



# MasterTheCase.com

TOP CONSULTING INTERVIEW PREP

# Darden Consulting Casebook

2008-2009

CONSULTING CASE INTERVIEW

# Bike DVD Rental Service in NYC

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**Level of Difficulty** (Select level of difficulty)



## Question

You friend has approached you with a business idea and wants your advice. He wants to open a DVD Rental service in New York City, specifically Manhattan. DVDs would be delivered to customers via delivery people on bicycles. What would you tell your friend?

### Note

This case combines elements of what a student might see in both 1<sup>st</sup> and 2<sup>nd</sup> round interview.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. What kind of competition exists?	Assume that Netflix and comparable services are not available. Push the student to come up with large chains (Blockbuster), local video rental stores, movie theaters, live theater, etc.
2. What is your friend's acceptable breakeven period?	He wants to breakeven within 1 year.
5. Where will the DVDs be stored?	They will be stored in your friend's apartment (he has plenty of space for the collection).

## Plan

This is a primarily a Market Sizing and Profitability case, but also includes other elements.. The analysis may include, but is not limited to, the following areas:

1. Market Sizing Analysis (Details shows in excel sheet at end)
  - a. Estimate the population of Manhattan – Push the student to pick a number around 2 million people.
  - b. Estimate the average household size in Manhattan – Push the student to pick 2 (lower than the 3 person average for the country due to a higher number of singles)
  - c. Estimate the portion of the households that your friend will be able to serve based on having one central location for the DVDs – Push the student to pick 25% of the population.
  - d. Estimate the percentage of the market that your friend's service will capture in the first year. – Push the student to pick a number around 1%.

- e. Estimate the rentals per month. There can be some flexibility here, but push the student to make assumptions that yield around 2,000 movie rentals/month for your friend's business
2. Profitability and Breakeven
    - a. Give the following information when asked
      - i. Assume you know someone who has a sizeable DVD collection that they are willing to sell to you to \$10,000.
      - ii. Assume you have a friend who can set up a website and maintain it for you for a one-time fee of \$10,000
      - iii. Variable cost to deliver DVD is \$4 (pay bicycle delivery person). Assume an infinite supply of bicycle delivery people.
      - iv. Chose prices between \$5 and \$8 and calculate the breakeven time in months (see excel sheet at end)
3. Operations analysis
    - a. What time and what days would you operate your service?
    - b. How would DVDs be returned (likely dropped off at central location)
    - c. How will the service function in the winter months or when it rains?
4. Marketing and Advertising Analysis
    - a. What is the competitive advantage of this business?
    - b. How would you attract customers?
    - c. How can you advertise effectively and inexpensively?

# Calculations

## Market Analysis

### Assumptions:

People in Manhattan	2,000,000
People/Household	2
Households in Manhattan	1,000,000
% of population that can be served	25%
% of population that rents regularly	40%
% of market that we can capture	1%
Market Potential (Households)	1,000

<b>Market Breakdown</b>	<b>Size</b>	<b>DVDs/Month</b>
Low Renters	500	1
Medium Renters	250	2
High Renters	250	4

<b>DVDs/Month for your friend</b>	<b>2000</b>
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### **Profitability Analysis**

DVD Capital Costs	10,000
Website Costs	10,000
Variable Delivery Costs	\$4

Price/DVD	Breakeven time (months)
\$5.00	10.0
\$6.00	5.0
\$7.00	3.3
\$8.00	2.5

### **Recommendation**

The recommendation should include the following:

1. The answer – Based on the market and profitability analysis along with my friends target of breaking even in less than a year, I would recommend that he goes forward with the business.
2. The number(s) – At a price of \$5, the friend can breakeven in approximately 10 months
3. Risks or considerations – Demand might not materialize, delivering 60+ videos via bicycle might not be practical, and competition such as internet movies could make the service obsolete.
4. Next steps – Purchase the video collection, set up the website, and start advertising.

### **Questions to Further Challenge the Interviewee**

1. What challenges would be faced if your friend wanted to expand the service to serve more customers?

CONSULTING CASE INTERVIEW

# Dry Wall Competitive Threat

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**Level of Difficulty** (Select level of difficulty)







## Question

Our client is a dry wall manufacturer and is concerned about a new player coming into the market. The new player is perceived to be a low price player and our client is considering lowering its price by 10%. The client seeks our advice regarding its options.

### Note

This case is similar to a case that a student may receive in a first or second round interview with BCG/Bain.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. How many products does the client produce?	One
2. Is the new competitor's product similar to ours?	For practical purposes we can assume that our product is similar to the new competitor's product.
3. How are "dry-wall" products differentiated?	For our analysis assume all the "dry-wall" products in the market are similar.

## Plan

This is a strategy/competitive type case. A comprehensive plan should include the following areas:

5. Client's impact of reducing price by 10%
6. Market Structure (In terms of number of competitors and their share)
7. Customer –
  - a. Who are our customers?
  - b. Their Preferences
  - c. Price Sensitivity
8. New Competitor
  - a. Size
  - b. Strength
  - c. Weaknesses

9. Our Client's position
  - a. Market Position
  - b. How long we are in the market
  - c. Brand Strength

**Question:** After the candidate lays out his or her plan, ask the candidate to analyze the impact of 10% price reduction on our client's bottom line.

When the candidate asks provide the following information regarding revenue and costs for our client:

Number of units sold = 100,000

Selling Price Per Unit = \$10

Variable Cost Per Unit = \$3

Allocated Fixed Cost Per Unit = \$2

**Key Assumption:**

If the candidate asks regarding the volume change with the price cut, state that the volume **will remain same** with the price cut. If the candidate does not ask about the volume change it is expected that the candidate explicitly state the assumption before proceeding to the calculation.

**Expected Calculation:**

Total Fixed Cost =  $100,000 * \$2 = \$200,000$

This is a key insight, the allocated fixed cost needs to be converted into total fixed cost.

Original Case

Revenue =  $\$10 * 100,000 = \$1,000,000$

Variable Cost =  $\$3 * 100,000 = \$300,000$

Contribution Margin =  $\$1,000,000 - \$300,000 = \$700,000$

Profit =  $\$700,000 - \$200,000 = \$500,000$

Price Cut Scenario

New Price = \$9

Revenue =  $\$9 * 100,000 = \$900,000$

Variable Cost =  $\$3 * 100,000 = \$300,000$

Contribution Margin =  $\$900,000 - \$300,000 = \$600,000$

$$\text{New Profit} = \$600,000 - \$200,000 = \$400,000$$

$$\text{Impact on bottom line} = [(\text{New Profit} - \text{Old Profit}) / (\text{Old Profit})]$$

$$\text{Impact on bottom line} = (\$400,000 - \$500,000) / \$500,000 = -\$100,000 / \$500,000 = -20\%$$

The candidate is expected to state that the impact on the bottom line is 20% and thus is magnified compared to the 10% price cut.

**Question:** Now ask the candidate if our client maintains the price how much volume it potentially needs to lose to make it equivalent to cutting the price by 10%.

If the candidate takes the initiative and explores this question then it needs to be noted and encouraged (this differentiates a very strong candidate from others)

**Expected Analysis:**

Let the new volume of units the client sells be “x”.

So if the client sells “x” units @\$10, the profit would be:

$$\text{Revenue} = 10 * x$$

$$\text{Variable Cost} = 3 * x$$

$$\text{Fixed Cost} = \$200,000$$

$$\text{Profit} = 10x - 3x - \$200,000$$

**A classic mistake is to take the contribution per unit as \$5 (effectively treating the allocated fixed cost as a variable cost too) and using \$5\*x as the profit.**

So for this option to be equivalent to cutting the price by 10% the equation would be

$$10x - 3x - 200,000 = 400,000$$

$$7x = 600,000$$

$$x = 600,000 / 7 = 85,700 \text{ approx}$$

$$\text{Loss in market share} = (85,700 - 100,000) / 100,000 = 14.3\%$$

It is expected that the candidate explains what this 14.3% number represents; expected answer would be that the 14.3% is the maximum market share our client can afford to lose before the option of cutting price by 10% appears to be a better choice.

A candidate can differentiate himself or herself by stating that key is to estimate how much the client can potentially lose if it does not reduce price by 10%.

**Question:** Now ask the candidate that if our client needs to make a choice between these two options how you would help our client make the choice.

Now the candidate is expected to make use of his or her plan to help make a decision.

If candidate asks the following questions provide the following information:

What is the Market Structure? (In terms of number of competitors and their share)

Answer: Show Exhibit 1, with the shares

What is size of the Competitor?

Answer: They are a small to mid size player

Who are our customers?

Answer: They are primarily contractors/small business owners. They buy directly from us.

What are our Customer's Preferences or how price sensitive they are?

Customers usually buy based on relationships and they build preference on a particular brand. We do not have any information regarding price sensitivity.

How do we sell to our customers?

We sell based on their orders. There are no long term contracts.

What are the strengths of the new competitor?

Answer: Not much information, they are a new player in the market. They have presence in other market our client does not compete in.

What are the weaknesses of the new competitor?

Answer: Not much information, they are a new player in the market. They have presence in other market our client does not compete in.

What is our brand strength?

Answer: As a number 3 player, we have strong brand presence and we have been in the market for a significant period of time.

How long we have been in the market?

We have been in the market for a significant period of time.

Is there much differentiation in the product?

Not much, for practical purposes consider all products to be similar.

### **Key Expected Insights**

Based on the information provided the candidate is expected to come up with at least the following insights:

- ⇒ Dry wall market is a very fragmented, and we are a dominant player
- ⇒ Considering the size of the competitor, they would be one of the small 30+1 players
- ⇒ That would mean on an average the new competitor's market share would be around
  - $70/31 = 2.3\%$  approx
- ⇒ New Competitor assuming fair share draw would take 2.3% of our volume, although one can argue that they may not take any volume and compete with the other small/mid size 30 players

**Question:** Now ask the candidate to make the recommendation.

### **Recommendation**

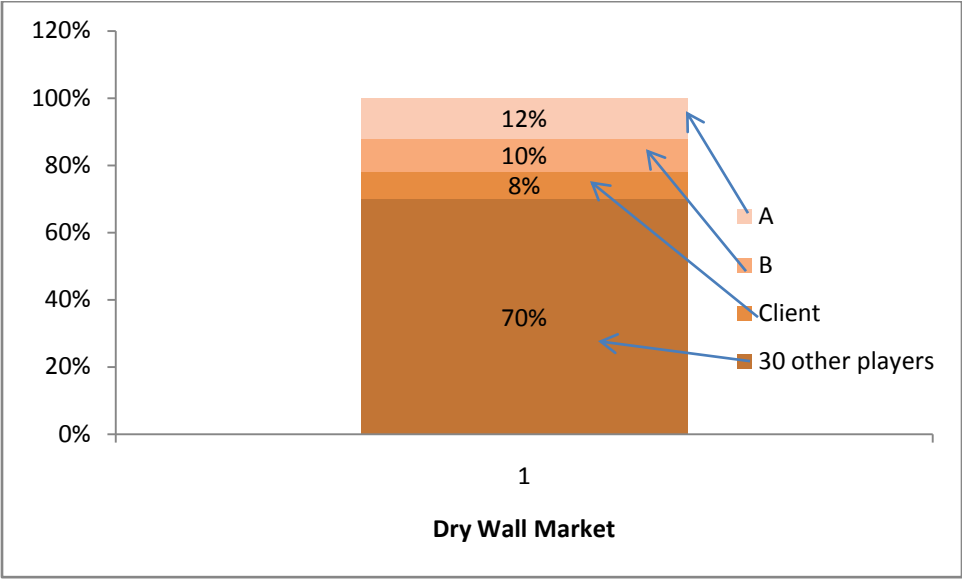
The recommendation should include the following:

5. The answer – Client should not reduce price, because this is not a serious threat and cutting price in this market would lead to a price war where everyone would lose.
6. The number(s) – Reducing the price by 10% would impact profit by 20%. 20% impact on profit is equivalent to losing 14.3% market share at the current price levels and at most the client can lose 2.5% volume.
7. Risks or considerations –
  - a. We might underestimate the size or strength of the new competitor (new competitor might be bought by a bigger player)
  - b. One of the major competitors (A or B) may have a knee jerk reaction and reduce price
8. Next steps –
  - a. To mitigate some of the risks our client should aggressively strengthen its client base by
    - i. Providing additional services
  - b. To create a barrier for the new competitor to poach our client's customers
    - i. Client can enter into long term contracts with its customers

- c. Even if A or B reduces its price, our client should maintain price and aggressively provide value added services to the customers.

