



# **Wharton Casebook**

## **2005 – 2006 Edition**

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## Introduction

Being able to confidently and consistently crack cases is an absolute requirement to getting a job in consulting. You may be at the most prestigious business school, have a stellar résumé, and be the lead in Follies – that will get you the interview. Once you get to the interview however, everyone is on the same ground. To get the job you have to ace every one of the cases.

Fortunately, case interviewing is a skill that is fairly easy to learn with sufficient practice. Even those without a prior business background can do well. Success with cases really just comes down to four key factors: approaching the interview in a confident, friendly and conversational manner; being organized and methodical in your approach to solving the problem; having a solid command of a framework for probing the issues of the case; and practicing until all of the above comes naturally, even under pressure.

When you first start doing cases, they may seem daunting and you may doubt your ability to ever achieve mastery. However, if you practice cases with a partner consistently over the 3-4 weeks before interviews, you will very likely be ready on game day. As with everything, practice makes perfect.

This guide was written to give newcomers to the interview process a primer on what to expect in interviews, ways to approach cases, and how study for them. The ten cases included in the second section are actual cases given to Wharton students in the 2004-2005 recruiting season. While you are not likely to get one of these cases when you interview, practicing them will give you a very good idea of what to expect when you get into that interview room.

Good luck and have fun!

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## What Interviewers Want

The business of consulting is all about charging clients large sums of money to tell them what you think. For them to value your services they need to have confidence in what you are telling them and they need to like working with you. Consulting firms therefore are looking for a few key traits in their candidates.

They need to know that you are smart – but this is pretty much a given for you to get to this point. So beyond this, they want to know that you have the mental “horsepower” to be able to solve client problems quickly with incomplete information. The case is therefore designed to give you a broad, open-ended problem with very little information, forcing you to probe for more information and make rational assumptions where information is lacking. They will ask you both to contemplate expansive concepts through brainstorming, as well as dive into detailed analysis under pressure. Every case is different and case formats differ between firms, but in general they are all trying to see how well you think under pressure.

Having mental horsepower still isn't enough. For this to be of value to the client, you must be able to communicate your ideas clearly and convincingly. So the interviewer will also be taking careful note of how you approach organizing your questions, presenting and validating your ideas, and formulating a conclusion. You must be confident in your questioning and presentation, and you must proceed through the case following an orderly plan and arriving at a concise conclusion. Imagine that you have been turned loose at a client on your first day and the CEO just stopped by to ask about what you have concluded so far – the interviewer wants to be confident that you could handle such a (realistically possible) situation.

It is often difficult to get relevant information out of a client. Your interviewer likewise will not spoon feed you any of the information that you need to solve the case. **Because of this, it is imperative that you are always driving the case.** The interviewer will give you an initial problem to solve, but from then on it is your show. She may ask you specific questions or request a certain analysis from time to time, but do not get distracted from your mission: You are to solve the initial question asked and you only have 20 minutes to do so. You must start the case by asking questions to dig for data. If the interviewer asks you to perform a specific analysis, do so, but always return back to the driver's seat; otherwise you will find yourself at the end of the 20 minutes without a conclusion.

Imagine the interview is like an Easter egg hunt. When you start, you have no idea where to look for the key information, so you must plan a search path to avoid haphazardly digging for clues in various different places. As the interview progresses, you will gain a clearer and clearer picture of the business problem and will be able to steer your line of questioning towards the key facts of the case. You are looking for the egg in the case – a sort of “aha” moment – that puts into focus the key problem faced in the case. Once you finally feel that you have enough information (or if you are within five minutes of

running out of time), you need to bring the case to a close by **directly answering the question posed** and providing logical support for your answer based upon the facts discovered during the case.

Let me emphasize: **You must answer the problem posed by the case to pass the case interview.** During the interview process, each interviewer will see a dozen or more candidates, but will only advance a couple to the next round. You may have been polished, confident, and likeable, crushed the analytics of the case, and answered every question posed by the interviewer with ease, but if you didn't address the problem of the case you are not likely to stand out as one of the one or two stars that the interviewer is going to recommend that day.

Note that you don't necessarily need to have the "right answer." Often you will be asked to come up with your own assumptions for different facts in the case, and therefore the final answer may vary from candidate to candidate. What is important is that you have made a concise conclusion that is consistent with the facts given and assumptions that you have made. Interviewers like to say that you are exploring a business problem together. If you have a good rapport with the interviewer you may take the case in any number of directions. This is fine – just be sure to come to a conclusion.

Don't be tempted to hedge in your conclusion. Cases generally ask you either for a recommendation ("Should company X invest in expanding production?") or for the answer to some problem ("What is the market for Silly Putty?"). Do not say something like "Expanding production is good because it will lead to increased market share and will help defend against the strengthening competition. On the other hand, it may increase fixed costs to the point that the firm becomes unprofitable." Take a stand, back up your reasoning with logic and facts, and know when to shut up and finish the case.

So you muddled your way through 15 minutes of questioning, managed to formulate a concise and (hopefully) correct conclusion, and fought the urge to keep talking about the case. You're almost done. Not all interviewers will do so, but you should try to get them to give you feedback about the case that you can use for your next case. If you had a good discussion about a real-life case and came to a definite conclusion, it is often easy to ask "so what actually happened?" Interviewers often use their own cases and are happy to talk about what they did. This is an excellent way to gauge how well you did and to find out what areas of questioning you might have missed.

Finally, remember that the interview isn't over until you are out the door. Collapsing in despair after the case is over does not convey the sense of confidence and poise that you are going for. No matter how poorly you thought it went, stay upbeat and act as though you had a challenging but enjoyable experience and thank your interviewer for his time.

## Types of Cases

As you interview with different firms, you will likely encounter a number of different variations of the case interview. It's a good idea to know beforehand what types of cases you might encounter. Below are a number of different case styles that companies used in the 2004-2005 recruiting season.

**Standard Case** – Most case interviews will be of the style contained in this book and in the David Ohrvall casebook. These cases generally ask you to consider a broad business problem and come up with a recommendation for responding to it. In some cases, the interviewer may provide a substantial amount of data either verbally or in the form of charts or graphs. Other times, the interviewer will provide no facts whatsoever and ask you to make reasonable assumptions for all case facts. These cases will always require you to drive to a conclusion.

**Market Sizing Case** – Market Sizing cases are not common in MBA interviews, though you may encounter one. In these cases, you are simply asked to estimate some unknowable amount. This could be estimating the market for Silly Putty in the US. It could be estimating the number of ping-pong balls that would fit in a football stadium. Solving these cases is all about coming up with reasonable assumptions, approaching the problem clearly and logically, and crunching the math correctly.

**Command and Control Case** – McKinsey has begun using cases in which the interviewer takes substantial control over the interview, essentially incorporating Market Sizing type questions into a broader Standard Case. These cases can be difficult because you must maintain control over the case in order to reach a reasonable conclusion, yet the interviewer will periodically derail your questioning to have you solve a particular problem. The key here is to keep moving quickly, addressing the problems they pose and then moving on in your questioning.

**Crunch and Interpret** – Some cases will be simply about the numbers. You may be given a graph, a chart, or even a set of equations and be asked to analyze the data to answer a particular question. ZS used this format for their first-round interviews with a series of slides, starting with a graph, then a table of data, and finally an equation. Candidates were asked to analyze the data presented in each slide and then reach a final conclusion that synthesized all of the data provided. In these cases, you don't need to worry about driving the case because the interviewer will be doing that. Instead, focus on getting the math right and trying to pull insight from the data provided. Be ready to provide a concise conclusion that pulls together everything that you have discovered.

