate toward long-term service contracts that prevent downtime. Businesses willing to endure temporary outages will likely opt for break/fix agreements. GCS does a much better job of selling service to customers with a high risk tolerance (such as office buildings) as opposed to those that have a low risk tolerance (such as hospitals and pharmaceutical companies) due to the tremendous cost that temperature variations could present for their businesses.

Interviewer: Ask the Candidate to think about how GCS could address this other group of customers that is more averse to risk (downtime).

Answers could include:

- Hire or build relationship with thought leaders in the industry
- Retrain sales personnel to help push service contracts (educate them on value proposition)
- Retrain service personnel to ensure they know how to service new group of customers
- Advertising

Recommendation:

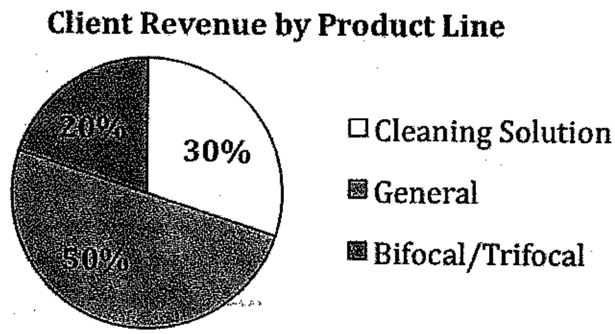
The recommendation should at least provide a response to both questions utilizing the findings from the case:

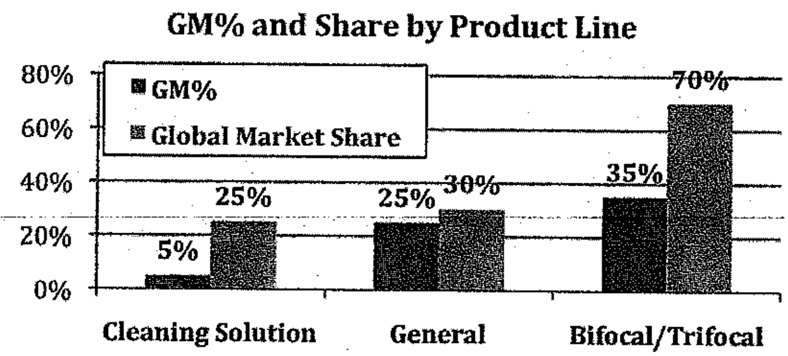
1) Why has GCS' profitability gone down?
2) What should they do to rectify the issue?

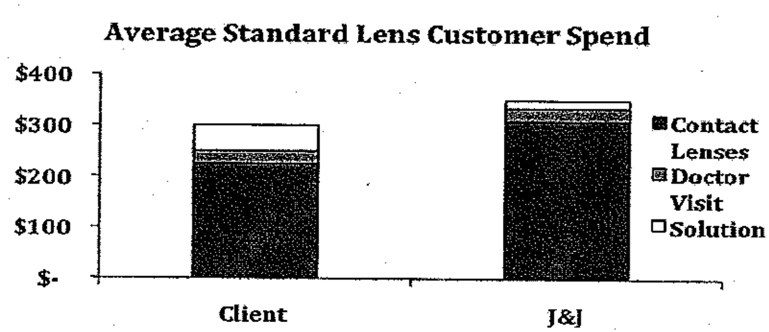
44.) Contact Lenses (Bain, Round 2)

Stem: This case is a bit dated. Our client was a Contact Lens Manufacturer. The client sells cleaning solution, prescription long use contact lens, and trifocal/bifocal lenses. Recently, Johnson & Johnson introduced the first disposable lens (consumers wear for two weeks then throw away). The J&J lenses do not need to be cleaned and offer a much better user experience. J&J spent decades developing not only the lens, but also a patented automated production process. Using their computerized production, J&J can manufacture the lens for a tenth of the cost of our time equivalent offering. Already J&J has gone from 0% to 25% of all new installs (first time contact prescriptions), matching the number of prescriptions for our client's product only six months after launching the product.

Show the Candidate the below charts:







Interviewer: What do you see? What should our client do?

[Candidate should ask for time to go over the charts and build a framework].

Candidate: Well, first a few observations. Our client has a large share of the global bifocal/trifocal market. While solution and general lens are nice complementary businesses, the money is in bifocal/trifocals. Also, it costs more to outfit a consumer with J&J lens for a year and it does to use our client's product. In order to make solid recommendations to our client, I would like to flesh out three key dimensions of our client's dilemma. First, I would like to learn more about J&J's products, next I would like to explore how contacts/solution are sold, and finally I would further map out the contact lens market. I would like to start with J&J's product.

Interviewer: Sounds Reasonable.

Candidate: Great. Can you tell me how the overall user experience of our product compares to that of J&J?

Interviewer: The product is fabulous. In fact, 20 years later it is still the market leader. People love it.

Candidate: Obviously not good news for our client. To clarify: the J&J product line includes Bifocal/Trifocal lenses?

Interviewer: Due to the way the J&J lens is produced, it is impossible to create bifocal or trifocal capabilities.

Candidate: That is good news for our client. A final J&J question: can we develop similar technology?

Interviewer: J&J is years ahead in research and controls all the patents that make the disposable lens possible. It may be a decade before we can offer a competing product.

Candidate: Ok. Let's shift our attention to the sales channel. I do not wear glasses, but from what I know about contacts a doctor must write a prescription for a lens. Do doctors receive a commission from the sale of lenses or solution? Also, is the insurance co-pay the same for either product?

Interviewer: The insurance co-pay is $35 for both products. Doctors do receive a commission on the sale of lens and solution, although most solution is not bought at the doctor's office.

Candidate: So Doctors are receiving around a 33% larger commission from selling J&J lens than our client's product? That might be a problem. We know customers will be happier with the J&J lenses, and now we know that the J&J lenses have the same out of pocket cost to customers as our clients and Doctors have a financial incentive to sell J&J lenses. Also, given the cost differential it means that J&J is making a much larger profit per user than our client.

Interviewer: Right. What do you think can be done about it?