### Exhibits

(Case Exhibits should be on a separate sheet of paper and included or attached to the end of this document. If there are no exhibits, include any data that the interviewer must provide.)



**Exhibit 1**

# Organ Donation Case (McKinsey like)

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**Level of Difficulty** (Select level of difficulty)





**Note: This case is typical of a McKinsey structured case interview (though it is not a real McKinsey case). The interviewer should drive the discussion through the five sections below. Bold text indicates instructions for the interviewer. The interviewer should thoroughly review this document before giving the case.**

### Case Setup

One of the many functions of the New York State Health Commission is to coordinate organ donation amongst the state's many hospitals. In recent years the demand for organs has been greater than the supply. As a result, many patients die each year because there are not enough organ donations. The Health Commission has hired McKinsey to help it determine how to increase the number of annual organ donations in New York. For the purposes of this case, assume that only New York residents are involved as donors and recipients.

### Question 1

What are the factors and drivers that determine the number of organs donated in New York each year?

**Note: The candidate should ask clarifying questions at this point and should feel free to take a minute to construct a response. The following information should be given either when asked for or when the candidate gets stuck.**

**Information: In New York, organs will be harvested from terminally ill or injured patients just before death only if they are a registered organ donor or if the hospital receives permission from the next of kin. New York residents may choose to register as organ donors when they apply for a driver's license.**

Sample answer:

**(Terminal patients\*% Registered donors \*organs/donor) + (Terminal patients\*% Not registered\*% Family consent\*organs/donor) = organs donated**

“The number of organs donated is determined by the number of terminal patients times the percent who are registered donors times the number of organs per person, plus the number of terminal patients times the percent that are not registered donors times the rate of family consent times the number of organs per person.

“The number of terminal patients is driven by the age of the population, changes in life spans, medical technology, the size of the population, the overall rate of natural death, plus the rate of accidental death, such as car accidents. The percentage of registered donors is driven by awareness of the donor program, the ease of registering, whether it is opt-in or opt-out, awareness of the benefits of organ donation and personal things such as religious beliefs. The rate of family consent is also driven by awareness of the benefits of organ donation and things such as religious beliefs, along with the information provided

by doctors in a time of great grief and assurance that organs will only be harvested after death is certain. The number of organs donated per person is driven by the average number of healthy, usable organs in a donor.

While we've identified a number of factors, it's important to note that we can only really influence the rate of registered donors and the rate of family consent."

**Note: This question seeks to test a candidate's breadth of thinking. A good answer will be logical and structured. It will examine the factors as an equation, though not necessarily exactly as presented here. It will be thorough and should include 3-4 drivers for each factor. A great answer examines the implications of the analysis – ie. There are only two factors that we can influence.**

## Question 2

The team has decided to focus on increasing the number of registered donors and is specifically interested in kidneys donations. The Health Commission knows that it needs 9,200 kidneys per year. What percent of New Yorkers need to be registered donors in order for 9,200 kidneys to be donated in a year?

The team has already collected some useful information:

The population of New York is 10 million. The percentage of people that become terminally ill or injured each year is .1% (one-tenth of one percent). The percentage of families that give consent to harvest organs is 10%.

Sample answer: **The candidate should setup and solve the following equation.**

RD = Percent of New Yorkers who are registered donors.

$$(10,000,000 * .001 * RD) + (10,000,000 * .001 * .1 * (1 - RD)) = 4,600$$

$$(10,000 * RD) + (1,000 * (1 - RD)) = 4,600$$

$$10,000RD + 1,000 - 1,000RD = 4,600$$

$$9,000RD = 3,600$$

$$RD = 3,600 / 9,000$$

$$RD = .4 = 40\%$$

**Note: Set the equation equal to 4,600 because there are two kidneys per person.  $4,600 * 2 = 9,200$ .**

**Note: There are other possible ways to setup the equation. What's important is that the candidate takes a structured, analytical approach to the problem and doesn't panic. The candidate should walk the interviewer through the math, either as she solves the equation or afterwards. If the candidate gets stuck, give appropriate hints.**

**A great answer will include implications of the data. For example, they may conclude that 40% seems reasonable based on their personal experiences knowing people who are registered donors. Anything to show initiative and critical thinking without prompting is good.**

### Question 3

What are all of the things that the Health Commission should consider doing to increase the number of registered donors?

Sample answer: “First, we should conduct benchmarking studies. Internal benchmarking will reveal what they are currently doing well to drive registrations, and external benchmarking of other states or countries will uncover new ways to increase registrations. Second, we should conduct a segmentation of current and prospective registrants. We’ll want to determine the segments where we are strong so we can continue to cultivate them, and at the same time find new segments where few people are registering. Third, we should conduct a series of marketing communication tests to determine appropriate messaging and channels to increase awareness and drive registrations. We should consider testing media such as TV, radio, online, direct mail, and may also be able to leverage the word of mouth of our current customers. We’ll also want to develop messaging that increases the awareness of the donor program, the benefits of donation and the safeguards that are in place. Finally, we need to optimize our distribution channels. Currently, people can only register when they get their driver’s license. We should add ways to register, such as any time someone goes to the doctor or hospital. We should also make it easier to register. For example, if New York currently requires people to explicitly opt-in, we can change to an automatic opt-in with an explicit opt-out.

**Note: This question is designed to evaluate the candidate’s depth of thinking. The above plan is a sample only and there are other approaches. A good plan will be MECE, with discrete categories (ie. “Benchmarking”) and multiple items within each category. The plan should demonstrate common sense and sound business judgment.**

### Question 4

The team conducted a customer segmentation and your Engagement Manager has asked you to draw some initial conclusions from the data (*give candidate the data handout from the end of the case – candidate should clarify that the data are in millions of people*). What would you tell her? Follow up question: Which segment represents the best opportunity to increase RDs?

Sample answer: “It looks like the Caucasian segment has the largest number of potential new registrants, but at the same time is already highly penetrated. The African-American segment is the opposite: low-penetration but low upside. The Hispanic segment has a slightly higher penetration than African-American, but is a bigger population. Based on

this data alone, I would target the Hispanic segment because of the low current penetration and large population. Some of the risks include overcoming the language barrier and dealing with cultural differences.”

**Note: The data table is designed to present the Caucasian, African-American and Hispanic segments as strong possible targets for different reasons. The candidate should reason through the pros/cons of targeting each segment and come to a firm hypothesis based on this data. It’s more important that the candidate selects a target for good reasons and less important that she selects Hispanic.**

#### Question 5

The team has decided to focus on increasing the registration rate among Hispanics. What are some things we can do to increase registrations of Hispanics??

**Note: This question is designed to test a candidate’s creativity. Hence, a sample answer is not provided. It is likely that the candidate will suggest things such as community outreach, Spanish language marketing materials/registration, etc., classic consumer marketing tactics, having vans drive around Hispanic communities encouraging people to register, etc. A good answer will have a long list of ideas that include typical business tactics along with creative, interesting suggestions. The interview should push the candidate by repeatedly asking “What else?”, until the candidate can no longer think of things, and to determine how they respond to pressure.**

#### Question 6

The head of the Health Commission just walked in and wants a recommendation for what he should do to quickly reach Hispanics. What’s your recommendation? Start talking now.

Sample answer: “Clearly, there is a big opportunity with Hispanics. We’ve identified a number of things we can do to increase registrations, and since we’re focused on the short term, I recommend that we do X, Y, and Z, because of A and B.”

**Note: A good answer should be short (20 seconds), organized and forceful. The candidate should be firm and not hedge her answer. The recommended steps will likely be things discussed in Question 4, and a good answer will choose tactics that, logically, will make the biggest impact.**

## Handout

	<u>Registered Donors(M)</u>	<u>Population(M)</u>
Caucasian	2.600	5.500
African-American	0.075	1.500
Hispanic	0.250	2.500
Other	0.100	0.500

# Central Power

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**Level of Difficulty** (Select level of difficulty)



## Question

Our client is a regional electricity monopoly. Due to regulation, its market will be opened to competition next year on January 1. There are no *actual* competitors at this time; however, the client would like ideas on actions to take in the short-term in order to better prepare for *potential* competitors. They have no control over pricing and cost-cutting during this time period.

### Note

This case is similar to a case that a student may receive in a second round interview with McKinsey, BCG, or ATK. There isn't much data- it's an exercise in imagination tempered by convergent thinking. It would be similar to a first round Monitor Group case if it had a *surplus* of data, rather than a *deficit*, requiring discrimination rather than imagination.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. Do we know of any potential competitors?	None at this time. Central Power is facing the <i>threat</i> of market entry.
2. Do you have any information on pricing?	Not really; pricing is controlled by a government, so it is beyond our control and will be the same for any competition.
3. Are there other markets Central Power can enter?	None at this time. Our engagement is focused on their home market.
4. How is Central Power organized?	Central Power has three divisions: 1. Sales and General Administration 2. Generation and Transmission 3. Maintenance and Repair
5. How many employees are in sales?	About one for every 1000 customers.
6. Does sales, customer service treat certain customer segments differently?	No, they treat everyone equally.
7. If there is a power outage, does Maintenance and Repair fix industrial clients first?	No, they dispatch in the order of the call they receive.
8. Has Central Power ever advertised or had a marketing campaign?	Not in recent memory.
9. Is Central Power undertaking any capital investment?	Not in the next year.

## Plan

This case is about customer retention within the home market. Since the client is a monopoly, market share is 100% and customer acquisition is irrelevant.

The analysis may include, but is not limited to, the following areas:

10. Barriers to Entry
  - a. There is no actual competition to specifically target
  - b. The government is deregulating, so there are no possible external barriers
  - c. Internal barriers are possible, such as increasing switching costs and commercial attractiveness to customers
11. Anticipation of Competitive Attack - Once the candidate sees the exhibit and realizes how attractive the industrial clients are, they can anticipate how a rational competitor would enter the market.
12. Market Information
  - a. Revenue
  - b. Customer Segmentation
13. Stakeholder Reaction - How will employees, unions, or local government leaders react to our changes? (There is no set answer to this, just ask the candidate what they think and see if it is logical and structured.)

Strong plans will anticipate the need to be *competitive* and draw on analogous companies or situations.

Less experienced candidates gravitate towards issues of pricing and cost-cutting. This is not a profitability case. Weak candidates will often explore growth outside the home market, such as expansion into adjacent markets. While interesting, this does not address the primary problem of what to do in the home market before deregulation. Avoid these tangents.

Steer the candidate to customer retention.

The case has two main phases.

### **Phase 1: Qualitative reaction and quantitative analysis of revenue data**

#### **Purpose:**

#### **1. Test rapid understanding of a basic chart**

Most candidates ask about revenue very early. Show them the attached exhibit and immediately ask, “What is your reaction to this data?” Strong responses notice the differences between the customer segments.

The “historical data” is irrelevant. If a candidate starts to ask about it or discuss trends, inform them that is a factor or population and government-determined prices, which are both beyond the control of the company.



## 2. Test basic arithmetic

Test basic math by asking the candidate (if they haven't already done so) to calculate the share of total revenue per segment and each segment's revenue per customer. If a candidate didn't notice the differences between customer segments already, this is a second chance. Note: I don't have a problem if a candidate wants to round the total revenue to \$250 MM from \$258 MM to simplify the math... rough number are enough.