**Read and Discuss** – Monitor used a case format for their first rounds that involved reading a three-page case in a short period of time and then discussing the case with the interviewer. The interviewer asked questions about the case that required both synthesizing information from the overall reading, as well as pulling specific numbers and performing analysis. These cases are difficult because you will have very little time

to read the case, but must still be able to pull the case facts from memory and analyze them. Take a deep breath and read the case quickly but carefully, underlining or noting key facts in the case so that you can more easily find them when you need them.

You still need to drive these cases, but doing so is more difficult since the interviewer will be asking a number of specific questions. Try to put the case into an overall question that needs to be answered (e.g. “Is this a business we should enter?”) and then approach the analysis of the interviewer’s question in this light.

**Present to the Board** – A variation of the Read and Discuss case was used by ZS and Monitor in second round interviews. Candidates were given a larger amount of case and other supporting materials to read and had 40 minutes to read them and then prepare a presentation to the board of a fictional company. At the end of the 40 minutes, the candidate was asked to come into a room where 4-5 interviewers were playing the role of the board. The candidate then had to present their findings and answer (sometimes aggressive) questions from the board. To ace this case, you must be able to maintain composure and present well. Because you will not have a chance to ask questions while you are formulating your recommendation, the dynamics of the case analysis are a bit different. Make assumptions, draw clear conclusions, and stick to your guns in the presentation.

**IT Case** – DiamondCluster and the Booz Allen Hamilton IT practice perform IT-specific interviews which will combine a Standard Case with a deep dive into associated IT technology. In first-round DiamondCluster interviews, candidates were asked to solve a business problem relating to poor automation of sales force activities. Once the candidate diagnosed the problem, they were then asked to describe an IT solution that would solve the problem. You will not get these interviews if you have no IT background, but if you do, definitely expect to be tested on your knowledge.

**HR Case** – KPL conducted its case interviews in a manner fitting with their focus on the organization aspects of strategic implementation. Candidates were asked to start solving a Standard Case. After about five minutes of a typical case when the overall problem had been diagnosed and some solutions posed, the interviewer then stopped the case and switched gears, asking how the solutions would be implemented from an HR perspective. The recommended solution would have created significant impact on morale and answering the case well required a display of empathy in the solution.

**Stress Case** – While not different in format from a Standard Case, these cases are distinguished in that the interviewer attempts to throw you off your game by creating an environment of high stress. Often, the problem will be fairly straightforward but the interviewer will give little or no information and then be stone-faced or even combative in response to the candidate’s questions. In one interview last year, a candidate was given a graph and no information and asked to interpret the situation. The interviewer would not provide any more information, so the candidate postulated different scenarios that might account for the graph. The interviewer’s response to each incorrect hypothesis

was a curt “No, that’s wrong.” The key to mastering a Stress Case is realizing that you are in one and keeping your composure.



## A Case Framework

Having a framework memorized and at your fingertips is essential to doing well in cases. The framework allows you to quickly pull up areas for questioning and exploration without having to think. You should use a framework that you can remember and that makes sense to you. It is essentially a starting point for your planning that you can use to help you through the initial moments of panic as you start the case.

A framework is not, however, a map of how to solve any particular case. It seems that many people get caught up trying to fit a framework to a case and completely miss the point of the case. You need to practice using the framework as a guide throughout your practice cases, so that when you get to the real thing, it is second nature.

There is a framework presented in the Ohrvall casebook that is quite complete and that many people use. If it works for you, then by all means use it. I, for one, found it to be somewhat overcomplicated and found that I had a hard time mentally navigating through it in order to come up with my plan for a case. As a result, I developed a simplified framework that still covered same overall elements, but in a more linear fashion. This framework is described below.

And what about the 4 C's, 5 P's, Growth-Share Matrix, or Porter's Five Forces? Don't get confused between business analysis frameworks and a framework for approaching case interviews. Trying to analyze a case based on the 4 C's is a recipe for failure. These types of frameworks are useful for analyzing aspects of a case and will definitely add to your credibility if you can appropriately pull them out. For instance, if your plan is to investigate profit drivers first, then customer segments, supplier relations, and finally competition, using Porter's Five Forces as a way to synthesize your findings into an analysis of the attractiveness of the industry would be completely appropriate. But using Porter's alone would completely miss the profit drivers and thus might miss the key to cracking the case.

So how do you use the framework? After the interviewer has given you the introduction to the case, you will want to ask for a minute to plan your approach. In this time, you must quickly develop a set of three to five major areas of the business to investigate, such as drivers of profitability and/or cost, sources of competition, changes in customer needs, etc. You are trying to figure out some problem or opportunity for the company in question, and these investigative areas are your first best guess as to where these problems lie. You will not know at this point exactly where to look, but if the interviewer says that profit margins have been declining, it's a good bet that either revenues have been hurt or costs have increased. These would be two very good areas to begin questioning about.

Think of the framework, then, as a mental checklist that you can run down to be sure that you are covering all of the bases. You will want to pick the 3 to 5 most likely areas for exploration based on your initial assessment of the problem. Some of them will likely be

unimportant. You also may discover other areas that are important once you get into questioning. Your initial plan is therefore not set in stone and your interviewer will not think less of you because you included an irrelevant topic. But if you leave out an important area for investigation, it is likely that you will miss the point of the case and not be able to come to a conclusion.

The WCC framework breaks down into 8 major topics. These are the topics that you must memorize and be able to recall easily under pressure. Each of these topics then has a number of sub-topics that you can use to direct your exploration. It is less critical to memorize these topics than to be able to come up with drivers for each topic that are relevant to your case. With a little practice, you should be able to quickly write down 3 to 5 major topics and then 2 to 4 subtopics for each case you encounter. This forms your plan for attacking the case.

| Major Topic  | Possible Drivers   |
|--------------|--|
| Revenue      | Volume<br>Price<br>Product   |
| Cost         | Variable Costs<br>Fixed Costs  |
| Competition  | Rivals<br>New Entrants<br>Substitutes  |
| Customers    | Market Size<br>Segments<br>Needs   |
| Supply Chain | Suppliers<br>Distributions   |
| Processes    | Manufacturing<br>Marketing<br>Sales<br>Distribution<br>Customer Service                |
| Company      | Core Competencies<br>Cost of Capital<br>Brand<br>Organization / Incentives<br>Controls |
| Macro        | Legislation<br>Unions<br>Technology<br>Economy<br>International Issues                 |

So let's see an example of using the framework for a case. Imagine the interviewer has just asked you the following: "ACME Gloves is the leading manufacturer of latex

surgical gloves. Recently, they have seen significant price erosion and are losing share in their market. The CEO believes that there are still significant growth opportunities for his product and has asked you to develop a strategy to exploit them.”

Now you will need to develop a plan for attacking the case. Here is where we pull out the framework and look for major topics that may be relevant to the case. Take a moment before you read on to come up with your own list of relevant topics.