Candidate: In the short term, we might consider raising the price of our lens to ensure Doctors' financial incentives are not a problem for our client. We should also explore training our sales force to counter the J&J sales pitch and consider running a sales contest for Doctors. All three might help stabilize our market share in the short term. However, our client's conventional lens business would seem to be a cash cow. It has a good brand, large installed base, and steady profits – but no chance of growth. Our client should consider selling it while it remains attractive or our client could use the profits from the general lens business to expand into another area. I think it's a great time to look at the product market. Can you tell me about any trends in the contact lens market?

Interviewer: Well, other than disposable lenses, the other big trend is specialty vanity lens. Think cat eyes for Halloween or red tint for athletes.

Candidate: Interesting. How many competitors are there in the specialty lens market? Also, is there any patented technology required to enter the market?

Interviewer: The market is highly fragmented but growing. There is no proprietary technology. In fact, our current facilities could produce most types of specialty lenses today.

Recommendation

Interviewer: Oh! The CEO just walked into the room. Please give us a recommendation.

Candidate: Our client is facing a major threat to both its general lens business from J&J, as well as its solution business since consumption of solution is much lower for disposable lenses. Our client has a large established base it should work to protect for as long as possible. To do so, it should protect its raise prices and increasing our client's sales force's interaction with doctors. Our client should invest cash generates by its general lens business into buying a specialty lens producer, then work to consolidate its market position. All the while, the client should work to innovate and patent protect in the bifocal/trifocal market to ensure long term profits. It cannot compete long term with J&J disposables, but it should be able to survive and grow by focusing on its core bifocal/trifocal business and seizing the specialty lens opportunity.

45.) Treasure Island Communications (McKinsey, Round 2)

Stem: Our client is the CEO of Treasure Island Communications (TIC), a telecommunications company on Treasure Island which has enjoyed a government-protected monopoly for many years. TIC provides mobile services as well as fixed-line services for both international and domestic lines.

In a year's time, the government will deregulate the industry and invite other companies to enter the Treasure Island market. Our client has engaged McKinsey to discuss ways to deal with this new environment.

If candidate asks: "Why does the government want to deregulate this industry?"

Interviewer input: "Two reasons: (1) Government collects more revenues in the form of spectrum licensing fees; (2) More competition will reduce prices which is better for consumers."

Question 1: Our client would like help in drawing up some possible scenarios. What information would you need in order to flesh out realistic scenarios?

The candidate may outline the following high-level issues:

- Market Size / Structure: Given the market size and number of customers, is the market more likely to remain a natural monopoly or evolve into a duopoly/oligopoly/monopolistic competition?

- Characteristics of Potential Competitors: What are their capabilities and which segments (mobile, domestic/international fixed) are they likely to target?

- Entry Barriers: What entry barriers can TIC use or muster?

Natural barriers include high set-up costs, high fixed costs etc.

Artificial barriers: TIC could lobby government to set higher spectrum-licensing fees etc.

Question 2: Could you tell me more about the financial information on TIC that you'd like?

The candidate should cover the basics of revenue and cost information. Suggested answers:

Revenue: How is pricing done for the different service segments? What are the volumes? What are the trends across time?

Costs: What are the set-up costs, recurring fixed costs, and variable costs?

Question 3: I will give you some data on the international fixed-line services.

Latest revenue = $90M

Total Costs = $30M (all annual fixed costs)

Assume that with new entrants and competition, prices will drop 50% but usage volumes do not change. What market share does TIC need to maintain in order to break even?

Candidate's answer should walk through the following logic:

New Market Size = 50% x 90M = $45M

TIC's break-even revenue= $30M

TIC's required Market Share = 30/45 = 2/3

Implication: TIC can afford to lose only 1/3 market share to competition.

Question 4: Let's use more realistic assumptions this time. Assume that volume of usage does increase when prices fall 50% due to competition. Please take a look at the following data and tell me what you see. Then tell me what market share is needed in order for TIC to break even.

INTERNATIONAL FIXED LINES

Usage	**Revenues ($)**	**Total User Minutes**
2009 (latest)	90M	90,000,000
2008	120M	60,000,000
2007	120M	60,000,000
2006	160M	40,000,000

Candidate should use the information to (1) derive prices charged in the past and (2) price-volume (demand) relationship.

Usage	**Revenues ($)**	**Total User Minutes**	***Price ($/user min) (Candidate's Calculation)***
2009 (latest)	90M	90,000,000	*1*
2008	120M	60,000,000	*2*
2007	120M	60,000,000	*2*
2006	160M	40,000,000	*4*

Candidate may draw a demand curve.

If candidate tries (too hard) to extrapolate the demand curve to predict volume based on a price of $0.50, *guide him to the simpler heuristic* that each time price dropped 50%, volume increased 50%.

Therefore:

New Price	=	$0.50 / user mins		
New Vol	=	135,000,000 user mins		
New Mkt Revenue	=	$0.50 x 135,000,000	=	$67.5M
Break-even TIC rev	=	$30M		
Reqd Mkt Share	=	30M/67.5M	=	44%

Implication: With more competition, user volumes will also rise and TIC's required market share to break-even is not as high as initially assumed.

46.) Scottie's Drive-Thru (McKinsey, Round 2)

Stem:
Scotty's is a fast food restaurant chain with over 2,000 stores in the US, mostly concentrated in the South. Restaurants are structured as old-fashioned drive-ins – each store has 20 to 30 drive-in spots where patrons can order and receive their food while seated in their cars. The stores have no seating areas. The menu at Scotty's menu can be broken down into 3 categories:

1) Main courses: Burger, fried chicken
2) Sodas: Over 300 varieties, some of which are proprietary
3) Desserts: Milkshakes and other ice cream desserts.

During the first 20 years of operations, Scotty's business grew steadily. However, Scotty's business declined last year. Their CEO has hired McKinsey to determine a growth strategy for the business.

Interviewer: Given this information, brainstorm some initial ideas on a growth strategy?

Candidate: I would look at first at the big picture of store placement and profitability. Next, consider the option of opening more stores, closing unprofitable stores, or adopting a franchise model.

Next analyze the revenue and cost sides of the business.