	Industrial	Commercial	Residential
# of Customers	150	10,000	100,000
Revenue	\$150 MM	\$60 MM	\$48 MM
<i>Revenue per Customer</i>	<i>\$1,000,000</i>	<i>\$6,000</i>	<i>\$480</i>
Residential Customer Equivalents	2083	13	1
<i>Fraction of Total Revenue</i>	<i>150/258 = 58%</i>	<i>60/258 = 23%</i>	<i>48/258 = 19%</i>

NOTE: the math is really basic, but there are a lot of zeros that tend to trip up candidates. Most strong candidates write out the problem to avoid error, even if their math is facile. Now is a good time to diagnose how well they handle orders of magnitude. If this is a problem, here are some suggestions for the candidate.

**Method A** – Write out the numbers and cross out the zeros:

$$R\$ = \frac{\$60MM}{10,000 \text{ customers}} = \frac{60,000,000}{10,000} = \frac{60,000,000}{10,000} = \$6,000 \text{ per customer}$$

**Method B** - Use exponents:

$$R\$ = \frac{\$60MM}{10,000 \text{ customers}} = \frac{6 \times 10^7}{10^4} = 6 \times 10^3 = \$6,000 \text{ per customer}$$

## 3. See if candidate grasps key insight regarding higher value of industrial customers and uses it for convergent logic in Phase 2.

By now, candidates should realize that losing a single industrial customer is similar to losing more than 2000 residential customers. Churn of industrial and commercial customers is lower too and it is easier to approach a few hundred “B2B” customers than one-hundred thousand individual homeowners, apartment renters, etc.

If a candidate still needs help, ask them, “Let’s turn the situation around. Based on this data, if you were a competitor, which segment would you target?” They should realize industrial customers. If the candidate doesn’t verbalize that Central Power should target or defend the industrial customers, then ask, “OK, based on your insight about a potential competitor, what should Central Power do to pre-empt them?”

## **Phase 2: Generation of ideas regarding customer retention improvements.**

Now that the candidate grasps that any action should be biased towards the smaller and higher value segments, it is time to generate actual ideas. This part of the case is extremely unstructured- there are no more data sheets or obvious answers.

Assume Central Power is decades behind the rest of the business world- they have no website, send out massive paper bills, treat customers with the finesse of a huge monopoly, etc.

### **Purpose:**

#### **Test candidate's ability to generate their own ideas with structure and logic**

The prime differentiator between weak and strong candidates is their ability to have an exploratory conversation that exchanges ideas.

Strong candidates will announce that they want to discover ways of improving customer attachment (or retention, stickiness, etc.) to Central Power and begin to explore the structure of the company looking for areas to improve. They use a conversational style to ask questions. They typically draw on personal experience as residential customers of electricity (or another utility).

Also, they may ask about the organization of the company or use a “value chain concept” to structure their questions regarding the organization of the company. At each part of the company, they ask questions about behavior, customer service, etc. to see if we focus on industrial clients. Great candidates really have some out-of-the box ideas, such as energy savings, simplified billing, special websites, improved terms for accounts receivable, etc.

You will know you have a strong candidate when they move methodically through the company and use their imagination. Let them continue on as long as possible by asking, “What else?” This is an opportunity to test a candidate's ability to structure their reasoning and demonstrate conversation skills.

For instance, they should be able to tactfully move the investigation to a new part of the company when they have exhausted their imagination. These meta-skills are more important than specific ideas, so feel free to make up whatever you want about Central Power's operations.

Here are some ideas to facilitate customer retention by building a stronger relationship or making switching more difficult:

- a) Sales and General Administration
  - i) Sign customer contracts
  - ii) Increasing credit terms / days allowable for accounts receivable
  - iii) Increasing the size of the sales force
  - iv) Allocating sales staff to specific segments, since the value proposition is different
  - v) Allocate special personal to high-value accounts
  - vi) Reduce or simplify the billing process

- vii) Create a website for customers to manage accounts online.
- b) Generation and Transmission
  - i) Consider building substations or redundancy that improves reliability or quality for industrial clients.
  - ii) Work with industrial clients to improve their energy efficiency
- c) Maintenance and Repair
  - i) Fix outages by order of customer priority, not first-come, first serve. (Besides, Industrial clients are more sensitive to power outages than residential customers)
  - ii) Preposition repair equipment near clusters of industrial clients to reduce repair time.
  - iii) Proactively visit clients to inspect their infrastructure or provide engineering advice

Weaker candidates face typically fall in two groups:

**Group 1 – Lost in the Sauce:** Some candidates have no idea how to systematically generate ideas. Try and prompt them by asking about their own experience with a power company, or ask them to think of the value chain.

**Group 2 – Lone Rangers:** Other candidates will have a systematic approach, but will make assumptions and monopolize the conversation. They declare, instead of explore, their way through this phase. They will make up their own data and draw conclusions. For example, they might say, “Our client must be bad at customer service, so I would consider dedicating people to high-value clients.”

A real conversation should flow like this: “Do we know how customers feel about service?” Response: “They hate it. The number one complaint is ‘every time I call, I speak to someone new’.” Candidate: “Perhaps we should dedicate some sales staff to high-value clients that we want to retain the most.” Response: “Good idea, what else?”

There are two other meta-skills to evaluate:

First, does the candidate explain their structure and line of reasoning? It should be “transparent thinking”. I use an analogy of a tour-guide. A strong candidate tells me where we are going with their plan, takes me through it, keeps me from getting lost when we go outside the plan, and brings me back.

Second, due to all the ideas being generated, a candidate needs good note-taking skills. Strong candidates will circle ideas on their plan or make a list in the corner of the page. When it is time to make a recommendation, they can quickly cover ideas at a glance. Weak candidates will attempt to recall ideas off the top of their head, usually without total success.

End the case when you are out of time or the candidate is out of steam.

## Recommendation

The recommendation should include the following:

9. The answer – We have developed several ideas for improving customer retention; all priorities should be biased towards Industrial customers.
10. Next steps – Analyzing costs, potential ROI, and effects on stakeholders for particular customer retention initiatives.

### **Strong Recommendation**



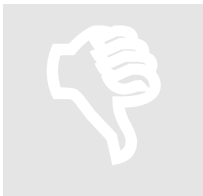
prioritization.”

“By investigating the operations of your company, we have developed several ideas for strengthening customer retention in the face of competition. No matter which actions are undertaken, there should be a bias towards industrial customers who are more valuable as a group and on a per-customer basis. If any of these actions seem attractive to management, we can undertake more detailed analysis to support

### **Tepid Recommendation**

Many times, students will say the same thing as above but with too much detail, too much length, or without enough structure. When they are done rambling, I ask them to say it again in 30-seconds or in three sentences. Sometimes it takes a few attempts, but it is more worthwhile than telling them later during feedback that their recommendation wasn't good enough. (Close only counts in horseshoes and hand-grenades.)

### **Weak Recommendation**



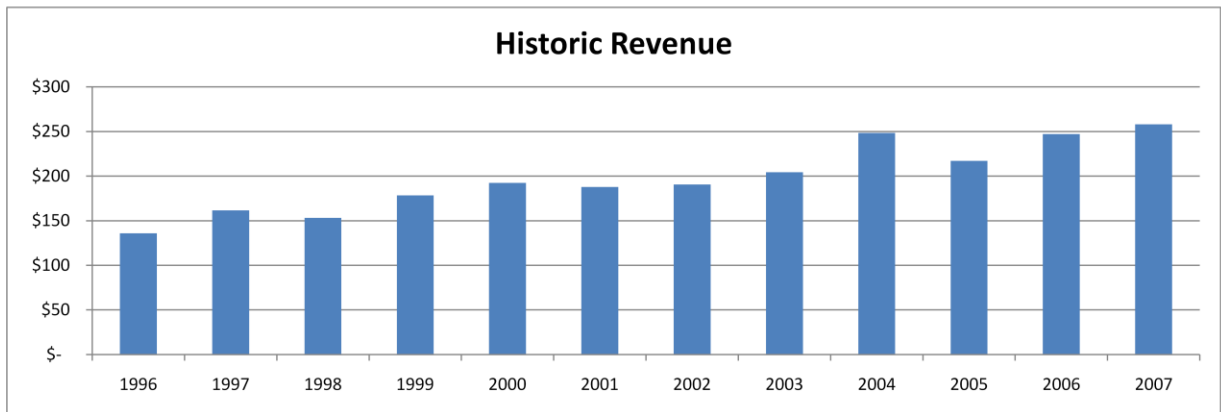
Weak recommendations are missing a unifying aspect, such as customer retention. They also fail to include the key insight regarding the preferential value of industrial customers. Further, they may include something totally off-base, like cost-cutting or pricing.

## **Questions to Further Challenge the Interviewee**

2. How do you think the employees (or another stakeholder) will feel about these changes?
3. What do you think it will be like working for a client that lacks a history of customer service?

# Revenue 2007

	Industrial	Commercial	Residential
# of Customers	150	10,000	100,000
Revenue	\$150 MM	\$60 MM	\$48 MM



## Exhibit – 1

CONSULTING CASE INTERVIEW

# Chemicals Inc.

---

**Level of Difficulty**



## Question

The CEO of Chemicals Inc., a leading chemicals company with a long history of innovative products and application technologies has contacted you for assistance. In the past couple of years, the company's bottom-line profitability has slowly eroded to the point where EBITDA is hovering barely above 0, even though the company's overall sales growth is outpacing industry averages. Magnifying these financial problems are the reports he is receiving from his business unit leaders which are that revenues and volumes are up and profitability has never been higher. The CEO looks at you across the table and asks, "What do I do?"

### Note

This case is similar to a case that a student may receive in a second round consulting interview. The specific case revolves around a chemicals company; however, this case is applicable in any high-technology area.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. Tell me about the firm's product portfolio?	Many different kinds of chemicals products, sold to many different kinds of customers (large, small), in many different kinds of industries (automotive, medical, consumer products), all around the globe.
2. How is the company organized?	The company is organized geographically and by the underlying technologies that drive products, not necessarily by product line. Definition of product line is technology-application (think industry)-geography ,e.g. Chemical A – Automotive – USA.
4. What industries are customers of the firm's products?	Automotive, Medical, Consumer Products (packaging), Manufacturing, Electronics, Drilling
5. How does the firm view the world in terms of regions?	North America, South America, Europe, Pacific

6. Who are their competitors? What does the competitive landscape look like?	Major competitors include large multi-national corporations as well as small, local, specialized firms with a single product. Some of these firms actually purchase our client's products and rework them and sell to the end customer.
7. What are the costs the company is incurring?	Revenues last year were \$2Bn. The COGS is variable, about 25%, but all companies in this industry are dealing with fluctuating feedstock prices. SG&A expense is 30% of revenue and beyond the industry benchmark. Other costs are inline with industry norms.

## Plan

This is a Sales & Marketing case. The analysis may include, but is not limited to, the following areas:

### 1. Customers

- a. Who are they?
  - i. Firms within the various industries, we can speak at the industry level for this case.
- b. Where are they?
  - i. Global. No difference between same industry in different regions.
  - ii. Customers in USA and Europe most profitable to serve because most closely located to Firm's plants; however, Pacific is fastest growing region.
- c. What products do they buy?
  - i. Automotive – Very price conscious for most parts, except in safety applications and where the consumer will be touching the product, e.g. interior
  - ii. Consumer Goods (Packaging) – Very cost conscious, cannot pass costs on, e.g. plastic cups, plates, plastic wrap.



- iii. Electronics – Varied products, generally need inexpensive products; however, willing to pay more for small lot sizes and specialized custom technical support.
- iv. Medical – Very specialized medical applications, think lenses, can pass costs along to customers.
- v. Drilling – Huge costs for broken parts, so want the best products available.

## 2. Product & Service Mix

- d. What products are provided?
  - i. Chemical Technologies A,B,C
  - ii. Coupled with 5 different Industries yield 15 product lines
  - iii. All supported using same shared service model and provided technical support, customer service, logistical assistance, financing terms.
  - iv. See Exhibit #1 for Product Line Contribution Margins
- e. What services accommodate the products?
  - i. Presently customers of every product line have access to the full suite of services
    - 1. Small Batch sizes
    - 2. Custom Logistics Servicing
    - 3. Technical and Customer Support
    - 4. Application Development Support

## 3. Organization

The company is organized into **3 business units** each representing Technology A, B,C respectively.