Here is what I come up with:

1. Competition
2. Customers
3. Supply Chain
4. Revenue

You might come up with a different list, but here is my reasoning: Clearly we are looking for ways to grow the business, probably by repositioning the company in a new market as a response to a competitive threat. So understanding the competition and possible customer segments will be critical to understanding where we might reposition the company. If we are investigating entering a different market, we clearly must understand how our distribution network (as part of our Supply Chain) may provide a competitive advantage (or lack thereof). Finally, we will need to know how much of a growth opportunity any new market positioning may provide.

You might also include an investigation of cost position relative to competitors, or question the impact of regulation given that this is a medical product. I left these out, however, because they seem like secondary issues (at least at first blush) and I can always investigate them further if it becomes clear that they are important.

Now within each of these major topics, what drivers would want to investigate? Here are mine:

1. Competition
  - a. Rivals – Who are they? What is their relative share? How are they positioned relative to us?
  - b. New Entrants – Is there a credible threat of new entrants?
  - c. Substitutes – Are we worried about other products serving as substitutes?
2. Customers
  - a. Segments – What new segments might we be able to pursue?
  - b. Needs – What are the needs of each segment?
3. Supply Chain
  - a. Distribution – Do we have the capability to reach a new customer segment?
4. Revenue
  - a. Volume – What the size of a new target segment?
  - b. Price – What price point can we hit?

## How to Crack the Case

Now let's pull everything together into an approach to solving cases. Most cases should follow four stages: listening to the question, planning your approach, probing for information, and reaching a conclusion.

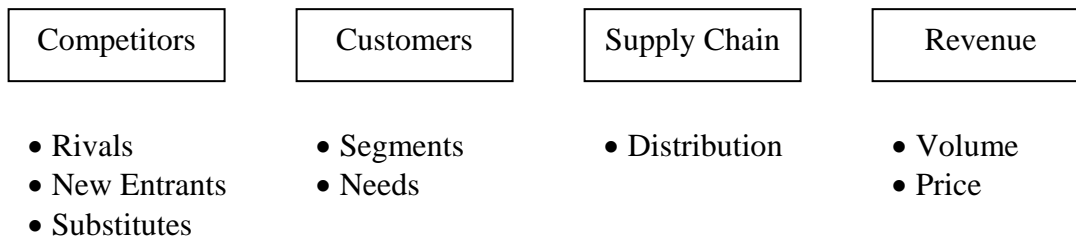
**Listening to the Question** – Many cases will involve a data dump at the beginning of the case where the interviewer shares a large amount of information following the statement of the case problem. You must take notes effectively at this stage because you are not going to want to ask her to repeat this information if you need it later. Take notes neatly and in an organized manner. Writing your notes in the style of slides with a title and bullets will help you keep organized and shows that you are already thinking like a consultant.

When practicing cases, figure out what information you need to write down, and what you can simply commit to memory. You don't want to be asking the interviewer to pause while you write down every word. More likely, you will need only to write down numbers and note key facts, but leave contextual information to memory. You may, however, want to write down the core question that you are trying to solve as a reminder to be sure that conclude the case properly.

**Case Planning** – Once the interviewer has stated the problem and provided any initial information, you need to take a moment to plan your approach to the case. Rather than simply falling silent while you plan, ask the interviewer for a minute to plan your approach. Be careful here – after practicing many cases, people often fall to asking for this time in shorthand: “Could I take a minute?” Remember that in the interview, impression is everything. Have an articulate and polite line ready for your interviewer, such as “I would like to develop a plan for approaching this problem. May I take a minute to do so?”

In most cases, the interviewer is expecting this and will oblige. Be ready, however, for a Stress Interview where the interviewer may decline (politely or not) to allow you to take a minute to plan. In this case, you must comply and move forward immediately with your probing. While doing this, you should still sketch out a plan in your head to attack the problem and stay in control of the case.

Now that you have a minute to think, pull out your framework and start devising a plan. You will want to identify 3 to 5 major topic areas to investigate and the appropriate sub-topics for each. Write each major and sub topic on your note paper in a neat manner that you can share with the interviewer. I suggest that you use one complete sheet of paper to do this and format it as you would a slide. The layout of the slide is not important as long as it clearly shows your topics of investigation and can be clearly followed by the interviewer. This slide becomes your roadmap for the case and you can refer to it throughout the interview to keep both yourself and the interviewer on track.



**Figure 1: Sample Plan Slide**

**Probing for Information** - Once you have drawn up your plan of attack for the case, it is time to start digging for information about the case. Using your plan, start questioning the interviewer about each topic. You are trying to get information that is going to shed light on the problem being asked, so it is important to guide your questions based on your evolving hypothesis about what you believe the ultimate solution to be. If you suspect that a low-cost competitor is stealing share from the company, your first two questions might be “Who are the other competitors in the market?” and “What are the relative cost positions of each market player?”

Be sure to ask concise and definite questions. Asking general questions such as “What is happening in the market?” or “Tell me about company profitability” are likely to get unhelpful responses from the interviewer. You will need to ask specific questions that the interviewer can answer without giving up information too easily. If you are not getting anywhere in your questioning, perhaps you are asking questions that are too vague.

While you are probing for information, you will be gathering more and more data. It is imperative that you take effective notes during this stage. As you did during the initial data dump, it is wise to organize your notes in the form of slides. For each major topic area (such as Competition, Revenue, Cost, etc.) create a topic heading, and then list all information gather on that topic as bullets below. If you are careful to follow this format and write neatly, the interviewer will be pleased to see both the organization of your thoughts and your ability to produce slide output.

As you get deeper into the case, you will reach a point (hopefully) where you believe that you know the answer. Here is important to shift gears from your planned approach to try to validate your hunch and then gather as much supporting data as possible. In our surgical gloves example, we may find that indeed a low-cost competitor has entered the hospital glove market and is destroying our margins, but that the market for gloves in non-hospital settings is still relatively underserved. At this point, we may switch gears to investigating the potential of this new market, our competitive advantages therein, and key assets that will enable us to penetrate this market. We know what we are trying to conclude – that we want to reposition the company to enter this new market – and we are now gathering data to back up that position.

**Nailing the Conclusion** – At some point, you will have to conclude. If you have run the Probing for Information part of the case well, you will come to a point that you feel you have everything you need in order to conclude the case. Even if still have time left, go ahead and push to a conclusion. Your interviewer will appreciate your ability to rapidly progress through the case and wrap up your ideas. He will likely then extend the case by asking additional questions or posing what-if scenarios. This is just bonus time, and you have likely impressed him.

At the beginning of the case, take a look at your watch and note the time by which you must end the case. When you get to three minutes before the end, you must stop probing for more information and offer a conclusion. You may not be completely finished investigating the case, and you may not even be confident in your conclusion. Regardless, you must offer some conclusion based upon what you have discovered.

# Case 1: Maldovian Coffins

McKinsey, 1<sup>st</sup> Round

## About This Case

This case was given by McKinsey in first-round interviews and is a “command and control” case. In this style of case, the interviewer allows the candidate to drive the case initially to explore possible routes to a solution. However, once the candidate has laid out a plan, the interviewer takes control and asks the candidate to solve a few specific problems before coming to the final conclusion.

When giving this case, allow for some initial planning and brainstorming by the candidate, but then firmly take control of each of the “modules” described below. Try to move the candidate along through each of them, since in the actual interview only those candidates that complete all of the sections will be considered to have done well. This case tests mental horsepower and the ability to move to conclusions quickly.