Under revenue we could look at growing the customer base, or targeting the most profitable customers. For products, you could look at their product pricing, product mix, and differentiation. My first impression is that having more than 300 sodas is a bit much and will cost the business in terms of distribution and inventory costs. We should definitely do some consumer research and see what items in each category the customers really want and what differentiates the brand from other chains.

In terms of costs, Scotty's should look at their fixed and variable costs. The first think I would want to look at is the cost of raw materials. This company has such a high variety of products offered at each restaurant; I'm wondering how much they are spending for food and drinks? Also, with all of these sodas distribution costs may be high with multiple suppliers. Storage costs may be high given the product mix.

I'm also curious about competition. How are stores doing in high-density areas with lots of competition, versus areas with low competition?

Interviewer: Okay, these are some great ideas. Let's move on. The client has also launched some pilot restaurants that have seating areas. I have some data on the performance of these pilot stores as compared to the standard stores (show the candidate these charts).

STANDARD RESTAURANTS

Category	Price	Quantity Sold	Profit Margin
Burgers etc.	$2.00	15,000	15%
Sodas	$2.00	10,000	10%
Milkshakes	$4.00	5000	20%

PILOT RESTAURANTS

Category	Price	Quantity Sold	Profit Margin
Burgers etc.	$2.00	25,000	15%
Sodas	$2.00	15,000	10%
Milkshakes	$4.50	10,000	25%

Interviewer: What are some of your initial impressions of this data? Can you talk about some of the benefits and drawbacks to the pilot model?

Candidate: Immediately I see that the price for milkshakes has increased along with the margin for milkshakes, while sales have doubled. This is interesting. Doubling sales while putting an item at a higher price point is a great move – I'm wondering if Scotty's standard restaurant has room to increase their price or if something about the store format is increasing milkshake sales. Thinking about the buying process in the pilot stores, perhaps people buy a their food and a soda first, and then go up to the register again and buy a milkshake. Since they are sitting around enjoying their food with their family, they then have the option of buying a round of milkshakes for everyone (if they aren't completely full). In the standard store format, people might just have one transaction and drive away while they are still eating so they are already home when they decide they want a milkshake.

It is interesting the pilot stores don't have higher prices for food and sodas. This data suggests that they might have some mark-up potential. This is a possible revenue strategy. Also, these restaurants are doing a higher volume overall. We might want to explore the opening more pilot restaurants or converting some stand locations to this model.

Interviewer: Okay, let's get into some calculations on the standard restaurant model. The client thinks their milkshake business has a lot of potential. They are wondering how many soda sales they would have to convert to milkshake sales at an average store in order to increase their profit margin to 20% total for all sales.

Candidate: Okay, so the client wants to subtract x sodas from 10,000 and add x milkshakes to 5,000 in order to reach a 20% profit margin at an average store. I have to start by figuring out what the profit margin is overall at a store.

Rev = P x Q
Burgers: $2 x 15,000 = 30,000 @ a profit margin of 15% means that profits are $4,500
Sodas: $2 x 10,000 = 20,000 @ a profit margin of 10% means that profits are $2,000
Milkshakes: $4 x 5000 = 20,000 @ a profit margin of 20% means that profits are $4,000

Overall revenue is $70,000 and profit is $10,500. The current margin is 15%. They need profits of $14,000 to make the target margin of 20%. So the difference that needs to be made up with more milkshake sales is $3,500.

Looking at the overall margin on an individual sale of a soda and then of a milkshake.

Soda: $2.00 at 10% margin = 20 cents
Milkshake: $4.00 at 20% = 80 cents

The difference between the 2 profits is 60 cents. So letting x = required number of conversions (from sodas to milkshakes) => 0.6x = 3,500 => x = 5,833.

Interviewer: Alright, so summarize your recommendations for the client?

* Recap case: We were hired by Scottie's to determine a growth strategy for a declining business.

* From the data analyzed, shifting from the standard drive-in model to the pilot model (with seated areas) should boost both revenues and margins per restaurant.

* If we maintained some standard restaurants for reasons of branding nolstagia, we should shift consumer beverage purchases from sodas to milkshakes, to drive up margins further within existing standard restaurants.

* There are also other big-picture strategies we have not yet explored, such as franchising, but please speak to my Director of Client Services if you wish to extend this engagement and keep the team on for another month. (*Tongue in Cheek!*)

47.) HDTV Remote Controls (Bain, Round 2)

Stem: It is 2005 and your client is a Private Equity firm looking to purchase an HDTV Remote Control manufacturing company. The firm would like to sell the company after 3 years. Should they go forward with the acquisition?

Structure: The candidate should take some time to come up with a simple, logical, MECE structure that includes a bucket for the Market (Size, Growth, Competition, etc.), the Target Company (Revenues, Costs, Market Share, Product, etc.), and the client/PE Firm (Strategy, profit Cannibalization, Synergies, Risks, ROI, etc).

Candidate should first look to analyze the market's attractiveness by starting to look at size and growth. You can assume that the only real competition is 2 main players, but otherwise fragmented.

Interviewer: Candidate should attempt to size the market as follows, but if not, guide him/her to do so.

Key Insight: Candidate should recognize that TV Remotes are innately tied to the TV's they control, and should therefore look to size the market via # of households (HH's) in the US…

- 300M people in the US
- 3 people/HH
- 100M HH's
- 3 TV's / HH
- 300M TV's

Candidate might assume that the useful life of a normal TV is 10 years, and will therefore want to divide the 300M TV's by 10 to get a total of 30M TV's sold/year. However, they should think about a potential consumer's buying process when it comes to upgrading to an HDTV. Most people don't switch to HD because their old TV is broken, but rather, they switch to HDTV because it's the latest and greatest in technology.

Target Company

The interviewer should then guide the candidate to focus on the Target Company. When prompted, the interviewer can provide the following information:

- Revenues for the last 3 years have been $25M, $50M, and $100M.
- They've maintained a 25% market share throughout.
- Remotes sell at $10 each.
- You can assume margins are attractive.

- If they haven't figured this out already, candidate should recognize that TV Remotes are tied to the TV's they control.

Candidate should infer that the market has been growing from $100M to $200M to $400M, or 100% growth year over year.

Note: Candidate should now look at the growth rate for the next 3 years, and the 3 years after that.