### Strong Plan



Since sales revenues and volumes are outpacing the industry while our profitability and specifically EBITDA is suffering, I hypothesize that there is a cost problem and will therefore focus on the COGS and SG&A. Within the cost problem, since the various business units are reporting gains while the company overall is sustaining a loss I hypothesize that there is a cost allocation problem and I will try to determine where this problem exists. Finally, I want to examine the marketplace for the client's chemicals products. I hypothesize that one reason revenues are up and profitability is down is that we are actually undercharging for the products and services we do provide. I'd like to understand what our client's customers need and are willing to pay for and to align our client's offerings with those needs.

## Exhibits

(Case Exhibits should be on a separate sheet of paper and included or attached to the end of this document. If there are no exhibits, include any data that the interviewer must provide.)

Exhibit 1:



Interviewee: Do you know anything about the profitability of each product line?

Interviewer: Yes, Exhibit 1 displays the contribution margins of the 15 product lines with each bar a distinct product line. The colors correspond to the business unit that owns the particular product line.

Expected Insight: Much of the firm's product portfolio has undergone commoditization, given the wide range of product line contribution margins. Also, business units are spread across the contribution margin continuum. May want to realign product lines to business units based upon contribution margins. Those with higher margins get more service, those with fewer, treated like commodities.

## Recommendation

The recommendation should include the following:

Reorganize the company into Specialty and Commodity Business Units.

Specialty – High Level of Service; Commodity – Develop Low-Cost Service Model

Assign 1 individual to manage each of the shared services and handle appropriate cost allocation.

Risks:

Appropriate allocation of product lines to business units now and over time.

Business units do not own manufacturing and supply chain so this can continue to be a holder of unnecessary cost. Little incentive to optimize.

Reduced personal service will make company less competitive and reduce top-line and volume

Next steps:

Study Manufacturing and Supply Chain to allocate these to business units where practical

Increase partnerships with Specialty Chemicals customers for greater volume in high margin business

Consider outsourcing or selling one or the other business units to focus in one area; or develop portfolio strategy with major customer, such as industry-specific sales teams that span business units..

## Strong Recommendation



I recommend that the company reorganize along the lines of contribution margin into a specialty and a commodity business unit. The specialty business unit should continue to provide a high-level of customized service to customers, while the commodity business unit should adopt a lower cost service model. This lower cost service model may include IT tools, ala carte service agreements, and less favorable terms and conditions to the end customer. Additionally, I recommend that the client develop a shared service model that embeds business unit-specialized functions into the business and retains general legal, hr, facilities, etc. services as part of a corporate core. Each shared service should have a single leader who is responsible for the costs incurred in that function and responsible for the allocation of those costs to business units. The shared function leaders should negotiate service agreements with the business unit leaders to ensure appropriate resourcing and allocation of cost.

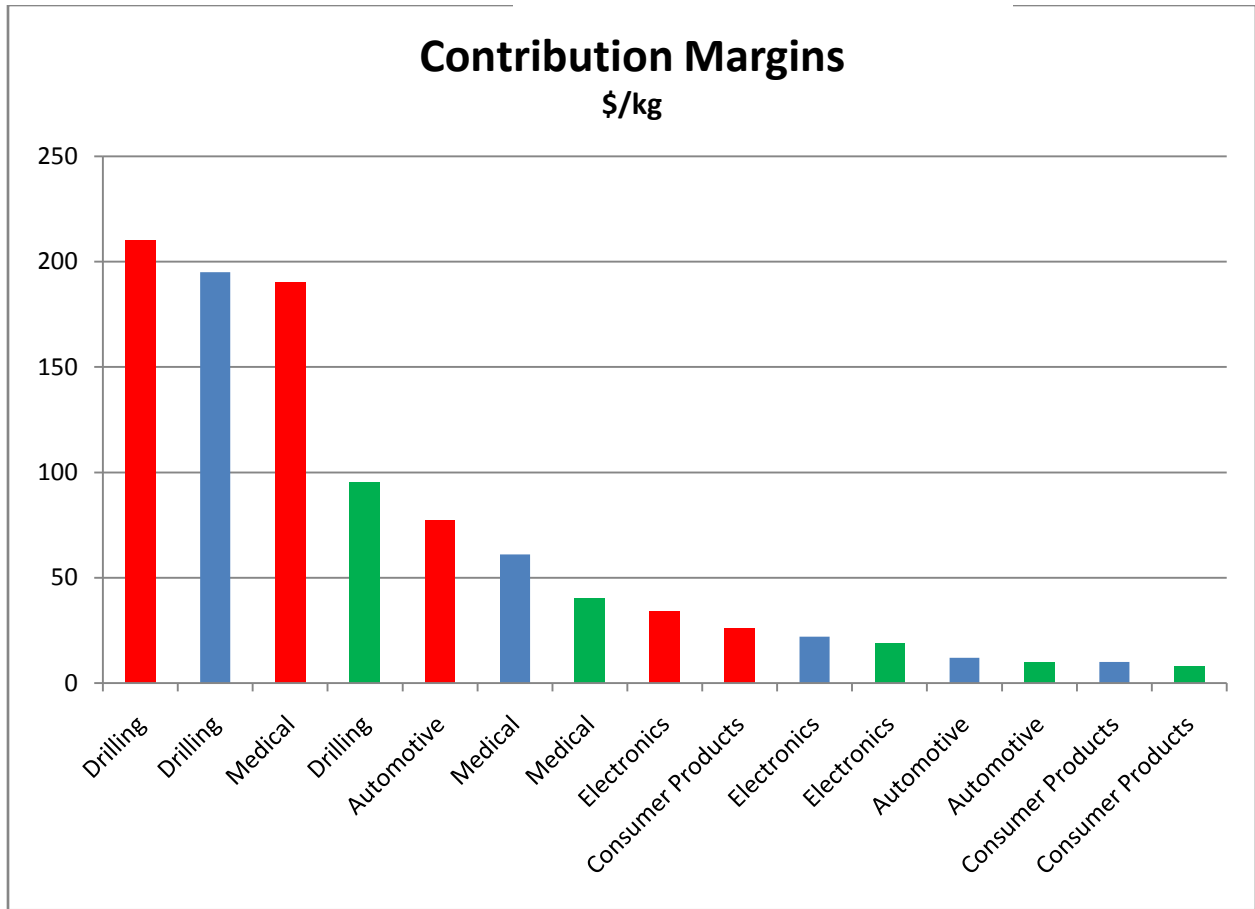
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## Questions to Further Challenge the Interviewee

4. What additional changes might you consider to an organization that is facing increased commoditization of their product lines?
5. How might the organization reduce the volatility in its raw materials? To reduce the COGS?

*(If applicable, attach exhibits to this document.)*

# Exhibit #1



**Legend:**

Technology A ■

Technology B ■

Technology C ■

CONSULTING CASE INTERVIEW

# (Hospital Profitability)

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**Level of Difficulty** (Select level of difficulty)



## Question

A hospital group has been experiencing growing pains and has asked our firm for help

### Note

This case is similar to a case that a student may receive in a first round interview with BCG

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. What do you mean by growing pains?	The hospital group originally consisted of one hospital and then it acquired 3 other hospitals, and its profits are going down.
2. Any other change in organization?	Yes the CEO of the main hospital changed; it was originally an MD doctor now it is a business experience MBA.
3. Any other changes or events impacting the hospital group?	None
4. Any external market condition changing?	No

## Plan

This is a profitability case with lots of twists and turns. The analysis may include, but is not limited to, the following areas:

### Phase 1

14. Identify the root cause of profitability decline.

If the candidate makes an assumption that the acquisition led to profitability decline, steer candidate away by stating that the acquired hospital did not experience any decline in profits.

**Key expected response/insight: So the main hospital is experiencing profit decline**

15. Identify the root cause of the profitability decline in the main hospital

Costs – No change

Revenue – Decline

**Key expected response/insight: So the primary reason for profits to decline is that the revenue for the main hospital is going down.**

16. Explore the revenue decline

**If the interviewee asks the revenue stream for the hospital, this should be the response:**

The hospital treats patients and mainly collects payments from the insurance companies based on the service provided.

**Key facts to be provided to the interviewee if asked:**

Volume of patient change: No

Any change in mix of services performed by the hospital (lower of number of surgeries etc):  
No

**Key Expected Insight: In some way the revenue per patient on average is decreasing, which implies that the patient mix is changing in terms of revenue**

**Which implies that the patient mix in terms of insurance they cover is changing**

If patient asks to explain the insurance coverage, provide the following facts:

Primarily the patients can be categorized into the following categories:

Private Insurance Covered Patients

Public Insurance Covered Patients

No Insurance Covered Patients (Usually homeless people)

Payments from private insurance is **greater than** public insurance.

So expect some insight from candidate

**Key Insight Expected: Looks like then the patient mix for the hospital is shifted, with less patients with private insurance coming to the hospital.**

On providing the insight, ask the candidate what does the candidate wants to do with this information.

**Key Question Expected: What are the key drivers to getting people with private insurance to the hospital.( Note to the interviewer: Guide the person to explore the driver)**

For the key drivers that drive the patients with private insurance to the hospital is referral by private physicians.

## **Phase II**

Interviewer should prompt the candidate to make some hypothesis with regard to lower number of patients with private insurance coming to the hospital.

**The key expected hypothesis:**

**Because of change of management the perception of physicians may have changed – vely resulting in lower number of referrals of patients with private insurance.**

**Interviewer should guide the candidate to make the hypothesis.**

Interviewer should then ask the candidate how he/she can test the hypothesis.

**Key expected answer: Survey of physicians who normally refer patients.**

Direct the candidate to the exhibits 1 and 2 for survey results

**Key Insight expected: Majority of doctors are indifferent about the hospital which may not be good news when it comes to referrals. One of the major issues plaguing the doctors is complex billing.**

Interviewer should then prompt the candidate as to what should be the next course of action given some of the insights.

**Key Insight Expected: Candidate should try to highlight the need to strengthen relationships with physicians and “complex billing” may be an opportunity.**

Interviewer should then highlight that the hospital has a outsourcing billing service which it does not aggressively market to the physicians. Pose the question how will judge whether this is a viable service for the physicians.

**Expected question from candidate: What is the cost of the service to the physicians and the economics of the physicians office.**

Interviewer to provide the following data:

Price of the service: \$50,000

Physician Annual Profit: \$175,000

Physician time:

75% on patient care, 15% on billing, 10% on administrative overhead

**Ask the candidate to provide a plan for the approach before calculation:**

**Key Insight expected:**

- 1. If physician outsources the billing to the hospital, then what benefit does it derive.**
- 2. To derive the benefit, I assume that for 15% of the time the physician is not involved in billing he/she can see patients.**
- 3. So the candidate should ask for the revenue number:**



**ONLY IF THE CANDIDATE ASKS FOR REVENUE, PROVIDE IT, IF NOT TRY TO GUIDE THE CANDIDATE TO THE REVENUE NUMBER.**

Revenue of the doctor's office : \$425,000

4. **The candidate should either clearly ask whether the physician incurs additional cost when he or she adds 15% additional physician time**

Interviewer state that no additional cost is incurred.