## The Problem

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

## Information Gathering

*Read this information well before you give the case. Note that this case requires you (the interviewer) to drive key points in the discussion. Allow the candidate to formulate a plan and then prompt him/her to consider each of the topics listed below.*

**Prompt: What strategic alternatives should the owner consider?**

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

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

**Prompt: How would you figure out the current value of the business?**

*Provide the following information if the candidate asks for it clearly and directly.*

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

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

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

|                               |  |
|-------------------------------|--|
| <b>Population of Moldova:</b> | 4M   |
| <b>Population Growth:</b>     | 0%   |
| <b>Avg Life Expectancy:</b>   | 75 years   |
| <b>Age Distribution:</b>      | assume a flat age distribution (i.e. same number of people at every age) |
| <b>Burial Customs:</b>        | 75% of deaths are buried in coffins.                                     |

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

**Price** – Coffins are priced at \$5,000 for a hand-made coffin.

**Costs** – Material accounts for 10% of the direct cost, while labor accounts for the other 90%. COGS is \$4,800 per coffin. Fixed costs for the business are \$700,000 per year. Assume all assets are fully depreciated and ignore taxes.

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

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

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

*Correct Answer:*

$$\begin{aligned} \text{Contribution Margin} &= \$200 / \text{coffin} \\ &\quad \times 40,000 \text{ coffins} \\ &\quad \times 10\% \text{ market share} \end{aligned}$$



$$= \$800,000$$

$$\begin{aligned}\text{Profit} &= \text{CM} - \text{Fixed Costs} \\ &= \$800,000 - \$700,000 \\ &= \$100,000\end{aligned}$$

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

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

*Information to give if asked:*

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

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

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

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

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

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

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

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

*Provide the following information if asked:*

**Investment** – Investing in the new technology will cost the firm \$1M.

**Cost Savings** – Material costs remain the same, but labor costs are reduced by 50%.

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

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

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

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

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

$$\begin{aligned}\text{Gross Margin} &= \$200 / \$5,000 = 4\% \\ \text{Labor Cost} &= (4800 \times 90\%) \times 50\% = \$2,160 \\ \text{Material Cost} &= \$480 \\ \text{COGS} &= \$2,160 + \$480 = \$2,640\end{aligned}$$

$$\begin{aligned}\text{Price} &= \$2,640 / (1 - 4\%) = \$2,718 \\ \text{Contribution Margin} &= \$2,718 - \$2,640 = \$78 \\ \text{Loss} &= \$78 * 4,000 - \$700,000 = -\$388,000\end{aligned}$$

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

*Candidates could argue other scenarios, by assuming that the industry would be able to maintain higher margins than we have assumed here, so the answer may be different. They should recognize, however, that the introduction of this non-proprietary technology*

*will significantly reduce industry pricing in the absence of some other form of price support (such as branding, collusion between players, etc.)*

### **Conclusion**

*A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:*

“The owner just called and said he has an offer to buy his business. He needs to know whether he should take it right now.”

*Good Answer:* Given the credible threat of the industry becoming unprofitable due to the introduction of this new technology, the owner should look to sell the company as soon as possible. Taking into account the assets of the firm and the present value of the expected cash flows of the business itself, he should attempt to liquidate the business and to sell the assets for around \$1.6M.

If unable to sell the business now, he can continue to operate the business as a cash cow, but should not invest in the business above what is necessary to keep it operating at its present level. He should expect the business to become less profitable as the industry moves to mechanization, and should eventually look to sell the assets of the company and close the firm.

## Case 2: HardHead Helmets

Bain, 2<sup>nd</sup> Round

### The Problem

Our client is private equity firm considering taking private a leading manufacturer of bicycle helmets. Should they?

### Information Gathering

*Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way. For bullets with “Explore with candidate” sub-points, make the candidate answer the associated question completely.*

**Market Share** – The company is the clear market leader with 60% share.

**Competition** – Existing competitors have small share. However, there are some new entrants that are still small but growing quickly, including Nike and Reebok.

**Channels** – Historically, HardHead has sold primarily through the Mom-and-Pop specialty bike retailer channel. Channel mix has recently moved to 50% discounters (e.g. Wal\*Mart) and it looks like discounters will dominate in future.

*Explore with candidate:* How are these changes in distribution channel going to effect the company’s future prospects?

*Good Answer:* Margins will come under pressure from discounters. But more importantly, competitors such as Nike will have a tremendous advantage in the discounter channel due to greater scale and leverage in distributor relationship. Also, a recognizable consumer brand (especially with the sports image of Nike) creates competitive advantage in discounter channel where an expert bike-shop salesperson is not there to push the HardHead product.

**Cost Position** – HardHead and all competitors are manufacturing in Asia, so costs are very low. No competitor is likely to be able to realize any greater cost advantage.

*Don’t let the candidate get distracted in finding cost savings – this is not that kind of case.*

**Regulatory Issues** – In the last 5 years, most states passed helmet laws.

*Explore with candidate:* What impact does this fact have? Draw a graph of revenue over the past five years and projecting into the next five years.

*Good Answer:* This drove a significant increase in sales as helmets were purchased for the first time. This event will not be repeated, so sales will level off.

**Customer Segments** – The customer segments that HardHead sells to primarily are the Adult Cycling Enthusiast segment, the Casual Biker segment, and the Under 18 segment.

*Explore with candidate:* How would you expect the purchase behavior to differ between these segments? What does each segment want in a helmet?

*Good Answer:* Adults purchase a new helmet infrequently (only after a crash or significant wear) while children must have new helmets every few years as their head size grows. Adult Cycling Enthusiasts are more concerned about having the coolest gear and tend toward more fashion-forward designs. The Casual Biker is more conservative in their fashion but still wants something that looks cool. Childrens' helmets are purchased by their parents who care about safety but influenced by the kids who care about cool.

*For strong candidate, explore:* What would you expect the size of each of these segments to be? What are the implications for HardHead's future earnings?

*Good Answer:* Let the candidate come up with all of the assumptions and then work the math. Actual numbers don't matter much as long as the assumptions are reasonable and the math is done correctly. Note that 100M households is the standard assumption in consulting. Assume 100M households, 50% have children with 2 children per household, 75% of children ride bicycles, therefore: 75M Under 18 customers. Assume 2% of adults are Cycling Enthusiasts, or 2M. Assume 20% of adults are Casual Bikers, or 20M. Since the helmet laws created a large number of one-time purchases, we need to rely on the Under 18 market and new entrants to the adult segments for ongoing sales.

**Product** – From a safety standpoint, there is no new innovation in design. From a fashion standpoint, there is much innovation, especially by the new entrants.

*If the candidate is having trouble exploring all of the above topics, provide some direction to help them along (e.g. ask "Do you think that there might be any government regulation that would impact past or future sales?")*

## **Conclusion**

*A star candidate will see that his/her time is nearly up and will present a recommendation for the PE firm without prompting. If the interview is within 3 minutes of the end, ask:*

“The partner from the PE firm just walked into the room and wants to know if he should do the deal.”

*Good Answer:* The short answer is ‘No.’

- HardHead has been experiencing exceptional growth due to the one-time market expansion caused by new helmet laws and its historically strong market share. This unsustainable growth would result in an overvalued acquisition price.
- New market entrants by Nike, Reebok and others will quickly steal share as consumers gravitate toward the general sports-affiliation of these well-known brands.
- Bike helmets have been largely utilitarian, but the sports brands are likely to quickly move helmets into the fashion arena, putting HardHead at a significant disadvantage.
- Furthermore, with the channel shifting strongly away from the specialty bike retailers and toward the mass discounters, the national sports fashion brands will have more leverage with the retailers, possibly commanding better margins, placement, assortment, and advertising support.
- The only scenario in which the firm might consider the acquisition is if they have interest in another fashion brand that might be combined with HardHead to allow it to compete against the new fashion helmet brands such as Nike.