Interviewer: How would you expect the market to behave over this time frame (6 years)?

Candidate: Let's assume that all the TV's will be replaced gradually based on momentum. A few people will try HDTV's at first. Then once momentum builds and HDTV's become very popular, demand will pick up such that most of the purchasing comes in the first few years and then evens out towards the end.

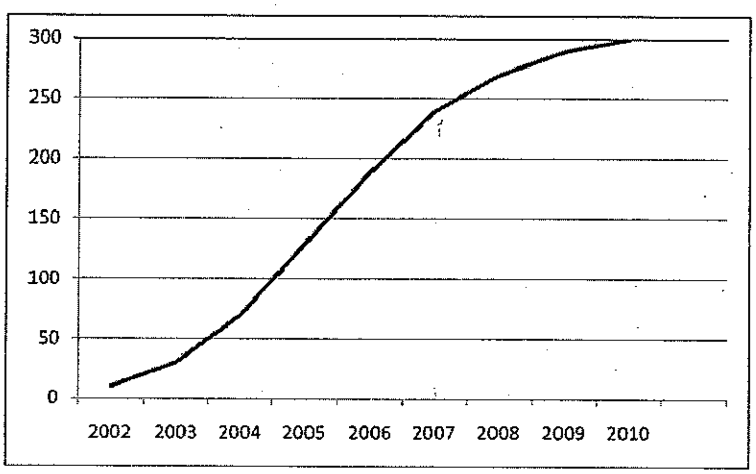
Interviewer: Tell the candidate that the client expects that all normal TV's will be replaced by HDTV's and that from start to finish this will take 9 years.

Behind the Scenes: *Looking at the data we have...*

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Remotes	10M	20M	40M						
Cumulative	10M	30M	70M						

To fill the rest of the table out, we know that total # of TV's = 300M.
Average # of TV's sold/year in remaining years = 40M
However, we know most of this will be front-loaded.

Ask candidate to draw a chart of what he expects the market penetration of HD remotes to look like. It should look something like this:



Interviewer: Before asking for the final recommendation, share the following table with the candidate. Ask the candidate to assess whether or not the PE firm should acquire the company and why. If necessary, interviewer should guide the candidate to think about what drivers the purchase price.

	2002	2003	2004	2005E	2006E	2007E	2008E	2009E	2010E
Remotes	10M	20M	40M	**60M**	**60M**	**50M**	**30M**	**20M**	**10M**
Cumulative	10M	30M	70M	130M	190M	240M	270M	290M	300M

Note: A good candidate will recognize the following sequence of events and what they mean in terms of the company's value.

2002 - 2004: High Growth = High Multiples
2005: Acquisition Date
2005 - 2007: Sustained Growth = High Multiples
2008: Sell Date
2008 - 2010: Decline = Low Multiples

Interviewer: So what can you surmise about what we would have to pay for the company now and what we could sell it for later?

Conclusion: From this, candidate can conclude that this is a bad deal despite the growing market and profitability of the company, because of the high multiples they would have to pay to acquire the company, and then the low multiples they would command 3 years later when they sell the company.

48.) Monster.com (Bain, Round 2)

Stem: You're the SVP of Strategy for Monster.com, a job-search website, at the end of 2005. The US economy is good and you were paid handsomely for the year. You have 3 business lines in the US contributing a total of $600m revenue:

1) Jobs posting business (60%) - list price is $395 / posting but with discounting is sold at $60

2) Resume database business (30%) - sold for $2000 per user per year (eg HR staffer) for access to ~38m resumes

3) Online pop-up ad business (10%) - (eg University of Phoenix ad)

Now fast forward to 2009. The CEO has asked you to forecast 2009 US revenues. How will you do it?

Structure:

Should include at least Macroeconomy (trends, population, unemployment), Monster business (competitive share gains, emerging products, declining businesses) and could also include Risks (emerging competitors or job hiring models). The biggest challenge in this case is determining what data is important versus irrelevant.

There are no emerging products or competitive gains to consider in this case. The interviewer should guide the candidate towards analyzing the trend with revenues from job posting. (Since it is not clear that this is the focus of the problem, the interviewer needs to be a bit more proactive in helping out)

Interviewer: Lets focus on the job posting business. What are the underlying drivers of the jobs posting business?

Answer: Immediate drivers are US population and unemployment rate.

A stronger candidate will get to turnover of jobs quickly but leave the candidates to get to this on their own eventually, asking directional questions. For example, ask them what has to happen for a job to get posted (answer: employee must leave current position). Employees are more likely to leave when the economy is good and jobs are freely available.

Interviewer: How do we get relevant information for this study?

Answer: Sources include US Labor Department, Department of Statistics, Online research, Wall Street Economic forecasts, etc.

Interviewer: Say we have some data available. What would you like to know to estimate revenues?

The candidate must ask for working people, the turnover rate, the trend in turnover etc.

Data: In 2005 there were 180m people working and turnover was 20%.

There are also 180m people working in 2009.

Trends –

1999: 20%, 2001: 10%, 2002: 10%, 2005: 20%.

A strong candidate will comment on the relation between the trend and the macro-economy (recession, growth and relation to job trends)

For example, the trend looks interesting. The economy was strong in 1999 so turnover was high, it worsened with 9/11 and tech bubble. So turnover went down as people feared leaving their jobs. As the economy recovered in 2005 turnover went back up. In 2009, unemployment is high and therefore turnover should be back down.

Interviewer: That seems logical, in fact, we regressed the data on turnover versus unemployment and saw that R^2 was .92. Unemployment was 7% in 2001 and 3.5% in 2005 and 7% again in 2009. What do you think turnover would be in 2009?

Answer: Well, with an R^2 of .92, then I'd estimate 2009 turnover would be 10% because unemployment is 7% (similar to 2001).

Interviewer: Ok, using that data what is the revenue?

Answer: If the turnover rate has halved and workers remained constant, then assuming constant pricing (ignoring inflation for now), 2009 revenue would also be half of that in 2005.

Revenue in 2005 = 60% * 600 = $360 Million (under a turnover of 20%)

In 2009, since turnover = 10%, Revenue = 0.5*360 = $180 Million

Interviewer: Ok, now the resume database. What are some ways we could sell it differently?