Now the interviewer should guide the candidate to perform the cost benefit analysis:

Refer to the calculations section

Ask the candidate to calculate **ROI, New Profit, Increase In profit %**

Revenue	\$ 425,000	
Profit	\$ 175,000	
Cost	\$ 250,000	
Patient Care		75%
Billing		15%
Administrative		10%
Revenue earned if billing outsourced	\$ 85,000	$(425000 * 15\% / 75\%)$
Cost of Outsourcing	\$ 50,000	
Return on Investment		$70\%$ $(85000 - 50000) / 50000$
New Profit	\$ 210,000	$((425000 + 85000)(\text{Revenue}) - (250000 + 50000)(\text{Cost}))$
Increase In profit		$20\%$ $(210000 - 175000) / (175000)$

### Strong Plan



- Candidate clarifies key terminology – “growing pain”
- Candidate quickly focuses on the profitability of the main hospital
- Candidate keeps exploring reasons for revenue decline for main hospital and takes hints from the interviewer
- Candidate keeps asking questions or states assumptions aloud
- Candidate clearly establishes hypothesis linking revenue decline and change of management
- Candidate clearly articulates the plan, asks for the revenue to calculate the cost benefit analysis and gives some insight after calculations

### Weak Plan



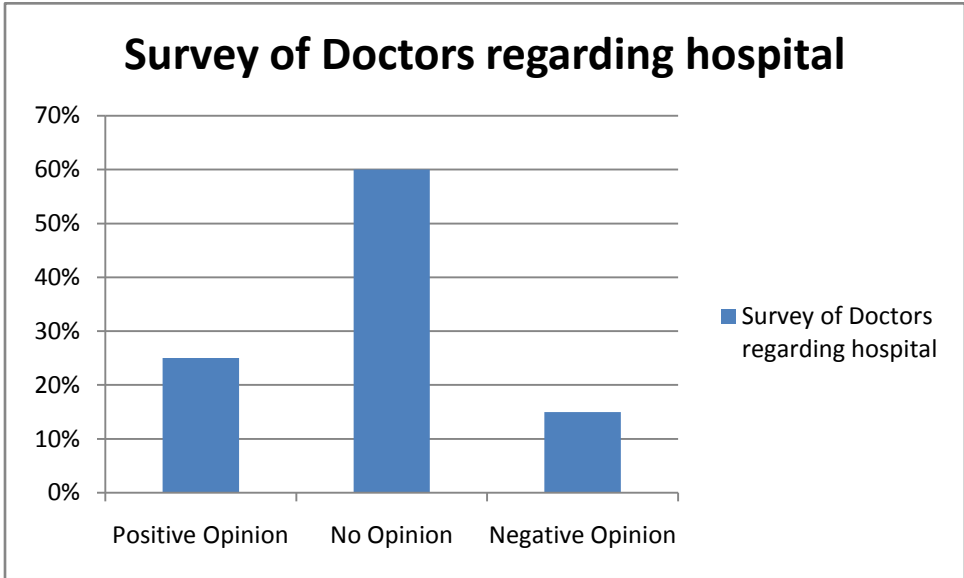
- Candidate keeps getting distracted and ask questions about acquisition
- Candidate starts focusing on cost instead of revenue decline
- Candidate fails to identify change in patient mix with regard to insurance coverage
- Candidate fails to clearly state the hypothesis of lower referrals with physician dissatisfaction with management change
- Candidate does not ask about the revenue when calculating cost benefit analysis

## Recommendation

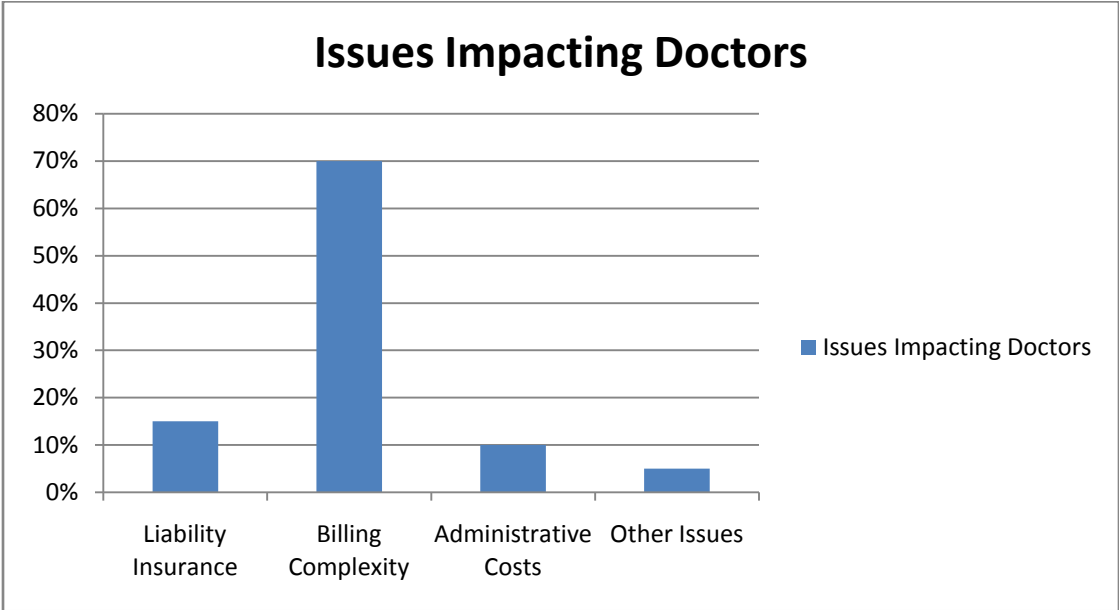
The recommendation should include the following:

- The hospital is facing revenue decline because of lower number of patients with private insurance which may be due to a change in perception of private physicians after management change.
- To reverse the revenue decline the main hospital needs to establish strong relationship with the physicians by aggressively marketing the billing outsourcing service as it provides 70% return on investment within one year and increases profits of physicians by 20%.

**Exhibit 1**



**Exhibit 2**



CONSULTING CASE INTERVIEW

# Contact Lens Manufacturer Growth

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**Level of Difficulty** (Select level of difficulty)



## Question

Contact Lens Manufacturer seeks to quadruple its profits in 2 years and seeks our advice. How will you approach the problem?

### Note

This case is similar to a case that a student may receive in a first/second round interview with Bain.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. What are the different kinds of contact Lenses?	Contact Lenses can be categorized in two ways by style and duration of use. Based on Style Lenses can be broadly categorized into 2 categories: 1. Traditional 2. Cosmetic Based on Duration of Use lenses can be broadly categorized into 2 categories: 1. Disposable 2. Regular
Where do we compete?	Primarily in the US market.
What is the price of contact lens?	For Disposable Lens, consumer pays \$400 per year. For Regular Lens, consumer pays \$100 per year.

## Plan

This is a market growth type case, considering the ambitious goal of 400% profit growth in two years the analysis should focus on **top line growth** for the company. The analysis may include, but is not limited to, the following areas:

1. Client's current revenue model
2. Competitor Analysis
3. Market Analysis
  - a. Geography
  - b. Customer Demographics

#### 4. Purchase Criteria for Contact Lenses

##### **Weak Plan**



A weak plan would lay primary emphasis on costs; candidate does not appreciate the fact that by reducing costs it is not possible to quadruple profits in 2 years.

If the candidate asks for more information about client, provide Exhibit 1 (the income statement for client).

Expected Insights or questions from Exhibit 1:

- ⇒ Need grow our revenue to roughly \$800 M dollars.
- ⇒ If candidate asks about margins?

State margins are more or less in line with the industry. This should really direct the candidate towards achieving top line growth.

Who are competitors?

There are 2 major competitors for our client, Novartis and Bausch & Lomb. They are big players with wide array of products.

Are the products from competitors differentiated?

Not much differentiation, very similar products.

If candidate wants to know about client's revenue model, provide Exhibit 2 and 3.

Expected Insights or questions from Exhibit 2 and 3:

- ⇒ Sales in South region of US is much lower compared to other regions, any reason?  
Interviewer Response: Our presence in Southern United States is smaller
- ⇒ Our product mix is predominantly "Disposable"? Any opportunity in the "Regular" market?  
Interviewer Response: The "Regular" contact lens market is saturated.
- ⇒ Our product mix is predominantly "Traditional"? Any opportunity in the "Cosmetic" market?  
Interviewer Response: The "Cosmetic" market is not estimated to grow much.

If candidate asks about the purchase process for Contact Lens, then provide the following information:

Interviewer Response:

Customers usually can be classified into two categories, new adopters and existing lens users.

New Adopters: The New Adopters are the first time users of contact lenses, they usually go to a “Retail Store”, get their eye exam done. The doctor or the optometrist usually recommends lens to the customer.

Existing Users: The existing users usually get refill orders for their **existing lens** from “Retail Stores” or from “Online”.

If the candidate asks about how do customers decide what brand of contact lens to use? (This is a key question expected from the candidate)

Interviewer Response:

New Adopters: It is the optometrist which usually influences which brand of contact lenses the customer buys. The customer usually plays a minimal role in this decision.

Existing Users: Existing Users keep using the same brand and **rarely** do they switch.

**Key Insight Expected from Candidate:** For the contact lens manufacturer the key is to acquire “New Adopters”

If candidate asks for International Opportunities, the provide the following response.

Interviewer Response:

Western Europe and Japan are big contact lens markets outside of US, the other markets are still small. Our competitors are deeply entrenched in these 2 markets and we don’t have much presence. We don’t have much detailed information on these markets.

**Key Insight Expected from Candidate:** Looks like international markets do not provide us much growth in the short term (because we have to build our presence), however the client should evaluate these markets on a long term basis. Since our focus is rapid growth in short term (2 years) may be we should focus on the US market.



If the candidate asks about more information for the market provide **Exhibits 4-8** and ask the candidate to digest the information and provide insights. Note Exhibit 4 represents total users i.e New Adopters + Existing Users.

Key Insights expected from Candidate:

- ⇒ Candidate should discard Exhibit 4 and instead use Exhibit 5-8
- ⇒ Women below the age of 30 should be the key target customer demographic.
- ⇒ Suburbs and cities of South of United States provide the greatest opportunity (as they are fastest growing and high user areas).

Ask candidate to provide recommendations:

## Recommendation

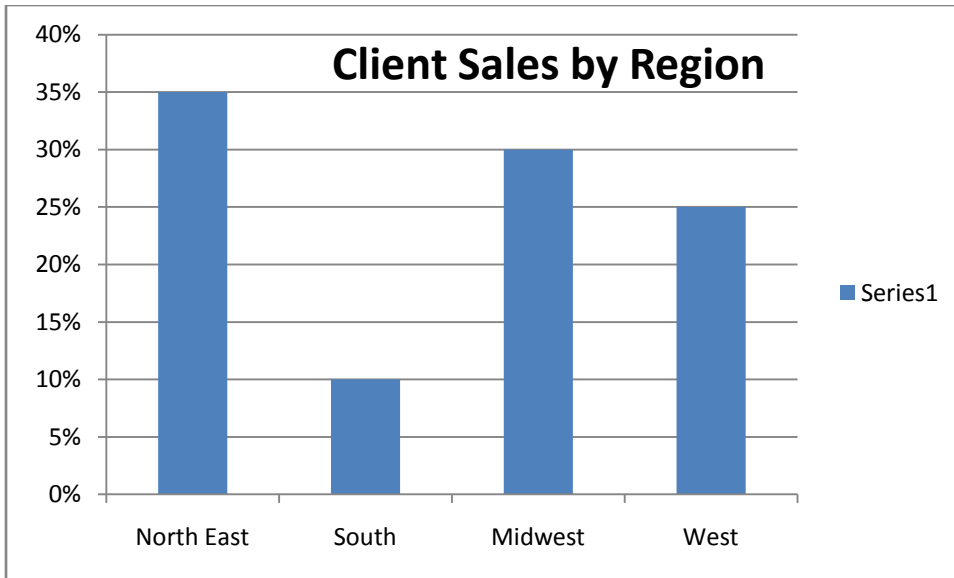
The recommendation should include the following:

11. To achieve this rapid growth the client should have its sales and marketing department target optometrist attached to “Contact Lens Retail Stores” and build brand awareness and relationship.
12. The client should focus on stores with the following characteristics:
  - a. Located in cities and suburbs in South US
  - b. Having young women as their significant customer base
    - i. Stores located inside malls
    - ii. Stores located in strip malls which have stores popular among young women (some major clothing chain etc)
13. Some of the Risks could be:
  - a. If client focuses too much on the South it may not be able to shower much attention to the other areas where it has presence and lose customers
  - b. The South region may have competitors deeply entrenched which might result in additional SG&A spending
  - c. Other competitors might be targeting the same region.