## Case 3: Verizon Security Services

Mercer, 2<sup>nd</sup> Round

### About This Case

This case was given by Mercer in second-round interviews. This is a broad, qualitative strategy case and was given in a very open and conversational manner. No hard data was provided – instead, the interviewer asked the candidate to come up with assumptions and estimates to drive the case forward. Therefore, there is no “right” answer, but the candidate must be able to come up with reasonable assumptions and then follow them logically to a conclusion.

### The Problem

Verizon is the nation’s largest provider of local telephone services. They are considering entering the home security market. Should they?

### Information Gathering

*Read this information well before you give the case. Give this case in an open-ended manner. Make the candidate come up with his/her own assumptions and estimates for everything. One set of reasonable assumptions is listed below – use these to steer the candidate back on track if they seem to be off the reservation.*

**Market Size** – *If the candidate asks for the size of the market, make him/her come up with assumptions and calculate the total market size. A sample calculation based on sample assumptions follows:*

Total Households in US: 100M

% Households Serviced by Verizon: 50%

% Households That Can Afford Service: 50%

Annual Subscription Price: \$250

Total Addressable Market:  $100M \times 50\% \times 50\% \times \$250 = \$6.25B$

**Cost Structure** – *Ask the candidate to discuss what the cost structure might be for Verizon to enter this market. What are the fixed costs? Variable costs? Does Verizon have a cost advantage over other players?*

*Good Answer:* The business has very little fixed cost beyond the infrastructure already installed in potential customers’ homes (i.e. the existing phone wiring). Customer would need door / window / motion sensors installed, which could be done by a third-party installer and billed to the customer at cost + markup and owned by the customer.

Variable costs are also very small – essentially just the cost to maintain enough call center operators to dispatch police when alarms are tripped.

Verizon does not seem to have much of a cost advantage over other players, since they are all using the common carrier phone network. Verizon might have some economies of scale in operating the call center, but this effect would be slight.

**Competition** – The market is composed of a large number of mom-and-pop alarm company operators. No firm has over 5% market share overall, although there are some strong regional players.

**Customer Segments** – *Ask the candidate to speculate on the various customer segments and their relative importance, size, and value.*

*Good Answer:* We can reasonably divide the customer base into urban and suburban customers, having different needs and different price sensitivities. Urban customers are likely to have lower incomes but a high willingness to pay due to the increased crime rate of the city. Suburban customers are likely to have a higher income but a lower perceived threat due to a lower suburban crime rate. By first-degree price discrimination, it may be reasonable to charge the suburban customers a higher price because they are presumably less price sensitive. We can assume that 50% of customers are urban and 50% suburban.

**Pricing** – *Have the candidate come up with a pricing scheme and prices for each of their identified customer segments. There is no right answer, but they must justify why they are setting the price they are. Some areas they might consider:*

- Insurance companies generally give breaks on homeowner's insurance for having an alarm. This will increase the EVA to the customer and can inform pricing.
- What other services to homeowners pay for monthly? Cable, phone, DSL. How are the values of these services perceived compared to the value of the alarm?
- Pricing will need to be competitive with other market players.
- The candidate might assume a net margin based on the competitive landscape and use this with assumed market size to determine attractiveness rather than determining an end-consumer price.

**Regulation** – The market is not regulated and government regulation is not expected to play a role.

**Marketing** – *Ask the candidate what advantages Verizon might have in marketing vis a vis its competitors. Keep points the candidate should identify include:*

- Verizon has monthly customer contact with a large pool of potential alarm services customers through its phone bills.
- Verizon already has brand loyalty for phone service, why not alarm service?



- Sheer size of the company (and deep pockets) make it more able to achieve scale economies in marketing and reach a broad audience.

## **Conclusion**

*A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:*

“So, should Verizon enter into the home security market?”

*Good Answer:* Yes. Verizon possesses several small but important competitive advantages for entering into this new market. It has economies of scale in call center operations that will enable it to be highly cost-competitive in operating a security network. It has an established brand that the consumer associates with reliability as well as with networking and communications – the primary function of a home security system. More importantly, Verizon already reaches 50M households every month through its phone services bill that it could leverage to launch and market this new service. Also, the company has deep pockets and the ability to advertise such a service far more effectively than the small, regional competitors.

The size of the opportunity is large enough for Verizon to consider. Assuming a potential market size of \$6B in Verizon’s territory, even at only a 10% share, Verizon can add \$600M in revenue. Given the low cost structure of this business and the high perceived value to the customer, this is likely to be highly profitable revenue as well. With Verizon’s marketing clout and customer reach, the company should be able to gain significant market share and become the national leader in this space.

## Case 4: ABC Conglomerate

Bain, 1<sup>st</sup> Round

### About This Case

This was a first-round Bain case. It is fairly straightforward in the analysis, but the difficulty lies in keeping the information straight between the three divisions. Give out the information freely, but make the candidate ask for each piece of information for each company. In order to crack this case, they will need to have neat and orderly notes and be able to quickly form a mental picture of each of these different divisions.

Note that this case is also difficult because there is no information about the products or industries. This is not important to the case, so don't make anything up – just tell the candidate that they should focus on the information they have.

### The Problem

The CEO of a major conglomerate is dealing with poor profitability in each of his three divisions: A, B, and C. What should he do to maximize value for his shareholders?

### Information Gathering

*Read this information well before you give the case. The same information is available for each of the divisions, but make the candidate ask for each division's information separately rather than summarizing the data for them. Do not offer any information without being asked specifically and concisely for it.*

### Division A

**Competition** – The firm is the clear market leader with 60% share.

**Cost Structure** – Manufacturing is done in Asia by all firms and is largely considered to be as low-cost as possible.

**Revenues** – This division generates over 60% of the firm's revenues but gross margins have been declining in recent years. The high fixed costs maintained by this division have moved net income into the red as gross margins have declined.

**Pricing** – Prices have been becoming increasingly competitive. Division A has had to price aggressively to maintain sales volume, even with its strong market leadership position.

**Market Trends** – The overall market for division A's product has been shrinking in the last few years and looks like it may continue to do so.

**Customer Preferences** – Customers are moving to an entirely new product category as a substitute, and prefer the product category of Division A less and less.

**Threat of Substitutes** – A new product category is filling the customer need previously served by Division A's product. Division A is not well positioned to enter this new category.

#### Division B

**Competition** – The firm has only 5% and is one of many players in the market.

**Cost Structure** – This market is relatively new and it is believed that costs can be reduced significantly from their current position.

**Revenues** – Revenues have been low but growing. The division is running a negative net cash flow as it is currently investing in marketing, R&D, and plant capacity.

**Pricing** – A wide range of prices exist in the market currently with margins generally high.

**Market Trends** – The overall market is growing at 10% a year and is expected to experience significant growth in the near future.

**Customer Preferences** – This is a relatively new product category and consumers are not yet sure what they want or like.