Answer: Subscription model, discounted with job postings, corporate relationships, target experienced hires, universities etc.

Interviewer: Let's say we expect to sell 60,000 user seats in 2009, what would you estimate revenues to be?

Answer: 60,000 x $2,000 = $120 million, or $60 million less than they were doing in 2005.

Interviewer: What about the online ad business? What drives its profitability and how do you expect 2009 is different than 2005?

Answer: Primarily how much Monster charges advertisers per click. I'd estimate that because there are more job sites today than in 2005, price that monster can charge has probably gone down while visitors have increased because there are more online users.

Interviewer: Right, if advertiser's cost per 1000 clicks is down 25% and the number of visitors has doubled, what will ad revenue be?

Answer: \$60m x (75%) x (2) = 60m x 1.5 = \$90m.

Interviewer: So what will 2009 revenue be?

Answer: \$180 + \$120 + \$90 = \$390m. 2009 revenue is down 35% from 2005!

49.) Background Check Agency (Bain, Round 2)

Stem: Your client is a background check agency. They are hired to perform background checks on new hires before a formal offer is made. They have a particular emphasis on the trucking industry, where they are the market leader and profitable. The CEO doesn't believe the company has reached its full potential. They have hired Bain to determine if they should branch out and enter a new market.

Structure: A customization of 3Cs should work pretty well.

1. Core Competencies of Company
   - Trained Personnel
   - Strong Brand
   - Access to Databases
   - Scale
2. Potential Markets
   - Size
   - Growth
   - Segmentation
   - Competition
3. Identify Best Market, then Discuss Implementation & Risks

Key Facts:

Phase 1: Core Competencies of the Company

- They have well-trained personnel
- They are reputable in trucking, but not well known outside trucking.
- They maintain they key database on background checks for the trucking industry. Their competitors pay them to access their database.
- Services Can Have High Barrier to Entry
  - Standard employment/education check → very common and easy
  - Driving record check with DMV → very common and easy
  - Criminal Record check by checking with over 2000 state and local court records → difficult and costly. The company needs to have a number of runners that check the records.

Key Insights:

- Client won't face normal barrier to entry since they already check criminal records.
- Reputation in transportation could provide a strong value proposition in a new market.

Phase 2: Rev & Cost Quant (no numbers just setting up the equations)

Could you set up a formula to determine the client's annual revenue that involves only data we can find in Bain's databases?

- Rev = 70% * Market of Transportation Industry
- Rev = 70% * (Price) * (# of Checks Requested per year)
- Rev = 70% * (Price) * (# Hired /year) / (Check Pass Rate)
- Rev = 70% * (Price) * (# of Truckers) / ((Check Pass Rate)* (Trucker Turnover rate))

What do you think are the most important drivers of the clients' cost?

- Labor
  - Runners checking records
  - Staff compiling records
- SGA

<u>Candidate should point out that costs remain mostly fixed because they already have runners going to most courthouses and it is easy for a runner to check 5 names versus 3. Interviewer should probe/hint the candidate in this direction until he/she gets it.</u>

Phase 3: Potential Markets

Markets (ordered by size: largest to smallest)

1. Transportation
   a. Twice as big as #2, they currently have 70% market share
2. Retail
   a. Basic background checks for employees – including employment and criminal record.
   b. Low barriers to entry, highly fragmented market.
3. Health Care
   a. Not that much smaller than retail.
   b. In-depth background checks required
   c. No data available on fragmentation of market and whether there is a "trusted name" in the market.

Key Insights:

- Retail market is attractive because we can do background checks and have a strong name.
- Health care contracts are intensive, so there might be differences in profit margins of companies.
- There is still large untapped potential in transportation.

Recommendation: Something that is logical and supported by facts should work. You don't have perfect info here, so just make up your mind and run with it.

"Mr. CEO we advise you to expand into the retail background checking. Specifically, we believe that your reputation and existing capability to check criminal records would give you a competitive advantage, specifically since retail space is very fragmented. We propose that you have a small fraction of your sales force to acquiring background check contracts for retailers. With that experience you can branch out and grow your company."

50.) Global Health (BCG, Round 2)

Stem: Client is an organization, which is trying to incentivize pharma and biotech firms to develop treatments and vaccines for diseases that are prevalent in developing countries. The challenge is to identify where to focus as there are many possible diseases.

Show candidate the graph.

When asked, provide the following details:

- DALY stands for disability-adjusted life year and is a measure of how much impact a disease has on people's productivity. Diseases, which cause people to die young or which cause disability starting in childhood, have the highest DALY scores.
- Pipeline indicates the number of drugs that are currently under development.
- All these data are made up, as are some of the disease names.

Question: Which diseases represent the best opportunity for our client?

Possible Answer: HIV and Hep represent the greatest disease burden for developing countries, but there are also many treatments already under development for these diseases, so our client probably doesn't want to focus there. (Hard to incentivize more development, as the competition looks tough.) It probably makes more sense to focus on the three diseases with the next-highest disease burden, TB, Malaria, and Diarrheal Disease. Of these, I would recommend focusing on Diarrheal disease as there are the fewest products in the pipeline.

Question: You're right about diarrheal disease: that is where the client decided to focus. What does this tell us about diarrheal disease? (Show candidate second graph)

If asked, provide the following details:

- Etiology means the causes of the disease.
- Antigen is a general term that can refer to anything which provokes an immune response, whether bacteria, virus, etc.
- The Y-axis scale, incidence, indicates that 5% of cases are caused by Antigen A, and so forth. If someone adds up all the bars, he or she will realize that they don't sum to 100%. This is because some cases are caused by antigens that have not yet been identified—so the picture is even worse....
- Data are recent (last year) and the sample sizes are large: n=1500 for the local population data and n=256 for the military data. Subjects in the local population data are children under 18 years old. Subjects in the military data are soldiers of all ages.

Possible Answer: It is not caused by a single primary antigen, but can be caused by a large number of different "bugs." This means that developing a treatment or vaccine will be difficult because it can't just attack one of the antigens, it will need to be effective across a large number of them. This helps explain why there are so few current treatments and vaccines available to treat diarrheal diseases. It's like the flu or the common cold—similar symptoms but really not just one single pathogen that causes the disease, like is the case for small pox, for example. This is true both for the local population and the military population.