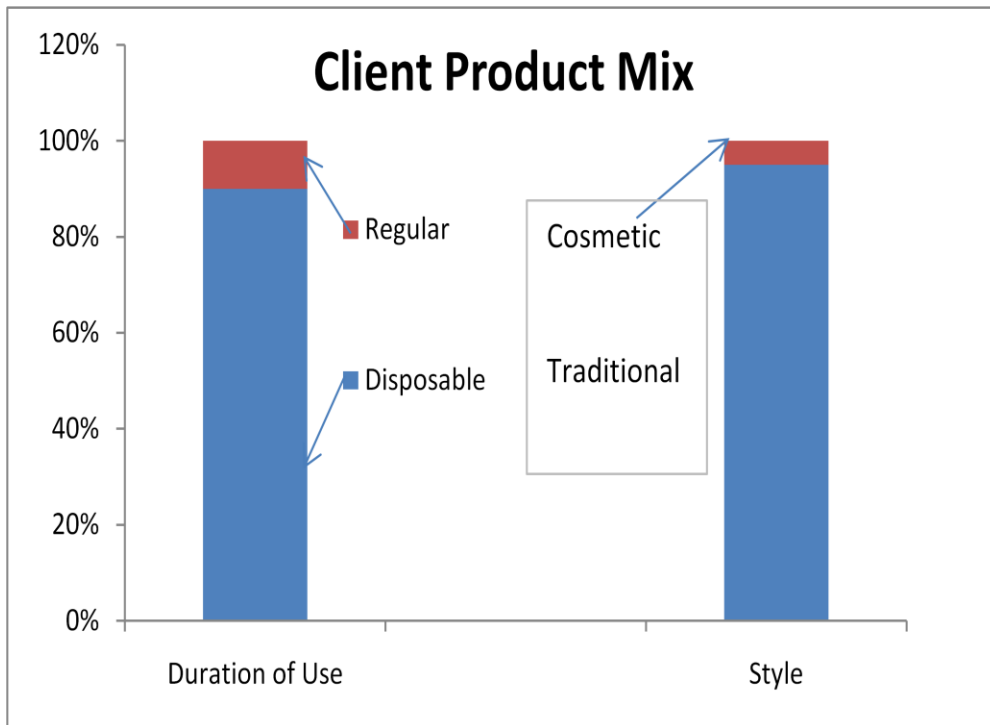
## Exhibits

<b>Contact Lens Manufacturer Income Statement (in Millions)</b>	
Revenue	\$ 229.24
Cost of Goods Sold	\$ 100.45
Gross Profit	\$ 128.79
Gross Profit Margin	56%
SG&A Expense	\$ 104.33
Depreciation & Amortization	\$ 13.06
Operating Income	\$ 11.40
Operating Margin	\$ 0.05
Nonoperating Income	\$ 2.56
Nonoperating Expenses	\$ 7.21
Income Before Taxes	\$ 6.75
Income Taxes	\$ 5.38
Net Income After Taxes	\$ 1.37

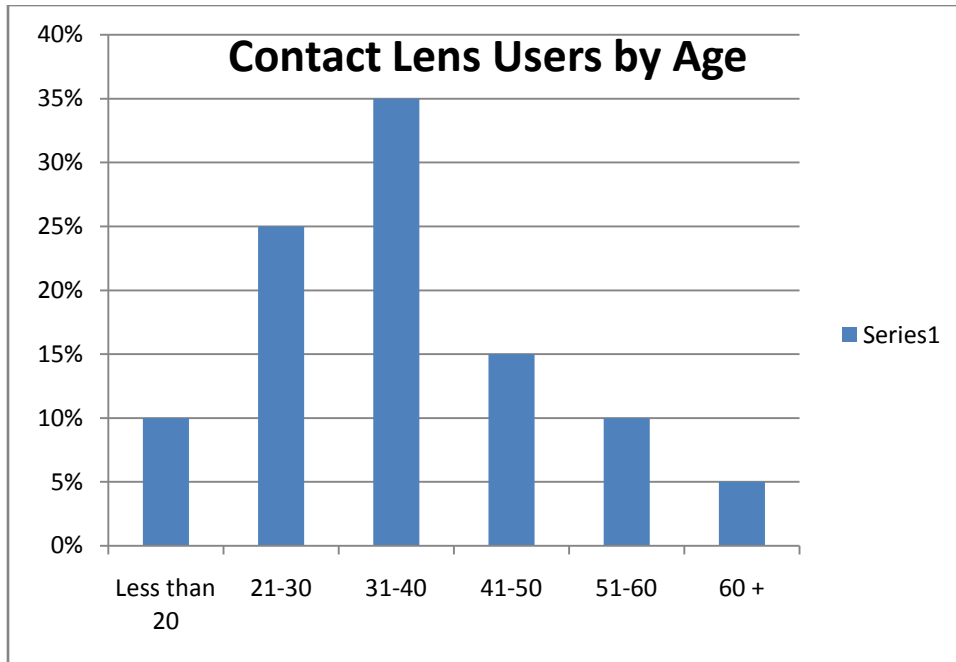
## Exhibit 1



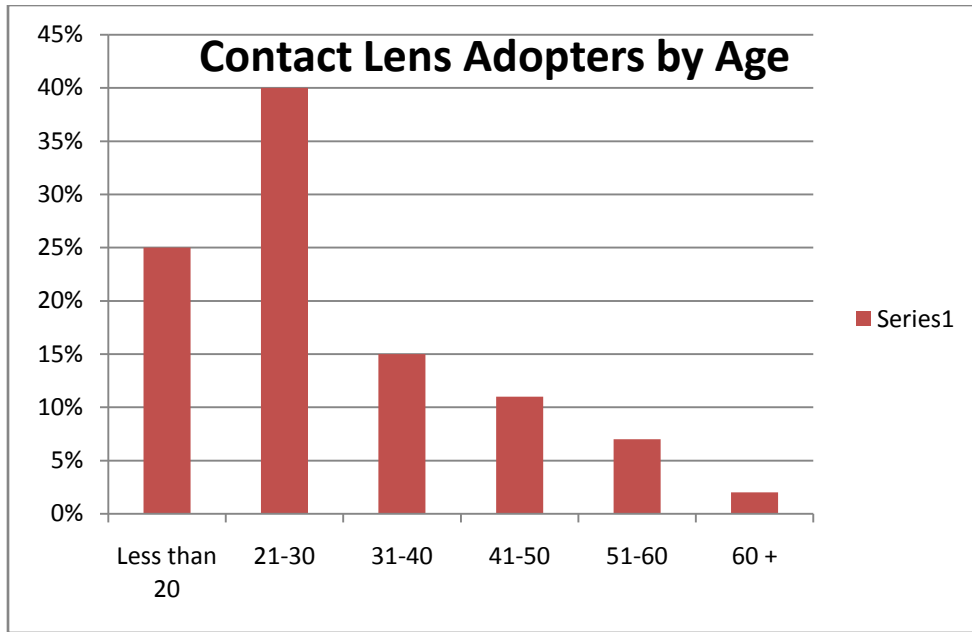
**Exhibit 2**



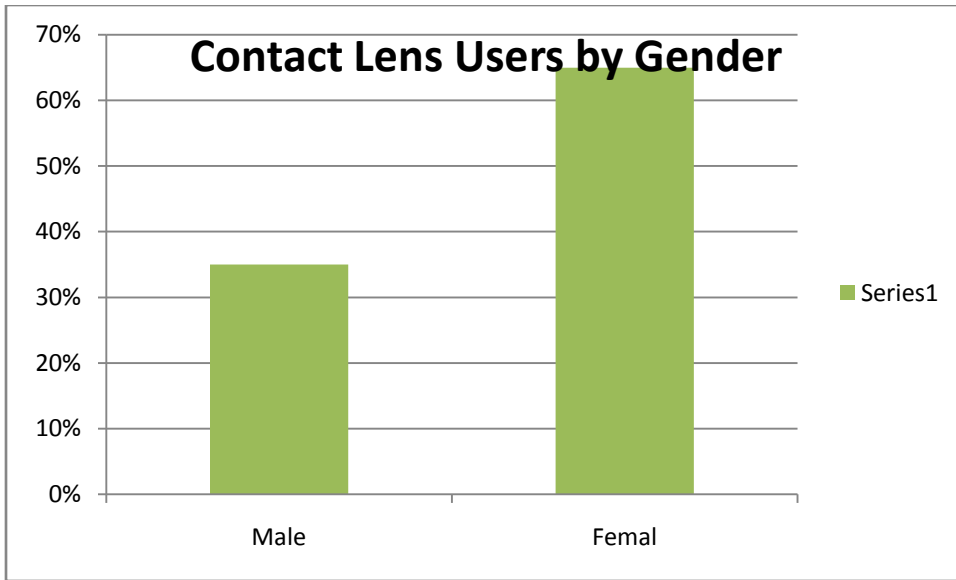
**Exhibit 3**



**Exhibit 4**

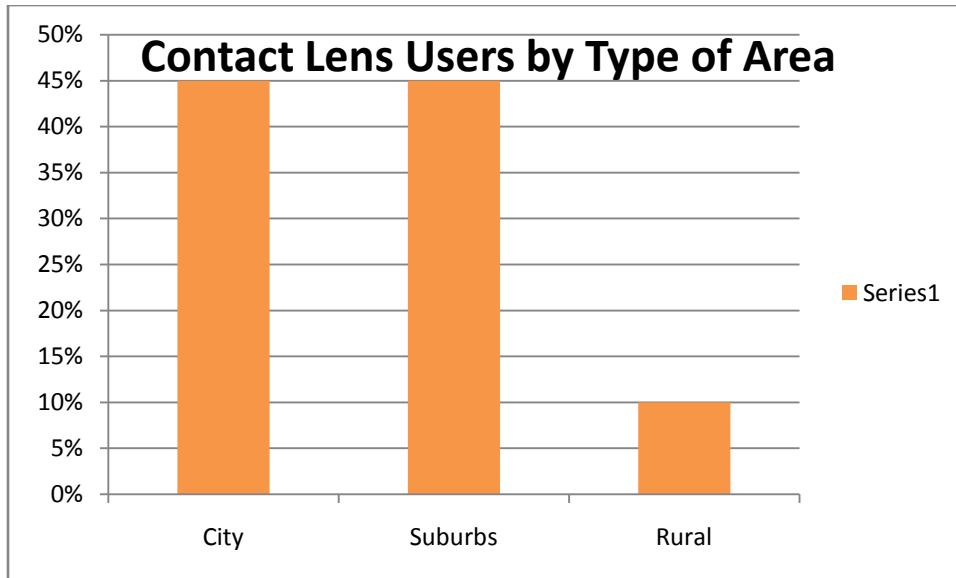


**Exhibit 5**

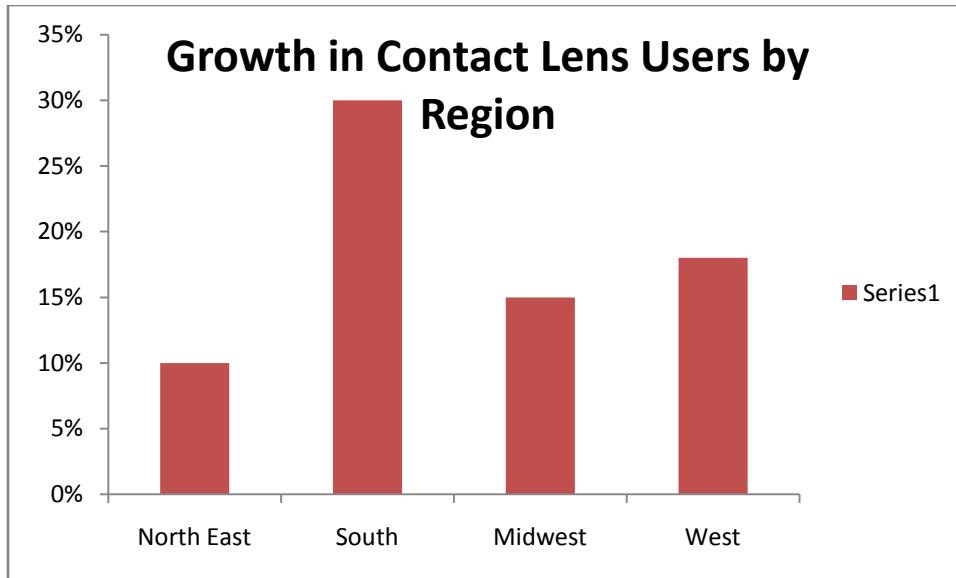


**Exhibit 6**





**Exhibit 7**



**Exhibit 8**

# E-Commerce in the airline industry

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**Level of Difficulty** (Select level of difficulty)



## Question

The year is 1999, in the middle of the .Com-boom.