#### Division C

**Competition** – The firm has 50% share with only one other major competitor and a few minor ones.

**Cost Structure** – The firm has significant economies of scale and has the lowest variable cost in the market. Significant expenditures are being made in marketing, R&D, and plant capacity in an attempt to grow revenues.

**Revenues** – Revenues have been strong with good operating margins, but have been flat for the past few years.

**Pricing** – Division C has a price leadership position in the market.

**Market Trends** – The overall market is not growing and expected to remain flat for the foreseeable future.

#### Conclusion

*A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:*

“The CEO just called and wants to know what he should do.”

*Good Answer:* Clearly the conglomerate needs to rationalize its company portfolio to maximize shareholder return. Each of the three divisions is in a different stage of the market lifecycle and needs to be treated accordingly.

Division A finds itself in a declining industry with no apparent way to move into a new product category. As the incumbent firms struggle to maintain volume in a shrinking market, prices have fallen along with volume. Operating income is no longer enough to cover a high fixed cost base and the company is bleeding with little chance to recover. Division A should be divested immediately.

Division B is in an emerging growth market. While it is not making money today, it is in a favorable industry and represents a strong investment opportunity. The division should invest aggressively in R&D, marketing, and production capacity in an attempt to become the market leader by developing differentiated, branded products.

Division C is the leader in a mature industry and has the ability to generate a steady stream of cash for use in other investments – namely Division B. Division C should streamline operations by eliminating all expenditures not directly needed to maintain profitability and should be managed as a cash cow.

## Case 5: Artificial Turf

1<sup>st</sup> Round

### The Problem

Our client would like us to estimate the market for artificial turf. How would you approach this question?

### Information Gathering

*Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.*

This is a market sizing problem, so rarely is any more information provided. It tests the candidates comfort with ambiguity. The candidate should lead the discussion and start brainstorming on the uses of artificial turf:

- Sports fields
  - Football
  - Soccer
  - Rugby
  - Golf
- Commercial businesses
- Residential
- Airports
- Schools
  - High schools
  - colleges

After the candidate has identified some uses for artificial turf, prompt him to estimate the number of schools in the US. (or any of the places where artificial turf is used)

### Analysis

To estimate the market size of turf in high schools in the US we have to estimate the following:

- Number of schools
- Number of sq feet of turf that is bought each year / high school
- Price of turf / sq foot

We start by estimating the number of schools:

Number of schools in the US = Number of high schools + number of colleges + number of community colleges

**Number of High schools:**

Population of US = 300 M (M=million)

Percent of population age 18 = 1% (assuming population is equally distributed)

Number of people age 18 =  $300M \times 1\% = 3M$

Assume 80% go to high school, then the number of people age 18 who go to high school  
=  $3M \times 80\% = 2.4M$

Assume that on average there are 250 18-year-olds in a high school. Then the number of  
high schools =  $2.4M / 250 = 9,600$  high schools

### **Number of Colleges – bachelors colleges:**

Population of US = 300M

Percent of population age 19 = 1%

Number of people age 19 =  $300M \times 1\% = 3M$

Assume 25% of people go to college, then the number of 19-year-olds who go to college  
=  $3M \times 25\% = 750,000$

Assume that the average size of graduating class is 400 students, then the number of  
colleges is =  $750,000 / 400 = 1,875$  colleges

### **Number of Colleges – community colleges:**

Assume 10% of people go to community college, then the number of 19-year-olds who  
go to community college =  $3M \times 10\% = 300,000$

Assume average graduating class is 200 students, then the number of community colleges  
is =  $300,000 / 200 = 1,500$  community colleges

### **Total amount of artificial turf:**

Make the following assumptions:

- price of turf = \$10 / sq feet
- lifetime of turf = 10 years
- athletic field = 60 yards x 120 yards = 60 x 3 feet x 120 x 3 feet = 64,800 sq ft
- adoption of turf = 50%

Now we can calculate the market size for turf:

- Number of schools =  $9,600 + 1,875 + 1,500 = 13,000$
- Number of sq feet of turf that is bought each year / high school =  $1/10 \times 50\% \times 64,800 = 3,240$  sq feet
- Price of turf / sq foot = \$10

Market size =  $13,000 \times 3,240 \times \$10 = \$420$  Million

### **Conclusion**

The market size for artificial turf in schools in the US is about \$420 Million.

## Case 6: Retail Bank

Accenture, 2<sup>nd</sup> Round

### The Problem

Our client is the private division of a retail bank that has 100,000 clients, \$500,000,000 in revenues, and \$150,000,000 in net income. Our client's goal is to double the revenues and profits of the business in 5 years. Assess the feasibility of the goal. Prioritize the two or three most important steps they should take in their action plan.

### Information Gathering

*Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.*

**Pricing:** they make their revenues from interest and fees

**Costs:** transaction costs, salaries. The nature of the sale is one-on-one pitch between the bank sales person and the customer. So the salary cost and the transaction costs tend to be high.

**Geography:** They have a large presence in the North East and a moderate presence in the South East

**Products:** They have 4 product lines, with the following ranks in revenue and profit generation:

|  | <u>Revenues</u> | <u>Profits</u> |
|--|-----------------|----------------|
| • Private banking: <ul style="list-style-type: none"><li>○ deposits</li><li>○ loans</li></ul>                          | 1               | 1              |
| • Investment management: <ul style="list-style-type: none"><li>○ brokerage</li><li>○ advice</li><li>○ access</li></ul> | 2               | 3              |
| • Trust: <ul style="list-style-type: none"><li>○ State planning and trust</li><li>○ Transferred death</li></ul>        | 3               | 2              |
| • Insurance:   | 4               | 2              |

**Customers:** 20-25% of customers purchase more than one product. 75-80% of customers purchase only one product. They are segmented into 5 groups:

Volume

Number of Customers

|                |                     |     |
|----------------|---------------------|-----|
| Ultra High:    | \$10M+              | 5%  |
| High Net:      | \$1M-\$10M          | 10% |
| Affluent:      | \$0.5M-\$1M         | 20% |
| Mass Affluent: | \$100,000-\$500,000 | 25% |
| Mass:          | \$0-\$100,000       | 40% |

The Ultra High, High Net, and Affluent segments generate 60-70% of the revenues, while the Mass Affluent and Mass segments generate 30-40% of the revenues.

### Analysis

*At this point the candidate should start analyzing the numbers to make fact based recommendations.*

**Buyer selection:** Since transaction costs tend to be the same for the different customer segments, it makes sense to grow the number of the higher revenue generating customers and decrease the number of the lower revenue generating customers. We can attract the top 3 segments by marketing more selectively and doing promotions for higher income customer groups. We can discourage less affluent customers by raising the prices on them, giving them the option to add more profits, or switch to a competitor.

**Cross sell:** Since 75% of customers purchase only one product. There's an opportunity for cross-sell between the different product lines. Assuming that we will only serve the top 3 customer segments:

Revenue generated by customers in top 3 customer segments = \$500M x 70% = \$350M

Revenue generated by customers who only have one product = \$350M x 75% = \$262.5M

If we assume that the 4 types of products generate comparable revenues, then if we cross-sell each customer 3 other products then the new revenue will be = \$262.5 x 4 = \$1,050M

### Conclusion

It is feasible to double revenues and profits if we can only cross-sell our current customers the other products in our business. The next steps Private Retail Bank should take are:

- Give incentives to the bank's sales force to cross sell different products to its existing customers.
- Do promotions for the top 3 affluent market segments.
- Increase its prices in its bottom 2 mass market segments to "fire" its unprofitable market segments.