Question: Who do you think would be the main customers if we could induce someone to produce a treatment or a vaccine for diarrheal disease?

Possible Answers: Governments of the countries where this disease presents a major problem. Probably also some nonprofits who help provide healthcare in those areas. International organizations, such as the World Health Organization of the United Nations.

(Keep asking who else and provide hints until the candidate realizes that foreign tourists and the military would also provide significant sources of revenue for such a product.)

Question: What are some of the issues or risks that the drug maker would face with each of these customers?

Possible Answers: Both governments and the military are attractive customers because they buy in large volumes, but because of that they have significant negotiating power. If the military decides not to buy, that single loss of a sale could cause the whole project to become unprofitable. The drug maker and the client should consider trying to set up pre-commitment contracts with the governments and the military.

(Show candidate graph 3)

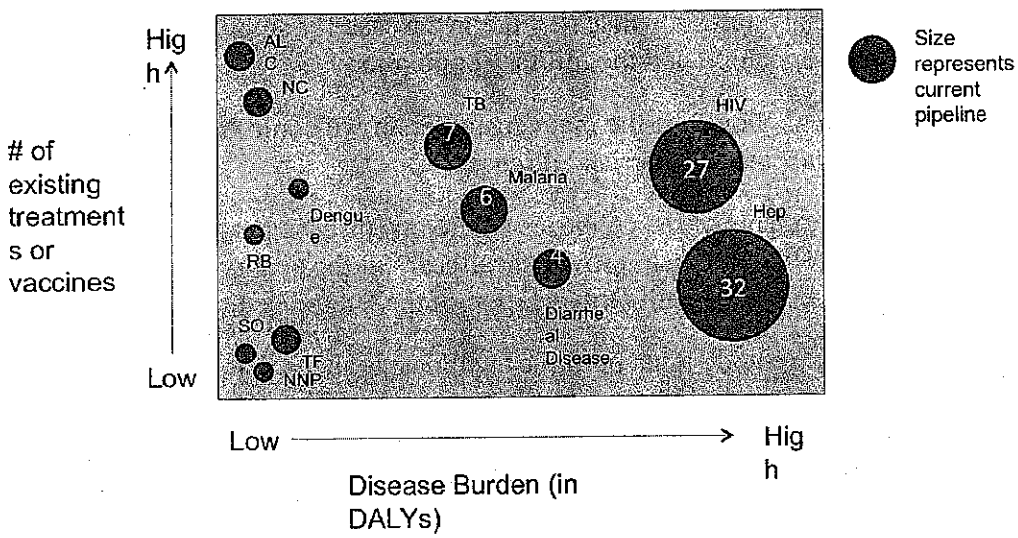
Question: Assume that this is the prescribing data for a product like the one that our client is considering helping launch for diarrheal disease. Assume that market 1 and market 2 are two different geographic markets. What does this show and which market seems like a better target?

Answer: The chart shows the physicians in each market arranged by their prescribing level of this product horizontally in descending order. So the physician who prescribes the most is on the left, and those who prescribe the least are on the right. The height of the line represents the cumulative total of all the units they have prescribed. The candidate should recognize that Market 1 is basically more consolidated than Market 2. 80% of the units of this product are prescribed by about a third of the physicians in Market 1, but in Market 2 to account for 80% of the units we have to include more like 60% of the physicians. One implication of this is that it is probably easier to start selling a product that is similar to this one in Market 1 because fewer physicians would have to be informed about the new product. This means it's an easier task to get penetration in Market 1, and we might want to start there.

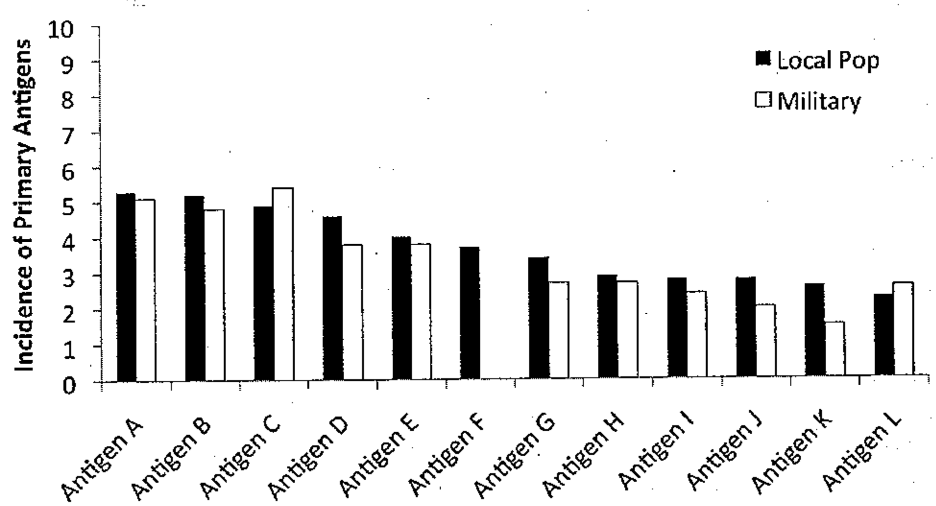
Interviewer: So, what is your recommendation?

Any well thought out recommendation based on the data presented will be fine.