An airline was approached by a group of entrepreneurs. The entrepreneurs offered the airline to invest \$100MM in their software company for 20% equity, and also be the first customer for the software they develop.

The software is an e-market place where airliners and spare parts suppliers could meet to improve the purchasing capabilities of the airlines and to reduce the purchasing costs.

Aircraft parts are obviously a hugely important part of the airline business, as airlines struggle to keep planes in the air as much as possible, minimize downtime and control costs.

What should the airline do?

### Note

This case was administered in BCG second round. It is similar to cases a person can get in Bain, BCG and A.T. Kearney.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. How do the airline currently purchase spare parts	The airline currently has a legacy system. The system is not that suitable to what's actually happening and therefore there is a lot of extra phone calls and process work happening.
2. How much does a purchasing transaction cost to an airline (supply this number rather easily, even if you are not asked directly)	\$50 per transaction
3. How many transactions does each airline perform every year?	500,000 for each of the airlines in the states
4. How many airlines are there in the states?	20
5. How much will a transaction cost us in	\$6 payment for the software company

the new system?  (try to supply only one of the numbers and see if the interviewee asks for the other number)	\$9 internal costs (labor, systems, etc.)
6. Is there any other cost a customer needs to pay to join?	\$20MM licensing fee.
7. What is the cost structure for the software company?	No variable costs. \$10MM a year to pay for corporate expenses.
8. Will the E-Market allow us an increased bargaining power?	The aircraft industry in general, and the spare parts industry specifically, are highly regulated. To become an approved FAA supplier costs money and therefore the barrier for entry are significant. The result is that each part has one or two suppliers at the most and hence the bargaining power will not improve with the E-Market.

**Plan**

This is a investment assessment case. The analysis may include, but is not limited to, the following areas:

- Investment framework.
- Market and competitors.
- Company – availability of capital but also fit.
- Current situation – how is the airline currently manages the spare parts sourcing.

**Strong Plan**



The candidate has de-coupled effectively both issues requiring decoupling – One analysis is to be done from the perspective of an investor (who is the customer here) and from the perspective of a customer. This is actually THE most important issue here – decoupling the problems effectively.

The candidate also asked questions about the current situation and what advantages will the system provide, and also talked about the market and competitors.

### **Weak Plan**



The candidate is thinking about the problem as one problem. It seems that he will perform cash flow analysis for customer and investment together and doesn't seem to realize the "first customer" is not the same as "customer".

In addition, candidate didn't talk about the current situation or the market at all.

## Exhibits

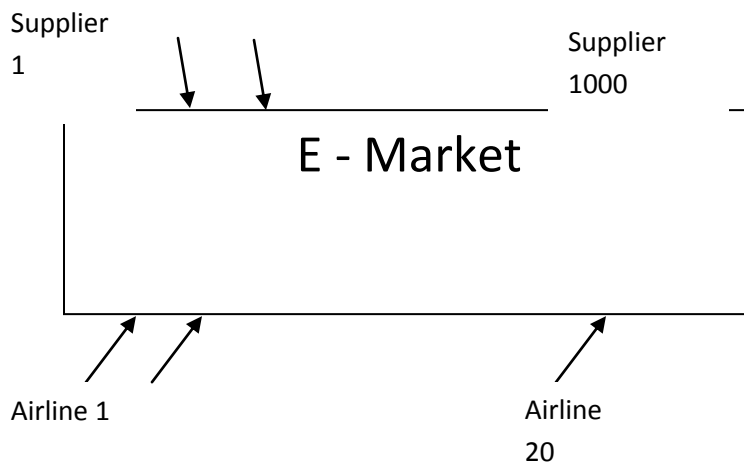
(Case Exhibits should be on a separate sheet of paper and included or attached to the end of this document. If there are no exhibits, include any data that the interviewer must provide.)

Exhibit 1:



Interviewee: Could you tell me more about the E-Market?

Interviewer: (draw the following picture on a piece of paper and talk a little bit about it)



Expected Insight:

1. For the customer to get value out of the system, many suppliers need to be connected to the system.
2. Do the suppliers need to pay anything to use the system?  
Tell the candidate for this analysis assume suppliers pay nothing.

## Calculations

The numbers are provided in the answers to questions. There are two calculations here:

1. Calculating the cash flow for investment
  - a. Best in class answer will utilize the cash flow framework (drawing years from 0 to 10 and writing beneath the cash flow every year).
  - b. – 100MM for year 0 (provided in the initial question)
  - c. Calculating the resulting cash flow

- i. Revenues every year - \$6 (payment per transaction) \* 500,000 (transactions a year) \* 20 (airlines) = \$60MM a year
- ii. – 10MM a year (fixed costs for software company – case fact)
- iii. = \$50MM
- iv. We only own 20% of that number = \$10MM
- v. \$10 MM – resulting cash flow.

- d. The interviewee should now say “so what” and talk about one or both of :
  - i. There will be \$10MM annual return for \$100MM investment. Without discounting, we know it is a 10 years till breakeven. In the software industry that’s unacceptable.
  - ii. \$10MM till perpetuity. Discount rate for the software industry is high. let’s assume 20%.
  - iii.  $\$10\text{MM}/20\% = \$50\text{MM}$ .
  - iv. So what? Meaning that the moment you investment the \$100MM it is worth \$50MM. this is a bad investment.
  - v. A interviewee can be confused and try and use the airline discount rate (which is extremely low). This is obviously a mistake as discount rate is directly correlated to risk.

## 2. Calculating the cash flow for customer

- a. \$-20MM investment (licensing fee).
- b. Revenue stream (cost savings)
  - i. \$50 transactions will only cost \$15 (=\$9+\$6).
  - ii. Savings of \$35 per transaction
  - iii. 500,000 transactions.
  - iv.  $\$35*500,000 = \$17.5\text{MM}$  savings a year.
- c. So what?
  - i. The investment in the software for the customer could be extremely good investment as it is returned in less than a year and a half.
  - ii. However, first customer can be something else all together as there are risks than can decrease the returns:
    - 1. Not all suppliers will join right away or at all.
    - 2. The software will have bugs in the first few months /years.



3. The software company can go bankrupt, taking our licensing fee away and never give any returns.

## Recommendation

The recommendation should include the following:

14. The answer – Candidate suggests that investment in the company is not a good option as it takes 10 years to recoup investment (without discount rate). Being a customer looks good, though not necessarily first customer.
15. The number(s) – NA
16. Risks or considerations –
  - a. Joining as a first customer will be considered if the client will be compensated for the risks.
  - b. After few airlines will join the system, and the software proven itself, the client should definitely join as it will save costs.
17. Next steps – NA

## Questions to Further Challenge the Interviewee

6. The following question tests creativity further:
  - a. Let's assume there is another feature in the software that allows airlines to view other airlines' inventory by location and part. So, for example, if I'm southwest and I have a plane down in NYC. I contact the supplier and get an answer that I'll have the part in three days. I can look into American Airlines inventory and see if they have the part in NYC. If they do, I can buy it from them at cost and ask the supplier to send the part their way. Is it a good feature?
  - b. A full answer (push interviewee till he reaches all conclusions or gives up):
    - i. The feature is great for the industry, as the entire industry will be able to reduce downtime and share the value in its companies' bottom line and with the customers.
    - ii. However, the risk is that the feature actually encourages the airlines to carry no inventory (why should I carry inventory when everyone shares the benefits?)
    - iii. A solution to mitigate the risks through the system is to create a system of checks and balances and create a part exchange account for every airline. So every time an airline takes a part from another airline then the airline's part exchange account is reduced by the part cost. Every time an airline provides

a part to another, its parts exchange account is increased by the part cost. If we cap the part exchange account to say minimum of -\$5MM, then we solved the problem.

- iv. This will actually encourage better inventory management throughout the industry as airlines will not want to stay away of this program as it provide huge cost benefits.

CONSULTING CASE INTERVIEW

# Big Green Biofuels

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**Level of Difficulty** (Select level of difficulty)



## Question

Big Green Fuel Systems, a large provider of fuel additives required for the production of gasoline, has recently developed a substantially improved form of ethanol that adds 20% efficiency (measured as miles driven on a single gallon of ethanol). This version of fuel is costly to produce but the market is large and growing more rapidly as increased amounts of ethanol are being used in fuel blends. The company has engaged your team to help determine the viability of this new product, and, if it is viable, how to go about the process of launching it.

### Note

This case is similar to a case that a student may receive in a second round interview with McKinsey. As such, it includes multiple questions given in a more structured manner than a candidate may expect to see at other firms.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. Is the company working in the US only?	Yes, please concentrate on the US market only.
2. Does the current infrastructure exist to make and support this product?	It's compatible with other infrastructure of in the external value chain, but Big Green does not yet have the capacity to mass produce it.
3. What criteria does Big Green want us to use to determine the viability of the project?	Please develop your own criteria.
4. What is the value chain for this product from Big Green to the consumer?	Ethanol is delivered from manufacturers to fuel blenders, who then sell and deliver in bulk to filling stations, who in turn sell it to consumers.
5. Does Big Green have a patent on this technology?	Yes, they have a patent.

## Plan

This is a value chain analysis case. The analysis may include, but is not limited to, the following areas:

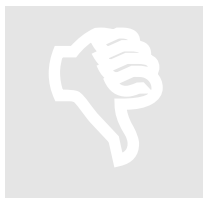
17. Standard valuation (ROI + intangible benefits). What is the initial and recurring investment? What is the incremental profit from this venture? What can be gained beyond the sale of ethanol?
18. What barriers exist for this product? How will the value chain respond? Can we make it?
19. What is the standalone value of this product, and what is its value to other producers? Can we sell it?
20. What will existing competitors do in response?

### Strong Plan



Includes valuation of the product as part of Big Green and at least considers its value for other firms. It is necessary to consider barriers to a successful launch (both internal capability and external pressures). Also a strong plan considers the competitive response and how it is manifested throughout the value chain. Intangible benefits (spin-offs, positive PR, etc.) should be considered as well.

### Weak Plan



Valuation is important but not strong enough on its own. Failing to consider costs and investments (both fixed and working capital) is a shortcoming. Failure to consider the possibility of selling the product to another, more capable company shows lack of creativity. Intangible benefits (hard to quantify) are a strong opportunity to showcase creativity as well. Failure to consider competitive response and the full impact on the value chain would also result in a negative hit.

**Interviewer:** Thank you for sharing your approach. Now I would like you to size the market for me. But I will give you some data. First, there are two ethanol-gasoline blends used in the US, E-85 and E-15. E-85 is 85% ethanol at 10% of the market and E-15 is 15% ethanol at 90% of the market. The number of miles driven in the US last year was 1,800 billion miles. Please give me the market in gallons for ethanol.

This is fairly simple, but it's important to first develop the approach (gallons of ethanol =  $(1,800 \text{ billion total miles} / X \text{ average gas mileage}) * 85\% \text{ ethanol content} * 10\% \text{ of the market} + (1,800 \text{ billion total miles} / X \text{ average mileage}) * 15\% \text{ ethanol content} * 90\% \text{ of the market}$ ).

A key is seeing that the  $X$  mileage is missing and is needed, so the interviewer should ask for it. This will yield a response from the interviewer of 20 miles per gallon on average.

Thus:  $(1,800 \text{ billion} / 20) * .85 * .10 + (1,800 \text{ billion} / 20) * .15 * .90 = \mathbf{19.8}$  billion gallons of ethanol.

**Expected Insight:** One should notice that there's not enough information and know to ask for the average mileage in the US (20 miles/gallon). Also, one should ask about the 20% additional efficiency, but the interviewer will instruct the interviewee to ignore it. Once the interviewee calculates the answer, he or she should remark about the size of the market, and immediately want to know how fragmented it is, and will be told it's highly fragmented.