## Case 7: Coffee Shop

Bain, 1<sup>st</sup> Round

### The Problem

A friend asked me if I wanted to buy his coffee shop for \$100,000. Do you think I should do it?

### Information Gathering

*Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.*

**Location:** The coffee shop is in Vail, Colorado

#### **Products/Prices:**

Cup of coffee, \$4.00

Bottled Water, \$2.00

Pastries, \$3.00

#### **Variable Cost:**

All products have a 50% margin

#### **Customers:**

The shop serves mostly locals, not tourists, so demand is consistent throughout the year

#### **Other Costs:**

Rent was \$500 per month

Wages (for 2 employees) were \$8.00 per hour.

The shop is open 12 hours a day, six days a week

Tell the candidate that he can assume that the coffee shop will bring in consistent profits.

### Analysis

This is a valuation question. So to get the value of the coffee shop we need first to get the profitability.

#### **Revenues**

Estimate market size.

Assume that the coffee shop gets 10 customers per hour in slow hour and 20 customers per hour in a busy hour. The first and last 2 hours of the day are busy hours. So the coffee shop gets  $20 \times 4 + 10 \times 8 = 160$  customers/day.

If we assume all the hours as busy hours on Saturday, then we have  $20 \times 12 = 240$  hours on Saturday.

$$\text{Number of customers / week} = 160 \times 5 + 240 \times 1 = 1040$$

$$\text{Number of customers / year} = 1040 \times 50 = 50,200$$

Assume 60% of customers order coffee, 30% order pastry, and 10% order a bottle of water, then the spend is:

$$50,000 \times 60\% \times 4 + 50,000 \times 30\% \times 3 + 50,000 \times 10\% \times 2 = \$175,000$$

### **Fixed Costs**

$$\text{Rent} = 500 \times 12 = \$6,000$$

$$\text{Wages} = \$8 \times 12 \times 6 \times 50 = \$30,000$$

We can also make assumptions about utilities and insurance.

### **Profits**

$$\text{Profits} = 175,000 \times 50\% - 36,000 = \$52,500$$

Assume a 40% tax rate:

$$\text{Profits after tax} = 52,500 \times (1 - 40\%) = \$31,500$$

### **Valuation**

If we assume that the coffee shop is in operation for 5 years and we use a 10% WACC, then its value would be:

$$\text{Value} = 31,500 + 31,500/1.1 + 31,500/1.1^2 + 31,500/1.1^3 + 31,500/1.1^4 = \$131,000$$

### **Conclusion**

As long as the sales would be consistent for the rest of the 5 years, it would be profitable to buy the coffee shop. Further analysis could be done on the management experience and the competition to ensure that sales would be consistent.

# Case 8: S SOFTWARE

BCG, 2<sup>nd</sup> Round

## The Problem

An US software company wants to offshore its engineering/designing unit to India, as well as to penetrate into the India software engineering market. Should they do it?

## Information Gathering

*Read this information well before you give the case. The candidate is supposed to figure out following information by asking appropriate questions. The interview style is pleasant but reserved.*

Since it's a two-fold question, a strong candidate will begin with laying out a clear scope and then gather relevant information to analyze the situation.

|                                      |             | <u>Off-shoring is critical to access local market</u>                            |   |
|--------------------------------------|-------------|--|---|
|                                      |             | Yes  | No  |
| <u>Other benefits of off-shoring</u> | Significant | Definitely offshore  | Offshore but also find out other critical factors to enter the India market |
|                                      | Minor       | Evaluate the India market independently with market, customer, competition, etc. | Stay in current market and strengthen competitiveness                       |

**Market Share** – the company is the industry leader in US with close followers chasing behind.

**Profitability** – declining (unknown reason, but increasing labor costs can be a reasonable assumption).

**Capability** – strong engineering department in the US.

**Cost** – R&D is the major cost and Indian engineers are estimated to be 1/4 of the cost of the US engineers with the same technical capability.

**Customer** –

- Has a strong existing customer base in the US.
- Customers care about the quality of service, but are also considering lowering cost in the long run.

*A strong candidate should follow up with questions about customer segmentation.*

- Most of S Software’s clients are medium to large companies in US.
- The most profitable clients are large companies in developed countries where S Software already has a strong base.
- S Software doesn’t have any international presence yet.

**Competition – US**

- Key US competitors are all off-shoring in order to lower the cost.

**Competition – International**

- The growth of the international market is impressive compared to the more mature and stable US market.
- Key competitors are expanding their international business aggressively.
- India is one of the fastest growing international markets as well as the one with the largest market size.

*A strong candidate will get the hint that entering the international market, especially the India market, is critical for the company to both fulfill current customer’s emerging needs of cost saving and grow its future business. He/she should then start to compare the competitive advantages between large US companies off-shoring and local Indian players.*

|  | US companies | Indian players |
|--|--------------|----------------|
| Ability to fulfill customized needs                    | O            |                |
| High quality services                                  | O            |                |
| Access to most profitable clients                      | O            |                |
| Cost advantage   |              | O              |
| Local market knowledge                                 |              | O              |
| Local client / government / supply chain relationships |              | O              |
| Low legal risks  | O            | O              |

**Conclusion**

The short answer is “Yes”. The situation falls into the upper left corner of the matrix because –

- In the long-run, even current customers with established relationship will need to look for cheaper alternatives. S Software can offshore its R&D to lower the cost but still keeps its customer service team in the US to maintain the high service quality.
- Although clients in the developed country are more profitable, the actual growth of the market is limited. Developing markets like India might not be as profitable as the US, but with the huge and growing market size, even capturing a small percentage of the market can provide substantial profits.

- S Software might lack knowledge of the Indian market, but its strong customer relationship management skills, large existing customer base, and the understanding of unique customer needs can be further leveraged in India. In addition, hiring local talent or partnering with local companies can help solve the concern of the lack of local knowledge.
- The legal risk as well as the political risk in India can be considered low.

## Case 9: H HEALTH

McKinsey, 1<sup>st</sup> Round

### The Problem

A US health care provider suffered a profit decline last year. You are hired to solve this problem.

### Information Gathering

*Read this information well before you give the case. Basic information should be given as the candidate asks for it, but the rest of the interview is very directive. The candidate is supposed to follow the direction and do the math confidently. The interview style is pleasant and helpful.*

### **Background Information**

- The key revenues come from commissions.
- H Health signs contracts with patients and provides medical services.
- H Health has 300 contracted physicians.
- A “referral” is necessary if certain medical treatment/service can’t be provided by H Health’s contracted physicians.