Disease in the Developing World

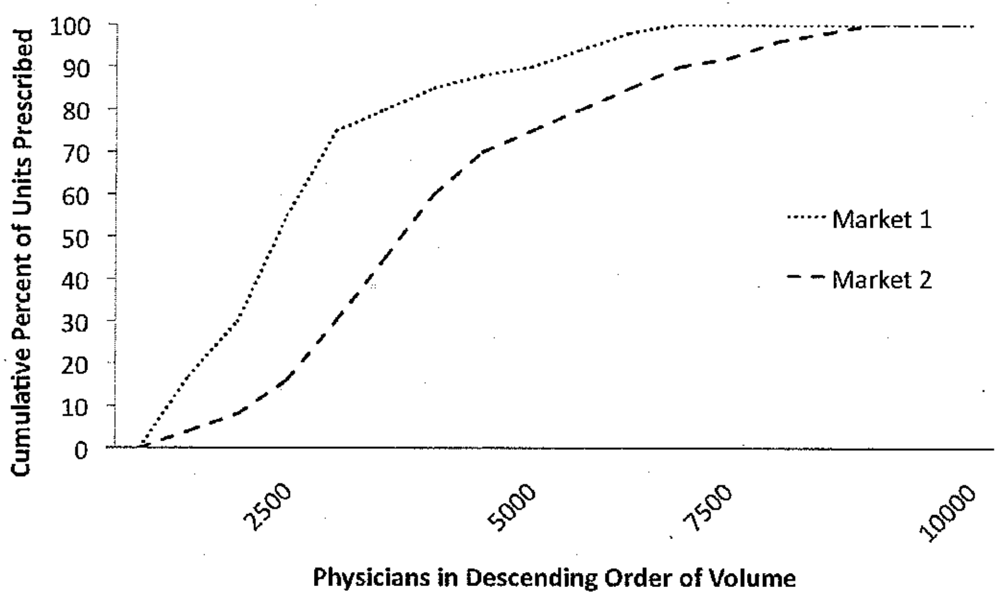


Etiology of Diarrheal Disease



Source: Local population data (black bars) from field study surveys by a medical nonprofit in 7 developing countries. Military population data (white bars) from a sample of US soldiers stationed in Egypt.

Prescribing Patterns in Market 1 vs. 2



51.) Explosives Company (BCG, Round 2)

fuel ignition

Stem: Your client is an explosives manufacturer who offers ammonium nitrate, initiation systems, and setup services for large blasting projects. One of their long-term customers is approaching the end of a long-term contract and has decided to put the work out for a competitive bidding process. The client hired us to help determine how to handle the situation.

Behind the Scenes:

Let the candidate make their structure. The structure should include the basic industry landscape areas, competitive strengths, client's strengths, degree of differentiation in the product/service offerings, deeper dive into % of revenues derived ~~from each stream and~~ customer, pricing, and possible strategies for how to handle the situation.

Phase 1: Background Info

Candidate should proactively seek out the following information:

1.\ market
2) Company
3) key client?
customer

- The demolition market is broken into 2 main areas:
  - Big players like our client handle large scale projects like mines, quarries, etc
  - Small players handle buildings.
- There are 3 main players in large-scale projects, our client is 1 of them. The other 2 players do not offer setup services, and have lower quality initiation systems.
- The market is split up 30% for each of the top players; the remaining 10% is fragmented.
- The customer we are discussing owns 2 coal mines (one in Kentucky, one in Wyoming).
- The industry has been growing at about half the GDP growth rate.

Key insight: When our client's customer opens the work for competitive bid, there will likely be 3 main bidders. We need to understand their pricing and offering.

Phase 2: Pricing Calculations

Behind the scenes: The candidate should proactively move from the background info to questioning the existing pricing structure currently under contract with the client and ways in which the competition may differentiate their offerings.

Candidate: So do we know what our client is currently charging vs. what their competitors are currently charging? I would also be interested to know our margins on each.

Interviewer: Our client charges $1000/ton for ammonium nitrate, and $250/ton for the required initiation systems (setup services are free). The customer we are talking about uses 40,000 tons of ammonium nitrate/year. Margins are 20% for ammonium nitrate and 80% for initiation systems. Our competition is charging $950/ton for ammonium nitrate and $150/ton for initiation systems.

Candidate: Well first of all, our client is overpriced when compared to their competition. We can calculate the total revenue and profit as shown below.

Product	Price	Customer's Annual Vol.	Total Price	Margin	Profit
Ammonium Nitrate	$1000/ton	40,000	$40M	20%	$200/ton
Initiation Systems	$250/ton	40,000	$10M	80%	$200/ton

Key Insight: Our client is charging a 2/3 higher initiation system price than their competitors and a slightly higher price for chemicals. This could hurt them in a competitive bid unless they have a value proposition to backup the higher price.

Interviewer: Why do you think they can realize such a high margin on initiation systems?

Candidate: Do they have a superior product and/or do they command a higher price because of their free setup services?

Interviewer: Yes. Ammonium nitrate is pretty much a commodity, but our client has superior initiation systems and setup services that allow them to provide better control of the size of blast fragments. This saves the customer $16M/year in post-demolition processing costs.

Candidate: Dividing $16M by 40,000 tons, shows that our client is saving our customer $400/ton in post-demolition costs. Therefore, the customer is getting an "effective" price of $850/ton (1000+250-400) vs. the competition's price of $1100/ton (950+150).

Recommendations:

Interviewer: So what would you recommend our client do to ensure they remain successful when the bid opens up?

Possible Answer: Our client should ensure that their customer is aware of the $400/ton ancillary benefit they receive from setup services and superior initiation systems. They also should consider adjusting their ammonium nitrate price to $950/ton to match the competition. Finally, they should continue focusing on R&D and setup services to retain their position as the technology and value-added service leader in initiation systems.

52.) Universal Healthcare Revamp (McKinsey, Round 2)

Stem: Our client is the health minister of a small country. The country is small and on the upper end of the GDP spectrum for countries of its size. The country's health system is completely free to its citizens, and is funded by taxpayer money. The way that the health care system works is that patients can visit one of 30 clinics spread throughout the country for a primary care visit, and then get referred to one of 2 larger hospitals if more intensive procedures are required. There are a few private systems for the richest citizens, but they are so small in comparison to the public system that they won't be considered at all in our study. The GDP, and thus the tax returns for the country have been growing at a 5% rate. However, the healthcare budget has required 10% growth to keep up with demand. The health minister of the country is concerned that at this rate, the healthcare system will become unsustainable. The health minister has hired us to figure out why the healthcare budget is requiring this level of growth and what can be done to reduce it.

Phase 1: Examining possible reasons for budget growth

Interviewer: What factors do you believe are going into the budget growth?