**Interviewer:** Good. Now, the analysis has determined that there is no savings by using this new fuel blend. Basically, the fuel costs exactly as much to develop and deliver as can be gained by selling it. But the CEO has staked his reputation on this product, so he is committed to delivering it. Please explain how you would best appeal to each level in the value chain in order to best promote this improved product.

Expected Insight: The value chain should be looked at from source to consumer:

- Selling to blenders: the fuel blenders will have to blend 20% less (but will pay for it as a price premium). However, they could use it as a competitive advantage by differentiating on its basis. Additionally, it could reduce its distribution costs (delivering less to filling stations). Also, blenders would have a competitive advantage by being positioned for potential future government regulation.
- Filling stations: differentiating factor for eco-sensitive consumers. Point of positive public relations. Appeals to drivers who want to spend less time filling up. Less refills needed from the blender, so less delivery costs. Could also make it possible to distribute gas from smaller tanks, making it possible to put new stations in formerly prohibitive locations.
- Consumers: eco-friendliness. Higher cost of fuel set off by less need to fuel up (efficiency) and there is an additional value add since they'll spend less time at the gas station.

## Recommendation

The recommendation should include the following:

18. The answer – Since the interviewer will make it clear that the CEO is intending to roll out the new fuel, this is a given. The main points from the second question, regarding the value chain, should be included as supporting evidence.
19. The number(s) – The ethanol market number is optional and may not do anything to add value to the argument.
20. Risks or considerations – Rolling out the new fuel could cause a price-perception problem (higher cost to fill up). Attempts to fix this through marketing efforts could also drive marketing costs. There is also the consideration of what it means to release a new fuel, including risk that the fuel is more corrosive than other existing fuels.
21. Next steps – Next step would be launching a pilot program, including marketing efforts, to test the fuel for its efficacy. Lessons learned would be applied to a gradual national roll-out.

## Strong Recommendation

The CEO has indicated that he wants to roll out the new fuel. The best way to do this is to appeal to blenders and gas stations on the basis of reduced delivery costs and enhanced public relations, and appeal to consumers on the basis of eco-friendliness and fewer required fill-ups. The biggest risk is

alienating consumers due to the higher cost perception and alternatively the marketing cost of mitigating this perception.

### **Weak Recommendation**

The market size is 20.9 Billion gallons of ethanol each year. Thus Big Green should roll out the new product because it's more efficient and could cut associated costs and make green consumers happy.

CONSULTING CASE INTERVIEW

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**Level of Difficulty** (Select level of difficulty)





## Question

The federal government of a country in certain part of the world is investigating whether to restart a rubber factory in the western part of the country. The factory was operational in past but has not been used for 7 years. The plant was closed due to terrorism in the area which has now come down significantly though there are still issues and skirmishes reported in the area. If rejuvenated the plant may become a target for the rebels. All the equipment is considered useable but the government still estimates to spend \$12M to rejuvenate the plant which would enable the plant to produce up to 10M lbs of rubber per month. The demand of rubber worldwide is strong but rubber must be transported to an export port via trains; up to 2 trains per day can be used for this.

### Note

This case is similar to a case that a student may receive in a First round interview with BCG, Bain, AT Kearney, Deloitte\*

\*The case is fictional and is loosely based on a McKinsey first round interview case

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. What are the raw materials	Need gum resin. 3lbs of resin after processing results in 1lb of rubber
<b>2. Where are the resins coming from</b>	<b>They need to be transported from the capital. Up to 4 trains can be used for the same (This is a key question, a candidate not asking the question misses out a key element in the case)</b>
3. What price can rubber be sold at?	Sell the Rubber at \$20 per lb, Gum resin costs \$5 per lb
4. How many suppliers are there?	We have identified one supplier
5. Who are our customers?	We would be selling the rubber in the commodity market to the entire world.

## Plan

This is an Operations case mixed with Cost Benefit Analysis. The analysis may include, but is not limited to, the following areas:

1. Analyze the Financial benefits of the investment:
  - a. Analyze the ROI for the investment
  - b. Analyze the production capacity of the plant. Given the equipment capacity is 10M lbs per month production is probably limited by supply and distribution.
  - c. A great approach would be to lay out the value chain for the rubber plant  
Raw Material Supplier → Manufacturing Plant → Customers  
After drawing the value chain, the candidate should clearly identify that there is a transportation element here.
2. Identify the other benefits associated with this investment considering this is a government investment:
  - a. Employment
  - b. Economic Development
3. Identification of Risks
  - a. Assess risks in the investment (timely delivery, terrorism, labor shortage etc) and deliver

After the candidate lays out the plan ask the candidate to calculate the **ROI**.

**If the candidate asks about the demand of rubber in the market then state that the market demand is strong and for our analysis assume that whatever the plant produces can be sold.**

First step expected to analyze how much the rubber plant can produce. A common mistake is to assume the 10MM pounds per month as the amount of production. Also ask the candidate to perform all calculations on a monthly basis.

For the calculation ask the candidate to make the following assumption:

Month	25	days
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### Outgoing Train Information:

No of Trains	2
Bogies/train	8

Cases/Bogie	25
lbs/Case	500

Expected Calculation:

Daily Capacity:  $2*8*25*500 = 200,000$  lbs

Monthly Capacity  $200,000*25 = 5,000,000$  lbs

Incoming Train Information: (Carrying Resin)

No of Trains	4
Bogies/train	10
Barrels/Bogie	25
pds/barrel*	640

Expected Calculation:

Daily Capacity:  $4*10*25*640 = 640,000$  lbs

Monthly Capacity:  $640,000 * 25 = 16,000,000$  lbs of resin => 5.33 M lbs of rubber (using 1:3 conversion)

**Expected Key Insight:**

The bottleneck is the outgoing train capacity which implies that the monthly production of rubber would be \$5MM.

Other Financial Information for the Plant:

Labor: \$8 MM per month

Other Fixed Overhead costs: \$10 MM per month

Cost per train trip: \$40,000 (both inbound and outbound)

Expected Calculation:

Transportation Cost per month:  $\$40,000 * (4+2)[\text{Number of trains per day}] * 25 = \$6\text{MM}$  per month  
 [Ask the candidate to assume that although 15MM pounds of resin will be transported we will be using all the trains.]

Revenue:  $5\text{MM} * \$20 = \$100\text{MM}$

Material Cost:  $15\text{MM} * \$15 = \$75\text{MM}$

Income Statement:

Revenue = \$100MM

Material Cost = (\$75MM)

Labor Cost = (\$8MM)

Transportation Cost = (\$6MM)

Other Fixed Costs = (\$10MM)

Profit = \$1MM per month

### **Key Insights expected**

The candidate is then expected to state that the ROI is 1 year, however the margins are wafer thin 1%.

If candidate asks whether a NPV analysis is required, let the candidate that this is not required.

Interviewer: Now ask the candidate what other areas the candidate would explore to help make a recommendation to the government.

### **If the interviewer asks any of the following questions provide the responses give below:**

Interviewee: We are limited by our Outgoing capacity. Do we have market demand for 5,000,000 lbs of rubber?

Interviewer: Yes we have demand of lot more

Interviewee: Can we increase the number of trains incoming or outgoing? We have additional production capacity.

Interviewer: Not right now but good thing to explore in future.

### **Expected insights from the candidate**

#### **Highlight the other benefits:**

- Employment (\$8MM per month figure indicates quite labor intensive process)
- Economic Development of the area

#### **Highlight some of the risks and state mitigation:**

- Low Margin, exposure to price fluctuations of resin and rubber
  - Mitigation: Forward contract purchases of resin

- Forward contract sale of rubber
- Labor risks
  - Introduce automation
  - Facilitate migration of labor from other areas
- Terrorism Risk
  - Involve community leaders in the process
  - Look at getting government or private security for the plant.
- Supply Chain Risk
  - Sole dependency on trains
    - Mitigation
      - Maintain enough safety stock of resins and rubber
      - Ensure the rail tracks are protected sufficiently in sensitive areas
      - Crucial to diversify into other modes of transportation, invest in building roads and if applicable pursue waterways.
  - Single Supplier
    - Mitigation: Diversify Supplier base

## Recommendation

The recommendation should include the following:

The answer – Go ahead with investment in the plan as it seems highly profitable

The number(s) – With production at 5M lbs of rubber we make a profit of \$12M a year. Production is limited by transportation, an area that can be looked at and addressed. This should further increase our profits in future.

Risks or considerations – We have highlighted a lot of the risks, key is that the government takes steps to mitigate the risks, the government can take some steps based on our analysis of the mitigation. Some of the steps could mean a long term investment.

Next steps – Assess how plant can be staffed, whether transportation bottleneck can be alleviated, the level of terrorism threat and steps to mitigate.

CONSULTING CASE INTERVIEW

# (Asian mobile service provider)

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**Level of Difficulty** (Select level of difficulty)



## Question

Your client is a mobile service provider in an Asian country. They were targeting on the high and medium segments in the country. Recently they acquired another service provider which targeting lower segment of the market. The two companies have two different brands before, and they kept both brand after the merge. To the CEO's surprise, the overall pre-tax profit has been lower than the combined pre-tax profit of the two companies when they were not merged.

You are hired to figure out why and how can we improve that.

### Note

This case is similar to a case that a student may receive in a second round interview with Bain.

## Clarifying Questions and Answers

Provide the following answers only if the interviewee asks the corresponding question.

Question	Answer
1. Which country is it?	Doesn't matter

## Plan

This is a Profitability type case. The analysis may include, but is not limited to, the following areas:

1. Profit = (P-VC)\*Volume – FC, with product mix in mind

### Strong Plan



Use the profitability formula, with assumption that there's something in the product mix

## Weak Plan



Not able to focus on profitability

Interviewee – I am going to use this simple profit framework.

Interviewer – Good. The cost has been optimized when the two companies merged.

Expected insight – focus on price, volume and mix

Interviewee – Has price been changing?

Interviewer – What specific price are you talking about?

Interviewee- We have two brands, let's say one is high (H) and one is low (L). So I want to know the price of the H brand first, was there any changes?

Interviewer – Let me be very clear, the pricing plan that the company offered didn't change.

Interviewee– How about L brand?

Interviewer – The pricing plan didn't change

Interviewee - That's interesting, how about the real revenue we received from each customer per months?

Interviewer – That has been flat on the H brand and been decreasing on the L brand

Interviewee – But the pricing plan of L brand didn't change

Interviewer – Yes

Expected insight – Focus on the L brand, its either volume or mix

Interviewee – does customer use the mobile phone less than before, I am assuming that there's a part in the pricing plan vary with usage

Interviewer –No

Interviewee – Do we have different pricing plans in the L brand?

Interviewer – Yes, actually the L brand targets two sub-segments, one is middle income level segment (let's call it LM), and one is low level segment (let's call it LL).

Interviewee – I see, has the mix been changing towards plan targeting lower segments(LL)?

Interviewer – Yes



Interviewee – That’s probably the reason, but let me move on to the volume first and then come back. Has the volume been changing?

Interviewer – No. So what could be the reason of the mix change in the L brand?

Expected insight – You may take a break, and think about possible reasons:

Customer demand shift, competitor actions, product cannibalization, or 4P.

Interviewee – Had we done anything differently in terms of sales and marketing?

Interviewer – We promoted heavily on the plan targeting lower income level segment (LL). We did attract more customers to that sub-segment. Normally this will increase revenue. Why in this case we are losing revenue?

Interviewee – Was there cannibalization between the two sub-segments in L brand?

Interviewer – no

Interviewee - Was there cannibalization between H brand and L brand (higher sub-segments)?

Interviewer – no

Interviewee – Interesting, it must be that competitor has done something differently?

Interviewer – How would you find out?

Expected insight - take a break if necessary again, and think about practical ways to verify whether your assumption is true.

Interviewee – I will review our history customer database, and do some customer survey

Interviewer – Who are you going to survey and what questions are you going to ask if you do customer survey?

Interviewee – I will survey those customers who left us. And ask them below questions: 1). Why did they leave us 2). Who did they choose and why

Interviewer – Let’s end here.



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