### **Question 1: How would you approach this problem?**

*Answer:*

$$\begin{aligned}\text{Profit} &= \text{Revenue} - \text{Cost} \\ &= \text{No. of patients} * (\text{unit price} - \text{variable cost}) - \text{fixed cost}\end{aligned}$$

*The candidate can be creative to come up with possible reasons for revenue decrease and cost increase. Some examples –*

Revenue declined:

- number of patients dropped
- unit price dropped
- competition grew their market share

Cost increased:

- VC: number of visits increased (e.g. major flu), per person cost increased (e.g. cost of the medicine), referral cost increased
- FC: physician’s salary increased

### **Question 2: Competitor analysis – why is our referral cost higher than the competitor?**

|                    | <u>H Health</u>              | <u>Sunshine</u> |
|--------------------|------------------------------|-----------------|
| Number of patients | 300,000                      | 500,000         |
| Referral cost      | \$20 (per member, per month) | \$15 (same)     |

*Answer: (again, the candidate is encouraged to be creative)*

- Economies of scale
- Lower administration costs
- More contracted physicians

**Question 3: Assuming none of the contracted physicians have the specialty of cardiology, estimate the number of referrals per year for cardiology based on the following information:**

**Number of patients: 300,000**

**20% of the total population is > 65 years old, and 30% of them need treatment**

**For the rest of the population, there's a 10% chance for them to require the treatment**

**The treatment usually requires 5 visits to the doctor per year.**

*Answer:*

$$>65 \text{ years} = 300,000 * 0.2 * 0.3 = 18,000$$

$$<65 \text{ years} = 300,000 * 0.8 * 0.1 = 24,000$$

$$42,000 * 5 \text{ times/year} = 210,000 \text{ (times/year)}$$

**Question 4: The actual number of referrals is 300,000. Why is it higher than the estimate?**

*Answer:*

- H Health's clients do not have the same weight between different ages as the total population
- They underestimated the number of visits per year
- More demanding patients ask to be referred even if they don't have such issues
- Physicians refer non-cardiology patients because they don't want to take the risk and are not motivated to provide services even if they are capable

**Question 5: How much does the number of referrals have to decrease in order to justify following incentive plan to encourage contracted physicians to be more responsible?**

**Incentive plan:**

**Bonus: \$100,000 / year to top 10 physicians with the lowest referral rate**

**Training: \$1,000,000**

**Referral cost: \$200 per referral**

**Current no. of referral: 300,000**

*Answer:*

$$\text{Total cost} = 2,000,000$$

$$2,000,000 / 200 = 10,000$$

**Question 6: If the incentive plan can reduce the number of referrals by 5% for year one and 2% for year two, what is the total saving?**

*Answer:*

$$Y1 = 300,000 * 5\% = 15,000$$

$$Y2 = (300,000 - 15,000) * 2\% = 5,700$$

$$\text{Total saving} = (15,000 + 5,700) * \$200 - \$2,000,000 * 2 = \$140,000$$

**Question 7: Apart from Cardiology, how can H Health improve the number of referrals in general?**

*Answer:*

- Increase training to improve physician's capability
- Extend the incentive program to other departments
- Improve the quality of relationship with the patients and build up the trust
- Improve/remove physicians who are outliers with extremely high referral rate
- Increase the no. of contracted physicians
- Partner with other health care provider to lower referral cost

### **Conclusion**

According to the example of cardiology, H Health should improve its profitability by lowering the referral cost. H Health can

- reduce the number of referrals, and/or
- reduce the cost per referral



# Case 10: H HOTEL

Booz Allen Hamilton, 1<sup>st</sup> Round

## The Problem

You are hired by H Hotel to advise whether they should raise their daily room rate from \$160 to \$180.

## Information Gathering

*Read this information well before you give the case. There's very limited information to begin with, therefore the candidate is expected to ask questions, but in a structured way. Allow 10-15 seconds for the candidate to layout his/her assumptions for each step of the analysis before giving any clues. Certain level of stress should be created but the overall interview style is pleasant.*

## **Industry Overview**

- Overall market: stable.
- Segmentation: the hotel industry can broadly be divided into two segments that serve different customer needs – one for business purposes and the other for vacation.

*Exploration:* Let the candidate characterize each segment. For example: business hotels usually locate in the **center of metropolitan areas**, are **smaller** in size compare to the average vacation resorts, are better equipped with in-room business services like internet/fax/printer, and are more flexible in booking. Vacation hotels have to be in a touristy or scenery area but not necessary in the center of it, have a wider range of price and facilities, and with more **fluctuations in demand**.

- Competition: The client is the leader in the Business Hotel segment and an average player in the Vacation Hotel segment.

## **Internal Company Analysis**

- The client decided to focus on the Business Hotel unit. Why do you think they made such decision?

*Answer:*

- 1) **Location advantage:** since the client is already the leader in this segment, they must have already blocked the best locations in most of the big cities. Competitors are hard to compete with this given the fact that the supply of space in hot spots is very limited.
- 2) **Steady revenue stream:** once contracts with big corporations are signed, the demand of business traveling is much easier to predict than vacation hotels which contributes to a higher occupancy rate. In addition, a fixed price can be set more easily.

3) **Lower maintenance cost:** business hotels tend to be smaller in size and need less recreational facilities.

- From an internal view of the company, why do you think they wanted to increase the price?

*Answer:* To increase profitability.

- Does it make sense from H Hotel's internal view?

*Answer:* The usual **Profit = Revenue – Cost = Price\*Quantity – (Fixed Cost + Variable Cost)** function should appear here. Hint the candidate that there's not much room for cost saving by saying "they already outsourced the cleaning service", "they just went through a major layoff and cut the staff by half", "their restaurant and bar are operating efficiently", etc. On the revenue side, both increasing quantity (occupancy rate) and price (room rate) can increase H Hotel's revenue.

### **External Consumer Analysis**

- How is the price increase going to impact consumers' behavior?

*Answer:* The candidate should look into both the "**end user**" (the actual business travelers) and the "**customer**" (the corporations that H Hotel has contracts with).

The impact on end users is limited since they don't pay for it. They won't stop staying at H Hotel as long as the service level, flexibility, location, and other conditions remain the same.

For the customer, most of them have long and stable relationship with H Hotel (that's what makes H Hotel the leader of Business Hotel) will only leave if

- 1) the price is not competitive compare to H Hotel's competitors (in this case it's still competitive)
- 2) the price exceeds the cap of its traveling expense (in this case the cap is \$240)
- 3) no extra benefits come with the price increase (in this case H Hotel provides better services, more business friendly facilities, etc.)

- Assuming H Hotel successfully increased the price, what can they do to the "end user" to increase demand?

*Answer:* Let the candidate be creative here, but make sure they hit following points.

**Differentiation:** On the **product** side, H Hotel can improve its convenience (e.g. provide transportation/get the hottest spot in the emerging area of a city), increase its business friendliness (e.g. in-room fax/printer), and upgrade its rooms, etc. For the **service**, H Hotel can create a more personalized experience for consumers by keeping track of each traveler's special demand, set the room differently, etc. One step further, H Hotel can also lock consumers in by offering **traveler specific promotion** (different from the ones for the corporate), such as offering free gifts to the consumers (e.g. shopping coupons) or cross promotion between H Hotel's

business hotels and vacation hotels (e.g. free stay at one of the vacation hotels when the traveler takes his/her family on vacation next time).

### **Conclusion**

*A star candidate will see that his/her time is nearly up and will present a conclusion without prompting. If the interview is within 3 minutes of the end, ask for the conclusion.*

*Answer:* The short answer is “Yes”.

- H Hotel has competitive advantage given its superior location, good service, and trust worthy relationship with long term customers. Given such strong base, there's room for H Hotel to increase its price with further differentiated product and service. Even after the \$20 increase, the price is still far below its customer's ceiling and remains competitive among its competitors. Furthermore, H Hotel can still grow its sales quantity by locking travelers who have several business hotel choices in by adopting traveler specific promotions.
- From an internal point of view, cost saving has reached a limit. H Hotel has to improve its profits by top line growth. As long as price doesn't effect quantity (occupancy rate), total revenue will grow.