The candidate should come up with a framework that should explore:

- Demand-driven growth reasons such as
  - demographic changes leading to a larger number of people visiting hospitals
  - changes in health perception or awareness in the population such that citizens go to the doctor in response to problems for which they formerly staid home
  - the incentive systems of doctors and hospitals who may be encouraging patients to come in so that they get paid more for more visits or who may be referring more patients to the 2 bigger hospitals than is necessary

- Supply-side effects such as
  - shortage of doctors or resources bidding up prices for the same services
  - a lack of preventative care services making patients less healthy and thus needing of more healthcare when they actually do get ill

Interviewer: Now that you have identified some reasons for budget growth, let us address how we can cut costs. What are some of the things they could do and what would be the potential risks associated with those?

Possible answers that the candidate can come up with include:

- Transparency: if physicians don't currently know what various treatments cost, making them aware and helping them take that information into account would be a first step
- Quotas/Rules: We can require that physicians prescribe a certain amount of generic drugs rather than branded, or that simpler, outpatient procedures be used when possible rather than allowing people to stay several nights in the hospital

- Risks: We need to ensure that the rules don't reduce the quality of care overall, so physicians need to be involved in crafting the rules.

Phase 2: Forecasting Healthcare Needs Growth

Interviewer: The client's census bureau has printed out some information. What do you make of this?

Age	% of population today	% of population in 10 years	Average HC cost per person per year
0-21	20	10	$1000
22-65	70	70	$500
65+	10	20	$4000

The candidate should come to the conclusion that the population will be redistributed with a larger percentage becoming older, and thus, costing more money to the healthcare system. This means that it seems like the healthcare spend will increase by an even greater rate than it currently is, which spells bad news for the health minister. It would be helpful to figure out how bad the problem will become.

Interviewer: Could you figure out how much the country currently spends on health care, and how much they are projecting to spend in 10 years?

To calculate current spending, a weighted average of the average spend per citizen can be taken from today's data. The calculation of future spending needs to factor in change due to shifting demographic as well as the greater number of citizens in the future due to increase in population

Do not give the candidate the information about population change unless they ask for it. If they do not realize it and include it in their calculations, guide them to it. The population is currently 1M, and the census estimates see it growing by 30% in 10 years.

Calculation of current average spending:

(0.20 (0-21 years) * 1000 + 0.70(22-65 years) * 500 + 0.10(65+ years) * 4000) * 1Million (population level) = 950M in current spend

Calculation of future average spending:

First, the population change needs to be taken into effect: 130% * 1M = 1.3M

Next, this must be incorporated into a weighted average

0.10 (0-21 years) * 1000 + 0.70(21-65 years) * 500 + 0.20(65+ years) * 4000 * 1.3Million (population level) = 1.625B in future spend

Finding out the percent change:

1.625B(future spend) – 950M(current spent) = 675M

Divide that by the current spend yields a 71% increase in spending, which is a huge increase. It is also ok if the candidate rounds 950M to 1B and then the percent increase becomes 62.5%, which is equally significant. (Ensure that the candidate calculates the percent change in spending and reacts to it.)

Phase 3: Copayment Idea

Interviewer: Before we started on this project, the health minister was toying with the idea of beginning a $5 per visit copayment. This would cover all individual visits regardless of specialty. Currently, the average citizen goes through the healthcare system 5 times a year, at an average cost of $50 a visit. What do you think would be the impact of the copayment?

The candidate should theorize that first, with $5, the cost would go down to $45, and then also, if the visits are no longer free, patients will be choosier about when they go to the doctor and there will be fewer visits per citizens. When the candidate gets to that point, let them know that the estimate is that there will be 4.5 visits per year as a result. The candidate should now realize, or be coaxed into figuring out what percent of the budget will be saved by this change:

First, the candidate should figure out the current cost to the system for all of the visits:

5 (visits per year) * $50 (per visit) * 1M(citizens in the country) = $250M

Then, under the plan:

4.5 (visits per year) * $45 (per visit) * 1M (citizens in the country = $202.5M

Subtracting the two gets a difference of roughly $50M saved with the copayment, which would reduce the total cost of routine visits by roughly 20% (Make sure the candidate remembers that total health care spending is $950M, so this plan would constitute a 5% reduction off of the total).

Phase 4: Copayment Risks

Interviewer: Although the copayment seems like a good idea, do you think that there are any risks to the idea? How could those risks be alleviated? Are there any other ideas that come to mind aside from a copayment that could help out the situation?

Here are some suggestions. Importantly, the candidate should remain structured:
Risks:

- Looking out for the poorest citizens – perhaps they can't afford the $5 copay. Care should be taken to make sure that it's affordable for all, and perhaps, there can be a sliding scale based on per capita income
- Public unhappiness in response to the copayment – The public will probably be unhappy with this change, which could have political repercussions for the health minister's party. Perhaps a survey could be taken to gauge how unpopular this idea would be.
- Will the copayment be enough to affect anyone who may abuse the system – Is $5 enough of a deterrent for people who go to see the doctor for superfluous visits? Perhaps there should also be a sliding scale based on acuity or visit type.
- Emergency attention – Could the $5 copayment make it difficult to obtain care in an emergency? Perhaps the fee should be waived in emergency situations.

Alternatives to copayment system

- Limiting types of visits – Some regulation could be put in place for types of visits that really only need to take place once a year, like eye exams.
- Increasing spending on preventative care – If people lead healthier lives, they will need less healthcare. More attention could be placed on encouraging preventative care habits for the general population.

Phase 5: Recommendation

Interviewer: Ok, wrapping up, what should we tell the healthcare minister?

In this answer, the most important thing is for the candidate to be structured and concise.

Possible answer:

We've looked at the healthcare spending situation, and we estimate that there will be a 70% increase over the next 10 years, driven by two factors

- Population increase
- Population aging

Copayment is a good place to start to immediately address the healthcare spending situation as it could decrease costs this year for starters by roughly 5% from initial estimates. However, more analysis needs to be done to make sure that the copayment will not have adverse effects quality of care delivered, and that it will be politically feasible.

From a long-term perspective, the population's healthcare needs will grow substantially, and more thought must be taken to figure out how to maintain the system's sustainability. Initiating visit type regulations and focusing on preventative care are two good places to start to make sure that the healthcare system can continue to meet the needs of the population at a reasonable cost.

MasterTheCase.com

Top Consulting Interview Prep